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Soil and Water Investigation Report
76 (Former BP) Service Station No. 11126
1700 Powell Street
Emeryville, California
ACEH Case # RO0000066

ENVIRONMENT

"I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Date:
February 11, 2011

Submitted by:

ARCADIS U.S., Inc

Hollis E. Phillips, PG
Project Manager

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ENVIRONMENT

Mr. Paresh Khatri
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1131 Harbor Bay Parkway, Suite 250
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Subject:
Soil and Water Investigation Report
76 (Former BP) Service Station No. 11126
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Contact:
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Our ref:
GP09BPNA.C044

Dear Mr. Khatri:

ARCADIS U.S. (ARCADIS) has prepared this *Soil and Water Investigation Report* (Report) for the Former BP Service Station No. 11126 (site) located at 1700 Powell Street in Emeryville, California (**Figure 1**). This Report has been prepared to document site assessment activities conducted as proposed in ARCADIS' *Work Plan Addendum for Additional Assessment* dated August 2, 2010. This work was conducted as requested in the Alameda County Environmental Health (ACEH) directive dated September 2, 2010.

Objectives

The objectives of the investigation were :

- Evaluate off-site groundwater conditions,
- Evaluate on-site soil conditions, and
- Assess the probability of onsite contaminants migrating offsite via potential conduits by completing a preferential pathway study.

Site Background

The site is an active 76-branded gasoline station. Historic documents indicate there are three underground storage tanks (USTs) believed to be installed in the late

1980s (SECOR 2007). Site features include a station building and two dispenser islands with three dispensers each, for a total of six dispensers. The majority of the Site surface is paved with concrete and asphalt.

The site is bound by Powell Street to the south and Christie Avenue to the east. A Denny's restaurant is located west of the site.

Previous Site Investigations

Various phases of environmental assessment are summarized below. Locations of historic sample points, borings, and wells are shown on **Figure 2**. Historical soil analytical data are presented in **Attachment A (Tables 1a through 1e)**. Boring logs and well construction details are presented as **Attachment B**.

A soil gas survey was conducted on April 10, 1989, by Target Environmental Services, Inc. on behalf of Mobil Oil Corporation prior to the transfer of ownership of the property to BP Oil (BP). Soil gas samples were collected from 19 sampling points at an approximate depth of 4 feet below ground surface (ft bgs) across the site (locations were not provided in historic documents). Results indicated that gasoline may have entered the site subsurface at the pump islands, UST complex, or along the product supply lines. Total volatile hydrocarbons were detected in soil vapor using a flame-ionization detector (FID) at concentrations up to 932,000 micrograms per liter (µg/L), with the highest detections in the vicinity of the pump islands and east of the USTs (TES 1989; SECOR 2007; **Attachment A Table 1a**).

On April 24, 1989, one 550-gallon waste oil UST was removed from the site, and was replaced with a suspected 1,000-gallon waste oil UST (the actual size is not documented) in a separate excavation. Soil samples collected from beneath the removed waste oil UST and sidewalls excavation contained detectable concentrations of total oil and grease (TOG), total petroleum hydrocarbons as diesel (TPHd), and total petroleum hydrocarbons as gasoline (TPHg). Additional soil samples were collected from the sidewalls of the new waste oil UST excavation (NWO-1 through NWO-4), located approximately 20 feet (ft) south of the former waste oil tank. All analytes were below laboratory reporting limits with the exception of TPHd and TOG which were both detected at NWO-4. TPHd was detected at 370 parts per million and TOG was detected at 10,000 ppm (**Attachment A Table 1b**). **Figure 2** illustrates the locations for all soil samples.

The UST pit also contained detectable concentrations of TOG and TPHd (Alisto 1994). An *Underground Storage Tank Unauthorized Release (Leak) / Contamination Site Report* dated May 2, 1989 documenting the past occurrence of a release of unknown quantity was subsequently submitted to Alameda County Environmental Health Department, Hazardous Materials Division (EMCON 1994; SECOR 2007).

In October 1992, Alisto performed a preliminary site assessment to investigate the extent of petroleum hydrocarbon impacts beneath the site. Eight soil borings (B-1 through B-3, B-4A, B-4B, B-4, B-5A, and B-5) were advanced to depths ranging from 4 ft to 20 ft bgs. Auger refusal was encountered during the drilling of borings B-1, B-4A, B-4B, and B-5A, and borings B-2 through B-5 were converted to monitoring wells MW-1 through MW-4, respectively. Soil samples collected up to a depth of 5.5 ft bgs from the borings advanced in the immediate vicinity of the USTs and dispenser islands contained detectable concentrations of TPHg and benzene.

Groundwater samples collected from the wells in November 1992 also contained detectable concentrations of TPHd, TPHg and benzene (SECOR 2007).

In September 1993, Alisto installed five additional groundwater monitoring wells: MW- 5 through MW-7 off-site and MW-8 and MW-9) on-site. Soil samples collected from approximately 4.5 ft bgs from borings MW-5 and MW-9 contained detectable concentrations of TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX). Well MW-9, which is located in the area of the product dispensers contained separate phase hydrocarbons (SPH) at an initial thickness of 0.08 ft. A product recovery canister was subsequently installed to assist in the removal of SPH from beneath the site (SECOR 2007).

In October 1994, EMCON conducted a supplementary site assessment to establish baseline subsurface conditions prior to the purchase of the site by Tosco Corporation (Tosco, now ConocoPhillips [CP]) from BP. Three soil borings (THP-1, TB-2 and THP-3, and also respectively referred to as TB-1, TB-2 and TB-3) were advanced onsite using cone penetrometer testing (CPT) equipment. Refusal was encountered in TB-2 and TPH-3 at 10 ft and 4.5 ft bgs, respectively. Soil samples collected during this investigation contained detectable concentrations of TPHd, TPHg, TOG and benzene. Hydropunch™ groundwater samples collected during this investigation contained detectable concentrations of TPHg, TOG, 1,2-dichloroethane (1,2-DCA,), and 1,2-dichlorethene (1,2-DCE) (EMCON 1994). EMCON personnel returned to the site on December 5, 1994 to inspect the fuel dispensers for the presence of spill containment boxes, and for indications of leakage (EMCON 1994). Grab soil

samples collected from beneath the fuel dispensers (TD-1, TD-2, TD-3 and TD-4) also contained detectable concentrations of TPHg and TPHd (SECOR 2007; **Attachment A Table 1b**).

In 1999, SECOR observed the removal of one 550-gallon, fiberglass, waste oil UST, along with a clarifier and two hoists (Hoist No. 1 and Hoist No. 2) from the former service bays as part of site remodeling activities on April 28, 1999 (SECOR 1999). The waste oil UST and Hoist No. 2, were removed from two separate excavations, and the clarifier and Hoist No. 1 were removed from one excavation. One soil sample collected from the waste oil UST excavation contained detectable concentrations of TPHd, TPHg, benzene, and total petroleum hydrocarbons as motor oil (TPHo). A grab groundwater sample collected from 7.5 ft bgs from the waste oil UST excavation contained detectable concentrations of TPHd, TPHo, benzene, and methyl tertiary butyl ether (MTBE). Soil samples collected from beneath the former clarifier (4 ft bgs), former Hoist No. 1 (8 ft bgs), and the former Hoist No. 2 (8 ft bgs) also contained detectable concentrations of TPHg, TPHd, TPHo, benzene, and lead. MTBE was not detected in soil samples collected from the excavations (SECOR 2007; **Attachment A Table 1c**).

Based on the previous detections of petroleum hydrocarbons in soil in the clarifier and hoist areas, over-excavation was conducted on May 7, 1999 (SECOR 1999). Soil samples collected from the clarifier excavation at 5 ft bgs, and the hoist excavations at 5 ft bgs contained detectable concentrations of TPHg, TPHd, TPHo, and lead. Over-excavation confirmation soil samples were not analyzed for the presence of BTEX and other metals. A composite sample collected from the pea gravel was also analyzed for the presence of petroleum hydrocarbons; based on the relatively minor levels of TPHd and TPHo and relatively low to non-detectable levels of BTEX, and non-detectable concentrations of MTBE, the excavated pea gravel was used as backfill for the waste oil UST excavation. Approximately 17.41 tons of soil were removed from the site as a result of the initial excavation and over-excavation activities (SECOR 2007; **Attachment A Table 1c**).

On March 28 and 30, 2001, Gettler-Ryan Incorporated (GRI) oversaw the removal and replacement of product lines, dispensers, and the station canopy (SECOR, 2001). During the removal of the product lines, petroleum hydrocarbon-stained soil and odors were observed within the excavated trench. The entire length of the former product line trench was subsequently over-excavated an additional 1.5 ft to 3.5 ft bgs prior to sampling, resulting in the removal of approximately 150 cubic yards (yd^3) of soil from beneath the site. The former trenches were backfilled with clean,

imported backfill as it was discovered that the former trenches were not suitable for re-use due to insufficient grading. An additional 100 yd^3 of soil were excavated to accommodate the new product lines. A total of 13 confirmation soil samples were collected from product line, dispenser and trench excavations by SECOR from the initial excavation and following over-excavation of soil. TPHg and TPHd were detected in the 13 samples at concentrations up to 5,300 milligrams per kilogram (mg/Kg) and 630 mg/Kg in the initial excavation soil samples, respectively. The highest concentrations of petroleum hydrocarbons were detected in a 3.5-foot soil sample from a former product line location near well MW-9. MTBE was detected in 12 of the 13 samples up to 8.4 mg/Kg. A total of 400 yd^3 of soil were removed from the site, and approximately 15,000 gallons of groundwater were removed from beneath the site during the dewatering of the UST excavation (SECOR 2007; **Attachment A Table 1d**).

In June 2005, URS supervised the installation of two off-site, down-gradient groundwater monitoring wells (MW-10 and MW-11) at the Powell Street Plaza property, located south of the site (URS 2005); refer to **Figure 3** for monitoring well locations. Soil samples from both of the borings at depths of 7 ft bgs (MW-10), and 18 and 23.5 ft bgs (MW-11) did not contain petroleum hydrocarbons or fuel oxygenates at or above laboratory method reporting limits (MRLs). With the exception of a concentration of MTBE collected at 7 ft bgs in well MW-10 (1.5 µg/L), petroleum hydrocarbons and fuel oxygenates were not detected in groundwater from the wells. The direction of groundwater flow was toward the southwest at a calculated hydraulic gradient of 0.02 foot per foot (ft/ft). URS concluded that the off-site, lateral extent of dissolved impacts had been delineated during this investigation.

Regional Geology and Hydrogeology

Regional Geology

As described by Alisto (1993), the site is situated in the Coastal Range geomorphic province, characterized by northwesterly-trending mountains and valleys. San Francisco Bay occupies a Pliocene structural depression that has been flooded several times by Pleistocene glacial cycles. The San Francisco Bay Area is underlain by Late Pliocene-Early Pleistocene alluvial sediment. The upper 500 ft of this coarse, poorly-sorted sediment is derived mainly from the Sacramento-San Joaquin drainage system. The recent sediment load in this system has been greatly increased by hydraulic mining and farming. Bay mud, the youngest deposit in San

Francisco Bay, is soft, unconsolidated sediment generally consisting of 90 percent clay and silt-size detritus and is prevalent in the area (Alisto 1993; SECOR 2007).

Local geology and Hydrogeology

Based on geologic cross sections and soil boring logs from previous consultants, the site consists primarily of sand to silty sand and sandy silt. There are also some lenses of silty clay. The CPT data generally indicates sand to silty sand lenses of likely fill from grade to approximately 10 feet bgs in UCPT-1, UCPT-2, and UCPT-3 (the westernmost CPTs). Beneath this the CPT data generally indicate sandy silt/silty clay/clay. Onsite, UCPT-4, UCPT-5, and UCPT-6 appear to have a fine grained fill (clay and silty clay) from grade to approximately 10 ft bgs. Beneath this the material is the same as UCPT-1 through UCPT-3. Groundwater is encountered at approximately 5 ft bgs and flow direction in the vicinity of the site since 2003 has typically been to the southwest. A compilation of historical groundwater flow directions and hydraulic gradients (from first quarter 2001 through first quarter 2007) indicates a generally southwesterly flow direction of groundwater beneath the site (50% of 25 events). Minor variations of flow direction to the south – southeast were also noted. An average hydraulic gradient of about 0.027 ft/ft was estimated. A table summarizing historical flow direction and gradient can be found in the *Fourth Quarter 2010 Groundwater Monitoring Report* (ARCADIS 2010).

Recent Site Activities

On January 6 and 7, 2011, ARCADIS supervised Gregg Drilling and Testing, Inc. in the advancement of five Cone Penetrometer Tests (CPTs) to obtain lithologic data and collect soil and grab groundwater samples. Additionally Ultra Violet Optical Screening Tool (UVOST) was conducted on four onsite borings. Site assessment activities were conducted to gather additional data to further delineate the nature and extent of impacts in soil onsite as well as assess the extent of groundwater impacts in the downgradient, off-site direction. The locations of the soil borings are shown in **Figure 3**. Field documentation for the work is included in **Attachment C**. All work was conducted in accordance with a site-specific Health and Safety Plan (HASP).

Soil boring permits were obtained from Alameda County Public Works Agency and are included in **Attachment D**.

Underground Service Alert (USA) was notified at least 48 hours before proposed drilling activities to identify public utilities in the vicinity of the proposed borings. In

conjunction with USA, a private utility locating company was utilized to further evaluate the potential presence of underground utilities in the vicinity of the proposed boring locations. Prior to installation, the proposed CPT boring locations, Hydropunch™ sampling locations and soil sampling locations were cleared by hand augering to 5 ft bgs to identify potential underground utility conflicts.

Cone Penetrometer Testing and UVOST

Five CPT (CPT-01 through CPT-05) were advanced to approximately 25 ft bgs both on-site and off (CPT-01 and CPT-02) to collect lithologic data (**Figure 3)**.

CPT technology provides detailed lithologic data that can be used to identify permeable zones. The CPTs were conducted using a piezocone attached by stainless steel rods to a hydraulic system that pushes the piezocone through the soil. The piezocone continuously measured the friction, tip resistance and pore pressure which are used to evaluate soil types on a geologic log. The resulting CPT logs were consistent with historical boring logs for nearby monitoring wells. The CPT logs are presented in **Attachment E**.

Four UVOSTs (UCPT-3 through UCPT-6) were advanced with the CPT rods to obtain subsurface data. The UVOST is a direct sensing tool that identifies poly-aromatic hydrocarbons (PAHs), free phase and residual non-aqueous phase liquid (NAPL). A fiber optic cable allows the tool to be inserted with a direct push rod (in this case a CPT) where real-time data can be viewed at the ground surface. The UVOST logs are presented in **Attachment E**.

Upon completion of the CPT/UVOSTs the borehole was brought to grade with neat cement grout and finished to match the existing grade.

Hydropunch™ Groundwater Sampling

Two offsite borings (CPT-1 and CPT-2) were advanced to collect grab groundwater samples using Hydropunch™ technology. Locations are shown on **Figure 3**. Based on lithologic data collected from the CPTs, groundwater sample depths were identified. The CPT rig was used to advance hollow push rods to the desired sampling depth. The push rods were then retracted, exposing a screen which allowed groundwater to infiltrate hydrostatically from the formation. A small diameter bailer was lowered through the push rods into the screen interval for sample

collection. Once the bailer was filled, it was retrieved and the groundwater was transferred into the appropriate laboratory-supplied sample containers.

Upon completion of the sample collection, all down-hole equipment was retrieved and decontaminated.

The grab groundwater samples were analyzed for the following constituents by a California-certified laboratory:

- TPH-GRO (C6-C12) by USEPA Method 8260B

- Benzene, Toluene, Ethylebenzene and total Xylenes (BTEX), MTBE, 1,2-dichloroethane (1,2-DCA), ethanol, diisopropyl ether (DIPE), ethyl tert-buytl ether (ETBE), tert-amyl methyl ether (TAME), t-buytl alcohol (TBA) and 1,2-dibromoethane (EDB) by USEPA Method 8260B

Soil Sampling

Borings were advanced to collect soil samples from UCPT-3, UCPT-4, UCPT-5 and UCPT-6. Based on CPT lithology and UVOST results, soil sample depths were identified. The CPT rig was used to advance hollow push rods to the desired sampling depth, where the core was extracted and samples were collected.

UCPT-06 was originally supposed to be advanced in the vicinity of the waste oil tank. However, refusal was hit at two locations and therefore the location where it was advanced was as close to the tank as possible. An attempt was made to collect soil from 6 to 7 ft bgs, however there was no recovery. Therefore an attempt was made to collect soil from 7 to 8 ft bgs. Soil was not recovered at this depth either. Based on UVOST data a sample was attempted to be collected from 12 to 13 ft bgs, however no soil was recovered. Because the rods had been advanced beyond the desired sampling depth no additional sample collection was attempted.

Upon completion of the sample collection, all down-hole equipment was retrieved and decontaminated.

The soil samples were analyzed for the following constituents by a California-certified laboratory:

- TPH-GRO (C6-C12) by USEPA Method 8260B

- BTEX, MTBE, 1,2-DCA, ethanol, DIPE, ETBE, TAM), TBA and EDB by USEPA Method 8260B

Site Investigation Results

Groundwater Data

In total, three groundwater samples were collected: one from UCPT-01 collected at 7 ft bgs, and two from boring CPT-02 collected at 7 and 21 ft bgs. No analytes were detected above laboratory reporting limits at either depth for boring UCPT-2. However, two analytes were detected above the laboratory reporting limit at UCPT-1: MTBE at 14 micrograms per liter (µg/L) and TBA and 63 µg/L. The MTBE concentration exceeds the environmental screening level (ESL) of 5.0 µg/L, but the TBA concentration is below its respective ESL of 120 µg/L. Groundwater analytical data is presented in **Table 2.** A copy of the laboratory analytical report and chain-of-custody documentation is included in **Attachment F**.

Soil Analytical Data

In total, five soil samples were collected from three borings: one from UCPT-3 at 7 ft bgs, two from UCPT-4 at 7.5 and 12.5 ft bgs, and two from UCPT-5 at 11.5 and 14.5 ft bgs. Concentrations of MTBE and TBA were detected in four samples; gasoline organic range petroleum hydrocarbons (GRO) and ethylbenzene were detected in three samples; ethylbenzene was detected in three samples; and benzene and total xylenes were detected in two samples. Of the analytes detected TBA exceeded the ESL in four out of five samples; MTBE exceeded the ESL twice; benzene and ethylbenzene each exceeded the ESL once. Toluene, DIPE, EtBE, TAME, EDB, Ethanol, and 1,2 DCA were not detected above the laboratory detection limit in any of the soil samples. Soil analytical results are presented in **Table 1**. A copy of the laboratory analytical report and chain-of-custody documentation is included in **Attachment F**.

Investigation Summary

Results of the Hydropunch^{TM} grab groundwater sampling indicated that only MTBE (14 µg/L) was detected above the ESL in UCPT-1 located on Powell Street. TBA (63 µg/L) was also detected in one sample from UCPT-1; however, the result was below

the ESL. During the fourth quarter 2010 sampling event the nearest onsite wells (MW-4 and MW-7) both indicated lower concentrations of MTBE than detected during the CPT investigation. However, during the fourth quarter 2010 sampling event TBA was detected at 31,000 µg/L in MW-4 and 3,900 µg/L in MW-7 (ARCADIS 2010). Groundwater samples collected during the CPT investigation indicate the plume may be migrating to the southwest. However based on the order of magnitude differences in concentrations between the onsite monitoring wells and the offsite CPT, it is not significantly migrating. Analytes were not detected above the method detection limit in UCPT-2 located to the west in the Denny's parking lot, indicating the plume is not migrating in that direction.

Soil samples from UCPT-4 and UCPT-5 had reported concentrations exceeding the commercial ESL for TBA in all samples collected from the borings. The highest concentration was collected from UCPT-05 at 14.5 ft bgs (16 mg/Kg). MTBE exceeded the ESL in the shallow (7.5 ft bgs) sample from UCPT-4 and the deep (14.5 ft bgs) sample from UCPT-05. Benzene and ethylbenzene exceeded the commercial ESL for soil in the sample collected from UCPT-04 at 7.5 ft bgs. Groundwater is encountered at approximately 5 ft bgs at the site and therefore it is likely that all of the soil samples were saturated and may be affected by groundwater contamination. Based on these results soil does not appear to be significantly impacted.

Based on the UVOST results SPH is not present at the site. Samples collected to correlate with elevated UVOST signals indicated very low levels of contaminated soil.

Results of this investigation indicate no to low impacts of offsite groundwater contamination. Soil samples collected from depths associated with elevated UVOST signals indicated the presence of very low levels of soil contamination onsite. Therefore, onsite groundwater contamination is the only media that should be addressed. ARCADIS will submit a corrective action plan (CAP) to propose the best remedial alternative for onsite contaminated groundwater. ARCADIS is still waiting for data to complete the preferential pathway study and therefore it will be submitted as a separate document.

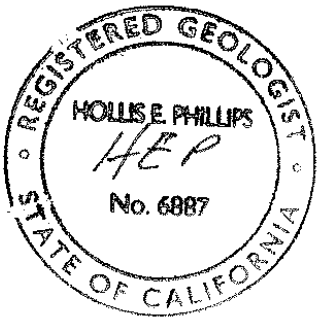
If you have any questions or comments, please contact Kelli Preston by telephone at 303.471.3403 or by e-mail at kellijo.preston@arcadis-us.com or Hollis Phillips by telephone at 415.374.2744 ext. 13 or by e-mail at Hollis.Phillips@arcadis-us.com.

Sincerely,

ARCADIS

Kelli Preston
Staff Hydrogeologist

Hollis E. Phillips, P.G.
Project Manager



Enclosures:

Table 1	Soil Analytical Results
Table 2	Groundwater Analytical Results
Figure 1	Site Vicinity Map
Figure 2	Historic Soil Boring and Well Location Map
Figure 3	Site Map with CPT Locations
Attachment A	Historical Soil Gas Survey, Soil, and Soil Vapor Extraction Analytical Data.
Attachment B	Historical Boring Logs and Well Construction Details
Attachment C	Field Documentation
Attachment D	Alameda County Public Works Agency Permit
Attachment E	CPT and UVOST Logs
Attachment F	Laboratory Analytical Report and Chain-of-Custody Documentation

References

Alisto Engineering Group (Alisto), 1993, Preliminary Site Assessment Report, dated January, 1993.

Alisto Engineering Group, 1994, Supplemental Site Investigation Report, dated April 8, 1994.

ARCADIS, 2010. Fourth Quarter Groundwater Monitoring Report, Former BP Station #11126. January 28, 2011.

EMCON Environmental, Inc. (EMCON), 1994, Baseline Assessment Report, dated December 27, 1994.

SECOR International, Inc. (SECOR), 1999, Removal of Waste Oil UST, Hoists No. 1 & No. 2 and Clarifier, dated June 29, 1999.

SECOR International, Inc., 2001, Removal and Replacement of Product Lines, Dispensers and Canopy, dated May 4, 2001.

SECOR International Inc., 2007, Remedial Action Plan; 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Target Environmental Services, Inc. (TES), 1989, Soil Gas Survey, dated April, 1989.

URS Corporation (URS), 2003, Interim Remedial Action Work Plan, dated July 11, 2003

URS Corporation, 2005, Off-Site Soil and Water Investigation Report, dated June 15, 2005.

Table 1: Soil Analytical Results
BP # 11126
1700 Powell Street, Emeryville, CA
Local Case # RO0000066

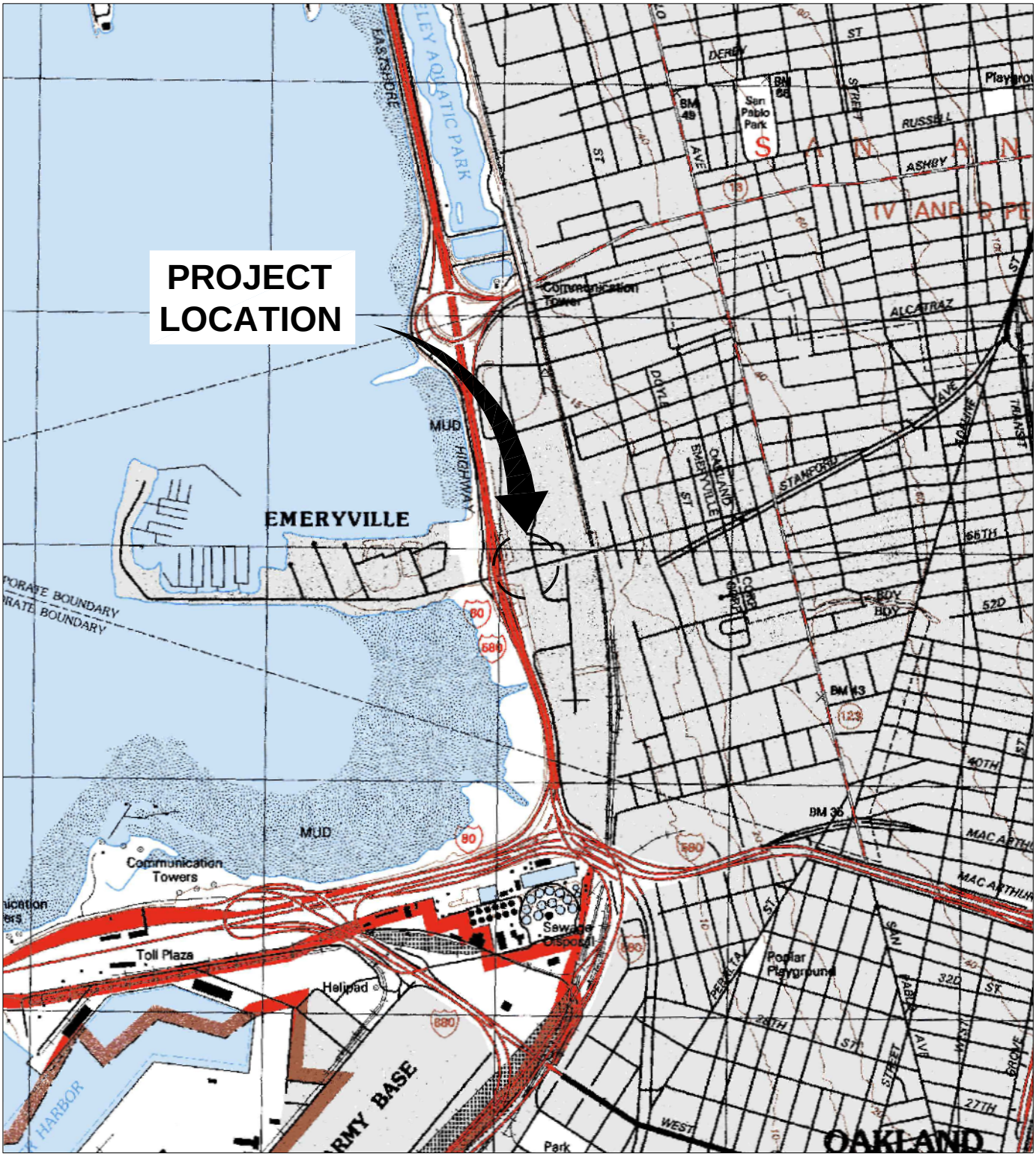
Location	Sample Depth (ft bgs)	Sample Date	GRO	MTBE	Benzene	Toulene	Ethylbenzene	Xylene	EDB	1,2-DCA	TBA	Ethanol	DIPE	TAME	ETBE
			mg/kg												
ESL			**830**	**0.023**	**0.044**	**2.9**	**3.3**	**2.3**	**--**	**0.0045**	**0.075**	**--**	**--**	**--**	**--**
UCPT-03	7.0	1/7/2011	<0.25	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.01	<0.5	<0.005	<0.005	<0.005
UCPT-04	7.5	1/7/2011	170	**2.6**	**0.5**	<0.48	**5.3**	1.6	<0.48	<0.48	**3.3**	<19	<0.48	<0.48	<0.48
UCPT-04	12.5	1/7/2011	2.3	0.02	0.0065	<0.005	0.011	<0.01	<0.005	<0.005	**2.3**	<0.5	<0.005	<0.005	<0.005
UCPT-05	11.5	1/7/2011	8.4	0.022	<0.022	<0.022	0.23	0.86	<0.022	<0.022	**2.2**	<2.2	<0.022	<0.022	<0.022
UCPT-05	14.5	1/7/2011	<1.2	**0.7**	<0.025	<0.025	<0.025	<0.05	<0.025	<0.025	**16**	<2.5	<0.025	<0.025	<0.025

Notes:
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
GRO = Gasoline Range Organics (C6-C12)
MTBE = Methyl tert-butyl ether
EDB = Ethylene dibromide
1,2-DCA = 1,2-Dichloroethane
TBA = Tert butyl alcohol
DIPE = Di-isopropyl ether
TAME = Tert-amyl methyl ether
ETBE = Ethyl tert-butyl ether
ESL = Environmental Screening Level, *Table C: Environmental Screening Levels for Deep Soils (>3m) (groundwater is a current or potential drinking water source)*
BOLD = analytical value exceeds applicable ESL
< = Analyte was not detected above the specified method reporting limit

Table 2: Groundwater Analytical Results
BP # 11126
1700 Powell Street, Emeryville, CA
Local Case # RO0000066

Location	Sample Depth (ft bgs)	Sample Date	GRO	MTBE	Benzene	Toulene	Ethylbenzene	Xylene	EDB	1,2-DCA	TBA	Ethanol	DIPE	TAME	ETBE
			µg/L												
ESL			**100**	**5.0**	**1.0**	**40**	**30**	**20**	**--**	**50**	**120**	**--**	**--**	**--**	**--**
UCPT-01	7.0	1/6/2011	<50	**14**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	63	<250	<0.5	<0.5	<0.5
UCPT-02	7.0	1/6/2011	<50	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<4	<250	<0.5	<0.5	<0.5
UCPT-02	21.0	1/6/2011	<50	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<4	<250	<0.5	<0.5	<0.5

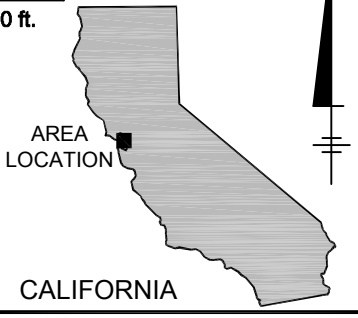
Notes:
ft bgs = feet below ground surface
µg/L = microgram per liter
GRO = Gasoline Range Organics (C6-C12)
MTBE = Methyl tert-butyl ether
EDB = Ethylene dibromide
1,2-DCA = 1,2-Dichloroethane
TBA = Tert butyl alcohol
DIPE = Di-isopropyl ether
TAME = Tert-amyl methyl ether
ETBE = Ethyl tert-butyl ether
ESL = Environmental Screening Level, *Table F-1a: Groundwater Screening Levels (groundwater is a current or potential drinking water source)*
BOLD = analytical value exceeds applicable ESL
< = Analyte was not detected above the specified method reporting limit



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND WEST, CALIFORNIA, 1993.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

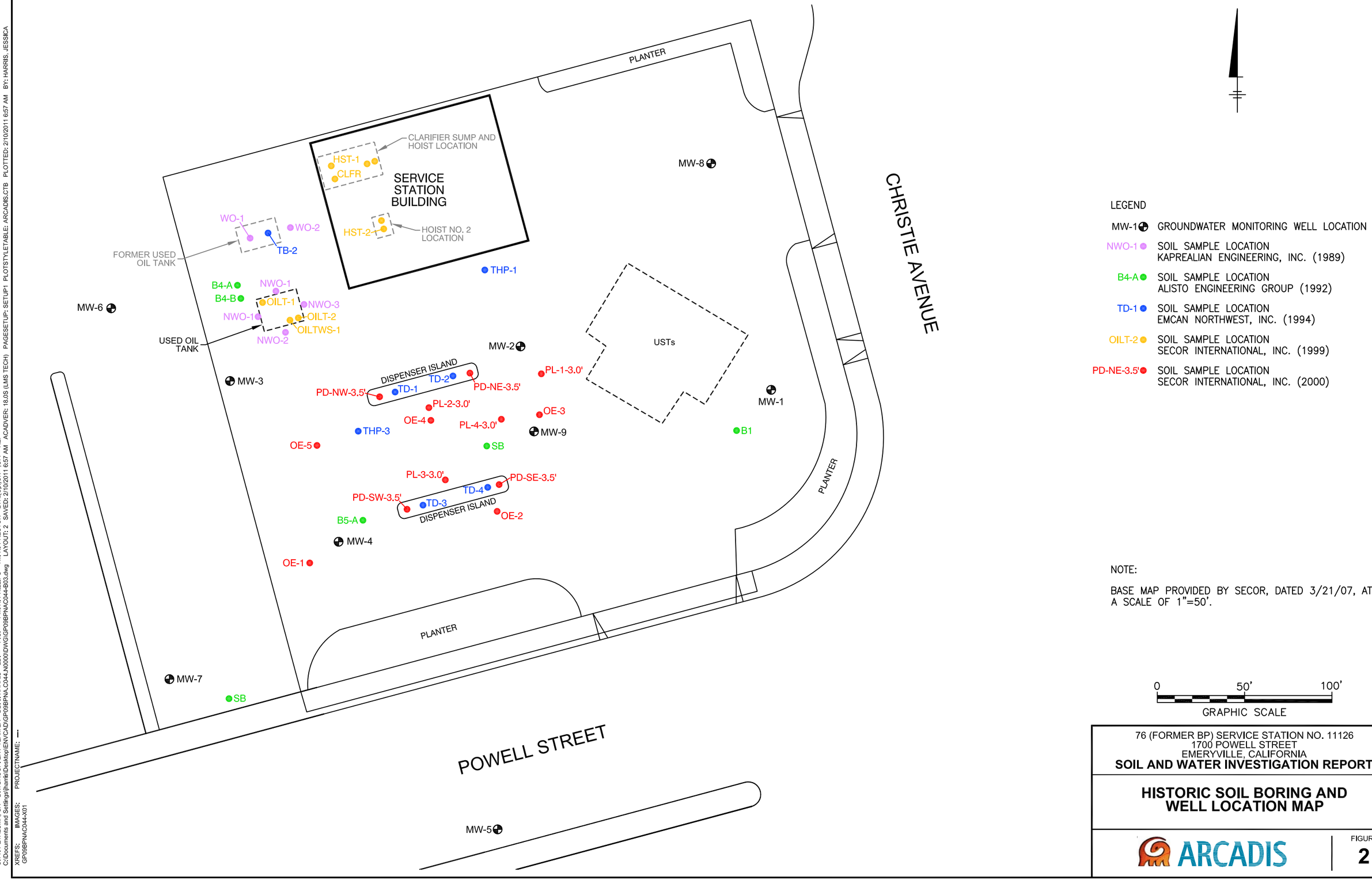


76 (FORMER BP) SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

SITE VICINITY MAP

ARCADIS

FIGURE
1



LEGEND

MW-1 ⊕	GROUNDWATER MONITORING WELL LOCATION
NWO-1 ●	SOIL SAMPLE LOCATION KAPREALIAN ENGINEERING, INC. (1989)
B4-A ●	SOIL SAMPLE LOCATION ALISTO ENGINEERING GROUP (1992)
TD-1 ●	SOIL SAMPLE LOCATION EMCAN NORTHWEST, INC. (1994)
OILT-2 ●	SOIL SAMPLE LOCATION SECOR INTERNATIONAL, INC. (1999)
PD-NE-3.5' ●	SOIL SAMPLE LOCATION SECOR INTERNATIONAL, INC. (2000)

NOTE:

BASE MAP PROVIDED BY SECOR, DATED 3/21/07, AT A SCALE OF 1"=50'.

0 50' 100'

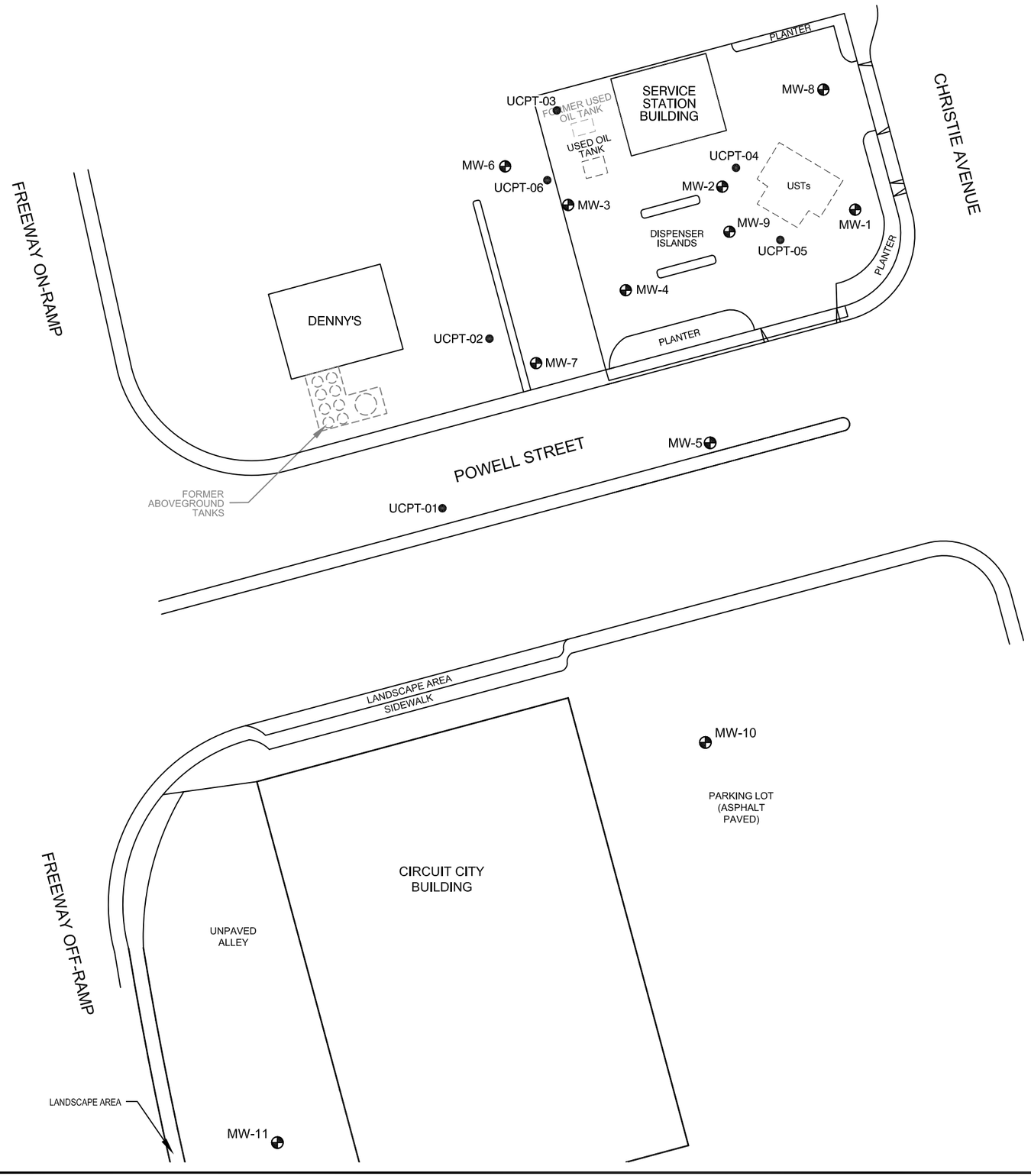
GRAPHIC SCALE

76 (FORMER BP) SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA
SOIL AND WATER INVESTIGATION REPORT

HISTORIC SOIL BORING AND WELL LOCATION MAP

ARCADIS

FIGURE 2



LEGEND

MW-1 ⊕ GROUNDWATER MONITORING WELL LOCATION

UCPT-01 ● BORINGS ADVANCED JANUARY 6 AND 7, 2011

CPT CONE PENETROMETER TEST

NOTE:

BASE MAP PROVIDED BY SECOR, DATED 3/21/07, AT A SCALE OF 1"=50'.

0 50' 100'

GRAPHIC SCALE

76 (FORMER BP) SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

SOIL AND WATER INVESTIGATION REPORT

SITE MAP WITH CPT LOCATIONS

ARCADIS

FIGURE 3

CITY: PETALUMA, CA DIV/GROUP: ENV TEAM 2A DB: J. HARRIS LD:— PIC:— PM: H. PHILLIPS TM: KJ PRESTON LYR:(Opt)ON=*;OFF=*REF*
C:\Documents and Settings\jharris\Desktop\ENVCAD\GP09BPNA.C044.N0000\DWG\GP09BPNAC044-B01.dwg LAYOUT: 3 SAVED: 1/31/2011 5:27 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/7/2011 3:57 PM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: —
GP09BPNAC044-X01

Attachment A

Historical Soil Gas Survey, Soil, and Soil Vapor Extraction Analytical Data

Table 1a
TES Soil Gas Survey Analytical Data
76 (Former BP) Service Station No. 11126
1700 Powell Street, Emeryville, CA

Sample Name	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	Xylenes	MtBE	Total Volatiles
		µg/L						
3	4/10/1989	469	440	21	27	4	52,410	182,700
4	4/10/1989	567	808	111	155	37	41,970	171,700
5	4/10/1989	1,688	2,899	626	656	371	86,160	408,600
6	4/10/1989	1,407	2,626	794	758	457	57,170	308,900
7	4/10/1989	9,740	2,459	2,032	365	91	224,200	925,100
8	4/10/1989	10,520	1,935	1,171	253	55	171,600	687,200
9	4/10/1989	626	414	32	36	7	60,630	216,300
10	4/10/1989	<1.0	<1.0	<1.0	<1.0	<1.0	61	249
11	4/10/1989	30	91	146	28	46	16,350	109,100
12	4/10/1989	34	33	9	20	7	298	1,653
13	4/10/1989	1,929	2,575	285	825	261	24,640	129,300
14	4/10/1989	12,330	10,080	927	2,713	792	164,400	932,000
15	4/10/1989	245	82	35	27	<1.0	9,625	41,230
16	4/10/1989	15	991	39	15	48	886	8,009
17	4/10/1989	290	265	102	72	83	5,434	28,260
18	4/10/1989	3	11	3	4	4	136	618
19	4/10/1989	2	3	7	3	3	43	338
20	4/10/1989	33	40	31	16	8	2,475	20,750
21	4/10/1989	29	9	3	3	2	52	365

Notes:
MTBE = Methyl-tert-butyl-ether analyzed using EPA Methods 8020/8260
µg/L = micrograms per liter
< = Not detected above the method reporting limit
NA = Not Analyzed
Data generated by SECOR International Inc. (2007). Remedial Action Plan: 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Table 1b
Historical Soil Analytical Data
USTs, Product Lines, and Dispensers
76 (Former BP) Service Station No. 11126
1700 Powell Street, Emeryville, CA

Sample Name	Sample Depth (ft bgs)	Date Sampled	Benzene	Toluene	Xylenes	Ethylbenzene	TPHd	TPHg	TPHo	TOG
			ppm							
WO-1	7	4/24/1989	ND	ND	ND	ND	27	9.6	ND	340
WO-2	9	4/24/1989	ND	ND	ND	ND	ND	ND	ND	64
NWO-1	9	4/24/1989	ND	ND	ND	ND	ND	ND	ND	ND
NWO-2	9	4/24/1989	ND	ND	ND	ND	ND	ND	ND	ND
NWO-3	9	4/24/1989	ND	ND	ND	ND	ND	ND	ND	ND
NWO-4	9	4/24/1989	ND	ND	ND	ND	370	ND	ND	10000
B-2 (MW-1)	4	10/20/1992	0.94	1.8	2.2	0.53	ND	32	ND	ND
B-3 (MW-2)	5	10/20/1992	0.019	0.13	0.3	0.06	ND	2.6	ND	ND
B-4 (MW-3)	7	10/20/1992	ND	ND	ND	ND	ND	ND	ND	ND
B-5 (MW-4)	5.5	10/20/1992	0.42	0.58	1.6	3.8	ND	280	ND	ND
MW-5	4.5	9/3/1993	0.087	0.0059	0.028	0.0067	ND	3	ND	ND
MW-6	4.5	9/3/1993	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	4.5	9/3/1993	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	5	9/3/1993	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	4.5	9/3/1993	76	330	420	430	ND	4600	ND	ND
TB1-S-5-5.5	5-5.5	10/19/1994	1.6	6.6	23	5.2	33	290	ND	ND
TB2-S-3-3.5	3-3.5	10/19/1994	ND	ND	ND	ND	ND	ND	ND	ND
TB3-S-3-3.5	3-3.5	10/19/1994	0.16	ND	0.029	0.068	ND	2.2	ND	ND
TB3-S-4-4.5	4-4.5	10/19/1994	0.5	ND	2.2	0.6	ND	260	1800	ND
TD-1-0.5	0.5	12/5/1994	ND	ND	0.5	ND	170	34	86	ND
TD-2-0.5	0.5	12/5/1994	ND	ND	19	2.5	4600	1600	ND	ND
TD-3-0.5	0.5	12/5/1994	ND	ND	0.14	ND	1500	35	ND	ND
TD-4-0.5	0.5	12/5/1994	ND	0.008	0.14	ND	980	2	ND	ND

Notes:

ft bgs = feet below ground surface

ppm = parts per million

TPHd = Total petroleum hydrocarbons as diesel

TPHg = Total petroleum hydrocarbons as gasoline

TPHo = Total Hydrocarbons as oil and grease

ND = not detected above the method reporting limit

Data generated by SECOR International Inc. (2007). Remedial Action Plan: 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Table 1c
Historical Soil and Water Analytical Data
Waste Oil UST, Hoist, and Clarifier Excavations
76 (Former BP) Service Station No. 11126
1700 Powell Street, Emeryville, California

Soil Analytical Results

Sample Name	Sample depth (ft bgs)	Date Sampled	TPHg	TEPH	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Cadmium	Chromium	Lead	Nickel	Zinc
			mg/kg												
OILT-1	5	4/28/1999	18	370	7000	0.19	0.4	0.11	0.12	ND	0.75	89	230	45	250
OILT-2	6	4/28/1999	ND	ND	ND	ND	ND	ND	ND	ND	ND	47	47	55	56
CLRF-1	4	4/28/1999	3	ND	ND	0.013	0.0068	ND	0.028	ND	2.4	44	22000	34	2700
CLRF-2	5	5/7/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	410	NA	NA
HST-1	8	4/28/1999	1.4	870	4200	0.011	0.0051	ND	0.027	ND	ND	48	650	64	340
HST-1	5	5/7/1999	1200	1200	5000	NA	NA	NA	NA	NA	NA	NA	11	NA	NA
HST-2	8	4/28/1999	1.4	200	900	0.012	ND	ND	0.012	ND	ND	45	110	42	170
HST-2	5	5/7/1999	880	880	2300	NA	NA	NA	NA	NA	NA	NA	25	NA	NA

Water Analytical Results

Sample Name	Sample depth (ft bgs)	Date Sampled	TPHg	TEPH	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Cadmium	Chromium	Lead	Nickel	Zinc
			µg/L												
OILTWS-1	--	4/28/1999	ND	560	710	10	ND	ND	ND	2400	ND	0.24	ND	0.3	0.34

Notes:

ft bgs = feet below ground surface

TPHg = Total petroleum hydrocarbons as gasoline

TEPH = Total extractable petroleum hydrocarbons

TPHmo=Total petroleum hydrocarbons as motor oil

MTBE = Methyl tert-butyl ether

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

ND = Not detected above the method reporting limit

NA = Not Analyzed

Data generated by SECOR International Inc. (2007). Remedial Action Plan: 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Table 1d
Historical Soil Analytical Data
Over Excavation, Product Lines, and Dispensers
76 (Former BP) Service Station No. 11126
1700 Powell Street, Emeryville, CA

Sample Name	Sample Depth (ft bgs)	Date Sampled	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	TBA	DIPE	ETBE	TAME	Total Lead
			mg/kg											
Product Dispenser Samples														
PD-NW,3.5'	3.5'	3/28/2001	130	43	0.65	<0.1	3.7	1.9	0.87	<0.25	<0.1	<0.1	<0.1	83
PD-NE,3.5'	3.5'	3/28/2001	96	15	0.38	0.11	0.55	1.3	8.4	<0.25	<0.1	<0.1	1.5	46
PD-SW,3.5'	3.5'	3/28/2001	260	6.6	1.1	0.4	3.8	12	1.1	<0.25	<0.1	<0.1	0.13	6.7
PD-SE,3.5'	3.5'	3/28/2001	12	8.1	0.15	0.95	0.28	1.8	1	<0.25	<0.1	<0.1	<0.1	6.8
Product Line Samples														
PL-1,4'	4'	3/28/2001	1,000	38	1.8	0.2	9.7	25	5.8	<0.25	<0.1	<0.1	0.28	NA
PL-2,3'	3'	3/28/2001	180	24	0.14	0.17	2.8	13	0.28	<0.25	<0.1	<0.1	<0.1	NA
PL-3,3'	3'	3/28/2001	4,700	630	3.6	57	68	340	3.8	<0.25	<0.1	<0.1	<0.1	NA
PL-4,3'	3'	3/28/2001	5,300	570	4.9	96	48	280	7.4	<0.25	<0.1	<0.1	<0.1	NA
Overexcavation Samples														
OE-1	NA	3/30/2001	8.6	3.3	0.059	0.065	0.047	0.065	<0.1	<0.25	<0.1	<0.1	<0.1	19
OE-2	NA	3/30/2001	63	16	1.7	0.84	5	1.7	2.1	<0.25	<0.1	<0.1	0.15	870
OE-3	NA	3/30/2001	22	3.4	0.42	1.5	0.6	3	2.1	<0.25	<0.1	<0.1	<0.1	54
OE-4	NA	3/30/2001	14	9.9	0.09	0.1	0.18	0.18	0.15	<0.25	<0.1	<0.1	<0.1	87
OE-5	NA	3/30/2001	2.9	1	0.071	0.047	0.061	0.043	0.95	<0.25	<0.1	<0.1	<0.1	27

Notes:
ft bgs = feet below ground surface
TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel
MTBE = Methyl tert-butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-Isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
mg/kg = Milligrams per kiogram
NA = Not analyzed
Data generated by SECOR International Inc. (2007). Remedial Action Plan: 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Table 1e
ERI Soil Vapor Extraction Test Results
76 (Former BP) Service Station No. 11126
1700 Powell Street, Emeryville, CA

Extraction Well	Date Sampled	Time	Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPPHg	TPPHg	MTBE
				µg/L						lbs *	
TP1	4/19/1999	12:20	A-Inf-PT1	105	131	ND	50.6	4,820	12,800		
		16:30	A-Inf-PT1	23.4	37.9	ND	31.2	2,990	3,000	13.7	6.9
TP1	4/20/1999	8:00	A-INF-TP1	10.7	6.54	ND	17.8	2,590	1,950		
		13:38	A-INF-TP1	ND	12.8	ND	10	1,460	1,030		
		13:50	A-INF-TP1	6.32	12.2	ND	9.2	682	971	2.9	3.5
TP2	4/20/1999	15:30	A-INF-TP2	ND	ND	ND	ND	422	515		
		18:00	A-INF-TP2	4.63	0.211	0.223	0.813	1,050	558	0.7	0.9
TP1	4/21/1999	8:00	A-INF-TP1	ND	9.51	ND	ND	1,420	704		
		17:00	A-INF-TP1	ND	ND	ND	5.94	778	547		
		17:30	A-INF-TP1	ND	9.6	ND	ND	903	627		
		18:00	A-INF-TP1	ND	9.58	ND	ND	725	703	2.3	3.4
TP1	4/22/1999	8:00	A-INF-TP1	3.97	11.9	ND	1.92	827	607		
		18:00	A-INF-TP1	ND	7.95	ND	ND	300	464	1.9	2

Notes:

Time = Time is presented using a 24- hour clock

A-inf-MW3 = Influent air sample collected while extracting from MW-3

TPPHg = Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015

MTBE = Methyl-ter-butyl-ether analyzed using EPA Methods 8260A

µg/L = Micrograms per liter

* = Pounds removed calculated using ERI's standard operating procedure (SOP) 25 "Hydrocarbon Removal from a Vadose Well"

lbs = pounds

ND = Not detected at or above the stated laboratory detection limit

Data generated by SECOR International Inc. (2007). Remedial Action Plan: 76 (Former BP) Service Station No. 11126, 1700 Powell Street, Emeryville, California, dated March 30, 2007.

Attachment B

Historical Boring Logs and Well Construction Details

ATTACHMENT B
BORING LOGS AND WELL CONSTRUCTION DETAILS

76 (Former BP) Service Station No. 11126
1700 Powell Street
Emeryville, California

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING B-2/MW-1

SEE SITE PLAN

ALISTO PROJECT NO: 10-081 DATE DRILLED: 10/20/92

CLIENT: BP Oil Company

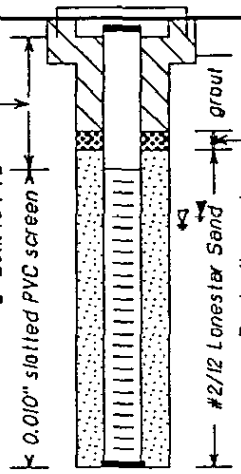
LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hollow-stem Auger (8")

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: 7.78 ' MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SW	3" Asphalt. gravelly SAND: brown/green, damp, very loose; medium- to very coarse-grained sand; abundant rounded gravel to 1".
9	47					ML	sandy SILT: gray/blue, damp, soft; abundant very fine-grained sand; minor clay.
1,1,1 1,1			5			CL	silty CLAY: dark gray, wet, very soft; abundant silt; very fine- to medium-grained sand; minor rounded gravel to 1".
						SM	silty SAND: blue/gray, wet, very loose; very fine- to fine-grained sand; minor clay.
2,3,3			10			CL	silty CLAY: blue/green, wet, medium firm; minor very fine-grained sand.
			15				Groundwater Monitoring Well MW-1 was installed in Soil Boring B-2. Soil Boring B-2 was drilled within 3 feet of Soil Boring B-1. Soil classification/contacts, PID readings, and blow counts presented on this boring log were copied from Soil Boring B-1.
			20				
			25				
			30				



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING B-3/MW-2

SEE SITE PLAN

ALISTO PROJECT NO: *10-061* DATE DRILLED: *10/20/92*

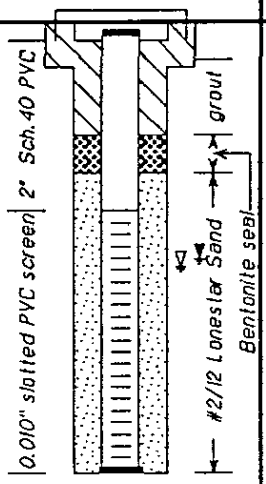
CLIENT: *BP Oil Company*

LOCATION: *1700 Powell Street, Emeryville, California*

DRILLING METHOD: *Hollow-Stem Auger (8")*

DRILLING COMPANY: *Great Sierra Exploration* CASING ELEVATION: *8.58 ' MSL*

LOGGED BY: *Ted Moise* APPROVED BY: *Al Sevilla*

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SW	3" Asphalt. gravelly SAND: brown, damp, loose; fine- to very coarse-grained sand; gravel to 1"; minor fines.
1,3,3	200		5			ML	sandy SILT: black, moist to wet, medium firm; very fine- to medium-grained sand; minor clay.
1,3,3						CL	silty CLAY: gray, wet, medium firm; minor very fine- to fine-grained sand; minor angular gravel to 1/2".
5,3,4			10			SM	silty SAND: gray, wet, loose; very fine- to medium-grained sand; minor clay.
4,3,4						CL	silty CLAY: blue/green, wet, medium firm; minor silt; rootlets.
			15				
			20				
			25				
			30				

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING B-4/MW-3

Page 1 of 1

SEE SITE PLAN

ALISTO PROJECT NO: 10-061 DATE DRILLED: 10/20/92

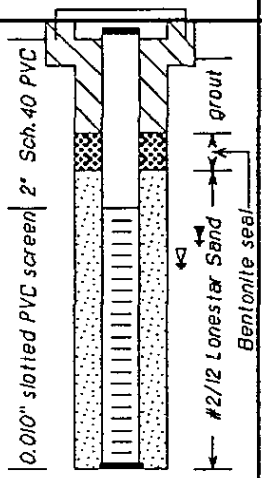
CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hollow-Stem Auger (8")

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: 8.25 ' MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			0			SW	3" Asphalt. gravelly SAND: tan, damp, loose; medium- to very coarse-grained sand; gravel to 1". Concrete in cuttings.
50/5"			5	⊠		SM	silty SAND: black, wet, loose; very fine- to medium-grained sand; abundant silt; minor gravel to 1/2".
4,6,6	0.2			■			
3,4,5			10	⊢			
4,3,4				⊢		CL	silty CLAY: blue/green, damp, medium firm; minor silt; rootlets.
			15				
			20				
			25				
			30				

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING B-5/MW-4

SEE SITE PLAN

ALISTO PROJECT NO: *10-061* DATE DRILLED: *10/20/92*

CLIENT: *BP Oil Company*

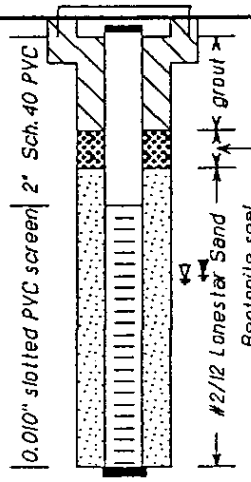
LOCATION: *1700 Powell Street, Emeryville, California*

DRILLING METHOD: *Hollow-Stem Auger (8")*

DRILLING COMPANY: *Great Sierra Exploration* CASING ELEVATION: *8.12 ' MSL*

LOGGED BY: *Ted Moise* APPROVED BY: *Al Sevilla*

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SW	gravelly SAND: tan, damp, loose; fine- to very coarse-grained sand; rounded gravel to 3/4".
						ML	sandy SILT: brown, damp, soft; minor angular gravel to 1"; minor clay.
3,2,3	3.2		5			CL	silty CLAY: gray/brown, damp, soft; minor very fine- to medium-grained sand.
5,8,8							
						SM	silty SAND: gray, wet, loose; very fine- to medium-grained sand; abundant silt; minor clay.
4,4,8			10				
						CL	CLAY: blue/green, damp, medium firm; minor silt.
			15				
			20				
			25				
			30				



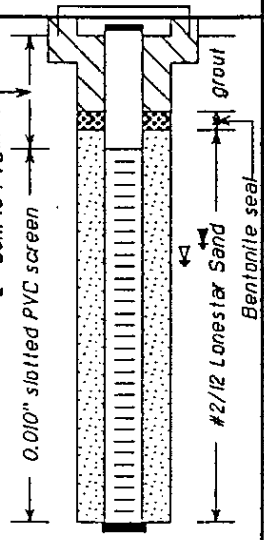
ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-5

SEE SITE PLAN

ALISTO PROJECT NO: 10-061-02 DATE DRILLED: 09/02/93
CLIENT: BP Oil Company
LOCATION: 1700 Powell Street, Emeryville, California
DRILLING METHOD: Hollow-Stem Auger (8")
DRILLING COMPANY: Soils Exploration Srv. CASING ELEVATION: 7.89 ' MSL
LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							9" Asphalt, 2" Roadbase with red brick.
2,3,4	12		5			CL	silty CLAY: gray/green, moist, medium firm; minor fine-grained sand; rootlets present.
						SC	clayey SAND: black, wet, very loose; very fine- to fine-grained sand; abundant fines.
2,1,3			10			CL	silty CLAY: black, soft.
						SC	clayey SAND: black, very loose.
1,1,2						CL	silty CLAY: black/gray, very soft; minor shell fragments.
			15				
			20				
			25				
			30				



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-6

SEE SITE PLAN

ALISTO PROJECT NO: 10-081-02 DATE DRILLED: 09/03/93

CLIENT: BP Oil Company

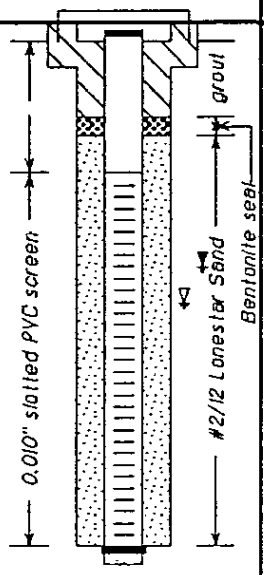
LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hollow-Stem Auger (8")

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: 8.52 ' MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							4" Asphalt.
						SW	gravelly SAND: brown, damp, loose; very fine- to very coarse-grained sand; abundant rounded and angular gravel to 1" diameter.
4,4,7	0		5				SAND: gray/green, damp, loose; very fine- to coarse-grained sand; minor angular gravel to 1/2".
5,6,8			10				Same: black, wet, loose.
3,3,8							fine SAND at 13 feet.
						CL	silty CLAY: black, medium firm.
			15				
			20				
			25				
			30				



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-7

SEE SITE PLAN

ALISTO PROJECT NO: *10-081-02* DATE DRILLED: *09/03/93*

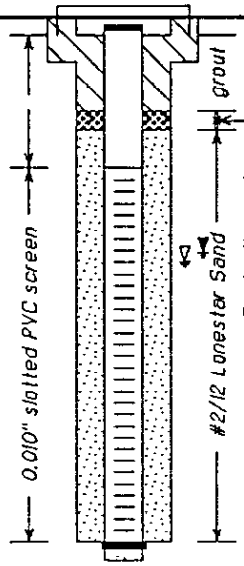
CLIENT: *BP Oil Company*

LOCATION: *1700 Powell Street, Emeryville, California*

DRILLING METHOD: *Hollow-Stem Auger (8")*

DRILLING COMPANY: *Great Sierra Exploration* CASING ELEVATION: *7.61 ' MSL*

LOGGED BY: *Ted Moise* *APPROVED BY: Al Sevilla*

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SP	4" Asphalt.
7,7,5	17		5				gravelly SAND: brown, damp, loose; fine- to medium-grained sand; concrete blocks and bricks.
6,7,2			10				SAND: gray, damp, loose; fine- to medium-grained sand.
2,3,7							Same: black, wet.
						CL	silty CLAY: gray/blue, medium firm.
			15				
			20				
			25				
			30				

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-8

SEE SITE PLAN

ALISTO PROJECT NO: *10-081-02* DATE DRILLED: *09/03/93*

CLIENT: *BP Oil Company*

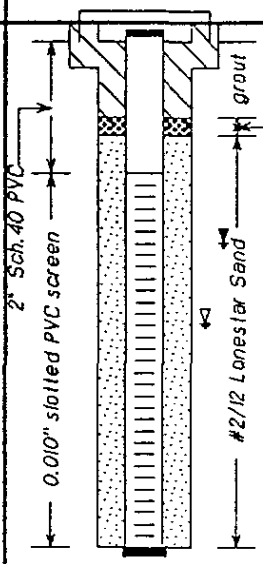
LOCATION: *1700 Powell Street, Emeryville, California*

DRILLING METHOD: *Hollow-Stem Auger (8")*

DRILLING COMPANY: *Soils Exploration Srv.* CASING ELEVATION: *8.80 ' MSL*

LOGGED BY: *Ted Moise* *APPROVED BY: Al Sevilla*

BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						SM	2" Asphalt
							silty SAND: gray, loose, damp.
3,4,8	0		5			CL	silty CLAY: gray/blue, damp, medium firm.
4,5,5			10			ML	sandy SILT: black, wet, medium firm; very fine-grained sand.
7,7,9						CL	silty CLAY: gray/green, stiff; organics present.
			15				
			20				
			25				
			30				



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-9

SEE SITE PLAN

ALISTO PROJECT NO: 10-061-02 DATE DRILLED: 09/03/93

CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hollow-Stem Auger (10")

DRILLING COMPANY: Soils Exploration Srv. CASING ELEVATION: 8.08 ' MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			0			SM	3" Asphalt
							silty SAND: brown, loose, damp; very fine- to very coarse-grained sand; minor angular gravel to 3/4" diameter.
4,6,4	188		5			ML	sandy SILT: gray/green, moist, medium firm; very fine- to fine-grained sand.
3,3,5			10				clayey SILT: brown/gray, wet, medium firm; minor very fine- to medium-grained sand.
						CL	silty CLAY: blue/green, medium firm.
			15				
			20				
			25				
			30				

WELL DIAGRAM: 4" Sch.40 PVC; 0.010" slotted PVC screen; #2/12 Lonestar Sand; Bentonite seal; grout

URS

1333 Broadway, Suite 800
Oakland, California 94612

MONITORING WELL LOG

Well ID: MW-10

Total Depth: 17 ft. bgs

PROJECT INFORMATION	DRILLING INFORMATION
Project: Offsite Well Installation	**Drilling Company:** Gregg Drilling
Site Location: 5795 Christie Ave, Emeryville, CA	**Driller:** Robert Deason
Site Number: Former BP 11126	**Type of Drilling Rig:** Marl M5T Rhino
Project Manager: Lynelle Onishi	**Drilling Method:** 2" Cont. Core/ 8" HSA
Geologist: Kevin Uno	**Sampling Method:** Continuous Core
Job/Cost Code Number: 38487322	**Date(s) Drilled:** 4/15/05

WELL INFORMATION

Groundwater Depth (ft bgs): Exploratory	**Well Location:** Near NE side of Circuit City building in parking lot
Top of Casing Elevation (ft msl): 12.53 ft.	**Well Diameter:** 2 inch
Coordinates: **Latitude** 37.8380746 **Longitude** -122.2952280	**Screened Interval:** 7'-17' bgs

Depth (ft)	Elevation (ft) (NAVD '88)	Lithologic Description	Blow Counts	USCS	PID	Recovery	Sample ID and Interval	Well Completion	Well Description/ Comments
0	12	ASPHALT: 20" Asphalt.							Slightly raised 12" well box w/concrete skirt.
2	10	FILL: 60% angular gravel, 30% sand, 10% fines. Asphalt pieces. Water knife from 2.5-5 ft. bgs.		GM					Cement grout from 0.5 to 5 feet bgs
4	8	CLAY: Visual observation only.		CL					Schedule 40 2" PVC Blank Well Casing from 0.3 to 7.0 ft. bgs
6	6	CLAYEY SANDY SILT: (10GY 2.5/1) Greenish black. 60% silt, 30% clay, 10% angular sand. Soft, moist, low plasticity.		ML			MW-10-7.0		Bentonite annular seal from 5 to 6 feet bgs
8	4	NO RECOVERY							#2/12 sand filter pack from 6 to 17.5 feet bgs
10	2	FILL: Dark red (10YR 3/6). Brick fragments: sand to medium gravel size. Angular, moist to wet, loose, no plasticity.		GW	0.8				
12	0	GRAVELLY SAND: FILL: (2.5 N) Black. 60% angular fine to medium gravel and asphalt, 40% fine to coarse angular sand.			0.2				2" diameter schedule 40, 0.010" sloted screen from 7 to 17 feet bgs
14	-2	SILTY CLAY: (2.5N) Black. 55% clay, 40% silt, 5% fine to medium sand. Shell fragments. Wet, medium plasticity.		CL					
16	-4	CLAYEY SILT: (5GY 2.5/1) Greenish black. 65% silt, 20% clay, 15% fine to medium sand. Shell fragments. Moist to wet, medium plasticity.		ML					2" diameter 6" schedule 40 PVC cap
18	-6	Decrease in moisture. Increase in clay to 30%. Trace (<5%) gravel. Medium plasticity. End of Boring: 20 ft. bgs.			0.2				Bentonite plug from 17 to 20 ft bgs.
20									

URS

1333 Broadway, Suite 800
Oakland, California 94612

MONITORING WELL LOG

Well ID: MW-11

Total Depth: 17 ft. bgs

PROJECT INFORMATION	DRILLING INFORMATION
Project: Offsite Well Installation	**Drilling Company:** Gregg Drilling
Site Location: 5795 Christie Ave, Emeryville, CA	**Driller:** Robert Deason
Site Number: Former BP 11126	**Type of Drilling Rig:** Marl M5T Rhino
Project Manager: Lynelle Onishi	**Drilling Method:** 2" Cont. Core/ 8" HSA
Geologist: Kevin Uno	**Sampling Method:** Continuous Core
Job/Cost Code Number: 38487322	**Date(s) Drilled:** 4/15/05

WELL INFORMATION

Groundwater Depth (ft bgs): Exploratory	**Well Location:** West side of Circuit City building in landscaped area.
Top of Casing Elevation (ft msl): 14.55 ft.	**Well Diameter:** 2 inch
Coordinates: **Latitude** 37.8377200 **Longitude** -122.2958459	**Screened Interval:** 7'-17' bgs

Depth (ft)	Elevation (ft) (NAVD '88)	Symbol	Lithologic Description	Blow Counts	USCS	PID	Recovery	Sample ID and Interval	Well Completion	Well Description/ Comments
0	14		SILTY SAND: Logged from Air Knife cuttings: 80% fine to coarse sand, 20% silt. Moist, no plasticity.		SM					Slightly raised 12" well box w/concrete skirt.
2	12		Increase in sand.							Cement grout from 0.5 to 5 feet bgs
4	10									Schedule 40 2" PVC Blank Well Casing from 0.3 to 7.0 ft. bgs
6	8		NO RECOVERY							Bentonite annular seal from 5 to 6 feet bgs
8	6									#2/12 sand filter pack from 6 to 17 feet bgs
10	4		GRAVELLY SAND: Shoe only: (5Y 4/3) Olive. 85% fine to course sand, 10% fine to medium subangular gravel, 5% fines. Very loose, wet, no plasticity.		SP					
12	2		SAND: (10Y 4/1) Dark greenish gray.100% fine to medium sand. Loose, wet, no plasticity. Occasional shell fragments.			4.0				2" diameter schedule 40, 0.010" sloted screen from 7 to 17 feet bgs
14	0		Color change to olive brown (2.5Y4/4). Trace medium gravel, up to 2.5cm.							
16	-2									2" dia. 6" schedule 40 PVC cap
18	-4		Slight odor					MW-11-18.0		
20	-6									Bentonite plug from 17 to 24 ft. bgs
22	-8		CLAYEY SILT: (5GY 4/1) Dark greenish gray. 75% clay and silt, 15% fine to coarse sand, trace fine gravel. Rootlets, poorly lithified silt clasts gray and 10R 3/3 dusky red) up to 0.75 cm. Low to medium plasticity. Slight odor.		ML			MW-11-23.5		
24			End of Boring: 24 ft. bgs.							

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

LOG OF BORING B-1

SEE SITE PLAN

ALISTO PROJECT NO: 10-061 DATE DRILLED: 10/20/92

CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hollow-stem Auger (8")

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: N/A ft. MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3" Asphalt.
						SW	gravelly SAND: brown/green, damp, very loose, medium- to very coarse- grained sand, abundant rounded gravel to 1".
9	47					ML	sandy SILT: gray/blue, damp, soft, abundant very fine-grained sand, minor clay.
1,1,1			5				
1,1						CL	silty CLAY: dark gray, wet, very soft, abundant silt, very fine- to medium-grained sand, minor rounded gravel to 1".
						SM	silty SAND: blue/gray, wet, very loose, very fine- to fine-grained sand, minor clay.
2,3,3			10			CL	silty CLAY: blue/green, wet, medium firm, minor very fine-grained sand.
7,7,8							Same: no sand, minor silt, plant rootlets.
7,11,12			15				Plant rootlets, very fine- to fine-grained sand.
9,14,14						ML	sandy SILT: blue/brown, wet, very stiff, very fine- to medium- grained sand, minor clay, minor angular gravel to 1/2".
10,11 12,12			20			SM	silty SAND: brown, wet, medium dense, fine- to very coarse-grained sand, minor angular gravel to 1/2".
			25				
			30				

Grout

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

LOG OF BORING B-4a

SEE SITE PLAN

ALISTO PROJECT NO: 10-061 DATE DRILLED: 10/20/92

CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hand Auger

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: N/A ft. MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		Grout					3" Asphalt.
						SW	gravelly SAND: brown, damp, very loose, fine- to very coarse-grained sand, angular gravel to 1-1/2".
						ML	sandy SILT: black, damp, soft, fine- to medium-grained sand, minor clay, minor gravel to 1".
							Auger refusal at 2.5 Feet (Concrete slab).
			5				
			10				
			15				
			20				
			25				
			30				

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

LOG OF BORING B-4b

SEE SITE PLAN

ALISTO PROJECT NO: 10-061 DATE DRILLED: 10/20/92

CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hand Auger

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: N/A ft. MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		Grout	0				3" Asphalt
						SW	gravelly SAND: brown, damp, very loose, fine- to very coarse-grained sand, angular gravel to 1-1/2".
						ML	sandy SILT: black, damp, soft, fine- to medium-grained sand, minor clay, minor gravel to 1".
			5				Auger refusal at 2.5 Feet (Concrete slab).
			10				
			15				
			20				
			25				
			30				

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

LOG OF BORING B-5a

SEE SITE PLAN

ALISTO PROJECT NO: 10-061 DATE DRILLED: 10/20/92

CLIENT: BP Oil Company

LOCATION: 1700 Powell Street, Emeryville, California

DRILLING METHOD: Hand Auger

DRILLING COMPANY: Great Sierra Exploration CASING ELEVATION: N/A ft. MSL

LOGGED BY: Ted Moise APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		grout	5			SW	3" Asphalt. gravelly SAND: tan, damp, loose, fine- to very coarse-grained sand, rounded gravel to 3/4".
							Boring terminated at 5', (8" clay pipe).
			10				
			15				
			20				
			25				
			30				

Attachment C

Field Documentation

ARCADIS

Field Notes

Subject	Project No.	By	Date	Sheet
BP 11126 1700 Powell St.	GP09BPNA C044	R. Moniz	1-6-11	1 of 2

Calculations By _____ Date _____ Checked By _____ Date _____

0700 - R. Moniz on site, purchase ice, talk w/ station worker

Scope:
- ULS (3rd party utility locators) to mark out utilities
- Flash Safety to close southern westbound lane on Powell
- Gregg to hand auger to 5' then CPT/UVOST to 25'
- RM - collect GW + Soil samples - sent to Test Amer.

0730 - Gregg on-site, H+S w/ ULS complete so Chris starts survey on Denny's Location

- H+S w/ Gregg., Denny's cleared, storm drain located but piping not ID'd by ULS.

0800 - Gregg hand augers 3 holes around CPT-1 (Denny's)

- call Steve Miller w/ Alameda County + more grout inspection to 0730.

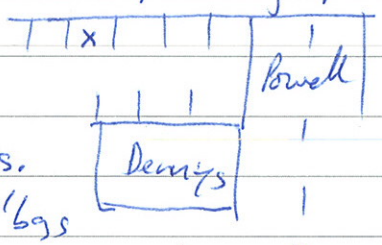
0840 - Fuel delivery @ 1700 delays GPR around 3 easterly locations

0945 - Steve Miller w/ Alameda witnesses + approves grouting done on CPT-1 hole.

1008 - Steve offsite, move rig to hydropunch CPT-1

940 - Flash Safety on site (Brandon). H+S, starts Rd signs

CPT-1 was in east side of Parking Lot in parking spaces (space # 4 from Powell St.)



1050 - Sample Ground water - Screen 7-12' bgs.

1120 - Second possible GW zone starts @ ~23.5' bgs

Second screen @ 20-25' bgs for 25 min w/ 0.0' water.

1145 = Abandoned 2nd attempt so only 1 sample @ CPT-1-7

- clean up. grout hole w/ neat cement, cap w/ cold patch.

1300 - Move to CPT-02 (In Powell St. in front of 1776 (Denny's)

1340 - Sample 7-12' bgs = CPT-02-7

1400 - Sample 21-26' bgs = CPT-02-21

cont →

ARCADIS

Subject	Project No.	By	Date	Sheet
BP 11126 1700 Powell St.		R. Muniz	1-6-11	2 of 2

Calculations By _____ Date _____ Checked By _____ Date _____

1430 - Move to parking Lot to decon pipes after grouting + patching both holes
- Flash demobs cones/signs
1500 - Gregg done decoring, Set up UVOST while drill rig breaks asphalt.
1515 - hand augur 2 holes, UVOST still being setup + Flash off site
1540 - Move CPT Rig over holes
1605 - Stop @ 7.2' bgs. pressure @ 700. = hard unknown material... gravel seen in hand augured soil. Decide to move to 2nd hole. & CPT name = 'CPT-03A'
1645 - 2nd hole complete. Tip @ 27.5 so UVOST is @ 25'
No significant hydrocarbons detected.
Too late to sample. Grout hole + plan to return tomorrow.
Gregg has concrete cover planned to arrive @ 0730 tomorrow
Secure rig / Pack up. / decon piping
1800 - off site

ARCADIS

Subject	Project No.	By	Date	Sheet
BP 11126 1700 Powell St.	GP09BPNA C044	R. Moniz	1-7-11	1 of

Calculations By _____ Date _____ Checked By _____ Date _____

ARCADIS - Rob Moniz Cloudy + Cold

Gregg - John + Antonio

Del Secco -

Scope - Sample UCPT-03 (hole aborted yesterday)
Concrete core for UCPT-0 in parking stalls west walls of Shop.
UVOST/sample soil for UCPTs remaining.

Activities -

0730 - onsite, H+S, begin work
LPO on concrete coring - needs cores/tape - call ahead to notify them to put cores/tape in vehicle

0845 - Cores complete

0900 - Sample UCPT-03-7 (@0900)

0915 - Coren dismissed, originally was waiting till we 5' hand augured in concrete areas, but due to slow business time for site, we move to eastern 3 locations where we will block pump access
- Drill holes for Northern of 3. =UCPT-04

1125 - Sample @ 7.5' + 12.5' after discussing w/ Hollis (Sampled @ 1125 + 1130)
- 6 out more to drill 4 holes for remaining 2 locations in E section
Aim for central hole to be 6ft x MW-2 + MW-9
- 2 hand auger failures @ this location - hand flat object in 1 + pea gravel in 2nd.

1205 - 3 failures @ Southern location due to pea gravel
- Hollis returned told of situation Suggest move South more

1245 = good hole. =UCPT-05 In-Line w/ Island + South of current UST

ARCADIS

Field Notes

Subject	Project No.	By	Date	Sheet
BP 11126 1700 Powell St		R. Muniz	1-7-11	2 of

Calculations By _____ Date _____ Checked By _____ Date _____

1450 - Sample UCPT-05-11.5 (minor hit) + UCPT-05-14 (clean) → @ 1500

* lunch 1400-1430

1510 - Talk w/ Hollis - Decide to not take Dup (Not in plan to doso) + of 2 ~~wate~~ borings left, the one west of the building in the parking stall is ~~one~~ of more concern. After that one, re-assess about coming back to do central East boring (2 failed holes already).

1545 - All 3 concrete cored holes fail due to pea gravel. Excavated "used oil tank" area must be much longer than defined by ULS. Call Hollis decide to move ~18' west to 1st Asphalt.

1620 - Begin UVOST @ UCPT-06

@1600 R.Muniz to Orchard Supply for more asphalt patch.

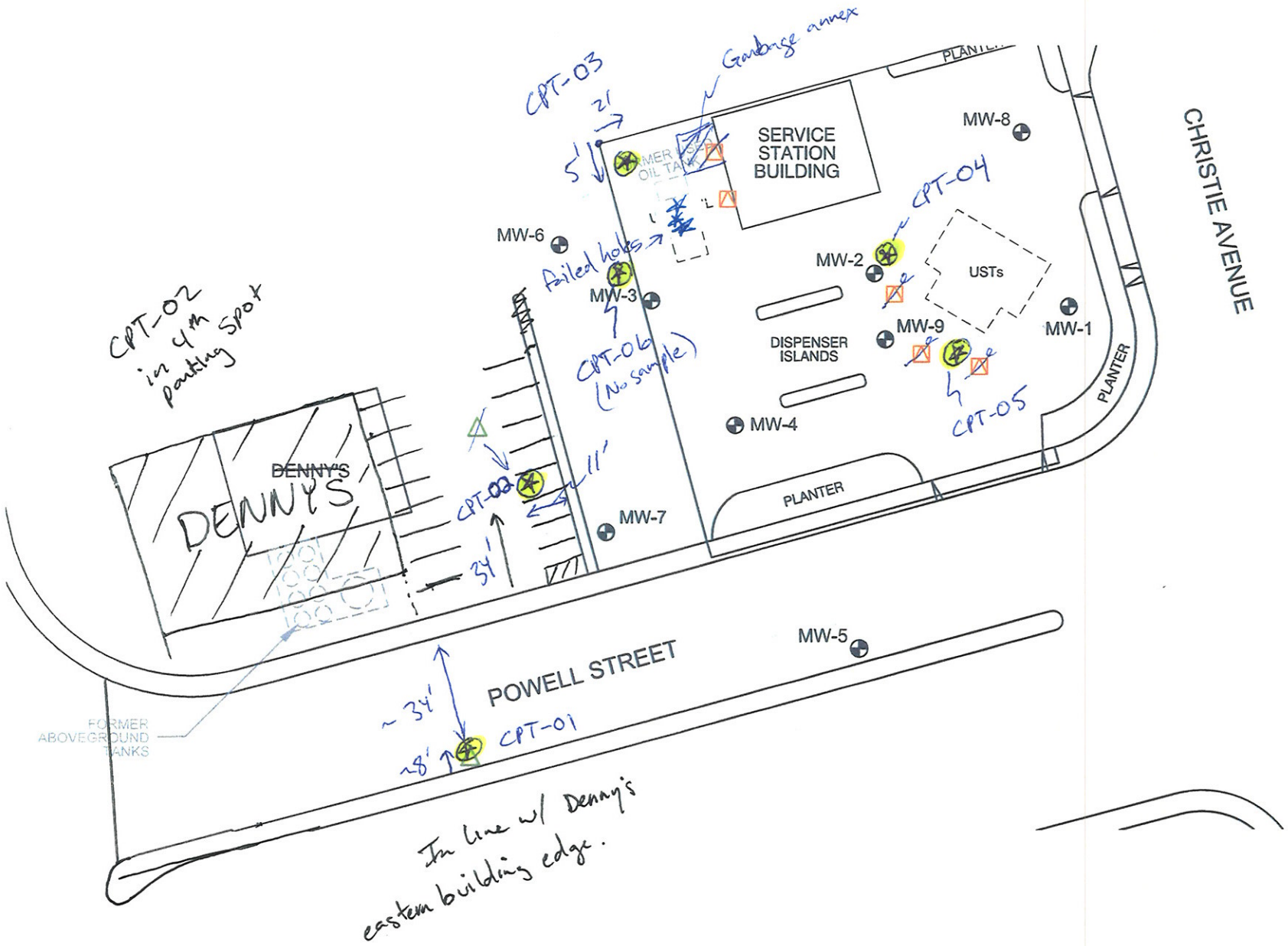
1700 - Talk w/ Hollis - decide 12-13 + 6-7' samples to capture 2 small blips on UVOST Log.

1730 - Sample UCPT-06-6, 1740 - UCPT-06-12'
Grout holes, Ac patch, concrete 3 holes in concrete.
Attempt @ 6' = No Recovery, 7-8', No recovery
12-13', No Recovery. = Abort hole, leave Hollis message
- Begin to demob - No Sample @ UCPT-06

Note: No Solid waste produced + ~~Rec~~ Decon water contained + disposed of by Gregg = No Drums on site

1900 - offsite

R. Muniz

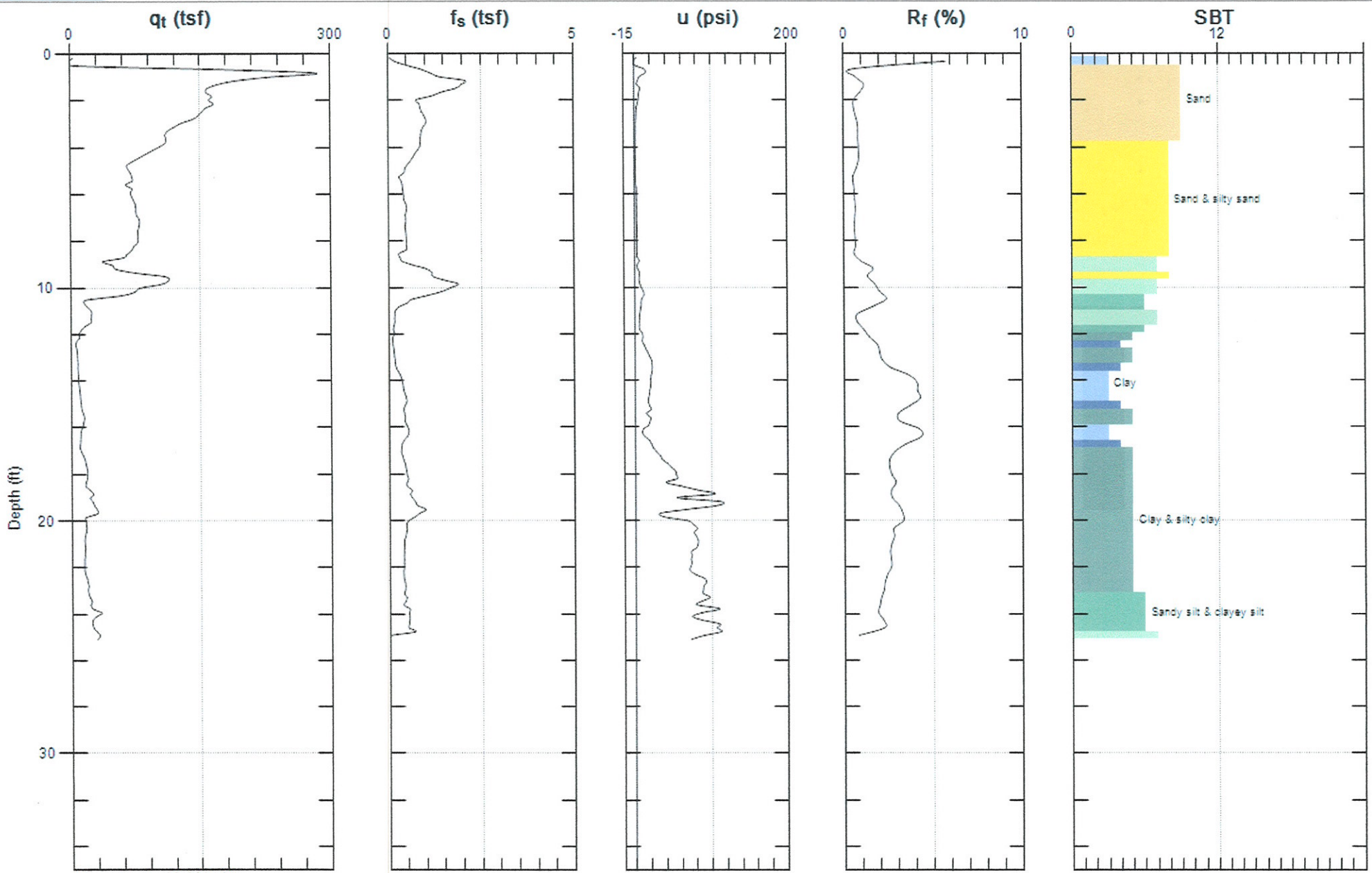

CPT-03
21'
5'
Garbage annex
SERVICE STATION BUILDING
MW-8
CHRISTIE AVENUE
CPT-04
MW-6
Failed holes
MW-2
USTs
MW-3
MW-1
CPT-02 in 4th parking spot
CPT-06 (No sample)
DISPENSER ISLANDS
MW-9
MW-4
CPT-05
PLANTER
DENNY'S
CPT-00
11'
MW-7
PLANTER
34'
MW-5
POWELL STREET
~ 34'
CPT-01
~8'
FORMER ABOVEGROUND TANKS
In line w/ Denny's eastern building edge.

Denny's

GREGG **Arcadis**

Site: Former BP #11126 **Engineer: Rob Moniz**

Sounding: CPT-01 **Date: 1/6/2011 09:14**



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

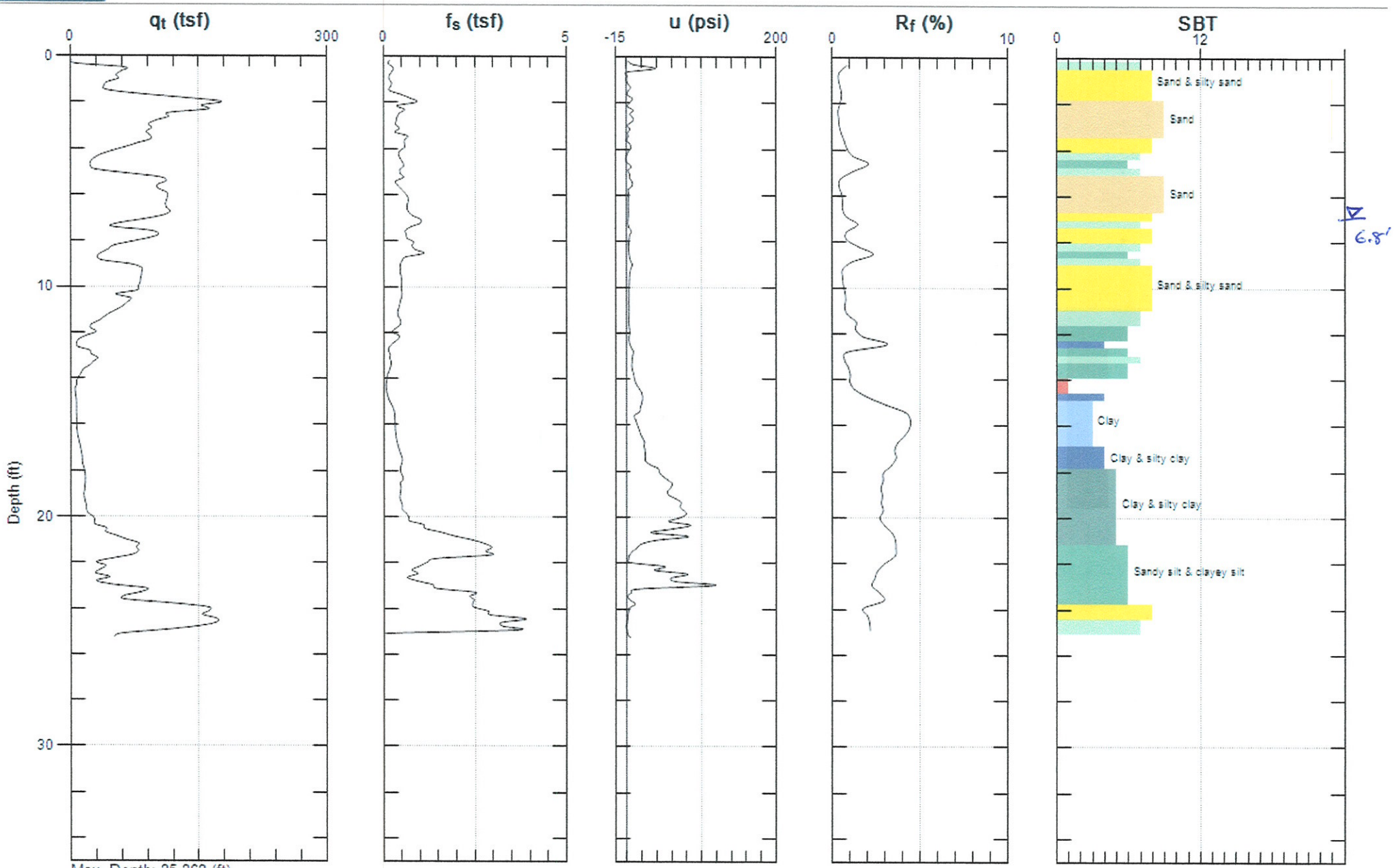
In Road

GREGG

Arcadis

Site: Former BP #11126
Sounding: CPT-02

Engineer: Rob Moniz
Date: 1/6/2011 12:40



Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

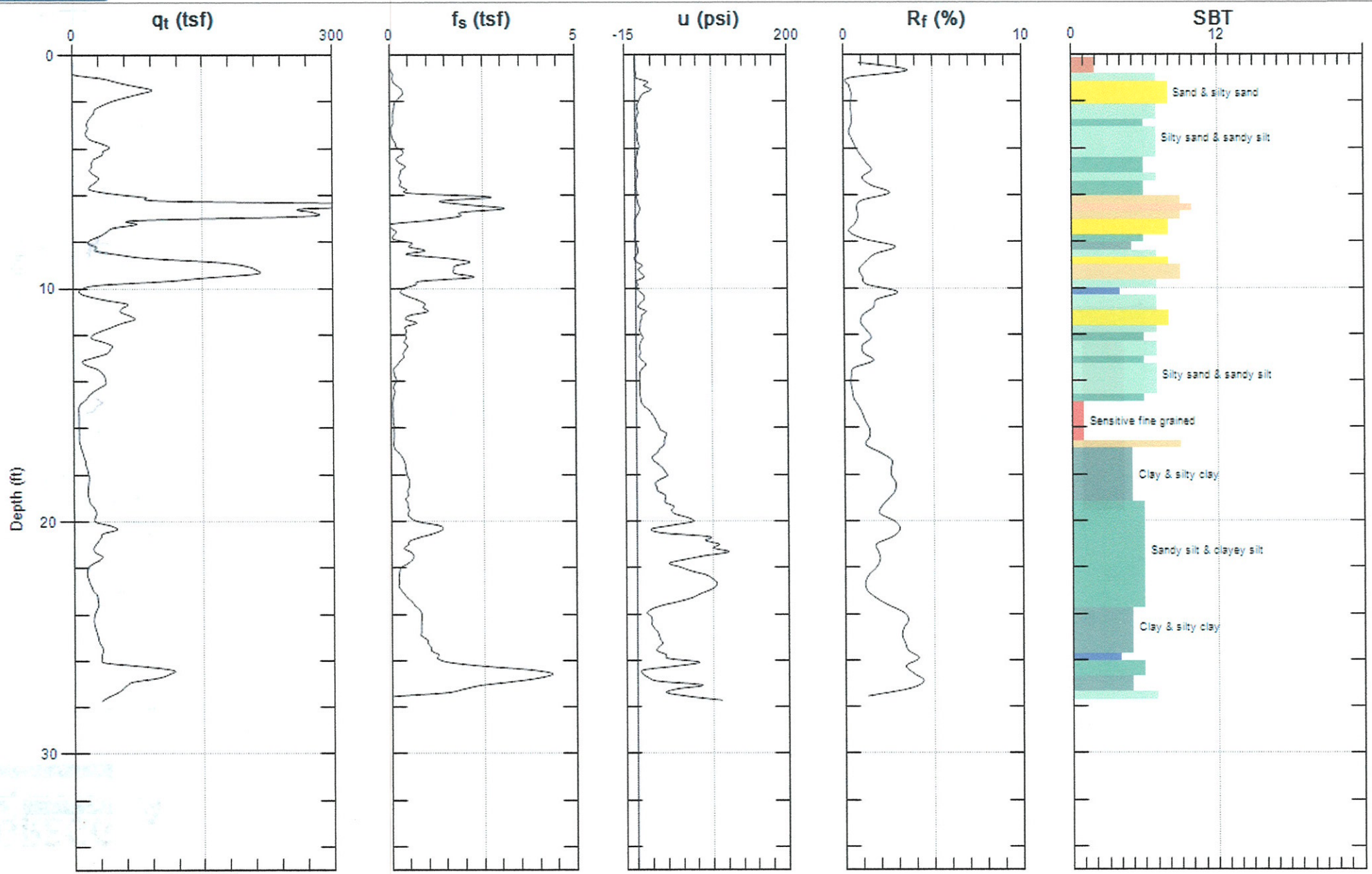
Very NW corner of Property

GREGG

Arcadis

Site: Former BP #11126
Sounding: UCPT-03a

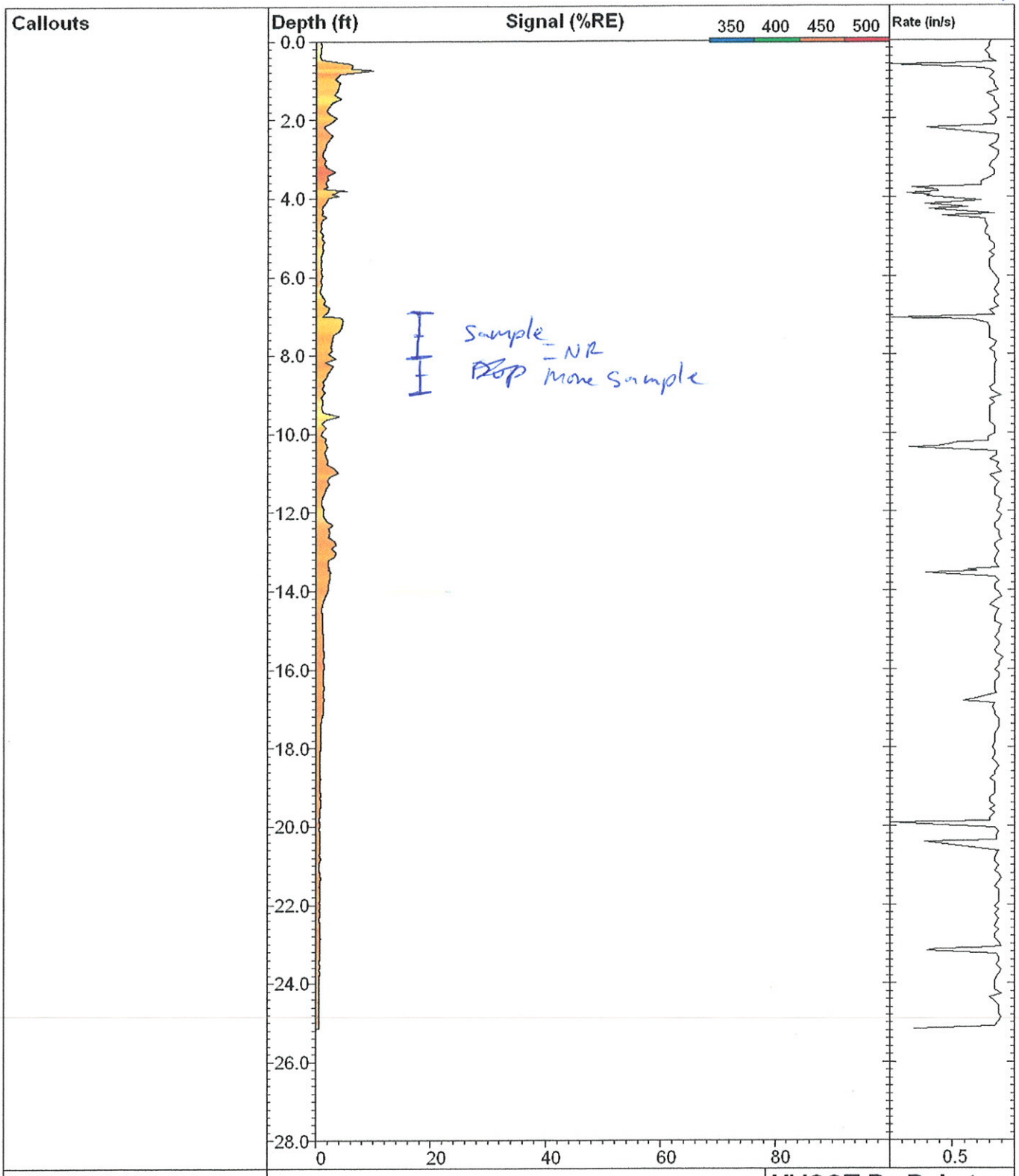
Engineer: Rob Moniz
Date: 1/6/2011 04:32



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Very NW corner of property



GREGG

www.greggdrilling.com

UCPT-03a

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.15 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **10.0 % @ 0.74 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **JOhn/UVOST1009**	*Date & Time:* **2011-01-06 16:37 PST**

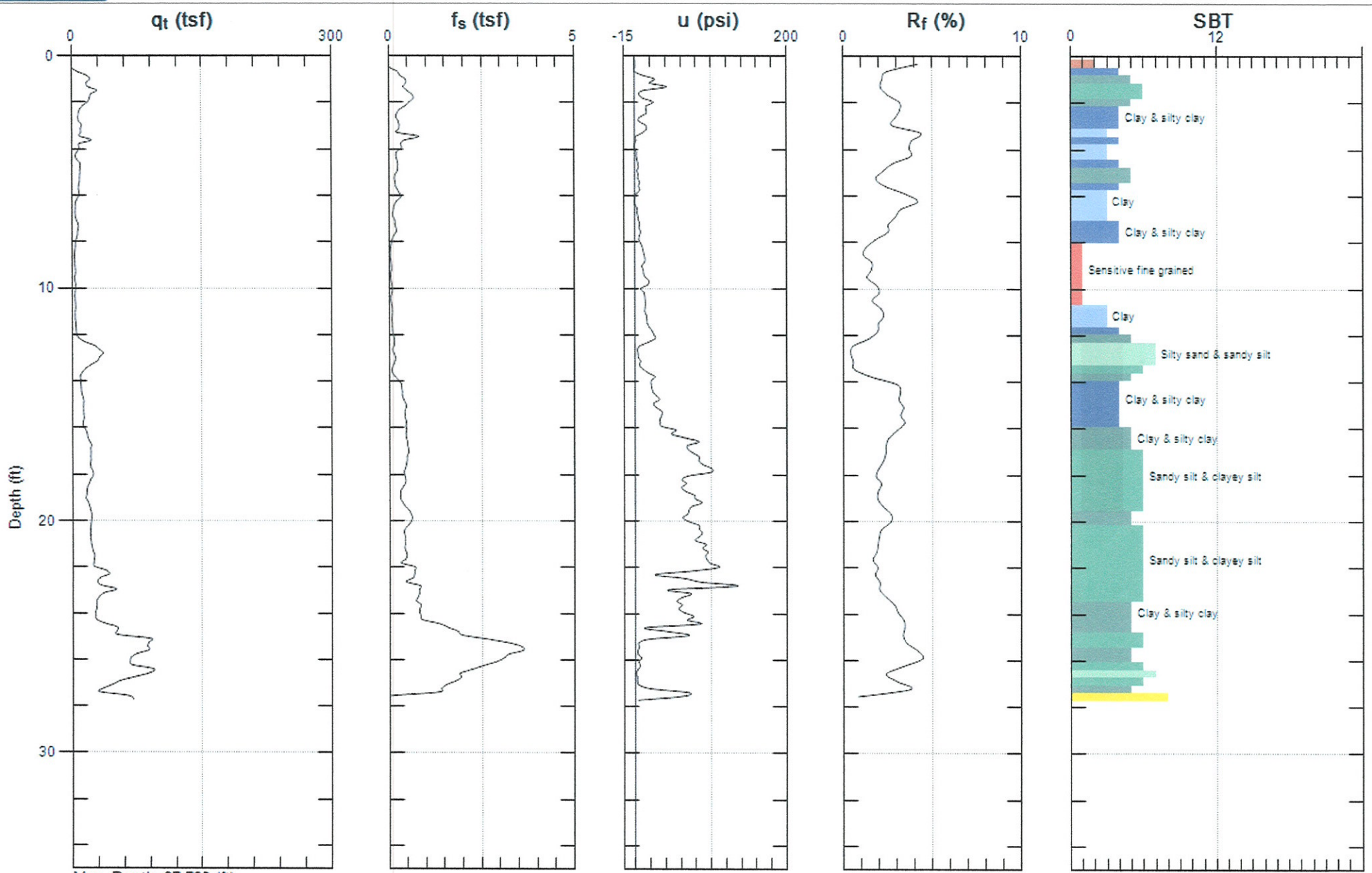
North of MW-2

GREGG

Arcadis

Site: Former BP #11126
Sounding: UCPT-04

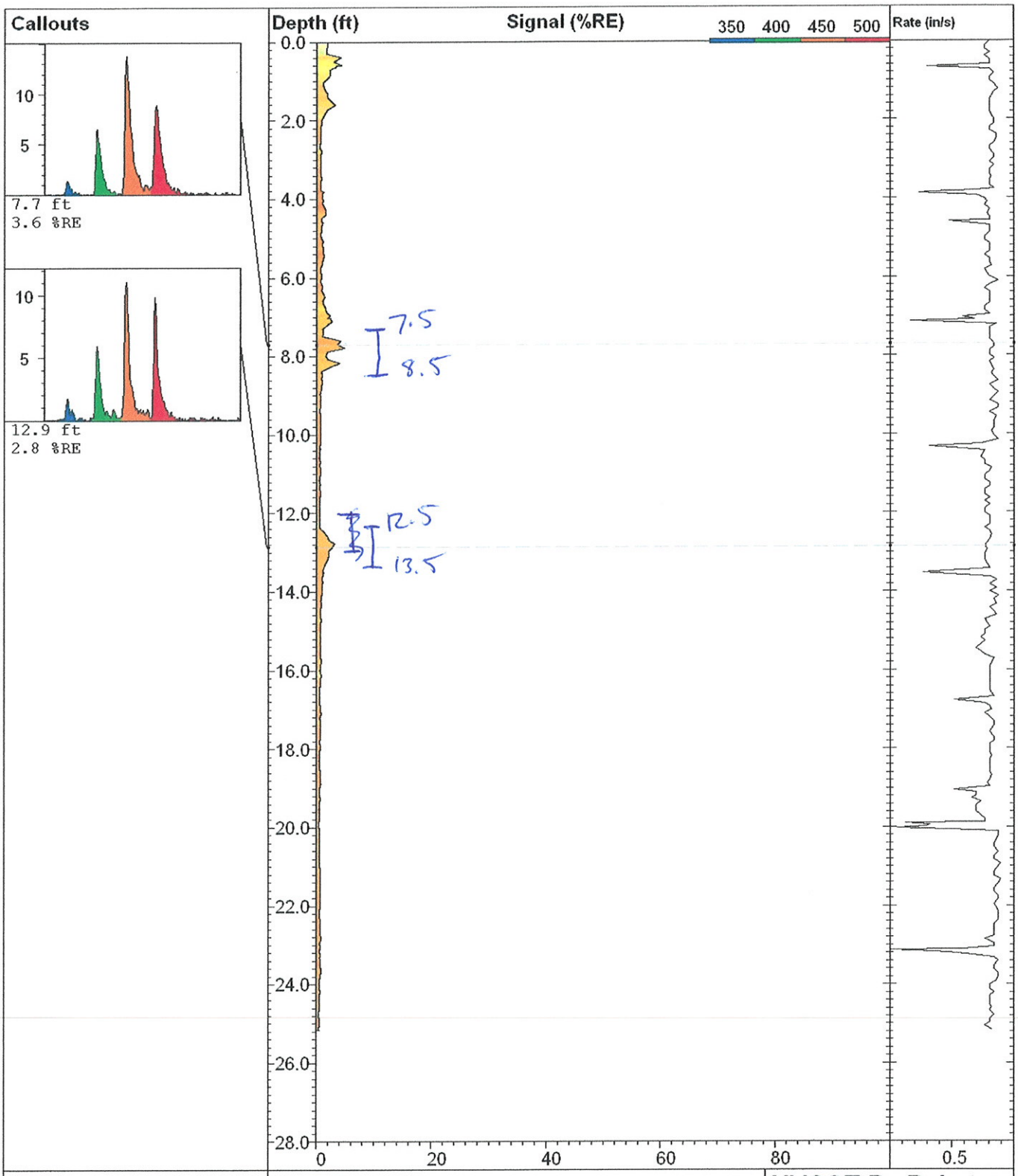
Engineer: Rob Moniz
Date: 1/7/2011 10:07



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

N of MW-2



GREGG
www.greggdrilling.com

UCPT-04

UVOST By Dakota
www.DakotaTechnologies.com

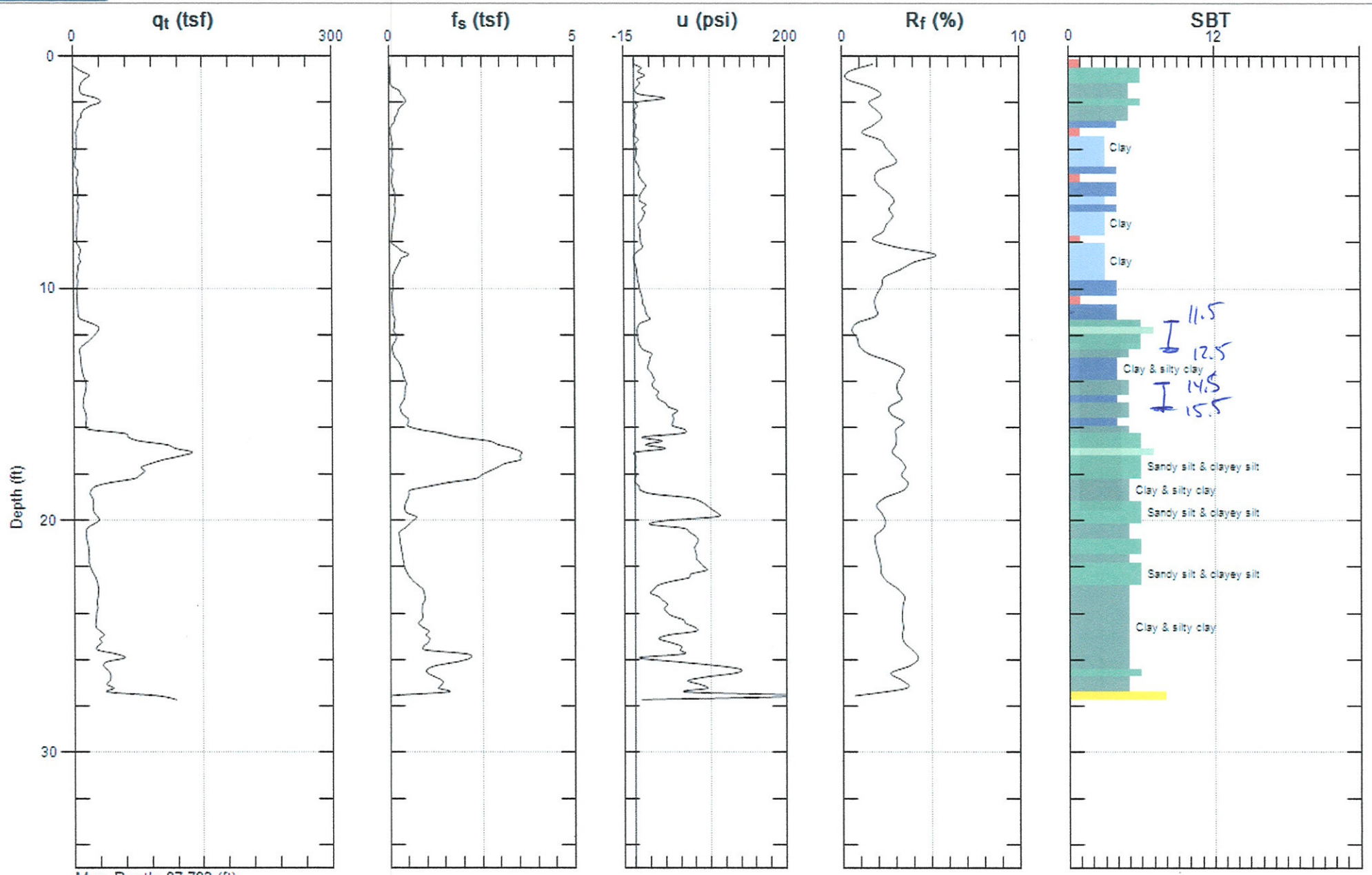
Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.17 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **4.9 % @ 7.79 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 10:10 PST**

~South of UST

GREGG Arcadis

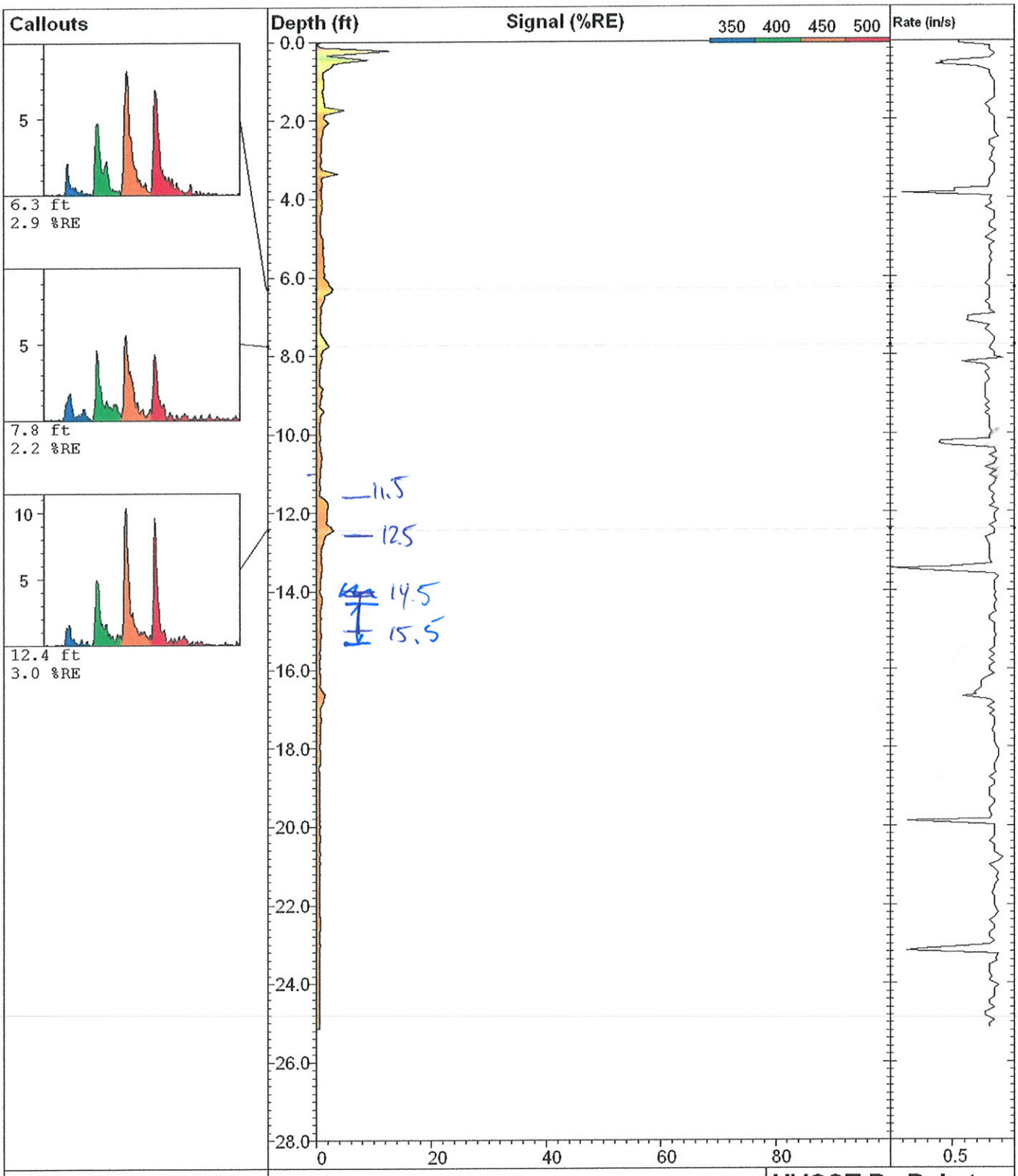
Site: Former BP #11126
Sounding: UCPT-05

Engineer: Rob Moniz
Date: 1/7/2011 11:49



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



GREGG

www.greggdrilling.com

UCPT-05

UVOST By Dakota
www.DakotaTechnologies.com

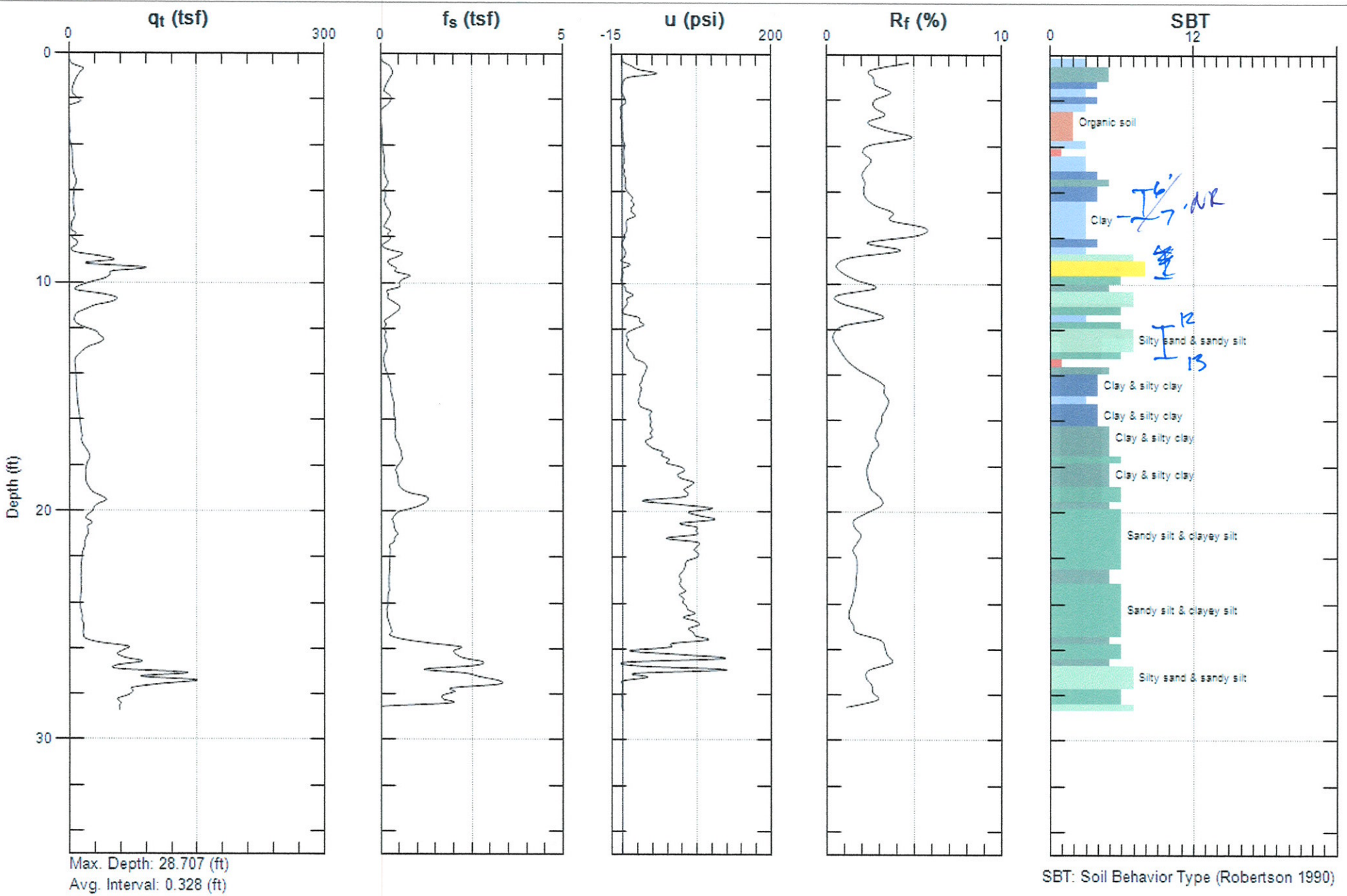
Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.15 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **12.7 % @ 0.23 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 13:10 PST**

GREGG

Arcadis

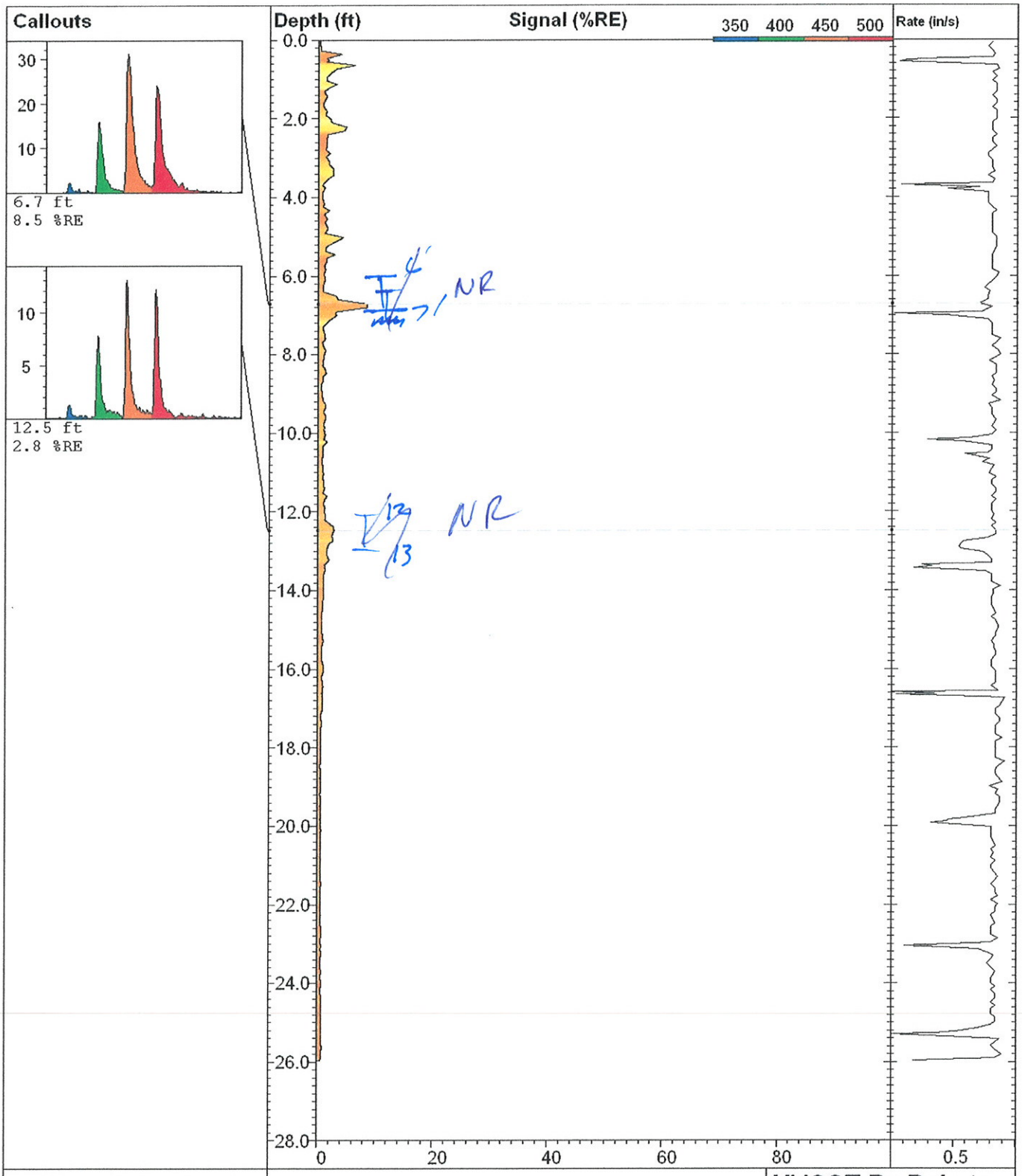
Site: Former BP #11126
Sounding: UCPT-06

Engineer: Rob Moniz
Date: 1/7/2011 04:20



Max. Depth: 28.707 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



GREGG

www.greggdrilling.com

UCPT-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.95 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **8.5 % @ 6.80 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 16:22 PST**

ARCADIS

SOIL BORING DETAIL

PROJECT NUMBER

PROJECT NAME BP 11126

LOCATION 1776 Powell st.

DRILLER Gregg

WELL PERMIT NO.

BORING/WELL NO. CPT-01

INSTALLATION DATE 1-6-11

GROUND SURFACE ELEVATION

COORDINATES

4th parking spot, east Denny's Lot.

ft bgs Denny's Asphalt

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50

CPT-01-7' (Groundwater)

25'

EXPLORATORY BORING

a. Total Depth: 25' ft.

b. Diameter: 2 in.

c. Drilling Method: CPT

d. CPT data ✓

e. UVOST data No

f. Soil Samples Ø

g. Water samples (1)
- 5' screen @ 7-12' bgs = CPT-01-7
- @ 25-20' bgs for 25 min w/ 0' of water = No Sample

h. Analysis gas, BTEX, lead + fuel oxygenates

i. Backfill material Neat Cement

Witnessed by S. Hiller w/ Alameda County

(1) Hydro punch hole also back-filled w/ neat cement

Both holes capped by cold Asphalt

Note: Drawing not to scale.

QA/QC

Logged By: RM

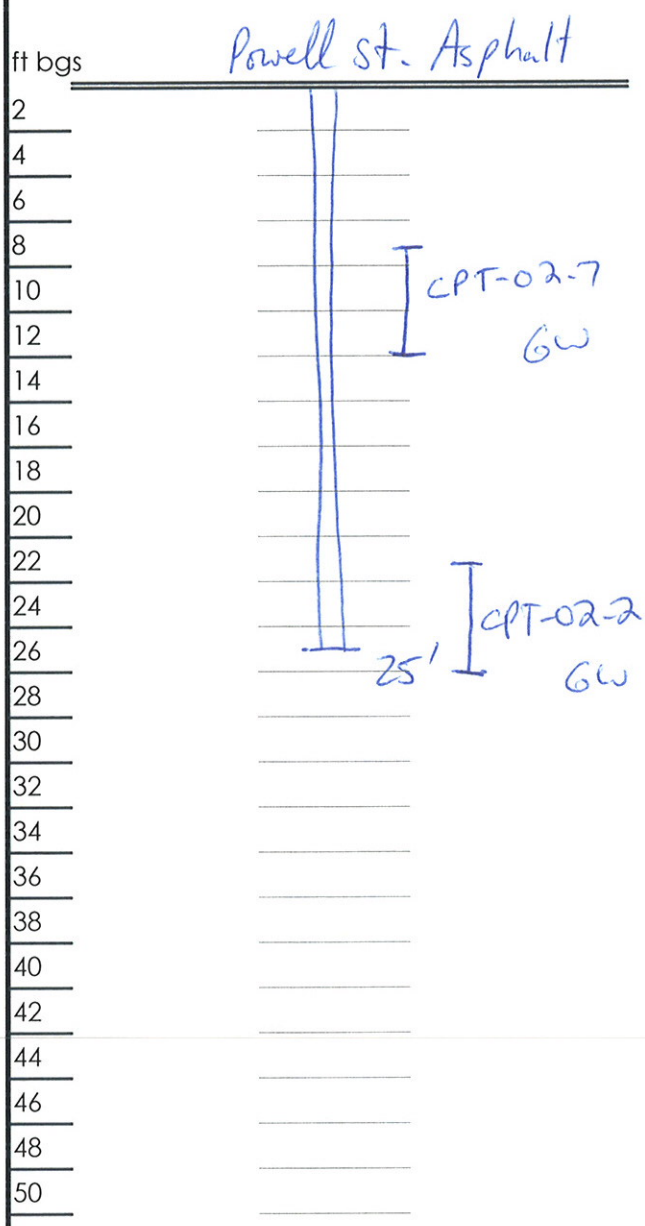
Checked By/Date:

ARCADIS

SOIL BORING DETAIL

PROJECT NUMBER		BORING/WELL NO.	CPT-02
PROJECT NAME	BP 11126	INSTALLATION DATE	1-6-11
LOCATION	1700 Powell St.		
DRILLER	Gregg	GROUND SURFACE ELEVATION	
WELL PERMIT NO.		COORDINATES	

EXPLORATORY BORING



a. Total Depth: ft.

b. Diameter: 2 in.

c. Drilling Method: CPT

d. CPT data ✓

e. UVOST data No

f. Soil Samples ~~CPT-02-7 Bldg (7-12')~~ e

g. Water samples ① 7-12' bgs = CPT-02-7 @1340
21-26' bgs
② CPT-02-21 @1400
GW @6.8' bgs

h. Analysis gas, BTEX, lead + fuel oxys

i. Backfill material Neat cement
Cold Asphalt cap

Note: Drawing not to scale.

QA/QC

Logged By:

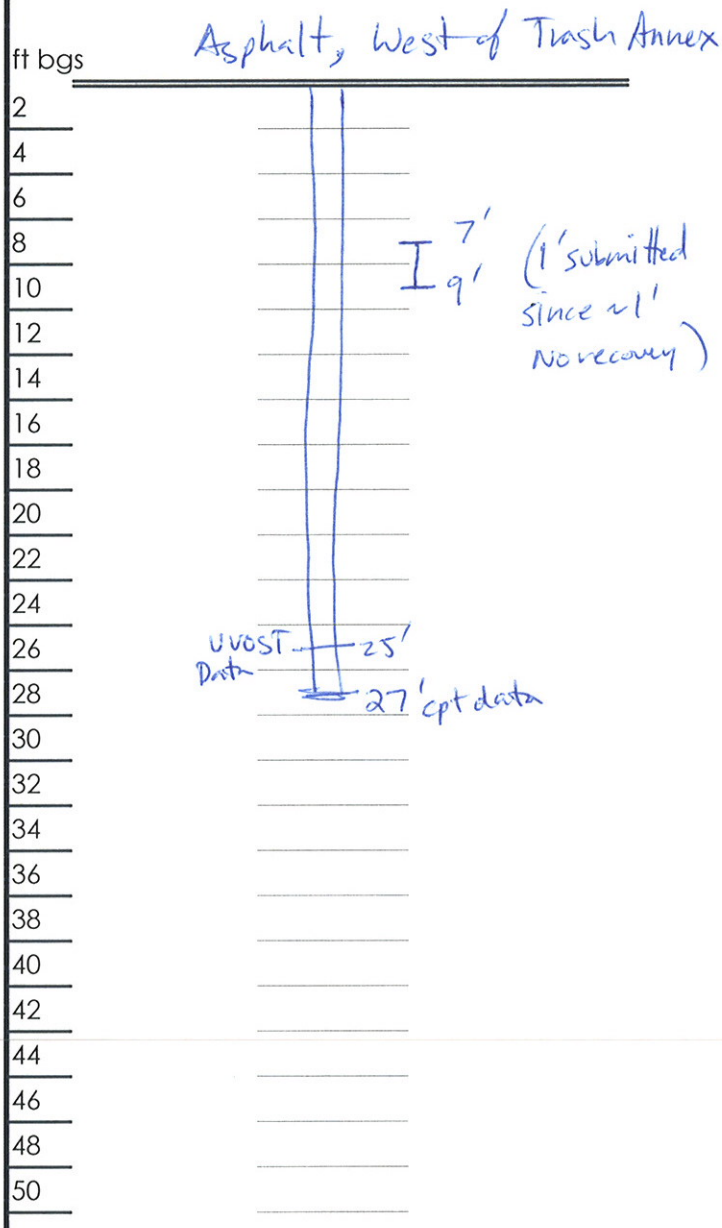
Checked By/Date:

SOIL BORING DETAIL

ARCADIS

PROJECT NUMBER		BORING/WELL NO.	UCPT-03
PROJECT NAME	BP 11126	INSTALLATION DATE	1-6-11
LOCATION	1700 Powell St.		
DRILLER	Gregg	GROUND SURFACE ELEVATION	
WELL PERMIT NO.	W2010-1001	COORDINATES	

EXPLORATORY BORING



a. Total Depth: 27.5' ft.

b. Diameter: 2 in.

c. Drilling Method: UVOST CPT

d. CPT data: ✓

e. UVOST data: ✓

f. Soil Samples: UCPT-03-7

g. Water samples: Ø

h. Analysis: Gas, BTEX, lead + Fuel Oxys

i. Backfill material: Neat cement w/ cold patch cap

Note: Drawing not to scale.

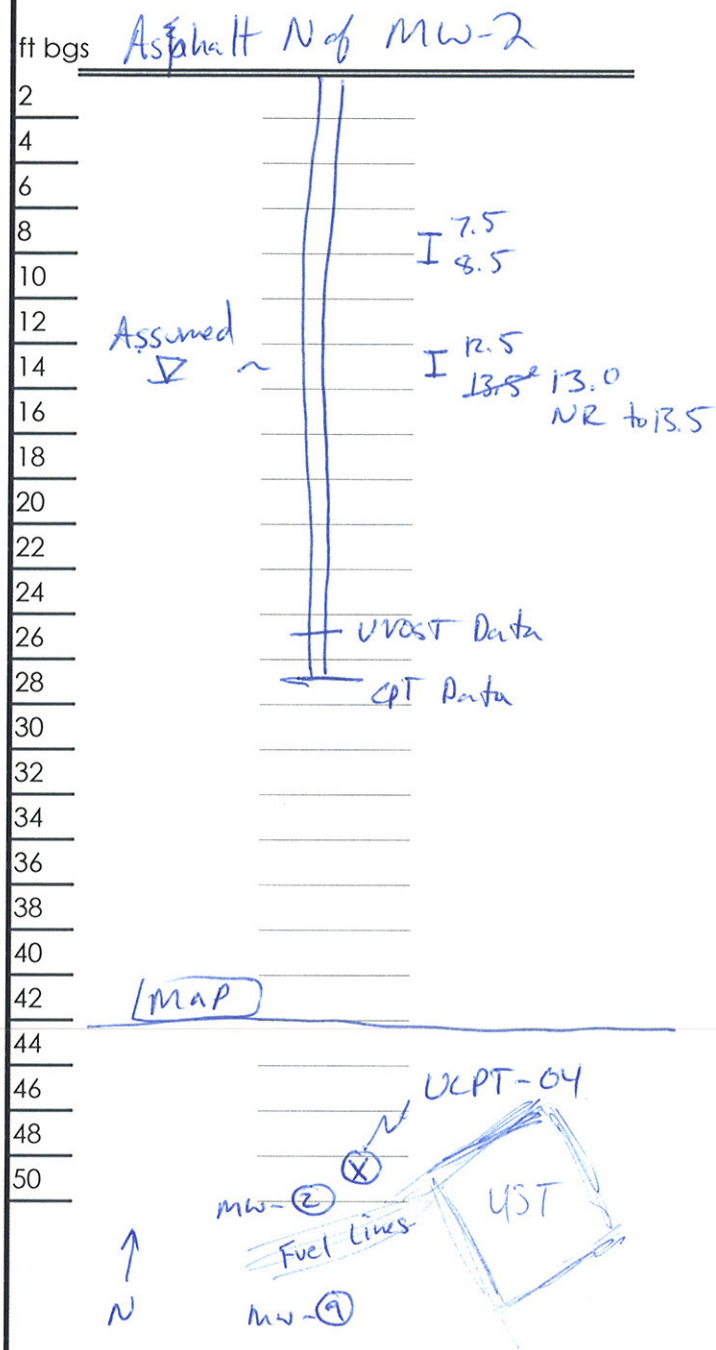
QA/QC	
Logged By:	
Checked By/Date:	

ARCADIS

SOIL BORING DETAIL

PROJECT NUMBER		BORING/WELL NO.	UCPT-04
PROJECT NAME		INSTALLATION DATE	1-7-11
LOCATION			
DRILLER		GROUND SURFACE ELEVATION	
WELL PERMIT NO.		COORDINATES	

EXPLORATORY BORING



a. Total Depth: 27.5 ft.

b. Diameter: 2 in.

c. Drilling Method: CPT/UVOST

d. CPT data ✓

e. UVOST data ✓

f. Soil Samples UCPT-04-7.5 @ 1125
UCPT-04-12.5 @ 1130

g. Water samples Ø

h. Analysis TPHg, BTEX, lead
fuel oxys

i. Backfill material Neat cement
Asphalt patch cap

Note: Drawing not to scale.

QA/QC	
Logged By:	
Checked By/Date:	

SOIL BORING DETAIL

ARCADIS

PROJECT NUMBER	60098PNA.C04	BORING/WELL NO.	UCPT-05
PROJECT NAME	BP 11126	INSTALLATION DATE	1-7-11
LOCATION	1700 Powell St.		
DRILLER	Gregg.	GROUND SURFACE ELEVATION	
WELL PERMIT NO.		COORDINATES	

EXPLORATORY BORING

ft bgs

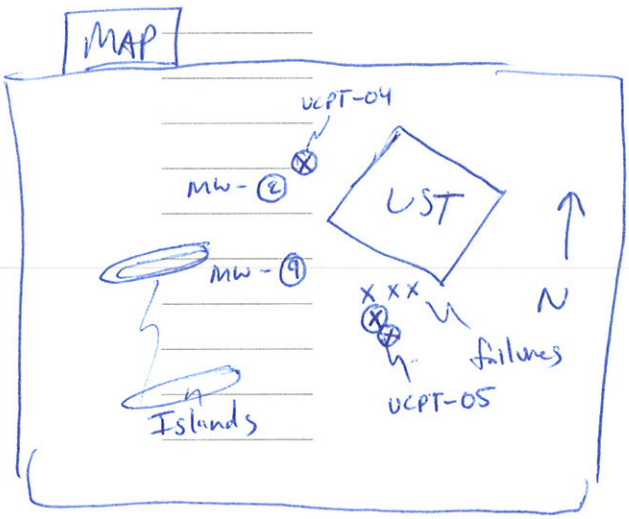
Asphalt. South of existing UST

▽ @ 4.5 during hand auger

UVOST

CPT

MAP



a.	Total Depth:	27.5 ft.
b.	Diameter:	2 in.
c.	Drilling Method:	CPT / UVOST
d.	CPT data	✓
e.	UVOST data	✓
f.	Soil Samples	UCPT-05- @ UCPT-05- @
g.	Water samples	∅
h.	Analysis	TPHg, BTEX, Pb fuel oxys
i.	Backfill material	Neat cement cold patch cap.

Notes - 4th Hole attempted was free of pea gravel = 3 fails during hand auger.

Note: Drawing not to scale.

QA/QC

Logged By:

Checked By/Date:

ARCADIS

SOIL BORING DETAIL

PROJECT NUMBER		BORING/WELL NO.	UCPT-06
PROJECT NAME		INSTALLATION DATE	1-7-10
LOCATION			
DRILLER		GROUND SURFACE ELEVATION	
WELL PERMIT NO.		COORDINATES	

EXPLORATORY BORING

ft bgs

Ashalt alley btx gas station + Dennys.

~1' off gas station.

25.4 UVOST

27.9 cpt

a. Total Depth: 27.9 ft.

b. Diameter: 2 in.

c. Drilling Method: CPT / UVOST

d. CPT data ✓

e. UVOST data ✓

f. Soil Samples ∅

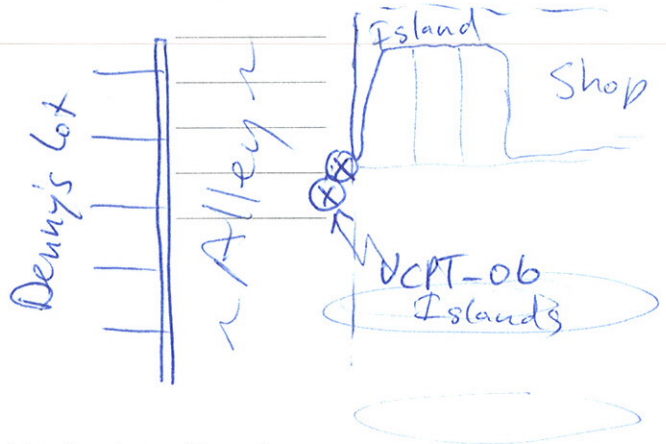
No Recovery after 3 attempts

g. Water samples ∅

h. Analysis TPHg, BTEX, Pb + fuel oxys

i. Backfill material neat cement Cold patch cap.

Map



Note: Drawing not to scale.

QA/QC

Logged By:

Checked By/Date:

GREGG DRILLING & TESTING

950 Howe Rd. Martinez, CA 94553
Ph: (925)313-5800 Fax: (925)313-0302
www.greggdrilling.com

DATE: 1-06-11

TIME ARRIVE: 0800 TIME LEFT: 1800

Company Name:	Arcadis, Geraghty & Miller	**GIS Job Number:**	D2110006 11-003MA
Site Name:	Former BP #11126	**Reference Number:**	I2100154
Address Line 1:	1700 Powell St	**Job Start Date:**	1/6/2011
Address Line 2:		**Job End Date:**	1/7/2011
Cross Street	Freeway on -ramp	**Start Time:**	8:00
City:	Emeryville	**Equipments:**	C6 UVOST
State:	CA	**Driller/Staff Safety:**	JOHN
Thomas Coordinate:		**Field Staff 2:**	ANTONIO
Thomas Page:		**Field Staff 3:**	
~~Field Rep:~~		~~Nights Out:~~	

ITEM	UNITS	QUANTITY
RIG NO./TYPE: C18	HOUR	10.0
MOB-DEMOB-TRAVEL	HOUR	2.0
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME/CONSTRUCTION TIME	HOUR	
STEAM CLEANING AT YARD	DAY	
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FRONT-END LOADER/BOBCAT	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK DPT6	DAY	1
SERVICE RUNS	HOUR	
CONST./HAND AUGER CREW (2 men)	HOUR	
COCRETE CORING DIA.	EACH	
P.P.D. TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
CPT01	25	CPT	
↓	12,25	hydropunch	
CPT02	25	CPT	
↓	12,26	hydropunch	
UCPT03	27	CPT w/ UVOST (refusal)	
↓	29	↓	

ITEMS					UNITS	QUANTITY
SEISMIC CPT (Interval Test)					TEST	
UVIF RENTAL					DAY	
RESISTIVITY RENTAL					DAY	
BACKFILL TEST LOCATIONS					FOOT	136
BENTONITE CHIPS					BAG	
BENTONITE PELLETS					PAIL	
BENTONITE DRILL MUD					BAG	
BENTONITE GROUT					BAG	
FILTER SAND					BAG	
ASPHALT PATCH					BAG	1
READY-MIX CONCRETE					BAG	
PORTLAND CEMENT/QUICK SET					BAG	4
WOOD PLUGS					EACH	
DISPOSABLE BAILERS					EACH	
PVC CASING	3/4"	2"	4"	OTHER	FOOT	
PVC SCREEN	3/4"	2"	4"	OTHER	FOOT	20
THREADED FITTINGS	3/4"	2"	4"	OTHER	EACH	
SLIP FITTINGS	3/4"	2"	4"	OTHER	EACH	
LOCKING CAPS		2"	4"	OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)					EACH	
ANODIZED STAND PIPE					EACH	
GROUNDWATER SAMPLE CONSUMABLES					EACH	
1/4" TUBING					FOOT	
DISPOSABLE TIPS					EACH	7
SAMPLE RINGS & CAPS/SHELBY TUBES					EACH	
55-GALLON DRUM					EACH	
CORE BOXES					EACH	

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling & Testing, Inc. will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GDT to complete ☐

ADDITIONAL SAFETY/CONST. MATERIALS

SUBCONTRACTOR & ADDITIONAL EQUIPMENT

EQUIPMENT DAMAGE

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous dilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $500. Also applicable to cancellations within 24 hrs. of scheduled start.

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred toabove may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. A 3% Reduction of total price if paid within 10 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

Project Name: BP 11126 P.O./Task #

Signature of Field Representative

Printed Name Rob Moniz Date 1-7-11

GREGG DRILLING & TESTING

950 Howe Rd. Martinez, CA 94553
Ph: (925)313-5800 Fax: (925)313-0302
www.greggdrilling.com

DATE: 1-7-11

TIME ARRIVE: 0730 TIME LEFT: 1900

Company Name:	Arcadis, Geraghty & Miller	**GIS Job Number:**	D2110006 11-003MA
Site Name:	Former BP #11126	**Reference Number:**	I2100154
Address Line 1:	1700 Powell St	**Job Start Date:**	1/6/2011
Address Line 2:		**Job End Date:**	1/7/2011
Cross Street	Freeway on -ramp	**Start Time:**	8:00
City:	Emeryville	**Equipments:**	C6 UVOST
State:	CA	**Driller/Staff Safety:**	JOHN
Thomas Coordinate:		**Field Staff 2:**	ANTONIO
Thomas Page:		**Field Staff 3:**	
~~Field Rep:~~		~~Nights Out:~~	

ITEM	UNITS	QUANTITY
RIG NO./TYPE: CT8	HOUR	11.5
MOB-DEMOB-TRAVEL	HOUR	2.5
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME/CONSTRUCTION TIME	HOUR	
STEAM CLEANING AT YARD	DAY	
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FRONT-END LOADER/BOBCAT	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK DP-16	DAY	1
SERVICE RUNS	HOUR	
CONST./HAND AUGER CREW (2 men)	HOUR	
COCRETE CORING DIA.	EACH	
P.P.D. TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
uCPT03	7, 12	soil sample	
uCPT04	23	CPT w/ uVOST	
↓	7, 12	soil sample	
uCPT05	23	CPT w/ uVOST	
↓	11, 14	soil sample	
uCPT06	23	CPT w/ uVOST	
↓	6, 9, 12	soil sample	

ITEMS					UNITS	QUANTITY
SEISMIC CPT (Interval Test)					TEST	
UVIF RENTAL					DAY	
RESISTIVITY RENTAL					DAY	
BACKFILL TEST LOCATIONS					FOOT	139
BENTONITE CHIPS					BAG	
BENTONITE PELLETS					PAIL	
BENTONITE DRILL MUD					BAG	
BENTONITE GROUT					BAG	
FILTER SAND					BAG	
ASPHALT PATCH					BAG	
READY-MIX CONCRETE					BAG	1
PORTLAND CEMENT/QUICK SET					BAG	4
WOOD PLUGS					EACH	
DISPOSABLE BAILERS					EACH	
PVC CASING	3/4"	2"	4"	OTHER	FOOT	
PVC SCREEN	3/4"	2"	4"	OTHER	FOOT	
THREADED FITTINGS	3/4"	2"	4"	OTHER	EACH	
SLIP FITTINGS	3/4"	2"	4"	OTHER	EACH	
LOCKING CAPS		2"	4"	OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)					EACH	
ANODIZED STAND PIPE					EACH	
GROUNDWATER SAMPLE CONSUMABLES					EACH	
1/4" TUBING					FOOT	
DISPOSABLE TIPS					EACH	5
SAMPLE RINGS & CAPS/SHELBY TUBES					EACH	15
55-GALLON DRUM					EACH	
CORE BOXES					EACH	

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling & Testing, Inc. will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GDT to complete ☐

ADDITIONAL SAFETY/CONST. MATERIALS

SUBCONTRACTOR & ADDITIONAL EQUIPMENT

EQUIPMENT DAMAGE

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous dilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $500. Also applicable to cancellations within 24 hrs. of scheduled start.

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred toabove may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. A 3% Reduction of total price if paid within 10 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

Project Name: BP 11126 P.O./Task #

Signature of Field Representative

Printed Name Rob Monz Date 1-7-11

STATEWIDE
TRAFFIC SAFETY & SIGNS
PHONE: (916) 452-4855
FAX: (916) 452-9322

OUR JOB #7T0155

REMIT TO:
P.O. BOX 5299
IRVINE, CA 92616

TRAFFIC CONTROL AGREEMENT

BILL TO: ARCADIS
630 Plaza Drive, Suite 600
Highlands Ranch, CO

CONTACT: ROBERT 510-409-3831
ORD BY KELLI P 303-471-3403
LOCATION: POWELL STREET
EMERYVILLE, CA

P.O. NUMBER: GP09BPNAC044
JOB NUMBER: 11126

CIRCLE JOB TYPE: T-10 (T-11) T-12 T-13 T-14 **OR** OTHER:_____

DATE: 1-6-11 **START TIME:** 9:30 AM **FINISH TIME:** 3:30 pm

TAB #: 092 LT #: _____ CMS #: _____

TRUCK #: 49 MILEAGE: START: 128770 MILEAGE: END: _____

TRUCK #: _____ MILEAGE: START: _____ MILEAGE: END: _____

EMPLOYEES: Brandon MacFarlane

CUSTOMER SIGNATURE: _____ **DATE:** 1-6-11

COPY

Attachment D

Alameda County Public Works Agency Permit

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/14/2010 By jamesy

Permit Numbers: W2010-1001
Permits Valid from 01/06/2011 to 01/07/2011

Application Id: 1292362027267 **City of Project Site:** Emeryville
Site Location: 1700 Powell Street
Emeryville, CA 94608
Project Start Date: 01/06/2011 **Completion Date:** 01/07/2011
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: ARCADIS-US, Inc - Hollis Phillips **Phone:** 415-374-2744 x13
100 Montgomery Street, Suite 300, San Francisco, CA 94104
Property Owner: Shawn Azimi **Phone:** 510-604-0002
1700 Powell Street, Emeryville, CA 94608
Client: Hollis Phillips **Phone:** 415-374-2744 x13
100 Montgomery Street, Suite 300, San Francisco, CA 94104
Contact: Kelli Preston **Phone:** 303-471-3403
Cell: 303-501-6388

Total Due: $265.00
Receipt Number: WR2010-0425 **Total Amount Paid:** $265.00
Payer Name : Kelli J Preston Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 7 Boreholes
Driller: Gregg Drilling - Lic #: 485165 - Method: CPT **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2010-1001	12/14/2010	04/06/2011	7	2.00 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Attachment E

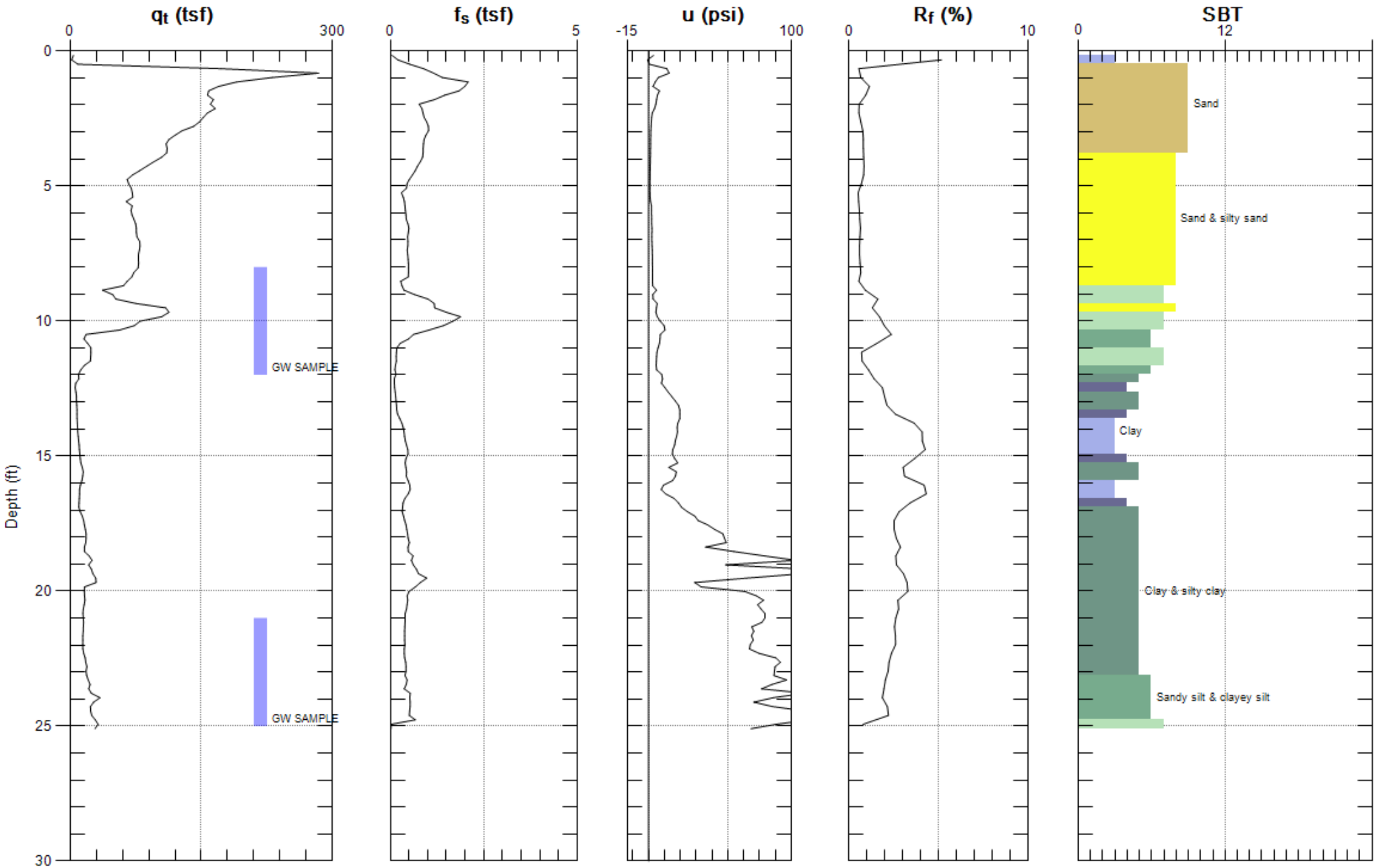
CPT and UVOST Logs

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: CPT-01

Engineer: R.MONIZ
Date: 1/6/2011 09:14



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

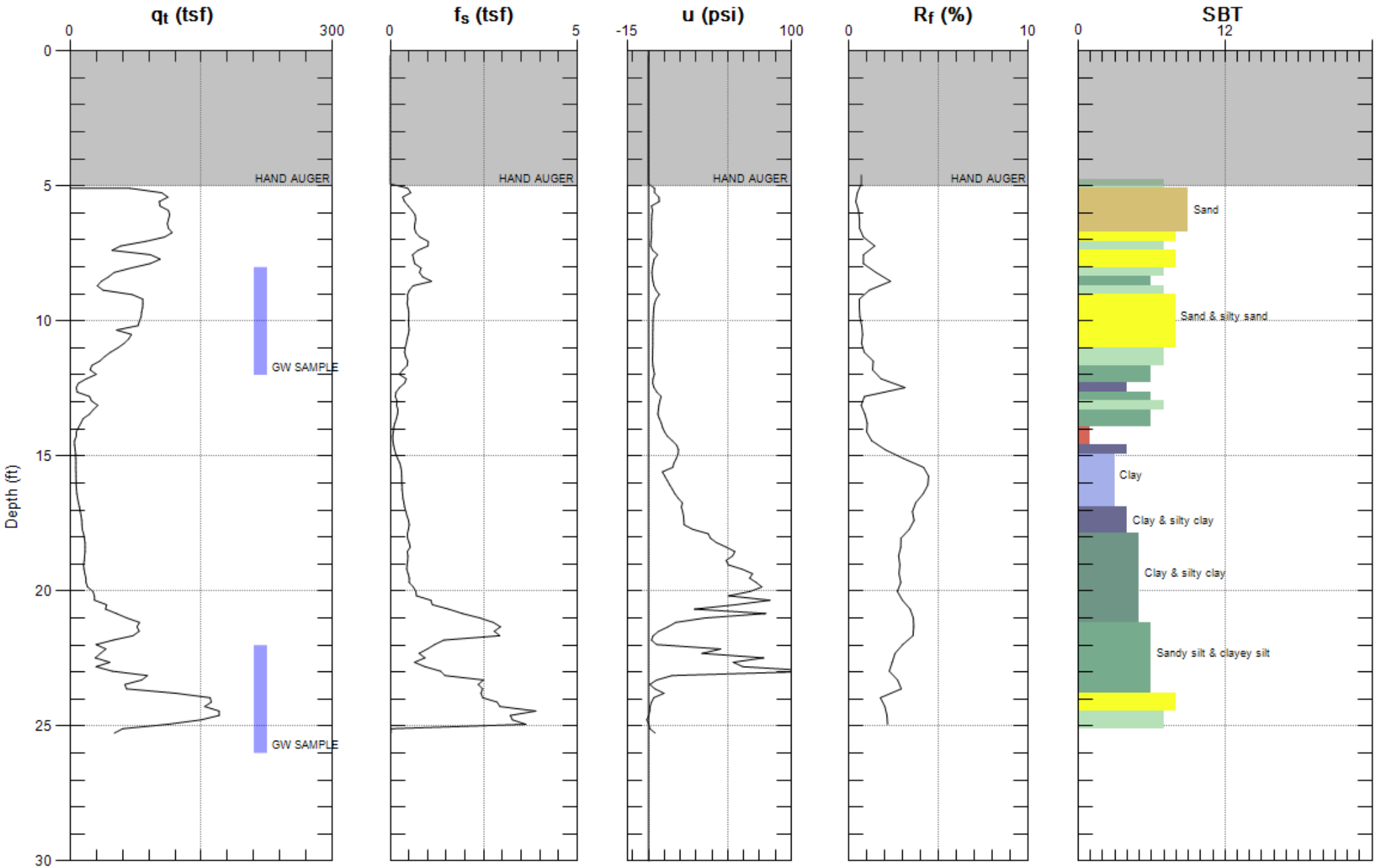
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: CPT-02

Engineer: R.MONIZ
Date: 1/6/2011 12:40



Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

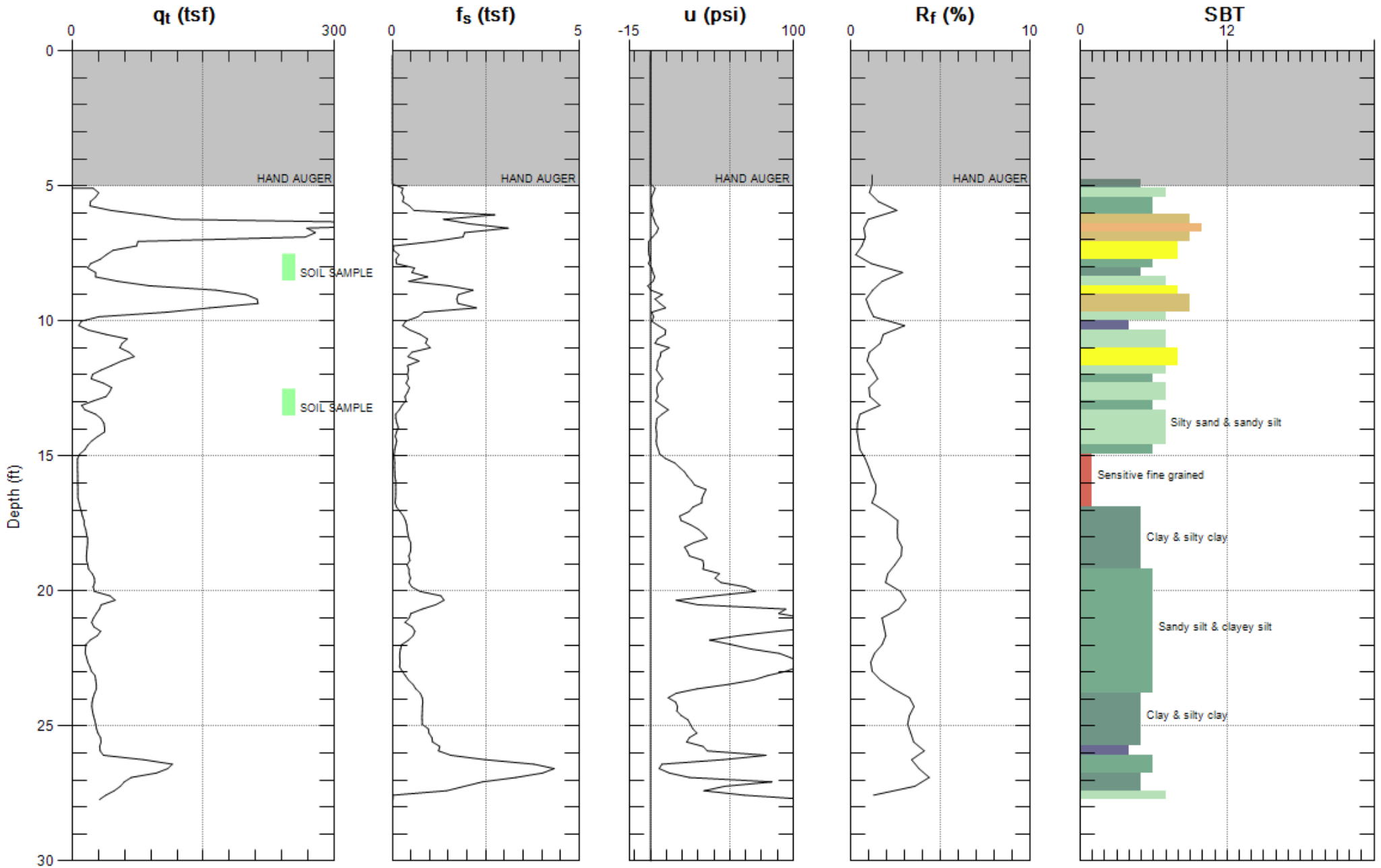
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: UCPT-03A

Engineer: R.MONIZ
Date: 1/6/2011 04:32



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

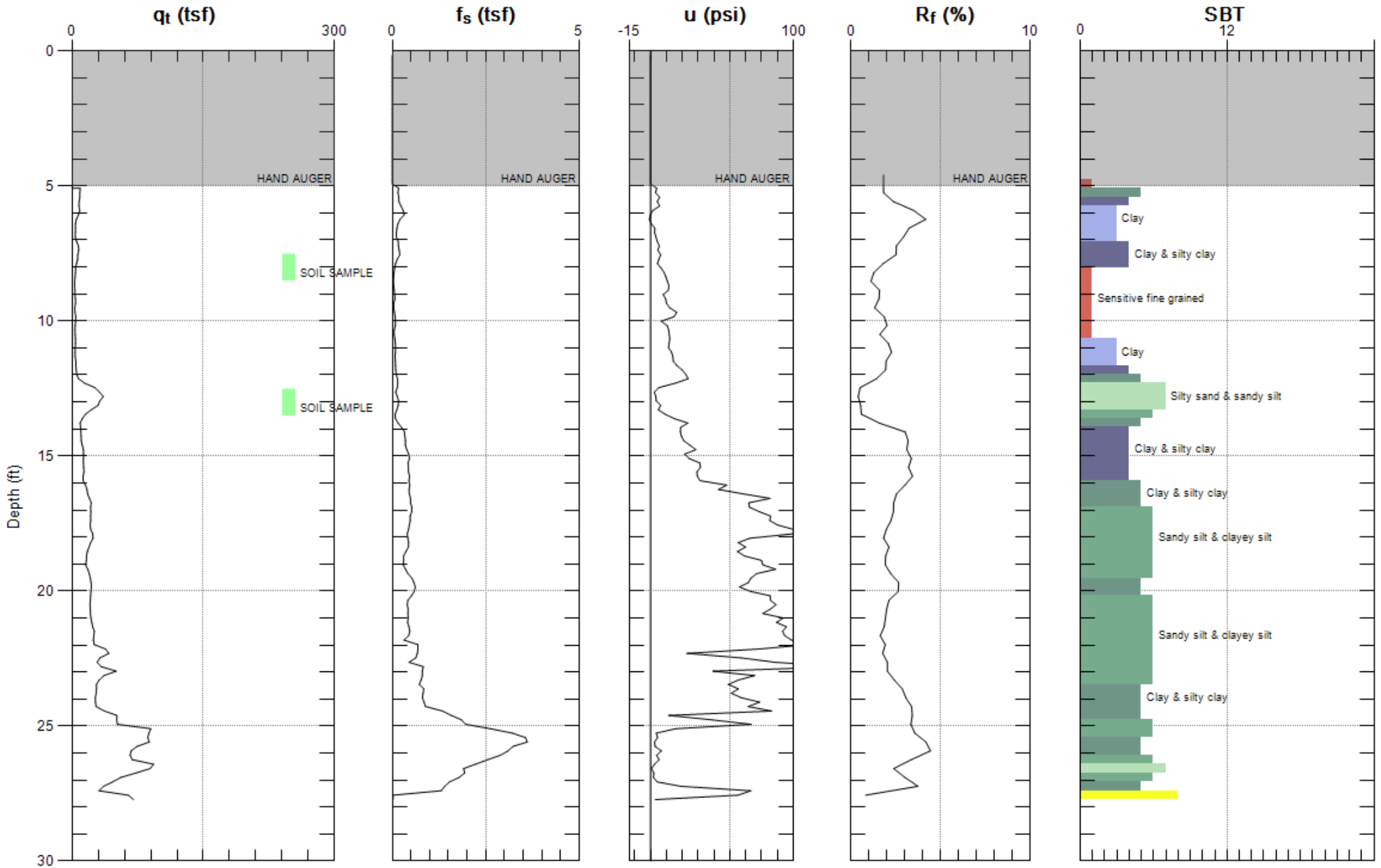
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: UCPT-04

Engineer: R.MONIZ
Date: 1/7/2011 10:07



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

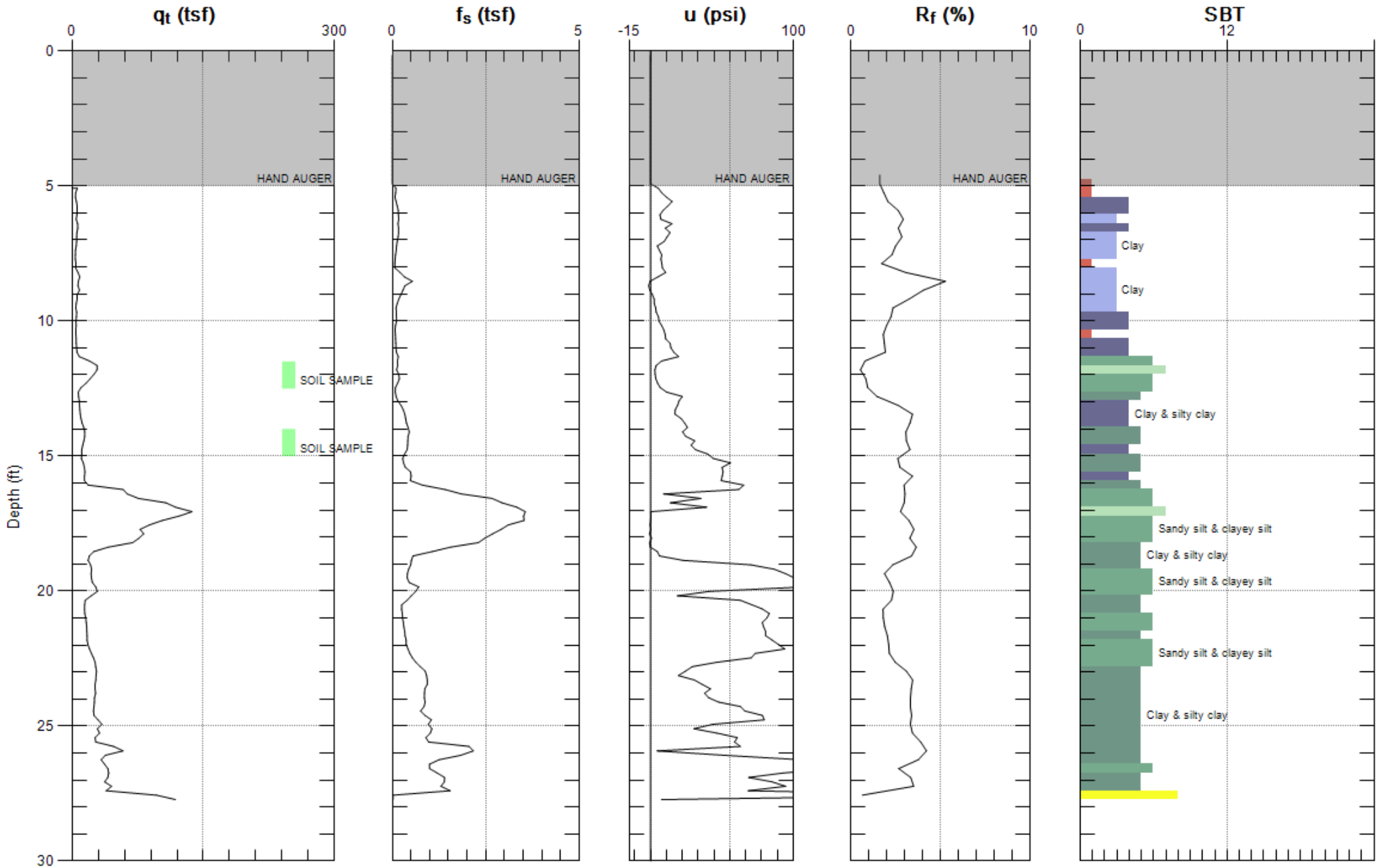
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: UCPT-05

Engineer: R.MONIZ
Date: 1/7/2011 11:49



Max. Depth: 27.723 (ft)
Avg. Interval: 0.328 (ft)

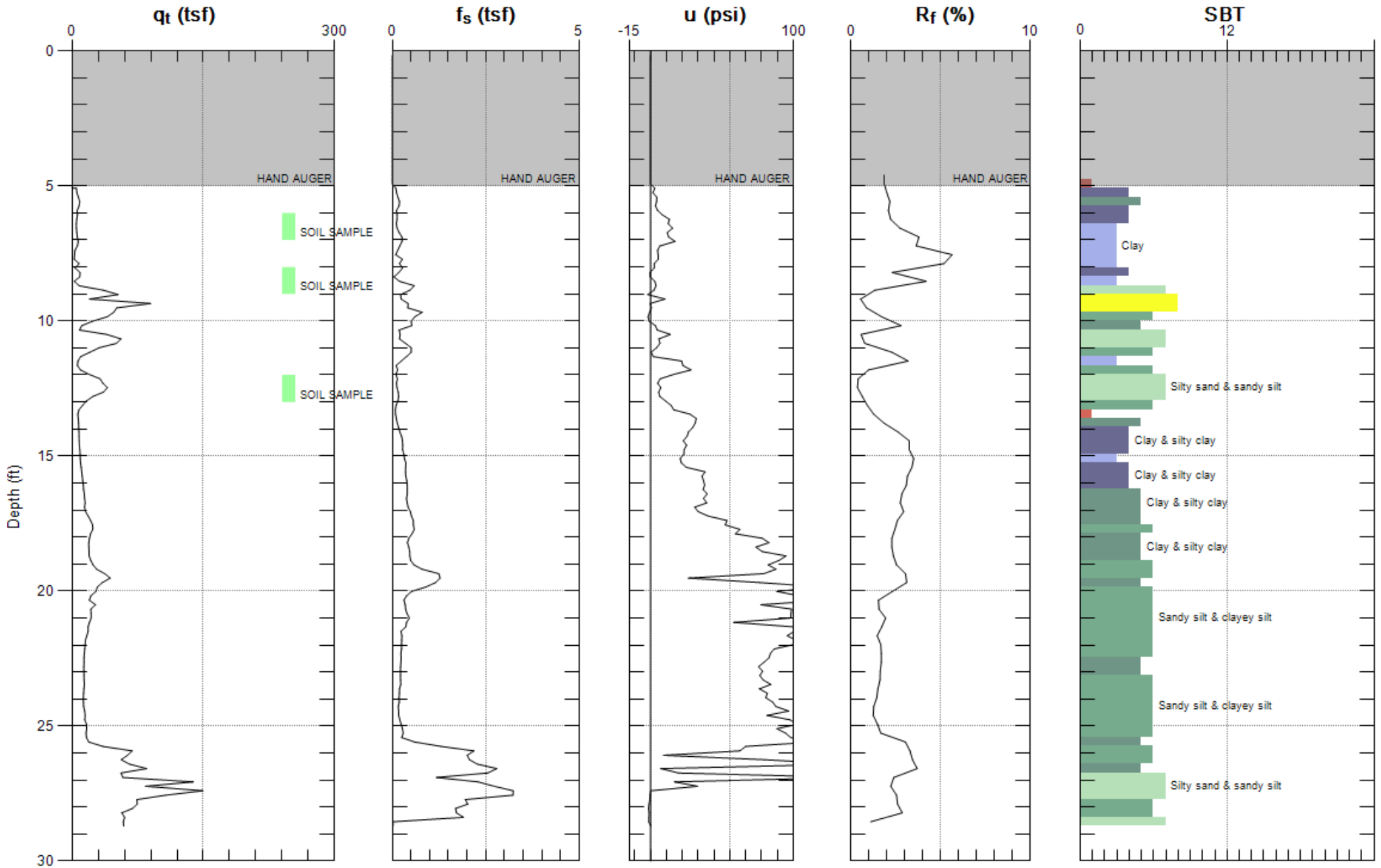
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ARCADIS

Site: FMR BP #11126
Sounding: UCPT-06

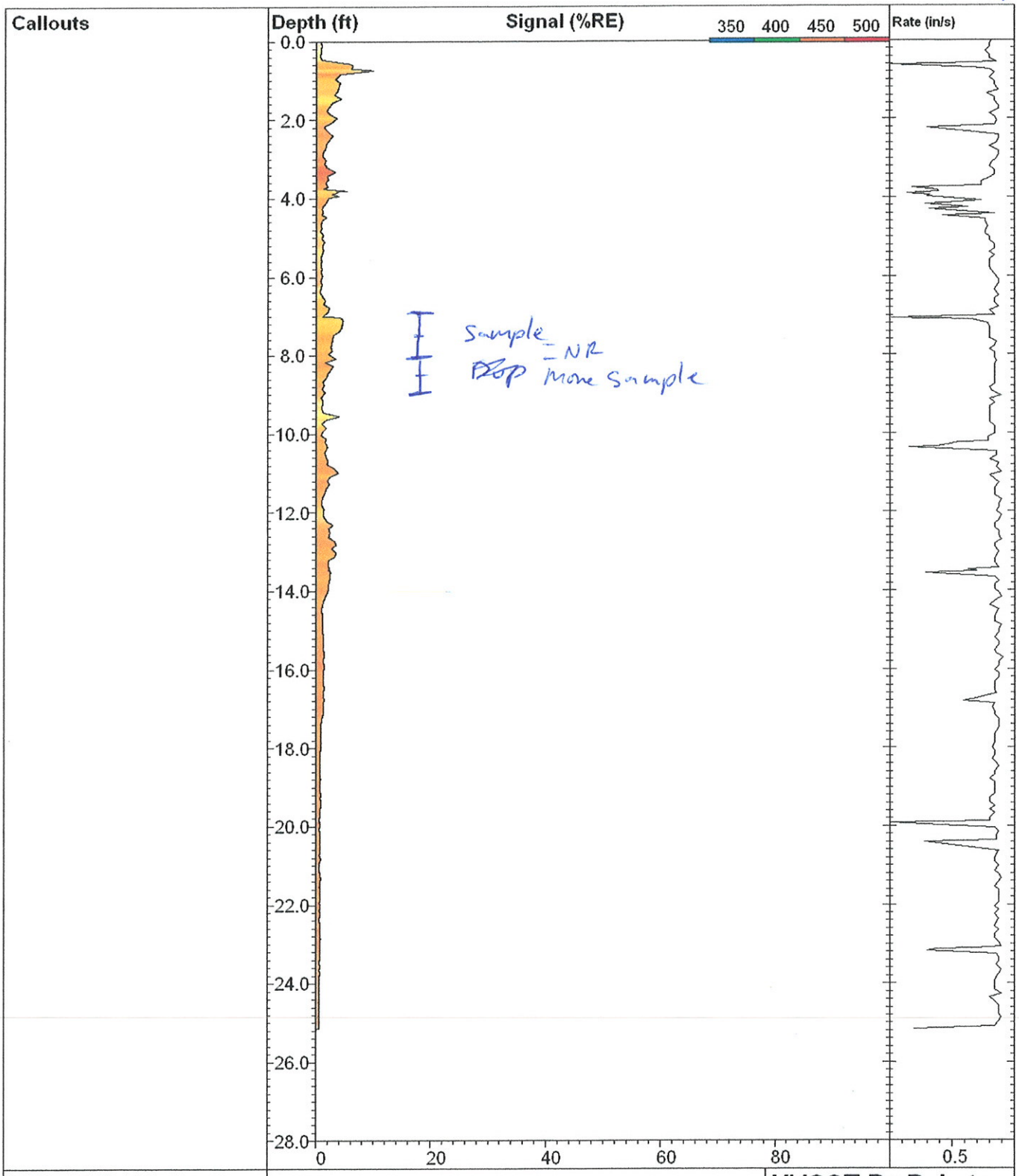
Engineer: R.MONIZ
Date: 1/7/2011 04:20



Max. Depth: 28.707 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Very NW corner of property



GREGG

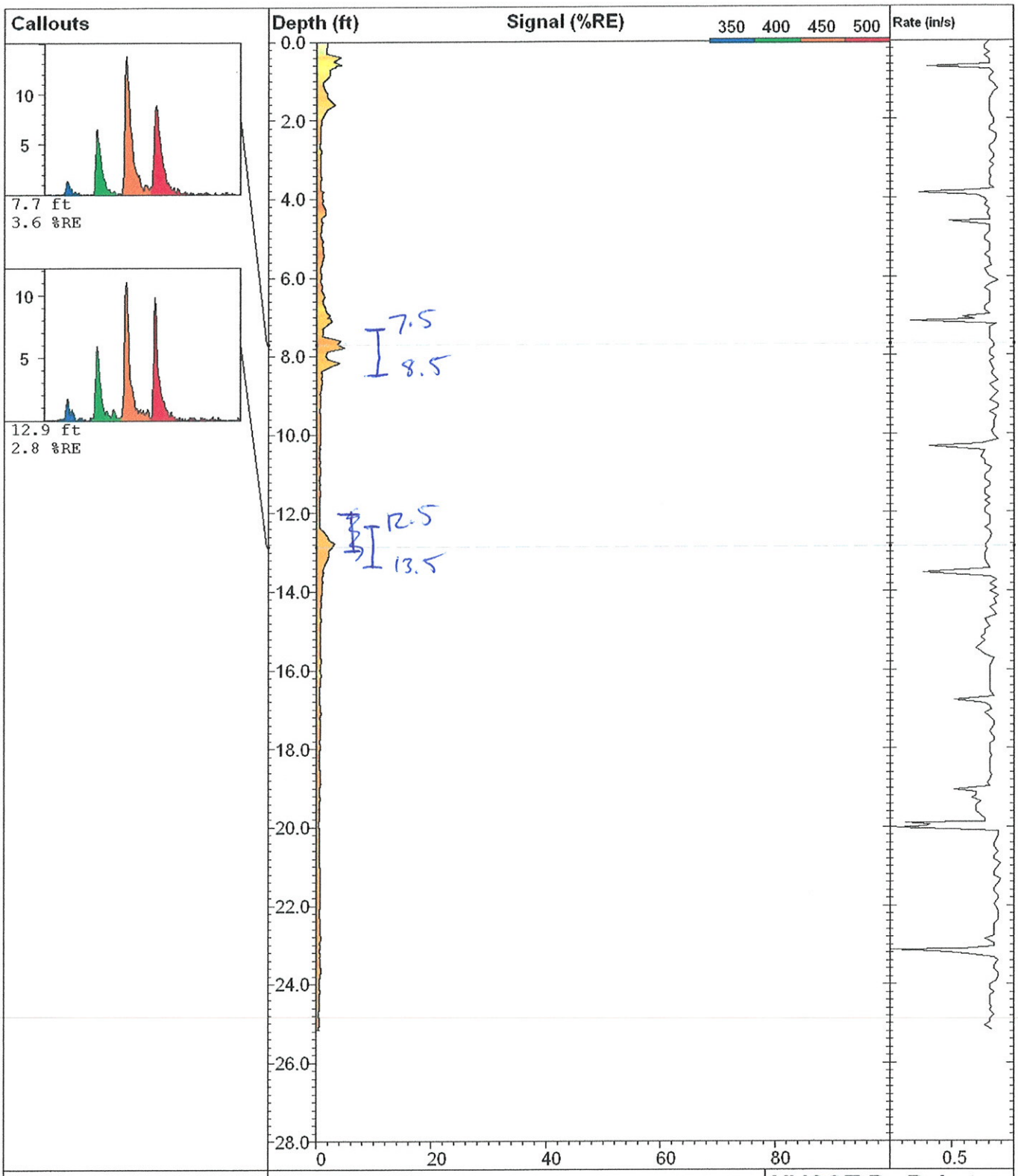
www.greggdrilling.com

UCPT-03a

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.15 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **10.0 % @ 0.74 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **JOhn/UVOST1009**	*Date & Time:* **2011-01-06 16:37 PST**

N of MW-2

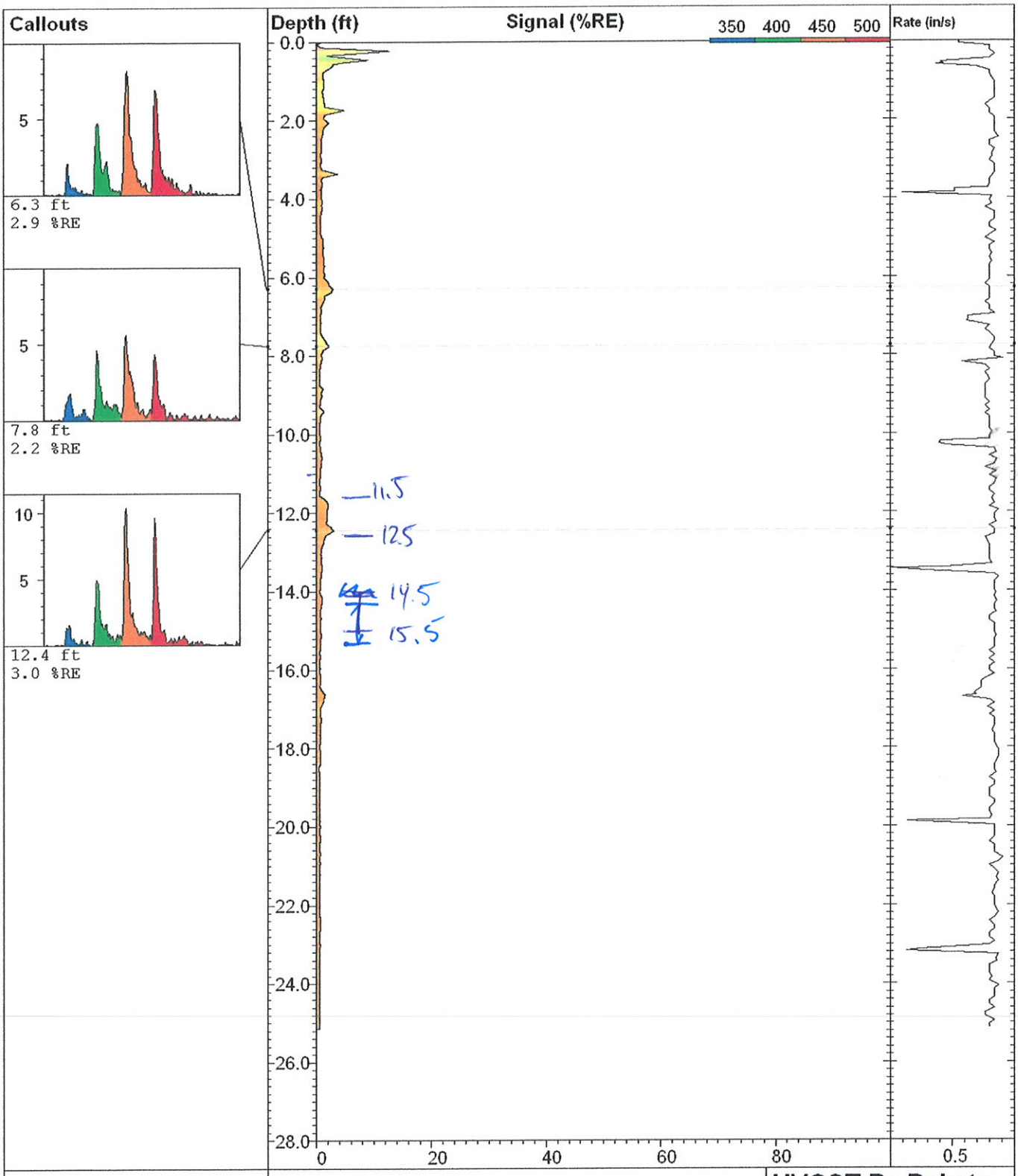


GREGG
www.greggdrilling.com

UCPT-04

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.17 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **4.9 % @ 7.79 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 10:10 PST**



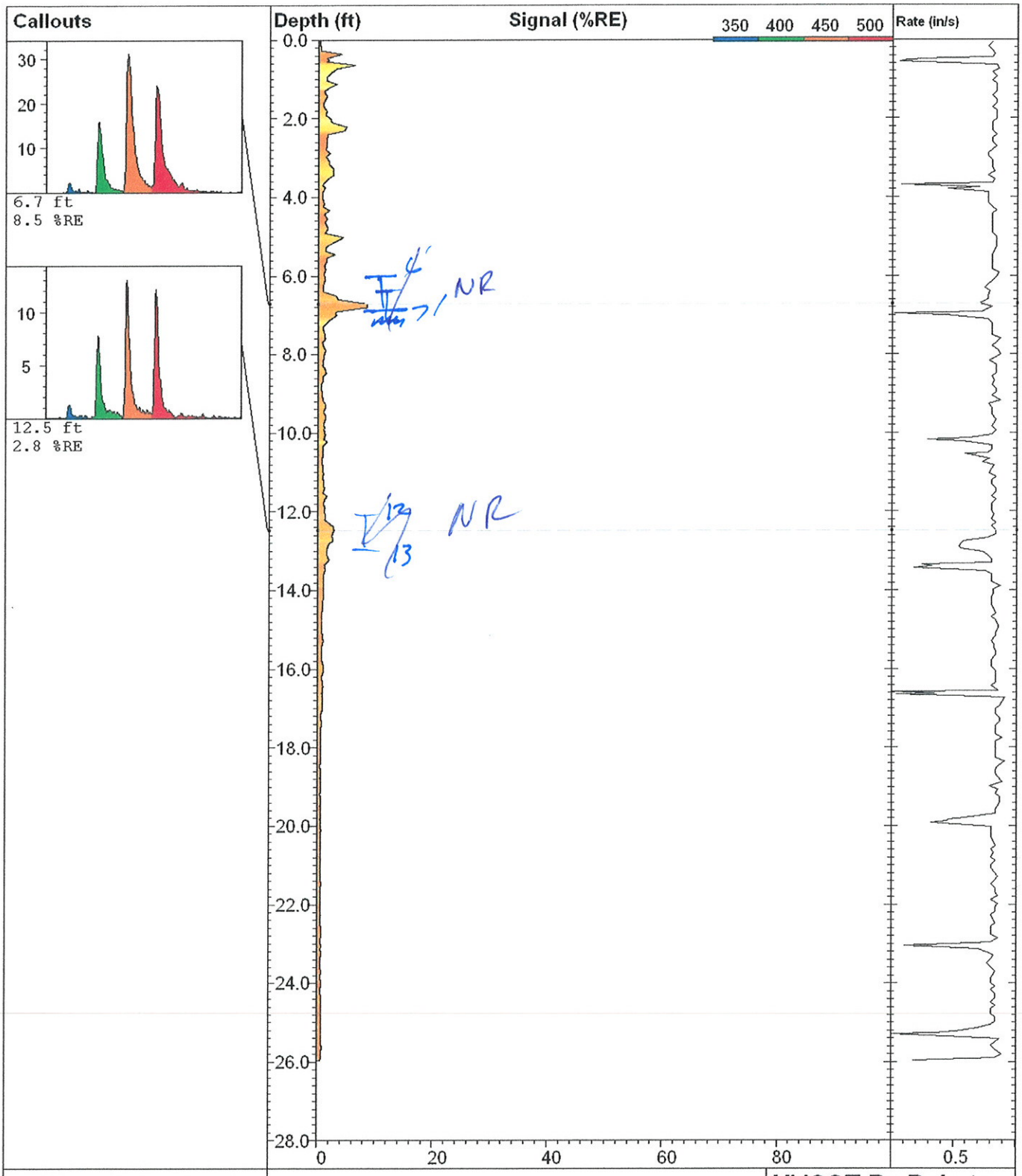
GREGG

www.greggdrilling.com

UCPT-05

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.15 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **12.7 % @ 0.23 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 13:10 PST**



GREGG

www.greggdrilling.com

UCPT-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Former BP #11126**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **25.95 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **8.5 % @ 6.80 ft**
Job: **GP09BPNA.CO44**	*Operator/Unit:* **John/UVOST1009**	*Date & Time:* **2011-01-07 16:22 PST**

Attachment F

Laboratory Analytical Report and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

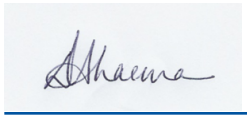
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-32719-1
Client Project/Site: BP #11126, Emeryville

For:
ARCADIS U.S., Inc.
155 Montgomery Street
Suite 1500
San Francisco, California 94104

Attn: Project Manager Hollis Phillips



Authorized for release by:
1/18/2011 3:33 PM

Dimple Sharma
Project Manager I
dimple.sharma@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Table of Contents

Qualifier Definition/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

Job ID: 720-32719-1

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative
720-32719-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The following sample(s) 32719-1 and 2 submitted for volatiles analysis was received with insufficient preservation (pH >2): CPT-01-7 (720-32719-1), CPT-02-7 (720-32719-2).

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 84607 exceeded control limits for the following analytes: 1,2-Dichloroethane. This analyte were biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Client Sample ID: CPT-01-7 — Lab Sample ID: 720-32719-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	14		0.50		ug/L	1		8260B/CA_LUFTM	Total/NA
TBA	63		4.0		ug/L	1		8260B/CA_LUFTM	Total/NA

Client Sample ID: CPT-02-7 — Lab Sample ID: 720-32719-2

No Detections.

Client Sample ID: CPT-02-21 — Lab Sample ID: 720-32719-3

No Detections.

Client Sample ID: UCPT-03-7 — Lab Sample ID: 720-32719-4

No Detections.

Client Sample ID: UCPT-04-7.5 — Lab Sample ID: 720-32719-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	500		480		ug/Kg	100		8260B	Total/NA
Ethylbenzene	5300		480		ug/Kg	100		8260B	Total/NA
MTBE	2600		480		ug/Kg	100		8260B	Total/NA
Xylenes, Total	1600		960		ug/Kg	100		8260B	Total/NA
TBA	3300		960		ug/Kg	100		8260B	Total/NA
Gasoline Range Organics (GRO) -C6-C12	170000		24000		ug/Kg	100		8260B	Total/NA

Client Sample ID: UCPT-04-12.5 — Lab Sample ID: 720-32719-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	20		5.0		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Benzene	6.5		5.0		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Ethylbenzene	11		5.0		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Gasoline Range Organics (GRO) -C6-C12	2300		250		ug/Kg	1		8260B/CA_LUFTM	Total/NA
TBA	2300		10		ug/Kg	1		8260B/CA_LUFTM	Total/NA

Client Sample ID: UCPT-05-11.5 — Lab Sample ID: 720-32719-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	22		22		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Ethylbenzene	230		22		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Xylenes, Total	860		45		ug/Kg	1		8260B/CA_LUFTM	Total/NA
Gasoline Range Organics (GRO) -C6-C12	8400		1100		ug/Kg	1		8260B/CA_LUFTM	Total/NA
TBA	2200		45		ug/Kg	1		8260B/CA_LUFTM	Total/NA

Client Sample ID: UCPT-05-14.5 — Lab Sample ID: 720-32719-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	700		25		ug/Kg	1		8260B/CA_LUFTM	Total/NA
TBA	16000		50		ug/Kg	1		8260B/CA_LUFTM	Total/NA

Client Sample ID: CPT-01-7
Date Collected: 01/06/11 10:50
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-1
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**14**		0.50		ug/L			01/12/11 01:36	1
Benzene	ND		0.50		ug/L			01/12/11 01:36	1
EDB	ND		0.50		ug/L			01/12/11 01:36	1
1,2-DCA	ND		0.50		ug/L			01/12/11 01:36	1
Ethylbenzene	ND		0.50		ug/L			01/12/11 01:36	1
Toluene	ND		0.50		ug/L			01/12/11 01:36	1
Xylenes, Total	ND		1.0		ug/L			01/12/11 01:36	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			01/12/11 01:36	1
TBA	**63**		4.0		ug/L			01/12/11 01:36	1
Ethanol	ND		250		ug/L			01/12/11 01:36	1
DIPE	ND		0.50		ug/L			01/12/11 01:36	1
TAME	ND		0.50		ug/L			01/12/11 01:36	1
Ethyl t-butyl ether	ND		0.50		ug/L			01/12/11 01:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*01/12/11 01:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*67 - 130*		*01/12/11 01:36*	*1*
Toluene-d8 (Surr)	*91*		*70 - 130*		*01/12/11 01:36*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Client Sample ID: CPT-02-7
Date Collected: 01/06/11 13:40
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-2
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			01/12/11 02:07	1
Benzene	ND		0.50		ug/L			01/12/11 02:07	1
EDB	ND		0.50		ug/L			01/12/11 02:07	1
1,2-DCA	ND		0.50		ug/L			01/12/11 02:07	1
Ethylbenzene	ND		0.50		ug/L			01/12/11 02:07	1
Toluene	ND		0.50		ug/L			01/12/11 02:07	1
Xylenes, Total	ND		1.0		ug/L			01/12/11 02:07	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			01/12/11 02:07	1
TBA	ND		4.0		ug/L			01/12/11 02:07	1
Ethanol	ND		250		ug/L			01/12/11 02:07	1
DIPE	ND		0.50		ug/L			01/12/11 02:07	1
TAME	ND		0.50		ug/L			01/12/11 02:07	1
Ethyl t-butyl ether	ND		0.50		ug/L			01/12/11 02:07	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*67 - 130*		*01/12/11 02:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*67 - 130*		*01/12/11 02:07*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*01/12/11 02:07*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Client Sample ID: CPT-02-21
Date Collected: 01/06/11 14:00
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-3
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		0.50		ug/L			01/13/11 17:54	1
Benzene	ND		0.50		ug/L			01/13/11 17:54	1
EDB	ND		0.50		ug/L			01/13/11 17:54	1
1,2-DCA	ND		0.50		ug/L			01/13/11 17:54	1
Ethylbenzene	ND		0.50		ug/L			01/13/11 17:54	1
Toluene	ND		0.50		ug/L			01/13/11 17:54	1
Xylenes, Total	ND		1.0		ug/L			01/13/11 17:54	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			01/13/11 17:54	1
TBA	ND		4.0		ug/L			01/13/11 17:54	1
Ethanol	ND		250		ug/L			01/13/11 17:54	1
DIPE	ND		0.50		ug/L			01/13/11 17:54	1
TAME	ND		0.50		ug/L			01/13/11 17:54	1
Ethyl t-butyl ether	ND		0.50		ug/L			01/13/11 17:54	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*81*		*67 - 130*		*01/13/11 17:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 130*		*01/13/11 17:54*	*1*
Toluene-d8 (Surr)	*89*		*70 - 130*		*01/13/11 17:54*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Client Sample ID: UCPT-03-7
Date Collected: 01/07/11 09:00
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-4
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Benzene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
EDB	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
1,2-DCA	ND	*	5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Ethylbenzene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Toluene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Xylenes, Total	ND		10		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Gasoline Range Organics (GRO) -C6-C12	ND		250		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
TBA	ND		10		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Ethanol	ND		500		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
DIPE	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
TAME	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1
Ethyl t-butyl ether	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 13:04	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*45 - 131*	*01/12/11 07:00*	*01/12/11 13:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*	*01/12/11 07:00*	*01/12/11 13:04*	*1*
Toluene-d8 (Surr)	*103*		*58 - 140*	*01/12/11 07:00*	*01/12/11 13:04*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Client Sample ID: UCPT-04-7.5
Date Collected: 01/07/11 11:25
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-5
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**500**		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Ethylbenzene	**5300**		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Ethanol	ND		19000		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
MTBE	**2600**		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
TAME	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Ethyl tert-butyl ether	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Toluene	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Ethylene Dibromide	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Xylenes, Total	**1600**		960		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
1,2-Dichloroethane	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
TBA	**3300**		960		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
DIPE	ND		480		ug/Kg		01/13/11 08:00	01/13/11 15:57	100
Gasoline Range Organics (GRO) -C6-C12	**170000**		24000		ug/Kg		01/13/11 08:00	01/13/11 15:57	100

Client Sample ID: UCPT-04-12.5
Date Collected: 01/07/11 11:30
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-6
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**20**		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Benzene	**6.5**		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
EDB	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
1,2-DCA	ND	*	5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Ethylbenzene	**11**		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Toluene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Xylenes, Total	ND		10		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Gasoline Range Organics (GRO) -C6-C12	**2300**		250		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
TBA	**2300**		10		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Ethanol	ND		500		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
DIPE	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
TAME	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1
Ethyl t-butyl ether	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 16:53	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*45 - 131*	*01/12/11 07:00*	*01/12/11 16:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*	*01/12/11 07:00*	*01/12/11 16:53*	*1*
Toluene-d8 (Surr)	*102*		*58 - 140*	*01/12/11 07:00*	*01/12/11 16:53*	*1*

Client Sample ID: UCPT-05-11.5
Date Collected: 01/07/11 14:50
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-7
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**22**		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Benzene	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
EDB	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
1,2-DCA	ND	*	22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Ethylbenzene	**230**		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Toluene	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Xylenes, Total	**860**		45		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Gasoline Range Organics (GRO) -C6-C12	**8400**		1100		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
TBA	**2200**		45		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Ethanol	ND		2200		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
DIPE	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
TAME	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1
Ethyl t-butyl ether	ND		22		ug/Kg		01/12/11 07:00	01/12/11 14:43	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*45 - 131*	*01/12/11 07:00*	*01/12/11 14:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*	*01/12/11 07:00*	*01/12/11 14:43*	*1*
Toluene-d8 (Surr)	*102*		*58 - 140*	*01/12/11 07:00*	*01/12/11 14:43*	*1*

Client Sample ID: UCPT-05-14.5
Date Collected: 01/07/11 15:00
Date Received: 01/10/11 16:40

Lab Sample ID: 720-32719-8
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	**700**		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Benzene	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
EDB	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
1,2-DCA	ND	*	25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Ethylbenzene	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Toluene	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Xylenes, Total	ND		50		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Gasoline Range Organics (GRO) -C6-C12	ND		1200		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
TBA	**16000**		50		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Ethanol	ND		2500		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
DIPE	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
TAME	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1
Ethyl t-butyl ether	ND		25		ug/Kg		01/12/11 07:00	01/12/11 15:15	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*45 - 131*	*01/12/11 07:00*	*01/12/11 15:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*	*01/12/11 07:00*	*01/12/11 15:15*	*1*
Toluene-d8 (Surr)	*101*		*58 - 140*	*01/12/11 07:00*	*01/12/11 15:15*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-84807/1-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: MB 720-84807/1-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Ethylbenzene	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
MTBE	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
m-Xylene & p-Xylene	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Toluene	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Ethylene Dibromide	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Xylenes, Total	ND		1000		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
1,2-Dichloroethane	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Gasoline Range Organics (GRO) -C6-C12	ND		25000		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
TBA	ND		1000		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Ethanol	ND		20000		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
DIPE	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
TAME	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100
Ethyl tert-butyl ether	ND		500		ug/Kg		01/13/11 08:00	01/13/11 13:15	100

Lab Sample ID: LCS 720-84807/2-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: LCS 720-84807/2-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	2500	2600		ug/Kg		104	76 - 122
Ethylbenzene	2500	2620		ug/Kg		105	76 - 137
MTBE	2500	2250		ug/Kg		90	71 - 146
m-Xylene & p-Xylene	5000	5230		ug/Kg		105	71 - 142
Toluene	2500	2580		ug/Kg		103	77 - 120
Ethylene Dibromide	2500	2580		ug/Kg		103	80 - 138
1,2-Dichloroethane	2500	2470		ug/Kg		99	67 - 126
TBA	50000	49900		ug/Kg		100	70 - 130
Ethanol	50000	55300		ug/Kg		111	70 - 130
DIPE	2500	2470		ug/Kg		99	70 - 130
TAME	2500	2480		ug/Kg		99	70 - 130
Ethyl tert-butyl ether	2500	2390		ug/Kg		96	70 - 130

Lab Sample ID: LCS 720-84807/4-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: LCS 720-84807/4-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	50000	44000		ug/Kg		88	70 - 130

Lab Sample ID: LCSD 720-84807/3-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: LCSD 720-84807/3-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	2500	2630		ug/Kg		105	76 - 122	1	20
Ethylbenzene	2500	2480		ug/Kg		99	76 - 137	6	20
MTBE	2500	2520		ug/Kg		101	71 - 146	11	20
m-Xylene & p-Xylene	5000	4980		ug/Kg		100	71 - 142	5	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-84807/3-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: LCSD 720-84807/3-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Toluene	2500	2490		ug/Kg		100	77 - 120	4	20
Ethylene Dibromide	2500	2830		ug/Kg		113	80 - 138	9	20
1,2-Dichloroethane	2500	2670		ug/Kg		107	67 - 126	7	20
TBA	50000	48900		ug/Kg		98	70 - 130	2	20
Ethanol	50000	49600		ug/Kg		99	70 - 130	11	20
DIPE	2500	2680		ug/Kg		107	70 - 130	8	20
TAME	2500	2790		ug/Kg		112	70 - 130	12	20
Ethyl tert-butyl ether	2500	2650		ug/Kg		106	70 - 130	10	20

Lab Sample ID: LCSD 720-84807/5-A
Matrix: Solid
Analysis Batch: 84675

Client Sample ID: LCSD 720-84807/5-A
Prep Type: Total/NA
Prep Batch: 84807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12	50000	41000		ug/Kg		82	70 - 130	7	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-84592/7
Matrix: Water
Analysis Batch: 84592

Client Sample ID: MB 720-84592/7
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			01/11/11 19:30	1
Ethylbenzene	ND		0.50		ug/L			01/11/11 19:30	1
Methyl tert-butyl ether	ND		0.50		ug/L			01/11/11 19:30	1
MTBE	ND		0.50		ug/L			01/11/11 19:30	1
m-Xylene & p-Xylene	ND		1.0		ug/L			01/11/11 19:30	1
o-Xylene	ND		0.50		ug/L			01/11/11 19:30	1
Toluene	ND		0.50		ug/L			01/11/11 19:30	1
EDB	ND		0.50		ug/L			01/11/11 19:30	1
Xylenes, Total	ND		1.0		ug/L			01/11/11 19:30	1
1,2-DCA	ND		0.50		ug/L			01/11/11 19:30	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			01/11/11 19:30	1
TBA	ND		4.0		ug/L			01/11/11 19:30	1
Ethanol	ND		250		ug/L			01/11/11 19:30	1
DIPE	ND		0.50		ug/L			01/11/11 19:30	1
TAME	ND		0.50		ug/L			01/11/11 19:30	1
Ethyl t-butyl ether	ND		0.50		ug/L			01/11/11 19:30	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*67 - 130*		*01/11/11 19:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 130*		*01/11/11 19:30*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*01/11/11 19:30*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-84592/10
Matrix: Water
Analysis Batch: 84592

Client Sample ID: LCS 720-84592/10
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	500	378		ug/L		76	58 - 106

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*108*		*67 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCS 720-84592/8
Matrix: Water
Analysis Batch: 84592

Client Sample ID: LCS 720-84592/8
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	22.9		ug/L		92	82 - 127
Ethylbenzene	25.0	25.0		ug/L		100	86 - 135
Methyl tert-butyl ether	25.0	23.4		ug/L		93	62 - 130
MTBE	25.0	23.4		ug/L		93	62 - 130
m-Xylene & p-Xylene	50.0	51.0		ug/L		102	70 - 142
o-Xylene	25.0	25.1		ug/L		101	89 - 136
Toluene	25.0	23.7		ug/L		95	83 - 129
EDB	25.0	23.2		ug/L		93	70 - 130
1,2-DCA	25.0	24.4		ug/L		98	70 - 126
TBA	500	482		ug/L		96	82 - 116
Ethanol	500	526		ug/L		105	31 - 216
DIPE	25.0	24.9		ug/L		100	74 - 155
TAME	25.0	25.1		ug/L		100	79 - 129
Ethyl t-butyl ether	25.0	24.0		ug/L		96	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 720-84592/11
Matrix: Water
Analysis Batch: 84592

Client Sample ID: LCSD 720-84592/11
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12	500	386		ug/L		77	58 - 106	2	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-84592/9
Matrix: Water
Analysis Batch: 84592

Client Sample ID: LCSD 720-84592/9
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene			25.0	23.6		ug/L		94	82 - 127	3	20
Ethylbenzene			25.0	25.7		ug/L		103	86 - 135	3	20
Methyl tert-butyl ether			25.0	24.2		ug/L		97	62 - 130	4	20
MTBE			25.0	24.2		ug/L		97	62 - 130	4	20
m-Xylene & p-Xylene			50.0	52.5		ug/L		105	70 - 142	3	20
o-Xylene			25.0	25.9		ug/L		103	89 - 136	3	20
Toluene			25.0	24.3		ug/L		97	83 - 129	3	20
EDB			25.0	23.8		ug/L		95	70 - 130	2	20
1,2-DCA			25.0	25.1		ug/L		100	70 - 126	3	20
TBA			500	485		ug/L		97	82 - 116	1	20
Ethanol			500	524		ug/L		105	31 - 216	0	30
DIPE			25.0	25.7		ug/L		103	74 - 155	3	20
TAME			25.0	25.7		ug/L		103	79 - 129	3	20
Ethyl t-butyl ether			25.0	24.6		ug/L		98	70 - 130	2	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 720-84672/5
Matrix: Water
Analysis Batch: 84672

Client Sample ID: MB 720-84672/5
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			01/13/11 09:55	1
Ethylbenzene	ND		0.50		ug/L			01/13/11 09:55	1
MTBE	ND		0.50		ug/L			01/13/11 09:55	1
m-Xylene & p-Xylene	ND		1.0		ug/L			01/13/11 09:55	1
o-Xylene	ND		0.50		ug/L			01/13/11 09:55	1
Toluene	ND		0.50		ug/L			01/13/11 09:55	1
EDB	ND		0.50		ug/L			01/13/11 09:55	1
Xylenes, Total	ND		1.0		ug/L			01/13/11 09:55	1
1,2-DCA	ND		0.50		ug/L			01/13/11 09:55	1
Gasoline Range Organics (GRO) -C6-C12	ND		50		ug/L			01/13/11 09:55	1
TBA	ND		4.0		ug/L			01/13/11 09:55	1
Ethanol	ND		250		ug/L			01/13/11 09:55	1
DIPE	ND		0.50		ug/L			01/13/11 09:55	1
TAME	ND		0.50		ug/L			01/13/11 09:55	1
Ethyl t-butyl ether	ND		0.50		ug/L			01/13/11 09:55	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*67 - 130*		*01/13/11 09:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*		*01/13/11 09:55*	*1*
Toluene-d8 (Surr)	*91*		*70 - 130*		*01/13/11 09:55*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-84672/19
Matrix: Water
Analysis Batch: 84672

Client Sample ID: LCS 720-84672/19
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	500	409		ug/L		82	58 - 106

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCS 720-84672/7
Matrix: Water
Analysis Batch: 84672

Client Sample ID: LCS 720-84672/7
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	23.2		ug/L		93	82 - 127
Ethylbenzene	25.0	26.3		ug/L		105	86 - 135
MTBE	25.0	22.5		ug/L		90	62 - 130
m-Xylene & p-Xylene	50.0	53.8		ug/L		108	70 - 142
o-Xylene	25.0	26.3		ug/L		105	89 - 136
Toluene	25.0	24.4		ug/L		98	83 - 129
EDB	25.0	22.7		ug/L		91	70 - 130
1,2-DCA	25.0	24.1		ug/L		97	70 - 126
TBA	500	512		ug/L		102	82 - 116
Ethanol	500	598		ug/L		120	31 - 216
DIPE	25.0	25.4		ug/L		102	74 - 155
TAME	25.0	24.2		ug/L		97	79 - 129
Ethyl t-butyl ether	25.0	23.3		ug/L		93	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 720-84672/20
Matrix: Water
Analysis Batch: 84672

Client Sample ID: LCSD 720-84672/20
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12	500	407		ug/L		81	58 - 106	0	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-84672/8
Matrix: Water
Analysis Batch: 84672

Client Sample ID: LCSD 720-84672/8
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene			25.0	23.1		ug/L		92	82 - 127	1	20
Ethylbenzene			25.0	25.5		ug/L		102	86 - 135	3	20
MTBE			25.0	23.5		ug/L		94	62 - 130	4	20
m-Xylene & p-Xylene			50.0	52.3		ug/L		105	70 - 142	3	20
o-Xylene			25.0	25.7		ug/L		103	89 - 136	2	20
Toluene			25.0	24.0		ug/L		96	83 - 129	2	20
EDB			25.0	23.2		ug/L		93	70 - 130	2	20
1,2-DCA			25.0	24.9		ug/L		100	70 - 126	3	20
TBA			500	496		ug/L		99	82 - 116	3	20
Ethanol			500	541		ug/L		108	31 - 216	10	30
DIPE			25.0	25.5		ug/L		102	74 - 155	1	20
TAME			25.0	25.0		ug/L		100	79 - 129	3	20
Ethyl t-butyl ether			25.0	24.0		ug/L		96	70 - 130	3	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 720-84716/1-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: MB 720-84716/1-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Ethylbenzene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Methyl tert-butyl ether	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
m-Xylene & p-Xylene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
o-Xylene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Toluene	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
EDB	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Xylenes, Total	ND		10		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
1,2-DCA	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Gasoline Range Organics (GRO) -C6-C12	ND		250		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
TBA	ND		10		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Ethanol	ND		500		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
DIPE	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
TAME	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1
Ethyl t-butyl ether	ND		5.0		ug/Kg		01/12/11 07:00	01/12/11 10:11	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*45 - 131*	*01/12/11 07:00*	*01/12/11 10:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*126*		*60 - 140*	*01/12/11 07:00*	*01/12/11 10:11*	*1*
Toluene-d8 (Surr)	*103*		*58 - 140*	*01/12/11 07:00*	*01/12/11 10:11*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-84716/2-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: LCS 720-84716/2-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	55.6		ug/Kg		111	82 - 124
Ethylbenzene	50.0	51.6		ug/Kg		103	80 - 137
Methyl tert-butyl ether	50.0	55.0		ug/Kg		110	71 - 144
m-Xylene & p-Xylene	100	104		ug/Kg		104	79 - 146
o-Xylene	50.0	54.4		ug/Kg		109	84 - 140
Toluene	50.0	50.0		ug/Kg		100	83 - 128
EDB	50.0	65.3		ug/Kg		131	79 - 140
1,2-DCA	50.0	64.0		ug/Kg		128	72 - 130
TBA	1000	937		ug/Kg		94	76 - 119
Ethanol	1000	1020		ug/Kg		102	49 - 162
DIPE	50.0	59.7		ug/Kg		119	83 - 131
TAME	50.0	61.4		ug/Kg		123	74 - 140
Ethyl t-butyl ether	50.0	58.9		ug/Kg		118	76 - 129

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*112*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*
Toluene-d8 (Surr)	*106*		*58 - 140*

Lab Sample ID: LCS 720-84716/4-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: LCS 720-84716/4-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline Range Organics (GRO) -C6-C12	1000	930		ug/Kg		93	64 - 107

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*111*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*122*		*60 - 140*
Toluene-d8 (Surr)	*105*		*58 - 140*

Lab Sample ID: LCSD 720-84716/3-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: LCSD 720-84716/3-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	50.0	55.9		ug/Kg		112	82 - 124	1	20
Ethylbenzene	50.0	51.4		ug/Kg		103	80 - 137	0	20
Methyl tert-butyl ether	50.0	60.2		ug/Kg		120	71 - 144	9	20
m-Xylene & p-Xylene	100	103		ug/Kg		103	79 - 146	0	20
o-Xylene	50.0	54.1		ug/Kg		108	84 - 140	1	20
Toluene	50.0	50.2		ug/Kg		100	83 - 128	0	20
EDB	50.0	69.9		ug/Kg		140	79 - 140	7	20
1,2-DCA	50.0	65.5	*	ug/Kg		131	72 - 130	2	20
TBA	1000	938		ug/Kg		94	76 - 119	0	20
Ethanol	1000	1020		ug/Kg		102	49 - 162	0	20
DIPE	50.0	61.6		ug/Kg		123	83 - 131	3	20
TAME	50.0	64.9		ug/Kg		130	74 - 140	5	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-84716/3-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: LCSD 720-84716/3-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethyl t-butyl ether			50.0	61.9		ug/Kg		124	76 - 129	5	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*111*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 140*
Toluene-d8 (Surr)	*106*		*58 - 140*

Lab Sample ID: LCSD 720-84716/5-A
Matrix: Solid
Analysis Batch: 84607

Client Sample ID: LCSD 720-84716/5-A
Prep Type: Total/NA
Prep Batch: 84716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C12			1000	907		ug/Kg		91	64 - 107	3	20

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*111*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 140*
Toluene-d8 (Surr)	*105*		*58 - 140*

GC/MS VOA

Analysis Batch: 84592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-84592/10	LCS 720-84592/10	Total/NA	Water	8260B/CA_LUFTMS	
LCSD 720-84592/11	LCSD 720-84592/11	Total/NA	Water	8260B/CA_LUFTMS	
720-32719-1	CPT-01-7	Total/NA	Water	8260B/CA_LUFTMS	
720-32719-2	CPT-02-7	Total/NA	Water	8260B/CA_LUFTMS	
MB 720-84592/7	MB 720-84592/7	Total/NA	Water	8260B/CA_LUFTMS	
LCS 720-84592/8	LCS 720-84592/8	Total/NA	Water	8260B/CA_LUFTMS	
LCSD 720-84592/9	LCSD 720-84592/9	Total/NA	Water	8260B/CA_LUFTMS	

Analysis Batch: 84607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-32719-4	UCPT-03-7	Total/NA	Solid	8260B/CA_LUFTMS	84716
720-32719-7	UCPT-05-11.5	Total/NA	Solid	8260B/CA_LUFTMS	84716
720-32719-8	UCPT-05-14.5	Total/NA	Solid	8260B/CA_LUFTMS	84716
720-32719-6	UCPT-04-12.5	Total/NA	Solid	8260B/CA_LUFTMS	84716
MB 720-84716/1-A	MB 720-84716/1-A	Total/NA	Solid	8260B/CA_LUFTMS	84716
LCS 720-84716/2-A	LCS 720-84716/2-A	Total/NA	Solid	8260B/CA_LUFTMS	84716
LCSD 720-84716/3-A	LCSD 720-84716/3-A	Total/NA	Solid	8260B/CA_LUFTMS	84716
LCS 720-84716/4-A	LCS 720-84716/4-A	Total/NA	Solid	8260B/CA_LUFTMS	84716
LCSD 720-84716/5-A	LCSD 720-84716/5-A	Total/NA	Solid	8260B/CA_LUFTMS	84716

Analysis Batch: 84672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-84672/19	LCS 720-84672/19	Total/NA	Water	8260B/CA_LUFTMS	
LCSD 720-84672/20	LCSD 720-84672/20	Total/NA	Water	8260B/CA_LUFTMS	
720-32719-3	CPT-02-21	Total/NA	Water	8260B/CA_LUFTMS	
MB 720-84672/5	MB 720-84672/5	Total/NA	Water	8260B/CA_LUFTMS	
LCS 720-84672/7	LCS 720-84672/7	Total/NA	Water	8260B/CA_LUFTMS	
LCSD 720-84672/8	LCSD 720-84672/8	Total/NA	Water	8260B/CA_LUFTMS	

Analysis Batch: 84675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-84807/1-A	MB 720-84807/1-A	Total/NA	Solid	8260B	84807
LCS 720-84807/2-A	LCS 720-84807/2-A	Total/NA	Solid	8260B	84807
LCSD 720-84807/3-A	LCSD 720-84807/3-A	Total/NA	Solid	8260B	84807
LCS 720-84807/4-A	LCS 720-84807/4-A	Total/NA	Solid	8260B	84807
LCSD 720-84807/5-A	LCSD 720-84807/5-A	Total/NA	Solid	8260B	84807
720-32719-5	UCPT-04-7.5	Total/NA	Solid	8260B	84807

GC/MS VOA (Continued)

Prep Batch: 84716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-84716/1-A	MB 720-84716/1-A	Total/NA	Solid	5030B	
720-32719-8	UCPT-05-14.5	Total/NA	Solid	5030B	
720-32719-6	UCPT-04-12.5	Total/NA	Solid	5030B	
LCS 720-84716/2-A	LCS 720-84716/2-A	Total/NA	Solid	5030B	
LCSD 720-84716/3-A	LCSD 720-84716/3-A	Total/NA	Solid	5030B	
LCS 720-84716/4-A	LCS 720-84716/4-A	Total/NA	Solid	5030B	
LCSD 720-84716/5-A	LCSD 720-84716/5-A	Total/NA	Solid	5030B	
720-32719-4	UCPT-03-7	Total/NA	Solid	5030B	
720-32719-7	UCPT-05-11.5	Total/NA	Solid	5030B	

Prep Batch: 84807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-84807/1-A	MB 720-84807/1-A	Total/NA	Solid	5030B	
LCS 720-84807/2-A	LCS 720-84807/2-A	Total/NA	Solid	5030B	
LCSD 720-84807/3-A	LCSD 720-84807/3-A	Total/NA	Solid	5030B	
LCS 720-84807/4-A	LCS 720-84807/4-A	Total/NA	Solid	5030B	
LCSD 720-84807/5-A	LCSD 720-84807/5-A	Total/NA	Solid	5030B	
720-32719-5	UCPT-04-7.5	Total/NA	Solid	5030B	

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Laboratory	Authority	Program	EPA Region	Certification ID	Expiration Date
TestAmerica San Francisco	California	State Program	9	2496	01/31/12

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SF
8260B/CA_LUFT MS	8260B / CA LUFT MS	SW846	TAL SF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: BP #11126, Emeryville

TestAmerica Job ID: 720-32719-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-32719-1	CPT-01-7	Water	01/06/11 10:50	01/10/11 16:40
720-32719-2	CPT-02-7	Water	01/06/11 13:40	01/10/11 16:40
720-32719-3	CPT-02-21	Water	01/06/11 14:00	01/10/11 16:40
720-32719-4	UCPT-03-7	Solid	01/07/11 09:00	01/10/11 16:40
720-32719-5	UCPT-04-7.5	Solid	01/07/11 11:25	01/10/11 16:40
720-32719-6	UCPT-04-12.5	Solid	01/07/11 11:30	01/10/11 16:40
720-32719-7	UCPT-05-11.5	Solid	01/07/11 14:50	01/10/11 16:40
720-32719-8	UCPT-05-14.5	Solid	01/07/11 15:00	01/10/11 16:40

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

720-32719

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane ● Pleasanton CA 94566-4756
Phone: (925) 484-1919 ● Fax: (925) 600-3002

Reference #: 129045

Date 1/6-1/7/11 Page 1 of 1

01/18/2011

Report To

Attn:
Company: ARCADIS
Address:
Phone: Email:
Bill To:
Sampled By: Rob Monk
Attn:
Phone: 510.409.3831

Analysis Request

Sample ID	Date	Time	Matrix	Preserv	TPH EPA - ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	EPA 8260B ☐ Gas ☐ BTEX ☐ 5 Oxygenates ☐ DCA, EDB ☐ Ethanol	(HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other: ___	Low Level Metals by EPA 200.8/6020 (ICP-MS):	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec. Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4	Number of Containers
CPT-01-7	1-6-11	1050	W	Ø			X						Note:	No	Preservative	for CPT-01-7, reacted	3
CPT-02-7	1-6	1340	W	HCl			X									w/ HCl so blank VOAs	3
CPT-02-21	1-6	1400	W	HCl			X									emptied & used.	4
UCPT-03-7	1-7	0900	S	~~Ø~~			X										2
UCPT-04-7.5	1-7	1125	S	Ø			X										2
UCPT-04-12.5	1-7	1130	S	Ø			X										1
UCPT-05-11.5	1-7	1450	S	Ø			X										2
UCPT-05-14.5	1-7	1500	S	Ø			X										2

Project Info

Project Name: BP 11126
Project#: 6P09BPNA.0044
PO#:
Credit Card#:

Sample Receipt

of Containers:
Head Space:
Temp: 1.8°C
Conforms to record:

TAT: 5 Day | 3 Day | 2 Day | 1 Day | Other: Std.

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank
Fund EDF
Special Instructions / Comments: ☐ Global ID ___

Note: Due to muddyness of CPT-02-21, 4 VOAs were filled

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_9-C_{24} (industry norm). Default for 8015B is C_{10}-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: Rob Monk Time: 1030	Signature: Ed Martinez Time: 1640	Signature: Time:
Printed Name: Rob Monk Date:	Printed Name: Ed Martinez Date: 1-10-11	Printed Name: Date:
Company: Arcadis (AUS)	Company: TestAmerica	Company:

1) Received by:	2) Received by:	3) Received by:
Signature: Ed Martinez Time: 1200	Signature: Time: 1640	Signature: Time:
Printed Name: Ed Martinez Date: 1-10-11	Printed Name: T Mott Date: 1/10/11	Printed Name: Date:
Company: TestAmerica	Company: TASF	Company:

Rev09/09

Login Sample Receipt Check List

Client: ARCADIS U.S., Inc.

Job Number: 720-32719-1

Login Number: 32719

List Source: TestAmerica San Francisco

Creator: Hoang, Julie

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	