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ARCADIS U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco
California 94104
Tel 415 374 2744
Fax 415 374 2745
www.arcadis-us.com

ENVIRONMENT

Ms. Dilan Roe, P.E.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject:
Field Investigation Report
8400 Pardee Drive
Oakland, California 94621

Date:
December 6, 2013

Contact:
Hollis Phillips

Phone:
415.432.6903

Email:
hollis.phillips@arcadis-us.com

Our ref:
B0038398.0017

Dear Ms. Roe:

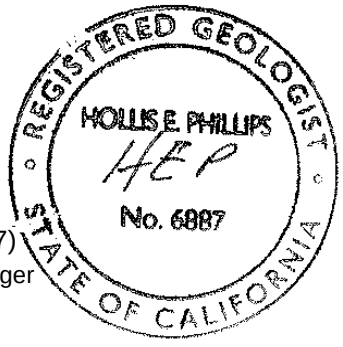
ARCADIS U.S., Inc (ARCADIS) has prepared this report on behalf of UPS Oakland Hub

UPS Oakland Hub	**ACEH Site No.**	**Location**
	RO00000315	8400 Pardee Drive Oakland, California

I declare, 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. If you have any questions or comments regarding the content of this report, please contact Hollis Phillips by telephone at 415.432.6903 or by e-mail at hollis.phillips@arcadis-us.com.

Sincerely,

ARCADIS U.S., Inc.



Hollis E. Phillips, P.G. (No. 6887)
Principal Geologist/Project Manager

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United Parcel Service

Field Investigation Report

6 December 2013

ARCADIS

Miljan Draganic
Staff Geologist

Hollis E. Phillips, PG
Principal Geologist

Field Investigation Report

UPS Oakland Hub
8400 Pardee Drive
Oakland, California

Prepared for:
UPS

Prepared by:
ARCADIS U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco
California 94104
Tel 415 374 2744
Fax 415 374 2745

Our Ref.:
B0038398.0017.00003

Date:
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ARCADIS

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Acronyms and Abbreviations

1,2-DCA	1,2-dichloroethane
ACDEH	Alameda County Department of Environmental Health
amsl	above mean sea level
ASTM	American Society for Testing and Materials
bgs	below ground surface
btc	below top of casing
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Corrective Action Plan
CPT	cone penetration test
CPT/UVOST	cone penetration test with ultraviolet optical screening tool
DPT	direct-push technology
DTW	depth to water
DTP	depth to product
EDB	ethylene dibromide
EFRe	enhanced fluid recovery
ft	feet
Fe	dissolved total iron
ft^2/day	square feet per day
Gregg Drilling	Gregg Drilling & Testing, Inc.
HASP	Health and Safety Plan
Icon Environmental	Icon Environmental Services, Inc.
ITRC	Interstate Technology and Regulatory Council
HVE	high vacuum extraction
LIF	laser induced fluorescence
mg/kg	milligrams per kilogram
MTBE	methyl tertiary butyl ether

Mn	manganese
PAHs	polynuclear aromatic hydrocarbons
PID	photoionization detector
PVC	polyvinyl chloride
SGC	silica gel cleanup
Site	UPS Oakland Hub
SPH	separate phase hydrocarbona
TestAmerica	TestAmerica Laboratories, Inc.
TPH-DRO	total petroleum hydrocarbons as diesel range organics
TPH-GRO	total petroleum hydrocarbons as gasoline range organics
TPH-MO	Total petroleum hydrocarbons as motor oil
UPS	United Parcel Service
USA-North	Underground Service Alert
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UVOST	ultraviolet optical screening tool
VET	vacuum extraction events
VOCs	volatile organic compounds

1. Introduction

On behalf of United Parcel Service (UPS), ARCADIS U.S., Inc. (ARCADIS) is submitting this Field Investigation Report which summarizes the implementation and results of the work proposed in the Revised Work Plan for Separate Phase Hydrocarbon [SPH] Characterization and Dissolved Phase Plume Delineation, UPS Oakland Hub, dated September 5, 2013 (ARCADIS 2013). Originally, a work plan for SPH delineation was submitted to the Alameda County Department of Environmental Health (ACDEH) in September 2012, proposing installation of additional monitoring wells; however during the March 14, 2013 meeting it was determined that using the ultraviolet optical screening tool (UVOST) would be a better approach to delineate the SPH at the site. The Work Plan for the UPS Oakland Hub was then revised and re-submitted to ACDEH on April 26, 2013. The UPS Oakland Hub, (the Site,) is located at 8400 Pardee Drive in Oakland, California (**Figure 1**).

The objectives of the field investigation were to characterize and delineate SPH at the Site, as well as delineate the dissolved phase plume to the south of the former Underground Storage Tank (UST) pit (**Figure 2**). Additionally to evaluate SPH mobility, enhanced vacuum extraction events (VET) were conducted on wells MW-12, MW-13, IW-1, IW-2, and IW-3 and SPH bail downs were conducted on wells MW-12 and IW-1 (**Figure 2**).

2. Background

2.1 Site Description

Historical aerial photographs from 1937 to the present indicate that the 8400 Pardee Drive property that UPS leases from the Port of Oakland (property owner) was originally a tidal marsh. In 1968, the site was raised above mean sea level (amsl) with imported fill and graded. This artificial historical fill has been documented in both the northern and southern former fueling areas, at depths ranging from 2 to 10 feet (ft). Currently, the primarily asphalt grade at the property is approximately 10 ft amsl, and is located on a narrow peninsula south of San Leandro Bay.

Based on the aerial photographs, there were no structures on the property until 1975, when the current UPS facility was constructed. The southern former fueling area (current release area), was visible in the photographs from 1985. Detailed historical information since 1985 has been provided in previous reports.

The current site is an active package distribution facility with some vehicle maintenance and fleet vehicle fueling. The area around the site is characterized by medium to heavy industrial use and includes the nearby Oakland International Airport.

2.2 Previous Site Investigations

Enhanced fluid recovery (EFR), a preferential pathway study and a well survey were conducted in 2010. The investigation activities were summarized in the *Summary of Soil and Groundwater Investigation Activities report* (ARCADIS 2011). A *Revised Summary of Soil and Groundwater Investigation Activities report* (ARCADIS 2012) was submitted to ADCEH which included information on the newly installed monitoring and injection wells at the UPS Oakland Hub.

ARCADIS submitted a Corrective Action Plan (CAP) in December 2011 which proposed remedial strategies to reduce residual soil and groundwater impacts from the area near the former diesel USTs. Groundwater has been sampled and analyzed for fuel hydrocarbons and oxygenates on a quarterly or semi-annual basis since 1990.

3. Site Investigation

3.1 Prefield Activities

The following were performed prior to field implementation of the revised Work Plan:

The site-specific Health and Safety Plan (HASP) was updated in accordance with state and federal requirements for use during the proposed field activities. Necessary drilling permits were obtained from the Alameda County Public Works Agency.

Underground Service Alert (USA-North) was notified at least 48 hours prior to drilling activities, asking local utility providers to identify their utility lines within the work area. Additionally, a private third-party utility locator was retained to screen all proposed boring locations to determine the location of nearby underground utilities.The approximate locations and depths of utilities at the Site are shown on **Figure 2**.

3.2 SPH Characterization

A cone penetration test (CPT) with UVOST (CPT/UVOST) system was utilized to screen for petroleum hydrocarbons in the subsurface soils to assist in lateral and vertical delineation of SPH in the vicinity of MW-12, IW-1, and the former diesel UST pit

area. The UVOST operating principles include pulses of light that pass across a probe window and, if petroleum compounds are present along the borehole wall, the light induces petroleum hydrocarbon fluorescence. Soils impacted with petroleum hydrocarbons will exhibit fluorescence intensity (measured with an optical detector) proportional to the contaminant concentration, thus allowing the presence of SPH to be inferred. UVOST is a good screening tool to utilize to delineate areas of SPH and was proposed by ACEH for the investigation.

On October 10, 2013, ARCADIS retained Gregg Drilling & Testing, Inc. (Gregg Drilling), a C-57 licensed drilling subcontractor, to advance eight CPT/UVOST boring locations to a maximum depth of 18 ft below ground surface (bgs). Four borings, CPT-1 through CPT-4, were advanced around the former diesel UST pit area to assess the extent of SPH to the north of the UST pit and in the vicinity of wells MW-1 (abandoned) and MW-2 (**Figure 2**). Borings CPT-5 through CPT-7 and CPT-8A were advanced in the vicinity of wells MW-12 and IW-1 to assess the extent of SPH in the area approximately 50 ft northeast of the former tank pit and the elevated total petroleum hydrocarbons – diesel range organics (TPH-DRO) soil concentrations in the vicinity of soil borings SB-06 and SB-07 (**Figure 2**). Boring CPT-8A is a step-out location after the initial attempt (CPT-8) encountered refusal at about seven ft bgs and could not advance any further.

Prior to drilling, each boring was manually cleared of underground utilities by advancing a hand auger to five ft bgs. The remainder of each boring was advanced using direct-push technology CPT rig, equipped with CPT/UVOST sensors to determine subsurface lithology (CPT) and presence of SPH (UVOST). After reaching the desired depth with CPT/UVOST, direct push rods were withdrawn and the boring was backfilled with a neat-cement grout and completed to match the existing surface. Soil and groundwater samples were not collected as part of the CPT/UVOST investigation. During the drilling process, real time data was collected and presented on CPT and UVOST provided in **Appendix A**.

3.3 Delineation of the Dissolved Phase Plume in the Southern Area

On October 11, 2013, ARCADIS retained Gregg Drilling to advance four Geoprobe locations (SB-13 through SB-16; **Figure 2**) to a maximum depth of 15 ft bgs, to evaluate the southern extent of SPH and delineate the dissolved phase plume. The first five ft of each boring were advanced using hand auguring equipment to clear the location of utilities. The remainder of the boring was advanced using direct-push technology (DPT) rig. Upon completion, each boring location was abandoned with

neat-cement grout, in accordance with the guidelines provided by the Permit W2013 – 0549 issued by the Alameda County Public Works Agency.

Soil samples were collected on a continuous basis at each boring location using a soil core barrel that is designed to operate with the DPT rig. The soil cores were visually logged in accordance with the Unified Soil Classification System (USCS) and screened in the field using a photoionization detector (PID) to evaluate the presence of hydrocarbons or other volatile organic compounds (VOCs). Soil descriptions and PID measurements were recorded on the soil boring logs that are included **Appendix B**.

One soil sample was collected for laboratory analyses from each boring, either from the water table smear zone or an interval of impacted soil as observed either by visual inspection or PID screening. Soil samples were collected in pre-cleaned, laboratory-provided sample containers and stored in an ice-chilled cooler for transportation to the laboratory under chain-of-custody protocol. Soil samples were analyzed by TestAmerica Laboratories, Inc. (TestAmerica), a state-certified laboratory in Pleasanton, California, for the following constituents:

- benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA)Method 8260
- methyl tertiary butyl ether (MTBE) by United States Environmental Protection Agency (USEPA) Method 8260
- total petroleum hydrocarbons – gasoline range organics (TPH-GRO) by USEPA Method 8015B
- TPH-DRO by USEPA Method 8015B [with silica gel cleanup (SGC) using a 10-gram column cleanup based on USEPA Method 3630C]
- Ethylene dibromide (EDB) by USEPA Method 8260
- 1,2-dichloroethane (1,2-DCA) by USEPA Method 8260
- Polynuclear aromatic hydrocarbons (PAHs) by USEPA Method 8270

Once a soil boring was drilled to its total depth (15 ft bgs) and soil sample collected, a grab groundwater sample was collected. A temporary well screen (piezometer) was installed inside the boring, comprised of polyvinyl chloride (PVC) casing with

approximately five feet of screen. Once groundwater recharge was achieved inside the temporary piezometer, a grab groundwater sample was collected using clean and disposable polyethylene bailer at each boring.

Groundwater samples were collected in pre-cleaned, laboratory-provided sample containers and stored in an ice-chilled cooler for transportation to the laboratory under chain-of-custody protocol. Grab groundwater samples were analyzed by TestAmerica for the following constituents:

- BTEX by USEPA Method 8260
- MTBE by USEPA Method 8260
- TPH-GRO by USEPA Method 8015B
- TPH-DRO by USEPA Method 8015B [with SGC using a 10-gram column cleanup based on EPA Method 3630C]
- Ethylene dibromide (EDB) by USEPA Method 8260
- 1,2-dichloroethane (1,2-DCA) by USEPA Method 8260
- Polynuclear aromatic hydrocarbons (PAHs) by USEPA Method 8270
- Dissolved total iron (Fe) and manganese (Mn) by USEPA Method 200.7/ SW846 610
- Nitrate by USEPA Method 353.2/SM 4500NO2B
- Sulfate by USEPA Method 300/SW846 9056
- Sulfide by USEPA Method 376.1
- Methane by Method AM20GAX

In addition, groundwater quality parameters pH, dissolved-oxygen (DO), temperature, and specific conductivity were measured at each boring locations that produced groundwater and were recorded on the appropriate boring log. Laboratory analytical results are included in **Appendix C**.

3.4 SPH mobility evaluation at MW-12 and IW-1

SPH mobility was measured by conducting bail-down testing of the SPH at wells MW-12 and IW-1 which was conducted on April 4, 2013. Bail-down testing consisted of SPH removal, followed by monitoring of SPH recovery in each well over time immediately following removal (similar to a traditional aquifer slug test). SPH bail-down testing was conducted in accordance with the ARCADIS Standard Operation Procedure included in the revised Work Plan.

ARCADIS personnel performed one bail-down test on well MW-12 and two bail-down tests on well IW1. Depth to SPH and groundwater were measured and recorded using an oil/water interface probe prior to the start of bail-down test to determine the initial product thickness. SPH was then purged from the well using standard hand bailing procedures, and was followed by routine depth to SPH and depth to groundwater measurements using the oil/water interface probe. Field measurements were recorded and are presented in **Appendix D**.

The objective of the bail-down testing was ultimately to determine the transmissivity of SPH based on the amount of time it takes for SPH to fully recover. The recovery rate of SPH depends on the SPH saturation, permeability of the surrounding formation to SPH, SPH physical properties, and the magnitude of the initial hydraulic gradient toward the well developed during SPH removal.

3.5 High Vacuum Extraction Events

ARCADIS retained Icon Environmental Services, Inc. (Icon Environmental) out of Union City, California, to perform high vacuum extraction (HVE) activities at the Site in February, April, and May 2013. The HVE product recovery activities were performed on wells MW-12, MW-13, IW-1, IW-2, and IW-3.

During the February HVE event, baseline depth to water (DTW) and depth to product (DTP) readings were collected at extraction wells IW-1 and MW-12 and observation wells IW-2, IW-3, and MW-13. Extraction manifold was then placed on MW-12, while observation manifolds, which allow for simultaneous vacuum and DTW readings at the monitoring wells while maintaining a seal between atmosphere and the subsurface, were installed on the wells. After approximately three hours of extraction at MW-12, approximately 275 gallons of water/SPH mixture was removed from MW-12 and operation was discontinued. Same extraction setup was then moved to IW-1. After approximately three hours of extraction at IW-1, approximately 825 gallons of

water/SPH mixture was removed from IW-1 and operation was discontinued. Field measurements and readings such as DTW, induced vacuum, and PID readings were recorded and are presented in **Appendix D**. Due to setup issues drawdown and induced vacuum readings were not collected at the observation wells during extraction at MW-12 and IW-1.

During the April HVE event, baseline DTW and DTP readings were collected at extraction wells IW-1 and MW-12 and observation wells IW-2 and MW-13. Well IW-3 was not accessible due to heavy traffic. Extraction and observation manifolds were installed on wells in a same way as for the February HVE event. After approximately 1.5 hours of extraction at IW-1, approximately 500 gallons of water/SPH mixture was removed from the well and operation was discontinued. The extraction setup was then moved to MW-12. After approximately one hour of extraction at MW-12, approximately 100 gallons of water/SPH mixture was removed from the well and operation was discontinued. Field measurements and readings such as DTW, induced vacuum, and PID readings were recorded and are presented in **Appendix D**.

During the May HVE event, baseline DTW and DTP readings were collected at extraction wells IW-1 and MW-12 and observation wells IW-2 and MW-13. Well IW-3 was not accessible due to heavy traffic. Extraction and observation manifolds were installed on wells in a same way as for the February HVE event. After approximately 3.5 hours of extraction at IW-1, approximately 750 gallons of water/SPH mixture was removed from IW-1 and operation was discontinued. The extraction setup was then moved to MW-12. After approximately three hours of extraction at MW-12, approximately 450 gallons of water/SPH mixture was removed from MW-12 and operation was discontinued. Field measurements and readings such as DTW, induced vacuum, and PID readings were recorded and are presented in **Appendix D**.

3.6 Investigation Derived Waste (IDW)

Groundwater extracted during HVE events was disposed of by Icon Environmental immediately following the completion of each event. The extracted product and other investigation-derived waste generated during other field activities, including soil cuttings, decontamination or rinse water, and personal protective equipment, was stored temporarily at the Site in appropriately labeled, Department of Transportation-approved 55 gallon drums, characterized for disposal offsite.

4. Site Investigation Results

4.1 SPH Characterization

On October 10, 2013, eight CPT/UVOST boring locations were advanced to 15 ft bgs to assess the subsurface lithology and delineate the extent of petroleum hydrocarbon contamination near MW-12, IW-1, and the former tank pit area. Boring locations CPT-1 through CPT-7, and CPT-8A are illustrated on **Figure 2**. Data logs generated by the CPT and UVOST tools are presented in **Appendix A**.

CPT tool measures cone tip resistance and sleeve friction as it is advanced, from which a corresponding lithologic profile (e.g., clay, sand, and silt) is interpreted by the machine. The interpreted results on CPT logs illustrate that geology at the Site is primarily comprised of sands and silts within the top 10 feet, while geology beneath 10 feet from the ground surface is primarily thicker clay. One exception is boring CPT-6 which has a sand layer ranging from about 12 to 16 ft bgs, but the overall lithology at the CPT/UVOST investigation area is fairly consistent throughout. The CPT logs are also consistent with site soil boring logs.

UVOST data collected at borings CPT-1 through CPT-3 indicate that there is no presence of SPH at those locations. Boring CPT-4 exhibited the most intense fluorescence data indicating presence of SPH at that location. The fluorescence, or inferred SPH presence, started at approximately five ft bgs and achieved a concentration peak at six feet bgs. The SPH fluorescence decreased at boring CPT-4 to nearly background levels by 10 ft bgs. Depth to water at the site has ranged from 1.34 to 8.8 feet bgs which indicates the highest fluorescence is in the smear zone.

At boring locations CPT-5 through CPT-8, the UVOST system indicated interference between approximately five and 10 feet bgs, however the signals do not appear to be indicative of SPH; both the fluorescence and the profiles are different. ARCADIS has investigated other sites where similar fluorescence/profiles were detected which were the result of carbonates. Bay Muds may contain carbonates however, the site is fill from approximately grade to 10 feet bgs, therefore carbonates may be in the fill material. Based on the UVOST profile the presence of SPH cannot be definitively confirmed in the area of IW-12.

No confirmation samples were collected for laboratory analysis to quantify the fluorescence peaks observed during the investigation. However, data presented on UVOST logs (**Appendix A**) indicates SPH has been delineated to the west and north

of the former USTs with CPT-1, CPT-2, and CPT-3. The UVOST log from CPT-4 indicates SHP is present however; MW-14 located approximately 25 ft east of CPT-4 does not contain SPH, so that area is delineated. Groundwater elevation fluctuates seasonally within this smear zone, while the peak SPH detections seem to be between six and eight ft below ground surface. The UVOST logs for the CPTs in the vicinity of MW-12 and IW-1 were not definitely indicative of SPH.

4.2 Delineation of the dissolved phase plume in the former diesel UST pit area

Soil and grab groundwater samples were collected at boring locations SB-13 through SB-16 to further delineate the SPH plume in the southern area of the Site (**Figure 2**). Analytical results are summarized in **Tables 1** through **3**, and the laboratory analytical report is presented in **Appendix C**.

4.2.1 Soil Type and Groundwater

Soil was continuously logged at boring locations SB-13 through SB-16 to collect data that can be reviewed to assess the lithology at this part of the Site. Descriptions of the soil were recorded on boring log forms and are included in **Appendix B**.

At boring locations SB-13 and SB-14 located on the Comcast property planter (**Figure 2**), the lithology is similar to that observed at the CPT locations. The top 13 ft at each boring location consisted primarily of silty sands (SM), with some gravel as well. These units were generally dark color, hard, and dry. From approximately 13 ft to total depth, the soil consisted of thick clay, also dark color, hard, and dry. Boring locations SB-13 and SB-14 (the southeastern most locations) did not produce any groundwater, and there were no notable PID detections in soil at either boring (**Appendix B**).

Lithology at boring locations SB-15 and SB-16, located against the UPS property fence (on the Comcast property; **Figure 2**), is different and consisted primarily of poorly graded fine-sands (SP). Each location had a harder clay layer at approximately 4 to 7 ft bgs. Beneath the clay layer, the sand was soft and wet; both factors that contributed to poor sample recovery at depth. Boring locations SB-15 and SB-16 produced sufficient quantities of groundwater, and the water level was measured to be just below seven ft bgs at each location. There were no notable PID detections in soil at either boring location (**Appendix B**).

Analytical Results of Soil Samples

ARCADIS collected four soil samples from boring locations SB-13 through SB-16. Soil samples were collected from the seven to eight foot depth interval at borings SB-13, SB-14, and SB-16, and at the eight to nine foot depth interval at boring SB-15. Analytical results for the soil samples collected during the October 2013 field investigation (including historical soil data) are presented in **Tables 1** and **2**, and **Figure 3**.

TPH-DRO was detected in each of the four samples collected, ranging from 1.7 milligrams per kilogram (mg/kg) at boring SB-15 to 84 mg/kg at boring SB-14 (**Table 1**). Historical TPH-DRO analytical data for collected soil samples in presented on **Figure 3**. In addition, total petroleum hydrocarbons as motor oil (TPH-MO) was detected in soil samples collected from borings SB-13 and SB-14 at 280 mg/kg and 85 mg/kg, respectfully (**Table 1**). Other analyzed constituents such as TPH-GRO, BTEX compounds, MTBE, EDB, and 1,2-DCA were not detected above the laboratory reporting limits in any of the four soil samples (**Table 1**).

Analytical results for PAHs obtained from soil samples SB-13 through SB-16 are presented in **Table 2**. PAHs were not detected above the laboratory reporting limits in soil sample SB-15, while the other three soil samples contained minor concentrations of multiple polynuclear hydrocarbons (**Table 2**).

Analytical Results of Groundwater Samples

Groundwater gradient and general flow direction at the Site is to the southeast, as illustrated on **Figure 4** based on groundwater elevation data collected during the July 2013 groundwater monitoring event. To delineate the SPH plume and assess the quality of groundwater at the southern portion of the dissolved plume, ARCADIS collected two grab groundwater samples from boring locations SB-15 and SB-16 (**Figure 2**). Groundwater did not recharge in borings SB-13 and SB-14 therefore no samples were collected. Analytical results for the grab groundwater samples collected during the October 2013 field investigation, including historical grab groundwater data, are presented in **Table 3**. **Figure 5** presents the historical analytical results for THP-DRO and THP-GRO.

TPH-DRO, TPH-GRO, BTEX compounds, MTBE, EDB, 1,2-DCA, and PAHs were not detected above the laboratory reporting limits in grab groundwater samples collected at boring locations SB-15 and SB-16 (**Table 3**). Biogeochemical constituents that were

detected at both SB-15 and SB-16 included methane, manganese, sulfate, and iron (**Table 3**), at concentrations similar to onsite samples. Analytical results from the SB-16 duplicate sample are consistent with those from the primary sample.

4.3 SPH mobility evaluation at MW-12 and IW-1

Field observations collected during the SPH bail down tests on April 4, 2013 at MW-12 and IW-1 are provided in **Appendix D**. The data was evaluated in accordance with the Bouwer and Rice method as described in the revised Work Plan, and suggest SPH are minimally recoverable at both locations.

Evaluation of data collected from the first bail-down test at IW-1 (initial product thickness of 0.84 ft) indicated a transmissivity of 0.52 ft^2/day, which falls within the ITRC suggested range of 0.1 to 0.8 ft^2/day as the lower limit of practicable recoverability. Evaluation of the data from the second bail-down test at IW-1 (initial product thickness of 0.42 ft) indicated a transmissivity of 0.20 ft^2/day which again falls within the lower limit of practicable recoverability. However, it should be noted that American Society for Testing and Materials (ASTM) standards do not recommend analyzing bail-down data when the initial product thickness is less than 0.50 ft. Additionally, the SPH thickness had not recharged to within 80% of static conditions, and therefore, the test was not performed on a static environment.

Evaluation of the data from the bail-down test at MW-12 (initial product thickness of 0.25 ft) indicated a transmissivity of 0.46 square feet per day (ft^2/day) which falls within the lower limit of practicable recoverability. However, it should be noted again that ASTM standards do not recommend analyzing bail-down data when the initial SPH thickness is less than 0.50 ft.

4.4 High Vacuum Extraction Events

On February 25, 2013, Icon Environmental conducted the first HVE event at the Site. Prior to extraction, SPH was observed at 5.50 ft below top of casing (btc) in well MW-12 and had a thickness of 1.05 ft. Similarly, SPH was observed at 5.65 ft btc in well IW-1 and had a thickness of 0.91 ft. Following the extraction of about 1,100 gallons total between the two wells, no SPH was observed in either MW-12 or IW-1. Qualitative assessment of the first HVE test results suggests limited transmissivity in MW-12 and moderate SPH transmissivity in IW-1.

SPH was not observed in wells MW-13, IW-2, and IW-3 during the February 2013 HVE event.

On April 4, 2013, Icon Environmental conducted the second HVE event at the Site. Prior to extraction, SPH was observed at 5.70 ft btc in well MW-12 and had a thickness of 0.25 ft. Similarly, SPH was observed at 5.64 ft btc in well IW-1 and had a thickness of 0.84 ft. Following the extraction of about 750 gallons total between the two wells, no SPH was observed in either MW-12 or IW-1. Qualitative assessment of the first HVE test results suggests limited transmissivity in MW-12 and moderate SPH transmissivity in IW-1.

SPH was not observed in wells MW-13 and IW-2 during the April 2013 HVE event.

On May 5, 2013, Icon Environmental conducted the third HVE event at the Site. Prior to extraction, SPH was observed at 6.09 ft btc in well MW-12 and had a thickness of 0.42 ft. Similarly, SPH was observed at 6.56 ft btc in well IW-1 and had a thickness of 0.23 ft. Following the extraction of about 1,200 gallons total between the two wells, no SPH was observed in either MW-12 or IW-1. Qualitative assessment of the first HVE test results suggests limited transmissivity in MW-12 and moderate SPH transmissivity in IW-1.

SPH was not observed in wells MW-13 and IW-2 during the May 2013 HVE event.

5. Conclusions and Recommendations

The extent of SPH in the former diesel UST pit area has been adequately defined with the CPT/UVOST investigation. SPH was not present in CPT-1 through CPT-3 located on the western and northern sides of the former UST. SPH was dectected in CPT-4 located on the east side of the fomer UST pit. However, MW-14 located approximately 25 ft east of CPT-4 does not contain SPH. The Geoprobe investigation conducted on the Comcast property to the south of the former UST pit did not indicate the presence of elevated concentrations of contaminants; in additon the presense of SPH was not observed.

At boring locations CPT-5 through CPT-8, the UVOST system indicated interference between approximately 5 and 10 ft bgs, however the signals do not appear to be indicative of SPH; both the fluorescence and the profiles are different. The UVOST signals appear similar to carbonates that ARCADIS has seen at other sites. Therefore ARCADIS recommends a geoprobe investigation in the vicinity of MW-12 and IW-1 be conducted to confirm the presence or absence of SPH. If the UVOST data is determined to be SPH it will be delineated with the Geoprobe investigation.

The bail down tests indicated transmissivity in MW-12 and IW-1 falls within the lower limit of practicable recoverability. Qualitative assessment of the HVE test results suggests limited SPH transmissivity in MW-12 and moderate SPH transmissivity in IW-1. Based on these results product recovery is not technically feasible. ARCADIS will continue to conduct monthly SPH gauging and HVE events, when thickness allow for SPH recovery, while the SPH delineation is being conducted. Once the plume is defined it will be evaluated to determine if it is mobile or migrating and whether continued gauging/removal is necessary.

As defined by the Interstate Technology and Regulatory Council (ITRC 2009), LNAPL is mobile where there is continuity between LNAPL-filled soil pores that allows for lateral LNAPL movement. LNAPL is mobile at the pore-scale and capable of moving vertically or laterally within the formation, but may not be migrating on a plume-scale. In order for the LNAPL plume to migrate into pristine soils, sufficient LNAPL volume would need to be present in the subsurface at the fringe of the plume to create enough head pressure to displace air and groundwater from the soil pores. The LNAPL appears to be mobile but not migrating since LNAPL accumulation has been observed in the same wells. Additionally, according to the Technical Justification for Groundwater Media-Specific Criteria (SWRCB 2012), plume stability can be demonstrated in two ways 1) “routinely observe non-detect values for groundwater parameters in down-gradient wells” or 2) “show stable or decreasing concentration levels in down-gradient wells.” MW-10 has indicated stable concentrations of TPH-DRO (low 100s µg/L) since it was installed in 2010 with the exception of 5,600 µg/L in February 2011. The recent grab groundwater samples indicated TPH-DRO was not detected above the method detection limits of 51 µg/L (SB-16) and 70 µg/L (SB-15). These sample points are approximately 40 feet down gradient of the former tank pit. Therefore the plume appears stable and not migrating.

Following the plume delineation, additional gauging (and SPH removal if present at recoverable thicknesses) the site will be evaluated against the Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Closure Policy) adopted by the SWRCB on May 1, 2012 and effective August 17, 2012 (SWRCB 2012a) .

6. References

ARCADIS U.S., Inc. 2011. *Summary of Soil and Groundwater Investigation Activities,* UPS Oakland Hub, 8400 Pardee Drive, Oakland, California. 2011.

2012. *Revised Summary of Soil and Groundwater Investigation Activities,* UPS Oakland Hub, 8400 Pardee Drive, Oakland, California. 2012.

2013. *Revised Work Plan for Separate Phase Hydrocarbon Characterization and Dissolved Phase Plume Delineation*, UPS Oakland Hub, 8400 Pardee Drive, Oakland, California. September 5.

Interstate Technology & Regulatory Council (ITRC). 2009. *Evaluating LNAPL Remedial Technologies for Achieving Project Goals.* LNAPL-2. Washington, D.C.: Interstate Technology & Regulatory Council. LNAPLs Team. www.itrcweb.org.

State Water Resource Control Board, 2012. *Technical Justification for Groundwater Media-Specific Criteria.* April 24

2012a. *Low-Threat Underground Storage Tank Case Closure Policy.* Adopted May 1, 2012, Effective August 17, 2012. (http://www.swrcb.ca.gov/ust/lt_cls_plcy.shtml)

ARCADIS

Tables

TABLE 1
HISTORICAL SOIL ANALYTICAL SUMMARY
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Sample ID	Sample Date	Sample Depth (feet bgs)	TPH-DRO (mg/kg)	TPH-MO (mg/kg)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)
RWQCB Environmental Screening Levels (ESLs)	**Shallow Soil (≤3 m-bgs)**	**Residential**	5000	83	83	0.044	2.9	2.9	2.3	0.023	0.00033	0.0045
		Com./Ind.	2500	83	83	0.044	2.9	3.3	2.3	0.023	0.00033	0.0045
	Deep Soil (>3 m-bgs)	**Residential**	5000	83	83	0.044	2.9	2.9	2.3	0.023	0.00033	0.0045
		Com./Ind.	5000	83	83	0.044	2.9	3.3	2.3	0.023	0.00033	0.0045
SB-01 4.5-5.0	4/8/2010	4.5 - 5.0	5,000	NA	82	<0.0039	<0.0039	<0.0039	<0.0077	<0.0039	NA	NA
SB-01 12-13	4/8/2010	12.0 - 13.0	8.7	NA	<0.25	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	NA	NA
SB-02 7.0-7.5	4/8/2010	7.0 - 7.5	1,400	NA	1.8	<0.0041	<0.0041	0.0043	<0.0083	<0.0041	NA	NA
SB-02 9.5-10	4/8/2010	9.5 - 10.0	4.2	NA	<0.32	<0.0064	<0.0064	<0.0064	<0.013	<0.0064	NA	NA
SB-03 4.0-4.5	4/8/2010	4.0 - 4.5	<1.0	NA	<0.19	<0.0039	<0.0039	<0.0039	<0.0078	<0.0039	NA	NA
SB-03 7.5-8.0	4/8/2010	7.5 - 8.0	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-05 4.5-5.0	4/9/2010	4.5 - 5.0	5,000	NA	53	<0.0037	<0.0037	<0.0037	<0.0075	<0.0037	NA	NA
SB-05 10.0-10.5	4/9/2010	10.0 - 10.5	<0.99	NA	<0.33	<0.0066	<0.0066	<0.0066	<0.013	<0.0066	NA	NA
SB-06 7.0-7.5	4/9/2010	7.0 - 7.5	990	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-07 4.5-5.0	4/9/2010	4.5 - 5.0	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-07D [a]	4/9/2010	4.5 - 5.0	670	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-08 4.5-5.0	4/9/2010	4.5 - 5.0	66	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-09 5.0-5.5	4/12/2010	5.0 - 5.5	5.3	NA	<0.20	<0.0041	<0.0041	<0.0041	<0.0081	<0.0041	NA	NA
SB-09 9.5-10.0	4/12/2010	9.5 - 10.0	<1.0	NA	<0.26	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	NA	NA
SB-10 7.0-7.5	4/12/2010	7.0 - 7.5	31	NA	<0.20	<0.0040	<0.0040	<0.0040	<0.0081	<0.0040	NA	NA
SB-10 9.5-10.0	4/12/2010	9.5 - 10.0	1.0	NA	<0.24	<0.0047	<0.0047	<0.0047	<0.0095	<0.0047	NA	NA
SB-11 3.0-3.5	4/12/2010	3.0 - 3.5	<0.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-12 6.0-6.5	4/13/2010	6.0 - 6.5	<1.0	NA	<0.19	<0.0038	<0.0038	<0.0038	<0.0076	<0.0038	NA	NA
SB-13-SS-7'-8'	10/11/2013	7.0-8.0	66 *	280 *	<0.20	<0.0039	<0.0039	<0.0039	<0.0078	<0.0039	<0.0039	<0.0039
SB-14-SS-7'-8'	10/11/2013	7.0-8.0	84 *	85 *	<0.25	<0.0049	<0.0049	<0.0049	<0.0099	<0.0049	<0.0049	<0.0049
SB-15-SS-8'-9'	10/11/2013	8.0-9.0	1.7 *	<50 *	<0.22	<0.0044	<0.0044	<0.0044	<0.0087	<0.0044	<0.0044	<0.0044
SB-16-SS-7'-8'	10/11/2013	7.0-8.0	4.9 *	<49 *	<0.22	<0.0044	<0.0044	<0.0044	<0.0088	<0.0044	<0.0044	<0.0044

Abbreviations:

bgs = below ground surface

mg/kg = milligrams per kilogram

TPH-DRO = total petroleum hydrocarbons as diesel range organics (* indicates analyses performed using Silica Gel cleanup)

TPH-MO = total petroleum hydrocarbons as motor oil range organics (* indicates analyses performed using Silica Gel cleanup)

TPH-GRO = total petroleum hydrocarbons as gasoline range organics

MTBE = methyl tertiary-butyl ether

NA = not analyzed

< = analyte not detected at or above the noted laboratory method detection limit

ESL = San Francisco Bay Regional Water Quality Control Board. Environmental Screening Levels, Interim Final - November 2007 (Revised February 2013).

Table A, for Shallow Soils, Commercial/industrial Land Use, Groundwater is current of potentail source of drinking water.

Table B, for Shallow Soils, Commercial/industrial Land Use, Groundwater is not current of potentail source of drinking water.

Notes:

* = analyses performed using Silica Gel Clean-up

a = duplicate sample

TABLE 2
HISTORICAL SOIL ANALYTICAL SUMMARY for PAHs
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Sample ID	Sample Depth (bottom interval; feet bgs)	Date Collected	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo[a]anthracene (mg/kg)	Benzo[a]pyrene (mg/kg)	Benzo[b]fluoranthene (mg/kg)	Benzo[g,h,i]perylene (mg/kg)	Benzo[k]fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno[1,2,3-cd]pyrene (mg/kg	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
RWQCB Environmental Screening Levels (ESLs)	**Shallow Soil (≤3 m-bgs)**	**Residential**	**16**	**13**	**2.8**	**0.38**	**0.038**	**0.38**	**27**	**0.38**	**3.8**	**0.11**	**40**	**8.9**	**0.38**	**1.2**	**11**	**85**
		Com./Ind.	**16**	**13**	**2.8**	**12**	**5.3**	**40**	**27**	**51**	**23**	**9.9**	**40**	**8.9**	**15**	**1.2**	**11**	**85**
	Deep Soil (>3 m-bgs)	**Residential**	**16**	**13**	**2.8**	**0.38**	**0.038**	**0.38**	**27**	**0.38**	**3.8**	**0.11**	**60**	**8.9**	**0.38**	**1.2**	**11**	**85**
		Com./Ind.	**16**	**13**	**2.8**	**12**	**5.3**	**46**	**27**	**51**	**23**	**9.9**	**60**	**8.9**	**15**	**1.2**	**11**	**85**
SB-01-02-AUG1111	8	8/11/2011	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.032	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
SB-01-08--AUG1111	8	8/11/2011	0.023	0.047	< 0.01	< 0.01	< 0.01	0.015	< 0.01	< 0.01	< 0.01	< 0.01	0.015	0.16	< 0.01	0.012	0.24	0.019
SB-01-08-DUP-AUG1111	8	8/11/2011	0.02	0.016	0.014	0.011	0.011	0.026	0.0067	0.0078	0.016	< 0.005	0.022	0.057	0.0052	0.035	0.098	0.03
SB-02-02-AUG1111	2	8/11/2011	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
SB-02-08-AUG1111	8	8/11/2011	0.061	0.15	0.11	< 0.025	0.04	0.089	0.025	0.026	0.04	< 0.025	< 0.025	0.5	< 0.025	0.68	0.89	0.029
SB-03-02-AUG1111	2	8/11/2011	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	0.014	0.013	< 0.01	0.012	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099
SB-03-08-AUG1111	8	8/11/2011	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.073	0.052	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.056	0.05
SB-04-02-AUG1111	2	8/11/2011	< 0.0099	< 0.0099	< 0.0099	< 0.0099	0.012	0.016	0.011	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099
SB-04-08-AUG1111	8	8/11/2011	< 0.005	0.064	0.21	0.51	0.4	0.53	0.21	0.16	0.49	0.087	1.1	< 0.05	0.18	< 0.05	0.74	1.1
SB-05-02-AUG1111	2	8/11/2011	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.059	< 0.05	< 0.05	0.081	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
SB-05-08-AUG1111	8	8/11/2011	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.052	< 0.025	< 0.025	0.027	< 0.025	0.034	< 0.025	< 0.025	< 0.025	0.037	0.045
SB-06-02-AUG1111	2	8/11/2011	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.029	< 0.01	< 0.01	0.032	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.022	0.021
SB-06-08-AUG1111	8	8/11/2011	< 0.0099	0.014	0.013	0.044	0.043	0.074	0.035	0.022	0.051	0.011	0.079	0.019	0.029	0.21	0.047	0.12
SB-07-02-AUG1111	2	8/11/2011	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	0.2	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	0.14	< 0.12
SB-07-08-AUG1111	8	8/11/2011	< 0.025	< 0.025	< 0.025	0.049	0.047	0.085	0.041	< 0.025	0.085	< 0.025	0.11	< 0.025	0.029	0.25	0.11	0.11
SB-12-02-AUG1111	2	8/11/2011	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	0.059	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049
SB-12-08-AUG1111	8	8/11/2011	< 0.05	< 0.05	< 0.05	0.066	0.08	0.099	0.062	< 0.05	0.065	< 0.05	0.12	< 0.05	< 0.05	< 0.05	0.093	0.16
SB-13-02-AUG1111	2	8/11/2011	0.44	< 0.099	0.27	0.85	0.75	1.3	0.3	0.48	0.97	0.11	2.2	0.2	0.28	< 0.099	1.7	2
SB-13-08-AUG1111	8	8/11/2011	< 0.005	0.01	0.0053	0.043	0.061	0.097	0.037	0.036	0.055	0.013	0.096	0.02	0.034	< 0.005	0.029	0.099
SB-13A-02-AUG1111	2	8/11/2011	0.55	< 0.049	0.17	0.51	0.45	0.87	0.16	0.26	0.62	0.063	1.1	0.28	0.14	< 0.049	0.97	1.2
SB-13-SS-7'-8'	8	10/11/2013	<0.005	<0.005	0.011	0.047	0.056	0.14	0.022	<0.005	0.079	0.0093	0.053	<0.005	0.025	0.052	0.088	0.043
SB-14-SS-7'-8'	8	10/11/2013	0.0069	0.0096	0.022	0.71	2.2	2.5	2.1	0.93	0.89	0.72	0.45	0.0063	2	0.049	0.12	0.43
SB-15-SS-8'-9'	9	10/11/2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SB-16-SS-7'-8'	8	10/11/2013	<0.005	<0.005	<0.005	0.0073	0.014	0.023	0.0064	0.0063	0.012	<0.005	0.013	<0.005	0.0062	<0.005	0.0092	0.012

Abbreviations:

bgs = below ground surface

mg/kg = milligrams per kilogram

PAHs = polynuclear aromatic hydrocarbons

< = analyte not detected at or above the noted laboratory method detection limit

ESL = San Francisco Bay Regional Water Quality Control Board. Environmental Screening Levels, Interim Final - November 2007 (Revised February 2013).

Table A, for Shallow Soils, Commercial/industrial Land Use, Groundwater is current of potentail source of drinking water.

Table B, for Shallow Soils, Commercial/industrial Land Use, Groundwater is not current of potentail source of drinking water.

TABLE 3
HISTORICAL GRAB GROUNDWATER MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Manganese (dissolved) µg/L	Sulfate µg/L	Sulfide µg/L	Iron (Dissolved) µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	--	24	--
TW-1	6/12/1996	< 1.0	12.00	1.40	7.90	NA	NA	***2000***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-2	6/12/1996	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	***11000***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-4	6/12/1996	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-6	6/12/1996	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	**330**	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-7	6/12/1996	NA	NA	NA	NA	NA	NA	**130**	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-8	6/12/1996	< 1.0	< 1.0	3.00	< 1.0	NA	NA	***46000***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-9	6/12/1996	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	***2300***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-1	6/3/1998	< 1.0	0.51	0.51	< 1.0	NA	< 50.0	< 50.0	9.75	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-2	6/3/1998	NA	NA	NA	NA	NA	NA	< 50.0	9.71	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-4	6/3/1998	< 1.0	0.53	< 1.0	< 1.0	NA	< 50.0	< 50.0	9.78	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-6	6/3/1998	< 2.0	< 2.0	2.00	10.00	NA	< 200.0	***120000***	9.27	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-6 Dup	6/3/1998	< 2.0	< 2.0	< 2.0	< 2.0	NA	< 200.0	***68000***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GP-8	6/3/1998	NA	NA	NA	NA	NA	NA	***68000***	10.26	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-02	4/8/2010	**1.30**	<0.50	2.70	<1.0	<0.50	**360**	***8500***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-03	4/8/2010	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**610**	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-04	4/9/2010	NA	NA	NA	NA	NA	NA	<60	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-06	4/8/2010	NA	NA	NA	NA	NA	NA	65	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-07	4/9/2010	NA	NA	NA	NA	NA	NA	***34000***	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-08	4/13/2010	NA	NA	NA	NA	NA	NA	**470**	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-09	4/13/2010	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**210**	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-10	4/12/2010	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<62	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-11	4/12/2010	NA	NA	NA	NA	NA	NA	<52	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TW-12	4/13/2010	<0.50	<0.50	<0.50	<1.0	<0.50	<50	93	NM	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-15	10/11/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<70	0.84	21.79	7.02	3903	<0.50	<0.50	120	<230	NA	2000 (1600)	6500	<1000	19000 (4500)	NA	NA
SB-16	10/11/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<51	1.14	21.61	7.09	4730	<0.50	<0.50	56	<230	NA	1200 (1100)	4500	<1000	1500 (1600)	NA	NA
SB-16 Dup	10/11/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<69	1.14	21.61	7.09	4730	<0.50	<0.50	77.00	<230	NA	1300 (1100)	5200	<1000	1100 (1700)	NA	NA

Notes:
1. µg/L = micrograms per liter
2. mg/L = milligrams per liter
3. NA = Not Analyzed; NM = Not Measured
4. TPH = Total petroleum hydrocarbons; MTBE = Methyl tertiary butyl ether.
5. Title 22 of the California Code of Regulations, California Maximum Contaminant Levels (MCLs) for drinking water.
6. -- = no data
7. MCL = maximum concentration level
8. µs = micro siemens
9. TDS = total dissolved solids
10. D.O. = Dissolved Oxygen
11. Results collected between the dates of 8/28/90 and 12/28/95 are based on prior reporting by Geraghty & Miller, Inc. (1996).
12. **Bold values indicate analytical detections above drinking water but below non-drinking water MCL.**
13. **Bold and *italicized* values indicate analytical detections above non-drinking water MCL.**
14. Shading = most recent groundwater monitoring data
15. The 9/96, 10/96 BBL reports revealed concentrations reported as TPH as diesel did not resemble the diesel chromatogram standard, containing > C26.
16. H = Sample was prepped or analyzed beyond the specified holding time
17 J - Estimated value between Method Detection Limit and Practical Quantitation Limit.
18. ndp - Hydrocarbon reported does not match the pattern of laboratory Diesel standard.
19. Q2 = Quantity of unknown hydrocarbon(s) in sample based on diesel.
20. Q1 = Quantity of unknown hydrocarbon(s) in sample based on gasoline.
21. RWQCB ESLs = Regional Water Quality Control Board ESLs for Environmental Concerns at Sites with Contaminated Soil and Groundwater INTERIM FINAL - November 2007 (Revised February 2013) San Francisco Bay Region, CA

TABLE 4
HISTORICAL GROUNDWATER WELL MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
MW-1	8/28/1990	**3.00**	1.40	4.00	2.40	NA	NA	***21000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/19/1991	**1.70**	0.70	0.50	0.90	NA	NA	***7100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/23/1991	**1.60**	1.10	0.50	1.50	NA	**220**	***8700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/26/1991	***180***	**120**	**31**	***160***	NA	NA	***2800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/18/1991	**1.10**	0.40	0.50	< 0.3	NA	NA	***6600***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/3/1992	0.90	< 0.3	0.80	0.70	NA	NA	***2200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/29/1992	0.80	0.40	0.40	0.90	NA	NA	***2100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/23/1993	0.66	< 0.5	0.50	< 0.5	NA	NA	***3200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/1993	**1.30**	< 0.5	< 0.5	< 0.5	NA	NA	***9600***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/4/1994	**2.10**	0.65	1.30	2.10	NA	NA	***12000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/10/1994	0.54	0.53	< 0.5	1.10	NA	NA	***6400***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/1995	< 1.0	< 1.0	1.00	< 1.0	NA	***510***	***10000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	***510***	***8700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/16/1995	**2.80**	< 0.5	< 0.5	< 0.5	NA	***830***	***15000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/28/1995	**2.10**	< 0.5	< 0.5	< 0.5	NA	***560***	***15000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/1997	NA	NA	NA	NA	NA	NA	***28000***	0.76	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/1999	< 0.5	0.60	< 0.5	1.80	<3.0	***1,600***	***28000***	9.90	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5	**260**	***21000***	0.39	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/3/2002	<0.5	<0.5	<0.5	0.50	<0.5	**1,00**	***38000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2003	<5	<5	<5	<10	<5.0	**250**	***35000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/2003	<0.5	<0.5	<0.5	<1.0	0.60	**440**	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/19/2004	**3.20**	<2.5	<2.5	<5.0	<2.5	**280**	***24,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2004	<1.0	<1.0	<1.0	<2.0	2.10	***1,400 g***	***150,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/23/2005	<1.0	<1.0	<1.0	<2.0	<1.0	***550 Q1***	***15,000 Q2***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/29/2005	< 0.50	< 0.50	< 0.50	<1.0	0.94	**310**	***7800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/27/2006	< 0.50	< 0.50	< 0.50	<1.0	0.62	**420**	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/28/2006	< 0.50	< 0.50	< 0.50	<1.0	0.87	**220**	***28000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/19/2007	< 0.50	< 0.50	< 0.50	<1.0	<1.0	***940***	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2007	<0.50	<0.50	<0.50	1.1	<0.50	**240**	***9700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	55	***13000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**280**	***9800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/3/2009	ABANDONED																				

TABLE 4
HISTORICAL GROUNDWATER WELL MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
MW-2	8/28/1990	0.60	0.40	0.60	0.70	NA	NA	***3500***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/19/1991	0.50	< 0.3	< 0.3	< 0.3	NA	NA	<500	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/23/1991	0.70	< 0.3	< 0.3	< 0.3	NA	<500	***660***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/26/1991	0.70	< 0.3	< 0.3	< 0.3	NA	NA	<500	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/18/1991	0.80	< 0.3	< 0.3	< 0.3	NA	NA	***3200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/3/1992	0.70	< 0.3	< 0.3	0.50	NA	NA	**400**	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/29/1992	0.60	< 0.3	< 0.3	< 0.3	NA	NA	**250**	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/23/1993	0.55	< 0.5	< 0.5	< 0.5	NA	NA	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/1993	**1.20**	< 0.5	< 0.5	1.30	NA	NA	***1400***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/4/1994	0.72	< 0.5	< 0.5	1.10	NA	NA	***3700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/10/1994	0.74	< 0.5	< 0.5	0.70	NA	NA	***2300***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/1995	**2.10**	< 1.0	< 1.0	< 1.0	NA	<100	***2100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	**210**	***3600***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/16/1995	0.73	< 0.5	< 0.5	< 0.5	NA	**130**	***1400***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/28/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	**210**	***2800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/1996	NS	NS	NS	NS	NS	NS	--	NS	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/1997	NA	NA	NA	NA	NA	NA	***3300***	0.52	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/1999	< 0.5	< 0.5	< 0.5	< 1.0	< 3.0	**220**	***6300***	9.50	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	**170**	***4400***	0.43	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/27/2002	0.7J	<2.5	<2.5	<2.5	<2.5	**17000**	***67000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2003	<25	<25	<25	<50	<25	**1600**	***10000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2003	0.52	<0.50	<0.50	<1.0	<0.50	**150**	***12000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/29/2004	0.51	<0.50	<0.50	<1.0	<0.50	84 g	***7,800 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2004	<0.50	<0.50	<0.50	<1.0	<0.50	**630 g**	***10,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/24/2005	<0.50	<0.50	<0.50	<1.0	<0.50	**2,300 Q1**	***15,000 Q2***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/29/2005	<1.0	<1.0	<1.0	<2.0	<1.0	**1,900**	***22000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/27/2006	<1.0	<1.0	<1.0	<2.0	<1.0	**710**	***8900***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/28/2006	<0.50	<0.50	<0.50	<1.0	<0.50	62	***7500***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/19/2007	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2007	<0.50	<0.50	<0.50	<1.0	<0.50	55	***8700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**210**	***6200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**220**	***23000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/5/2010	NA	NA	NA	NA	NA	<50	***3700***	NA	NM	NM	NM	<0.5	<0.6	NA	NA	NA	NA	NA	NA	<1.0	2,800
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	**360**	***37000***	NA	NM	NM	3,236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	0.59	4.90	0.98	10.0	<0.50	**140**	***4600***	NA	NM	NM	4,240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	0.52	<0.50	1.7	<0.50	**510**	***13000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	2.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	110,000	3,300	NA	9,500	NA	2,400 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	< 0.50	2.0	<0.50	**110**	***13000***	NA	NM	NM	3,682	NA	NA	810	< 230	NA	<1,000	<1,000	1,800	NA	2,700
	2/26/2013	<0.50	<0.50	<0.50	1.1	<0.50	**910**	***38000***	NA	18.20	7.62	2,847	NA	NA	1,400	<230	140,000	<1,000	<1,000	4,100	3.3	2,900
	7/23/2013	NS	NS	NS	NS	NS	NS	NS	NA	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
MW-3	8/28/1990	0.50	0.80	4.30	2.30	NA	NA	***18000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/19/1991	0.40	0.40	1.70	1.40	NA	NA	***1300***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/23/1991	0.30	< 0.3	1.50	0.50	NA	**330**	***6800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/26/1991	**13.00**	13.00	5.80	**26.00**	NA	NA	<50	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/18/1991	0.60	< 0.3	< 0.3	< 0.3	NA	NA	***2500***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/3/1992	0.40	< 0.3	1.30	0.60	NA	NA	***1100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/29/1992	< 0.3	< 0.3	1.30	0.30	NA	NA	***3200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/23/1993	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	***8100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/1993	**1.00**	< 0.5	1.50	2.40	NA	NA	***7100***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/4/1994	< 0.5	< 0.5	1.60	< 0.5	NA	NA	***7400***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/10/1994	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	***5700***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/1995	< 1.0	< 1.0	2.70	4.10	NA	***810***	***10000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	***1200***	***6500***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/16/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	***930***	***9800***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/28/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	***690***	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/1997	NA	NA	NA	NA	NA	NA	***34000***	0.84	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/1999	< 0.5	0.60	0.70	1.20	< 3.0	***1300***	***8700***	8.60	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	**430**	***20000***	0.51	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/3/2002	<0.5	<0.5	<0.5	<0.5	<0.5	***2,300***	***14000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2003	<25	<25	<25	<50	<25	***2,500***	***19000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/2003	<0.5	<0.5	<0.5	<1.0	<0.5	***700***	***73000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/19/2004	<0.50	<0.50	<0.50	<1.0	<0.50	99	***14,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2004	<2.5	<2.5	<2.5	<5.0	<2.5	**390 g**	***10,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/24/2005	<2.5	<2.5	<2.5	<5.0	<2.5	**330 Q1**	***14,000 Q2***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/29/2005	< 1.0	< 1.0	<1.0	< 2.0	< 1.0	***1,200***	***8300***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/27/2006	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	**430**	***13000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/28/2006	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	**370**	***17000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/19/2007	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	***510***	***26000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2007	<1.0	<1.0	<1.0	<2.0	<1.0	**390**	***11000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**280**	***21000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**270**	***9500***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/5/2010	NA	NA	NA	NA	NA	<150	***24000***	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	2.2	910
	2/25/2011	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	1.70	<0.50	2.1	<0.50	**450**	***24000***	NA	NM	NM	1,378	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	<0.50	<0.50	1.3	<0.50	***520***	***13000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	2.1	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	47,000	7,900	NA	5,800	NA	770 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	1.1	<0.50	***1,200***	***43000***	NA	NM	NM	NM	NA	NA	3,200	<230	NA	<1,000	< 1,000	4,600	NA	780
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	**200**	***12000***	NA	16.70	7.96	1,407	NA	NA	4,100	<230	43,000	<1,000	<1,000	3,800	1.4	630
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	**290**	***7000***	NA	25.28	7.16	1,696	<0.50	<0.50	8,200	<230	47,000	<1,000	<1,000	4,700	1.3	720
MW-4	5/5/2010	NA	NA	NA	NA	NA	<50	***5200***	NA	NM	NM	NM	<5.0	<5.0	NA	NA	NA	NA	NA	NA	<1.0	1,100
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	**150**	***2000***	NA	NM	NM	1,940	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	**250**	***24000***	NA	NM	NM	2,006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	<0.50	<0.50	<1.0	<0.50	**430**	***7700***	NA	NM	NM	1,470	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	<0.50	<0.50	<1.0	<0.50	**150**	***12000***	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	NA	NA	NA	51,000	4,400	NA	22,000	NA	1,200 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.56	NM	NM	1,952	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	69	***6400***	NA	NM	NM	NM	NA	NA	6,600	<230 H	NA	1,400	<1,000	2,400	NA	1,000
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***9900***	NA	16.70	7.85	1,995	NA	NA	3,700	<230	41,000	1,600	<1,000	3,400	<1.0	1,400
	7/22/2013	<0.50	<0.50	<0.50	<1.0	<0.50	86	***1100***	NA	24.56	7.05	1,789	<0.50	<0.50	8,000	<230	45,000	<1,000	<1,000	3,600	<1.0	1,100

TABLE 4
HISTORICAL GROUNDWATER WELL MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
MW-8	5/5/2010	NA	NA	NA	NA	NA	<50	70	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	<1.0	2,900
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	***1100***	NA	NM	NM	9,599	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**280**	NA	NM	NM	9,379	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**200**	NA	NM	NM	9,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**120**	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	170,000	1,600	NA	1,900	NA	**5,800 H**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.85	NM	NM	3,634	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**160**	NA	NM	NM	NM	NA	NA	1,100	<230 H	NA	<1,000	1,600	5,600	NA	**4,900**
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**280**	NA	18.10	6.94	1,057	NA	NA	2,000	<230	170,000	<1,000	1,500	810	**12**	2,900
	7/22/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**170**	NA	22.56	6.81	4,408	<0.50	<0.50	5,100	<230	170,000	<1,000	1,600	2,900	2.7	**5,300**
MW-9	5/5/2010	NA	NA	NA	NA	NA	<50	**110**	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	<1.0	**6,200**
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**580**	NA	NM	NM	**6,065**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	0.55	<0.50	<1.0	<0.50	<50	**240**	NA	NM	NM	2,358	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**160**	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	170,000	4,000	NA	9,600	NA	**10,000 H**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.87	NM	NM	**5,322**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**210**	NA	NM	NM	NM	NA	NA	2,100	<230 H	NA	<1,000	<1,000	13,000	NA	**11,000**
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**320**	NA	19.30	6.75	22.83	NA	NA	2,600	<230	260,000	1,400	<1,000	4,000	<1.0	**8,900**
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<52	NA	24.44	6.51	**12,700**	<0.50	<0.50	5,400	<230	390,000	<1,000	<1,000	11,000	<1.0	**16,000**
MW-10	5/5/2010	NA	NA	NA	NA	NA	<50	**110**	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	<1.0	2,100
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	***650***	NA	NM	NM	**9,550**	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***5600***	NA	NM	NM	3,508	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**250**	NA	NM	NM	**9,334**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**170**	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.61	NM	NM	3,540	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**280**	NA	NM	NM	NM	NA	NA	2,800	<230 H	NA	<1,000	<1,000	4,200	NA	**3,700**
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**440**	NA	18.20	7.43	**9,646**	NA	NA	2,000	<230	110,000	21,000	<1,000	2,300	<1.0	**3,000**
	7/22/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	62	NA	22.83	6.84	**9,721**	<0.50	<0.50	7,700	<230	210,000	1,900	<1,000	7,700	<1.0	**5,200**
MW-11	5/5/2010	NA	NA	NA	NA	NA	<50	**430**	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	<1.0	**10,000**
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	***7200***	NA	NM	NM	**17,500**	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***1900***	NA	NM	NM	525	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***1100***	NA	NM	NM	**7,444**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	0.53	<0.50	<0.50	<1.0	<0.50	<50	***1200***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.91	NM	NM	3,097	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***860***	NA	NM	NM	NM	NA	NA	2,800	<230 H	NA	<1,000	1,400	3,900	NA	**4,900**
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***1200***	NA	17.80	7.32	**8,974**	NA	NA	2,100	<230	120,000	<1,000	3,100	630	<1.0	**4,700**
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	78	NA	21.83	6.76	**9,905**	<0.50	<0.50	7,000	<230	180,000	<1,000	<1,000	5,900	<1.0	**5,700**
MW-12	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	NS	NS	NS	NS	NS	NS	NS	NS	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	***2,500***	***24000***	NA	18.50	7.37	2,377	NA	NA	1,600	<230	75,000	1,300	<1,000	9,200	3.9	1,500
	7/23/2013	NS	NS	NS	NS	NS	NS	NS	NS	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	3/19/2012	NA	NA	NA	NA	NA	NA	***690***	NA	NM	NM	NM	NA	NA	NA	NA	160,000	100,000	NA	390,000	NA	2,000 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.52	NM	NM	2,972	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	1.0	<0.50	<50	***750***	NA	NM	NM	NM	NA	NA	4,500	<230 H	98,000	3,300	4,300	1,100	NA	1,400
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	***880***	NA	17.70	7.46	2,056	NA	NA	3,600	<230	93,000	1,300	3,800	560	<1.0	1,300
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	88	NA	25.78	6.90	2,022	<0.50	<0.50	13,000	<230	81,000	2,100	<1,000	3,200	<1.0	1,400

TABLE 4
HISTORICAL GROUNDWATER WELL MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
MW-14	3/19/2012	NA	NA	NA	NA	NA	NA	**260**	NA	NM	NM	NM	NA	NA	NA	NA	180,000	94,000	NA	9,100	NA	**8,400**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.96	NM	NM	4,872	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**370**	NA	NM	NM	NM	NA	NA	2,200	<230 H	270,000	53,000	4,500	9,100	NA	**8,700**
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	**230**	NA	15.80	6.36	**5,600**	NA	NA	3,700	<230	100,000	66,000	<1,000	990	<1.0	**3,700**
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<56	NA	26.00	6.53	**5,497**	<0.50	<0.50	6,000	NA	NA	NA	NA	NA	<1.0	NA
OW-1	6/23/1993	< 0.5	< 0.5	< 0.5	31.00	NA	NA	***34000000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/4/1997	NS	NS	NS	NS	NS	NS	NS	NS	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/1999	< 2.0	< 2.0	< 2.0	4.20	< 12.0	***8,300***	***28000000***	9.70	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/1999	< 1.0	< 1.0	1.90	8.90	< 6.0	***2,900***	***340000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	***2,100***	***58000***	0.74	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/27/2002	0.6J	<2.5	<2.5	<2.5	<2.5	***17,000***	***23000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2003	<50	<50	<50	<100	<50	***820***	***81000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2003	<50	***530***	***500***	***6200***	<50	**220**	***91000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/29/2004	<0.50	<0.50	<0.50	<1.0	<0.50	***510***	***280,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2004	<2.5	<2.5	<2.5	<5.0	<2.5	***2,800 g***	***440,000 ndp***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/24/2005	<0.50	<0.50	<0.50	<1.0	<0.50	***220 Q1***	***16,000 Q2***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/29/2005	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	***650***	***30000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/27/2006	<13	<13	<13	<25	<13	<1,300	***58000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/28/2006	<2.5	<2.5	<2.5	<5.0	<2.5	***820***	***130000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/19/2007	<2.5	<2.5	<2.5	<5.0	<2.5	**460**	***76000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2007	<2.0	<2.0	<2.0	<4.0	<2.0	<200	***42000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	***1,700***	***120000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	**340**	***180000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/5/2010	NA	NA	NA	NA	NA	74	***7000***	NA	NM	NM	NM	<0.50	<0.50	NA	NA	NA	NA	NA	NA	<1.0	1,800
	2/25/2011	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/1/2011	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/29/2012	<5.0	<5.0	<5.0	<10.0	<5.0	***1200***	***27000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	<10.0	NA
	3/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	78,000	34,000	NA	19,000	NA	2,400 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<5.0	<5.0	<5.0	1.8	<0.50	***510***	***75000***	NA	NM	NM	NM	NA	NA	3,800	<230	NA	16,000	<1,000	19,000	NA	2,300
	2/26/2013	NS	NS	NS	NS	NS	NS	NS	NS	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

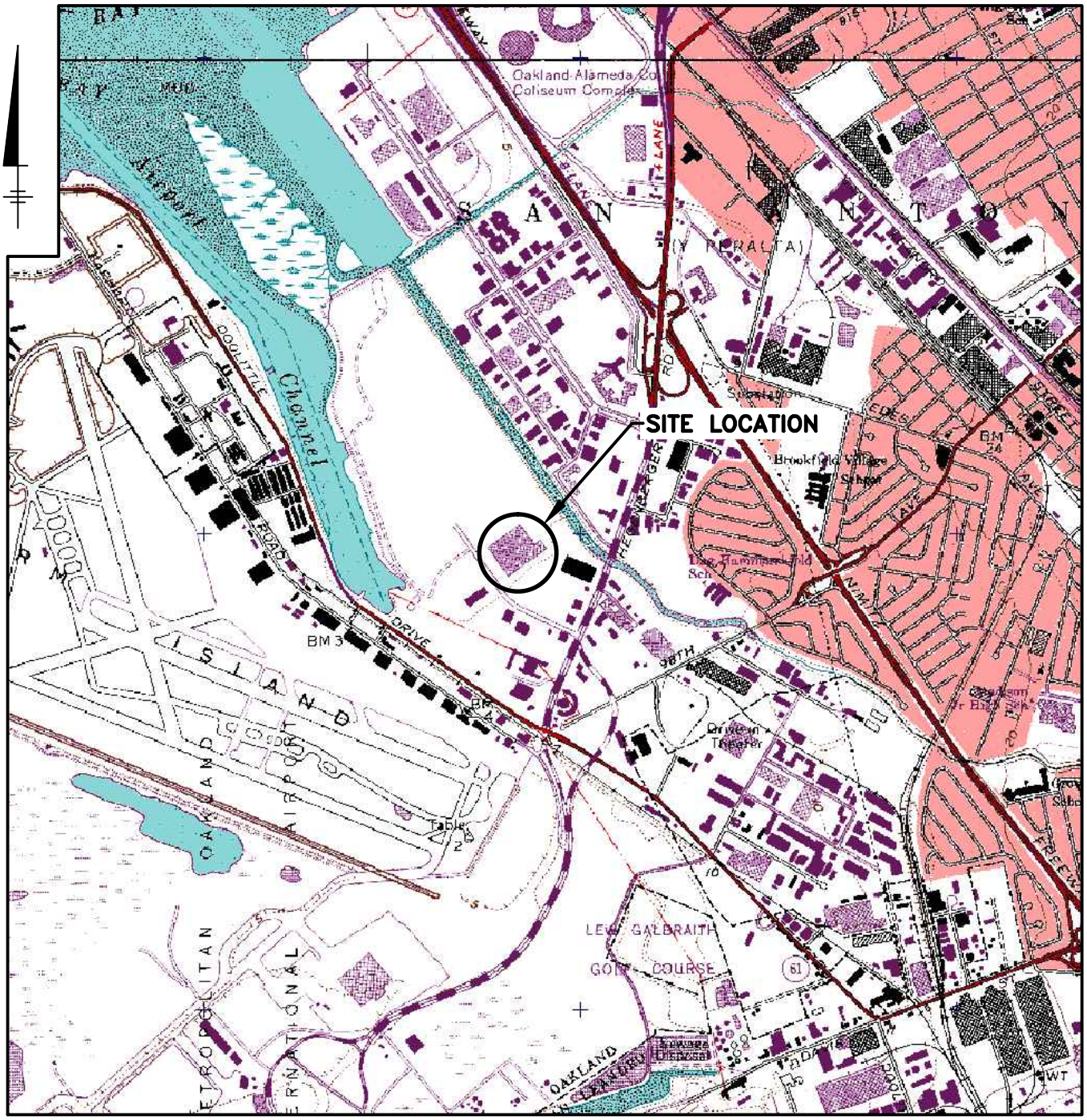
TABLE 4
HISTORICAL GROUNDWATER WELL MONITORING DATA
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	Temp. °C	pH	Conductivity µs	EDB µg/L	1,2-DCA µg/L	Methane µg/L	Nitrate as Nitrogen µg/L	Magnesium µg/L	Sulfate µg/L	Sulfide µg/L	Iron µg/L	Naph-thalene µg/L	TDS (mg/L)
Field Analysis	--	--	--	--	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--	--	--	3,000
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	--	--	--	0.05	0.5	--	--	--	--	--	--	6.2	--
ESL - Non-Drinking Water	--	27	130	43	100	1800	500	640	--	--	--	--	150	100	--	--	--	--	--	--	24	--
IW-1	3/19/2012	NA	NA	NA	NA	NA	NA	***16000***	NA	NM	NM	NM	NA	NA	NA	NA	97,000	4,500	NA	210,000	NA	1,500 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.48	NM	NM	2,639	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	NS	NS	NS	NS	NS	NS	NS	NA	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/26/2013	<5.0	<5.0	<5.0	<10	<5.0	***32,000***	***59000***	NA	18.80	7.28	2,468	NA	NA	2,500	<230	71,000	<1,000	<1,000	15,000	***42***	1,500
	7/23/2013	NS	NS	NS	NS	NS	NS	NS	NA	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IW-2	3/19/2012	NA	NA	NA	NA	NA	NA	***2500***	NA	NM	NM	NM	NA	NA	NA	NA	95,000	99,000	NA	8,200	NA	**3,000**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.51	NM	NM	1,443	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<5.0	<5.0	0.74	1.4	<0.50	**130**	***3000***	NA	NM	NM	NM	NA	NA	4,500	<230	180,000	4,000	6,400	8,000	NA	2,800
	2/26/2013	<5.0	<5.0	<5.0	<10	<5.0	<500	***6200***	NA	17.90	7.45	4,494	NA	NA	1,500	<230	150,000	<1,000	5,400	6,400	***480***	**3,500**
	7/23/2013	<5.0	<5.0	<5.0	<10	<5.0	<500	***3400***	NA	25.28	6.46	**5,531**	<5.0	<5.0	3,900	<230	180,000	<1,000	3,500	13,000	***430***	**3,700**
IW-3	3/19/2012	NA	NA	NA	NA	NA	NA	***2400***	NA	NM	NM	NM	NA	NA	NA	NA	110,000	43,000	NA	30,000	NA	**3,100**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.61	NM	NM	2,471	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	91	***650***	NA	NM	NM	NM	NA	NA	3,800	<230	130,000	<1,000	2,200	16,000	NA	2,700
	2/26/2013	<0.50	<0.50	0.58	<1.0	<0.50	<50	***1100***	NA	17.70	7.02	3,890	NA	NA	2,800	<230	140,000	<1,000	8,200	20,000	***430***	2,800
	7/23/2013	<2.5	<2.5	<2.5	<5.0	<2.5	<250	95	NA	25.56	6.79	3,475	<2.5	<2.5	4,400	<230	170,000	<1.0	5,400	15,000	***150***	2,800
IW-4	3/19/2012	NA	NA	NA	NA	NA	NA	***110000***	NA	NM	NM	NM	NA	NA	NA	NA	190,000	17,000	NA	350,000	NA	1,400 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.45	NM	NM	1,809	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	0.76	<0.50	<1.0	<0.50	**160**	***250000***	NA	NM	NM	NM	NA	NA	1,900	<230 H	300,000	5,300	12,000	1,700	NA	1,100
	2/26/2013	<5.0	<5.0	<5.0	<10	<5.0	***5,600***	***34000***	NA	17.00	7.02	2,058	NA	NA	3,900	<230	53,000	5,100	1,000	3,500	***24***	1,200
	7/23/2013	NS	NS	NS	NS	NS	NS	NS	NA	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
IW-5	3/19/2012	NA	NA	NA	NA	NA	NA	***220000***	NA	NM	NM	NM	NA	NA	NA	NA	150,000	25,000	NA	270,000	NA	910 H
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.70	NM	NM	1,253	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	***920***	***36000***	NA	NM	NM	NM	NA	NA	6,200	<230 H	85,000	<1,000	2,300	4,900	NA	810 H
	2/26/2013	<0.50	<0.50	<0.50	<1.0	<0.50	***3,200***	***25000***	NA	16.10	7.17	1,469	NA	NA	3,200	<230	45,000	1,200	<1,000	6,000	3.8	730
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	***3,500***	***35000***	NA	26.06	6.75	1,316	<0.50	<0.50	13,000	<230	6,300	<1,000	5,800	7,400	5.0	830
	8/12/2013	NA	NA	NA	NA	NA	NA	***39000***	NA	NM	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
IW-6	3/19/2012	NA	NA	NA	NA	NA	NA	***6100***	NA	NM	NM	NM	NA	NA	NA	NA	270,000	48,000	NA	270,000	NA	**6,200**
	4/19/2012	NA	NA	NA	NA	NA	NA	NA	0.77	NM	NM	**7,377**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/1/2012	<0.50	<0.50	<0.50	<1.0	<0.50	**280**	***5600***	NA	NM	NM	NM	NA	NA	2,500	<230 H	300,000	2,100	10,000	43,000	NA	**8,500**
	2/26/2013	0.50	<0.50	<0.50	<1.0	<0.50	**120**	***4800***	NA	16.10	6.56	**9,861**	NA	NA	3,300	<230	290,000	8,100	2,200	42,000	4.4	**6,600**
	7/23/2013	<0.50	<0.50	<0.50	<1.0	<0.50	**110**	***970***	NA	25.17	6.48	**14,451**	<0.50	<0.50	8,200	<230	410,000	<1,000	6,200	45,000	**9.9**	**10,000**

Notes:
1. µg/L = micrograms per liter
2. mg/L = milligrams per liter
3. NA = Not Analyzed; NS = Not Sampled; NM = Not Measured
4. TPH = Total petroleum hydrocarbons; MTBE = Methyl tertiary butyl ether.
5. Title 22 of the California Code of Regulations, California Maximum Contaminant Levels (MCLs) for drinking water.
6. -- = no data
7. MCL = maximum concentration level
8. µs = micro siemens
9. TDS = total dissolved solids
10. D.O. = Dissolved Oxygen
11. Results collected between the dates of 8/28/90 and 12/28/95 are based on prior reporting by Geraghty & Miller, Inc. (1996).
12. **Bold values indicate analytical detections above drinking water but below non-drinking water MCL.**
13. **Bold and *italicized* values indicate analytical detections above non-drinking water MCL.**
14. Shading = most recent groundwater monitoring data
15. The 9/96, 10/96 BBL reports revealed concentrations reported as TPH as diesel did not resemble the diesel chromatogram standard, containing > C26.
16. H = Sample was prepped or analyzed beyond the specified holding time
17 J - Estimated value between Method Detection Limit and Practical Quantitation Limit.
18. ndp - Hydrocarbon reported does not match the pattern of laboratory Diesel standard.
19. Q2 = Quantity of unknown hydrocarbon(s) in sample based on diesel.
20. Q1 = Quantity of unknown hydrocarbon(s) in sample based on gasoline.
21. RWQCB ESLs = Regional Water Quality Control Board ESLs for Environmental Concerns at Sites with Contaminated Soil and Groundwater INTERIM FINAL - November 2007 (Revised May 2008) San Francisco Bay Region, CA

ARCADIS

Figures



NOTES:

1. Base Map Source: USGS 7.5 Min. Topo. Quad., San Leandra, Calif.(1993)
2. Property Location is Approximate Only.

0 2000' 4000'

APPROXIMATE SCALE: 1"=2000'

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

SITE LOCATION MAP

ARCADIS

FIGURE
1

LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- CPT/UVOST BORING (2013)
- GEOPROBE SOIL AND GRAB GROUNDWATER BORING (2013)
- ABANDONED MONITORING WELL
- SOIL BORING LOCATION (2010)
- PROPERTY BOUNDARY
- UNDERGROUND ELECTRICAL LINE
- STORM WATER/SEWER LINE
- WATER/FIRE SERVICE/IRRIGATION
- ELECTRIC/WATER LINE
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

SITE MAP

ARCADIS

FIGURE
2

SB-8		
4/9/10	4.5-5.0	66

SB-11		
4/12/10	3.0-3.5	<0.99

SB-7		
4/9/13	4.5-5.0	340(670)

SB-4
NS

SB-6		
4/9/10	7.0-7.5	990

SB-12		
4/13/10	6.0-6.5	<1.0

SB-5		
4/9/10	4.5-5.0	5,000
4/9/10	10-10.5	<0.99

SB-1		
4/8/10	4.5-5.0	5,000
4/8/10	12-13	8.7

SB-3		
4/8/10	4.0-4.5	<1.0
4/8/10	7.5-8.0	25

SB-2		
4/8/10	7.0-7.5	1,400
4/8/10	9-5-10	4.2

SB-15		
10/11/13	8.0-9.0	1.7

SB-14		
10/11/13	7.0-8.0	84

SB-10		
4/12/10	7.0-7.5	31
4/12/10	9.5-10	1.0

SB-16		
10/11/13	7.0-8.0	4.9

SB-13		
4/9/10	4.5-5.0	66

SB-9		
4/12/10	3.0-3.5	5.3
4/12/10	9.5-10	<1.0

LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- CPT/UVOST BORING (2013)
- GEOPROBE SOIL AND GRAB GROUNDWATER BORING (2013)
- ABANDONED MONITORING WELL
- SOIL BORING LOCATION (2010)
- PROPERTY BOUNDARY
- UNDERGROUND ELECTRICAL LINE
- STORM WATER/SEWER LINE
- WATER/FIRE SERVICE/IRRIGATION
- ELECTRIC/WATER LINE
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE

SB-2		
DATE	DEPTH	TPHD
4/8/10	7.0-7.5	4.2

TPHD = TOTAL PETROLEUM HYDROCARBONS AS DIESEL

DEPTH IN FEET BELOW GROUND SURFACE

ALL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM **(mg/kg)**

NS = NOT SAMPLED

340(670) = DUPLICATE SAMPLE TAKEN

0 50' 100'

GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

HISTORICAL TPH-DRO IN SOIL

ARCADIS

FIGURE 3

CITY:TAMPA DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\TAMPA\ACTIVE\00038398 UPS Oakland\0017\B0038398B01.dwg LAYOUT: 3 SAVED: 11/25/2013 2:59 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/25/2013 3:04 PM BY: RICHARDS, JIM

LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- ABANDONED MONITORING WELL
- PROPERTY BOUNDARY
- UNDERGROUND ELECTRICAL LINE
- STORM WATER/SEWER LINE
- WATER/FIRE SERVICE/IRRIGATION
- ELECTRIC/WATER LINE
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE
- 6 — WATER-TABLE ELEVATION CONTOUR DASHED WHERE INFERRED CONTOUR INTERVAL = 2.0 FEET
- (6.63) — WATER-TABLE ELEVATION (FEET)
- APPARENT DIRECTION OF GROUNDWATER FLOW
- * — DATA NOT USED FOR CONTOURING

0 50' 100'

GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

GROUNDWATER CONTOUR MAP JULY 23, 2013

ARCADIS

FIGURE 4

IW-1					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	NS	32,000	NS
TPHD	16,000	NA	NS	59,000	NS

MW-12					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	NS	2,500	NS
TPHD	NA	NA	NS	24,000	NS

MW-4										
DATE	5/5/2010	10/29/10	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<50	150	250	430	150	NA	NA	69	<50	86
TPHD	5,200	2,000	24,000	7,700	12,000	NA	NA	6,400	9,900	1,100

MW-9									
DATE	5/5/2010	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<50	<50	<50	<50	NA	NA	<50	<50	<50
TPHD	110	580	240	160	NA	NA	21	320	<52

MW-1		
DATE	3/28/08	9/30/08
TPHG	55	280
TPHD	13,000	9,800

MW-11										
DATE	5/5/2010	10/29/10	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<50	<50	<50	<50	<50	NA	NA	<50	<50	<50
TPHD	430	7,200	1,900	1,100	1,200	NA	NA	860	1,200	78

MW-2											
DATE	3/28/08	9/30/08	5/5/2010	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	210	220	<50	360	140	510	NA	NA	110	910	NS
TPHD	6,200	23,000	3,700	37,000	4,600	13,000	NA	NA	13,000	38,000	NS

MW-8										
DATE	5/5/2010	10/29/10	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<50	<50	<50	<50	<50	NA	NA	<50	<50	<50
TPHD	70	1,100	280	200	120	NA	NA	160	280	170

IW-2					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	130	<500	<500
TPHD	2,500	NA	3,000	6,200	3,400

IW-3					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	91	<50	<250
TPHD	2,400	NA	650	1,100	95

MW-13					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	<50	<50	<50
TPHD	690	NA	750	880	88

MW-14					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	<50	<50	<50
TPHD	260	NA	370	230	<56

IW-6					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	280	120	110
TPHD	6,100	NA	5,600	4,800	970

SB-15	
DATE	10/11/13
TPHG	<50
TPHD	<51

SB-16	
DATE	10/11/13
TPHG	<50
TPHD	<61

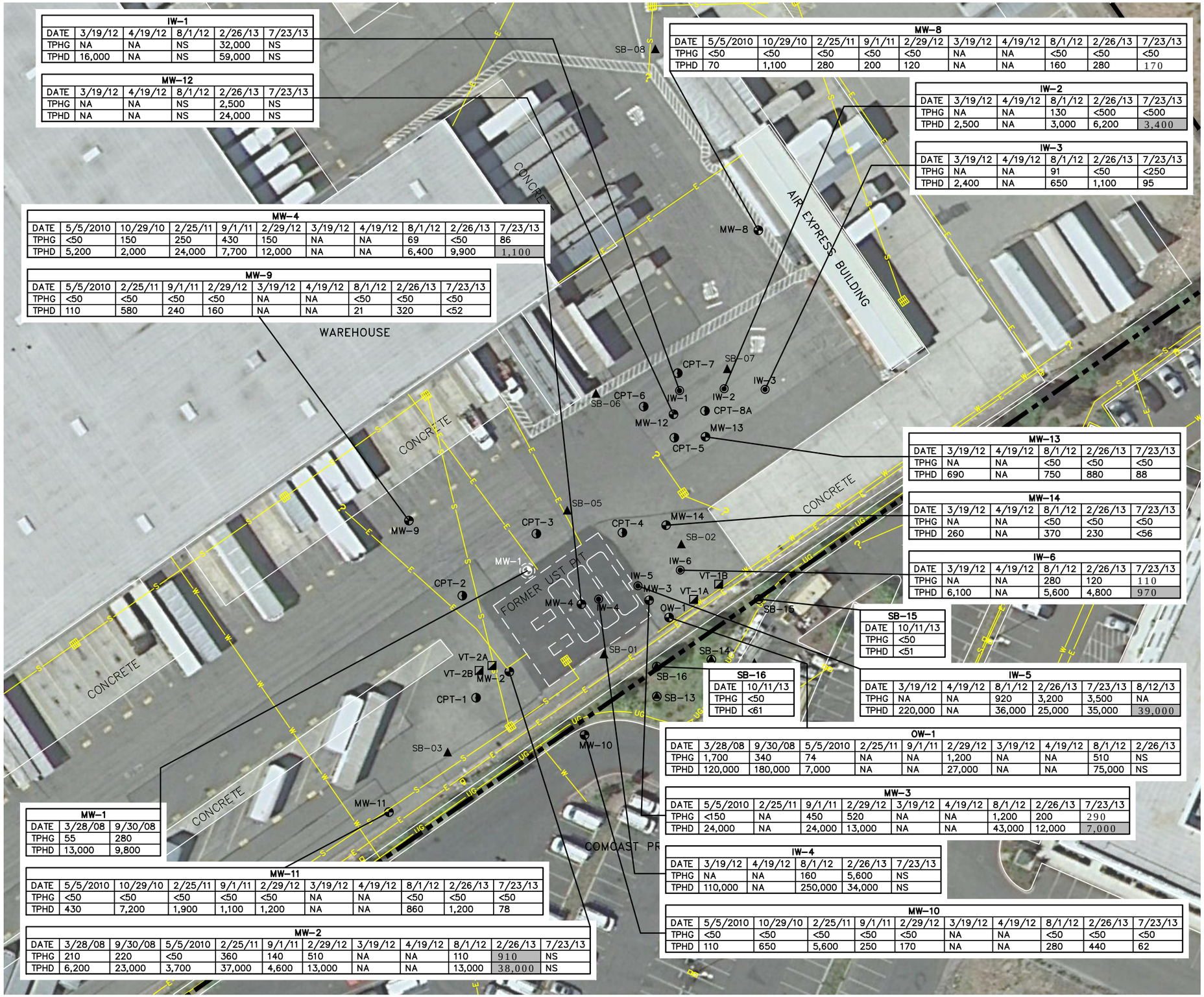
IW-5						
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13	8/12/13
TPHG	NA	NA	920	3,200	3,500	NA
TPHD	220,000	NA	36,000	25,000	35,000	39,000

OW-1										
DATE	3/28/08	9/30/08	5/5/2010	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13
TPHG	1,700	340	74	NA	NA	1,200	NA	NA	510	NS
TPHD	120,000	180,000	7,000	NA	NA	27,000	NA	NA	75,000	NS

MW-3									
DATE	5/5/2010	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<150	NA	450	520	NA	NA	1,200	200	290
TPHD	24,000	NA	24,000	13,000	NA	NA	43,000	12,000	7,000

IW-4					
DATE	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	NA	NA	160	5,600	NS
TPHD	110,000	NA	250,000	34,000	NS

MW-10										
DATE	5/5/2010	10/29/10	2/25/11	9/1/11	2/29/12	3/19/12	4/19/12	8/1/12	2/26/13	7/23/13
TPHG	<50	<50	<50	<50	<50	NA	NA	<50	<50	<50
TPHD	110	650	5,600	250	170	NA	NA	280	440	62



LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- CPT/UVOST BORING (2013)
- GEOPROBE SOIL AND GRAB GROUNDWATER BORING (2013)
- ABANDONED MONITORING WELL
- SOIL BORING LOCATION (2010)
- PROPERTY BOUNDARY
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE

SAMPLE LOCATION	
DATE	SAMPLE DATE
TPHG	TPH GASOLINE
TPHD	TPH DIESEL

ALL RESLUTS REPORTED IN MICROGRAMS PER LITER (µg/L),

BOLD VALUES INDICATE THE CONCENTRATION EXCEEDS THE CLEANUP TARGET LEVEL LISTED IN TABLE I OF CHAPTER 62-777 F.A.C.

BOLD AND SHADED VALUES INDICATE DETECTIONS ABOVE NON-DRINKING WATER MCL **(Maximum Concentration Level)**

NA = NOT ANALYZED

NS = NOT SAMPLED

0 50' 100'

GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

HISTORICAL TPH-GRO AND TPH-DRO IN GROUNDWATER

ARCADIS

FIGURE 5

LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- ABANDONED MONITORING WELL
- PROPERTY BOUNDARY
- UNDERGROUND ELECTRICAL LINE
- STORM WATER/SEWER LINE
- WATER/FIRE SERVICE/IRRIGATION
- ELECTRIC/WATER LINE
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE
- A — A' CROSS SECTION LOCATION

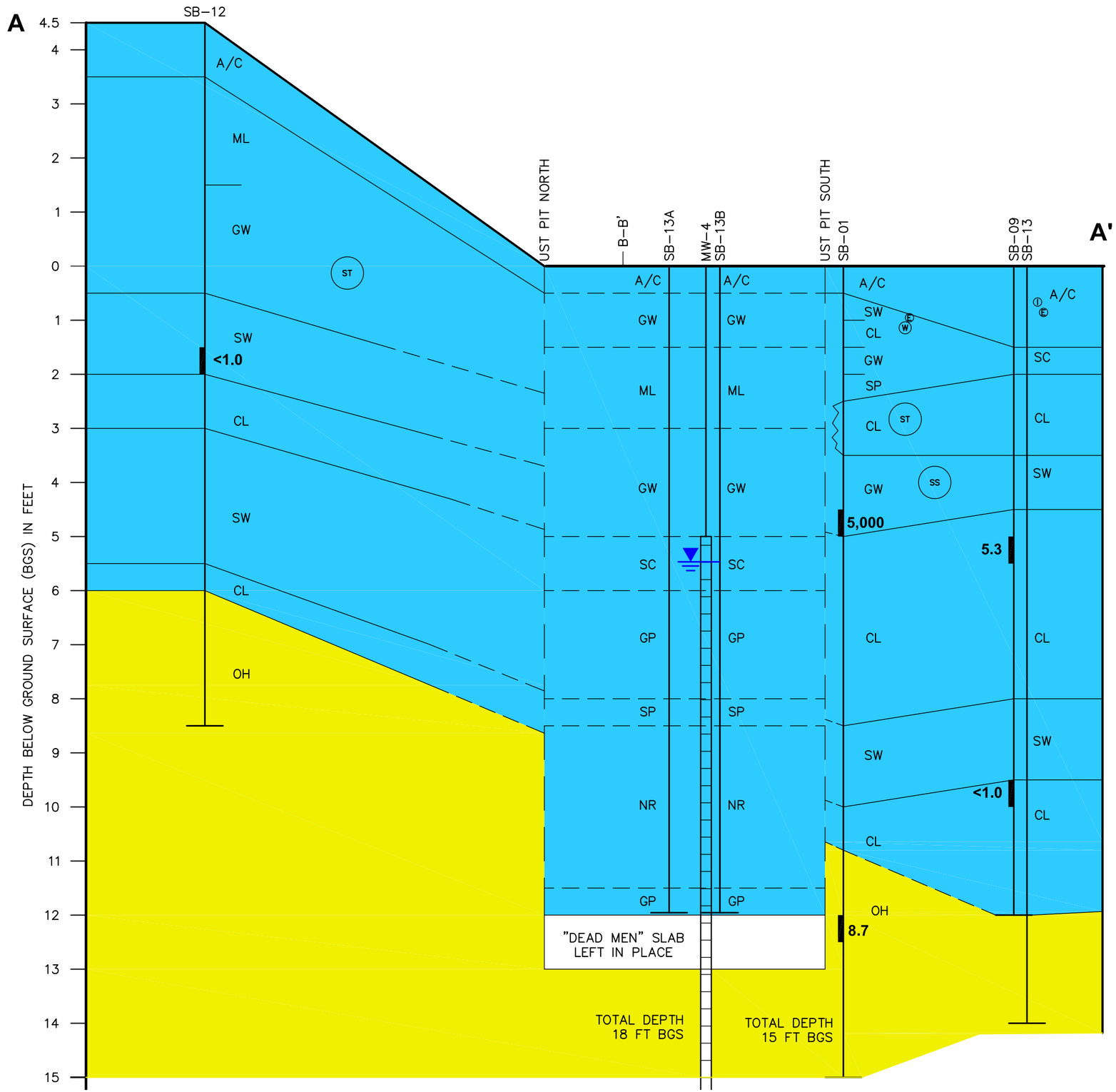
UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

SITE MAP SHOWING CROSS SECTION LOCATIONS

ARCADIS

APPENDIX
D-1

CITY:TAMPA DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Req'd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\TAMPA\ACT\B00038398 UPS Oakland\001\7\B00038398B01.dwg LAYOUT: D-1 SAVED: 11/25/2013 2:59 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/25/2013 3:02 PM BY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---
AREA MAP.jpg
UPSOakland.jpg



LEGEND

- BORING/WELL CASING
- SOIL SAMPLE INTERVAL
- WELL SCREEN INTERVAL
- BOTTOM OF BORING
- 5.3 — TPH-DRO CONCENTRATION IN SOIL (mg/kg)
- DEPTH TO WATER (7/22/13)
- SOIL INTERFACE (DASHED WHERE INFERRED)
- SC, CL ETC. — SOIL USCS SOIL TYPE CLASSIFICATION
- A/C — ASPHALT/CONCRETE
- NR — NO SAMPLE RECOVERY
- (ST) — SUBSURFACE CONDUIT CROSS SECTION
- SS — SANITARY SEWER LINE
- ST — STORM SEWER LINE
- W — WATER/FIRE SERIVE
- E — ELECTRICAL LINE
- I — IRRIGATION PIPING
- FILL MATERIAL
- NATIVE SOIL (BAY MUD)

VERTICAL EXAGGERATION: 10X

0 2' 4'

VERTICAL GRAPHIC SCALE

0 20' 40'

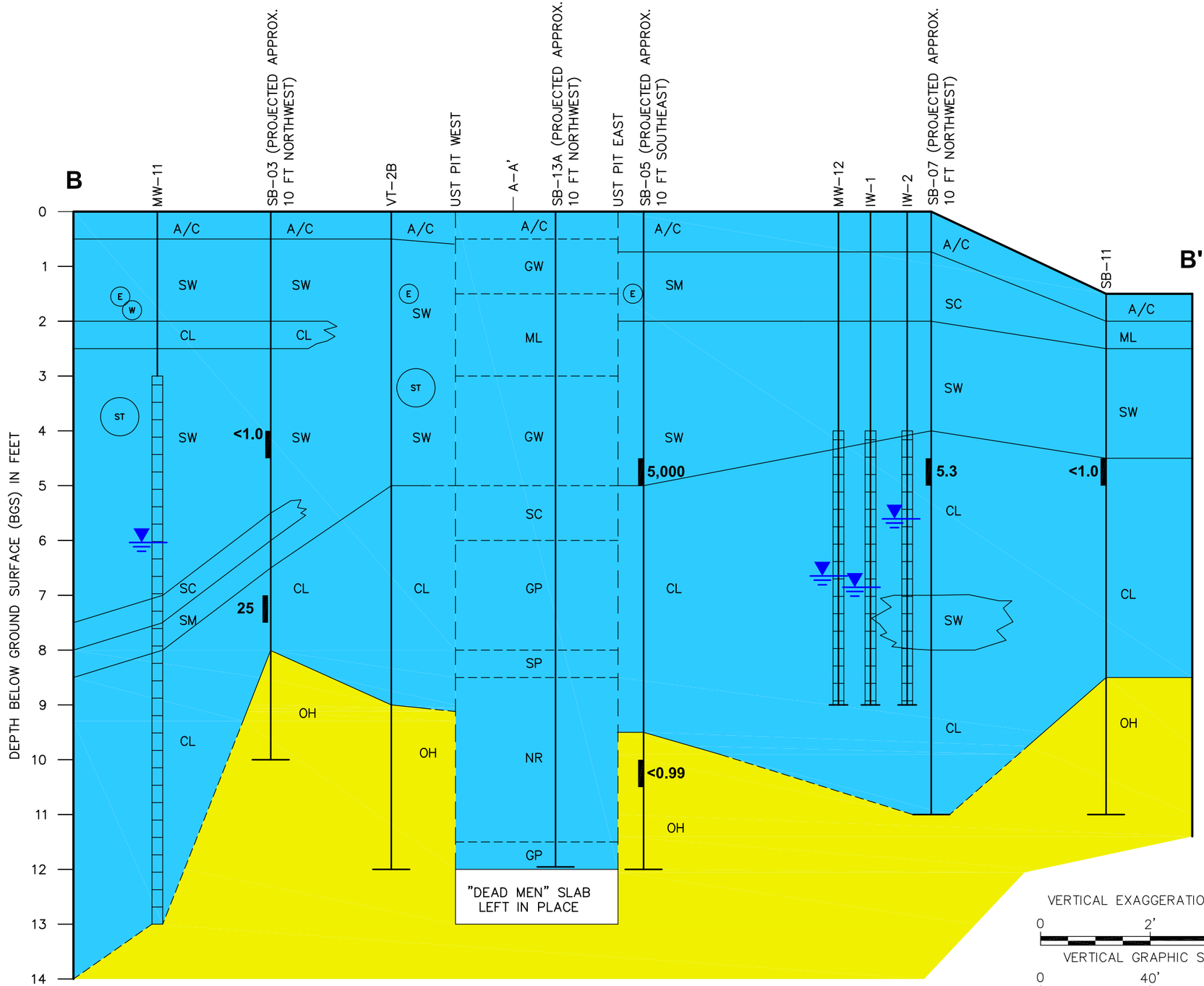
HORIZONTAL GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

CROSS SECTION A -A'

ARCADIS

APPENDIX
D-2



LEGEND

- BORING/WELL CASING
- SOIL SAMPLE INTERVAL
- WELL SCREEN INTERVAL
- BOTTOM OF BORING
- 5.3 TPH-DRO CONCENTRATION IN SOIL (mg/kg)
- DEPTH TO WATER (7/22/13)
- SOIL INTERFACE (DASHED WHERE INFERRED)
- SC, CL ETC. SOIL USCS SOIL TYPE CLASSIFICATION
- A/C ASPHALT/CONCRETE
- NR NO SAMPLE RECOVERY
- (ST) SUBSURFACE CONDUIT CROSS SECTION
- SS SANITARY SEWER LINE
- ST STORM SEWER LINE
- W WATER/FIRE SERIVE
- E ELECTRICAL LINE
- I IRRIGATION PIPING
- FILL MATERIAL
- NATIVE SOIL (BAY MUD)

VERTICAL EXAGGERATION: 20X

0 2' 4'

VERTICAL GRAPHIC SCALE

0 40' 80'

HORIZONTAL GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

CROSS SECTION B -B'

ARCADIS

APPENDIX
D-3

LEGEND

- MONITORING WELL
- TEMPORARY VACUUM TEST WELL
- PHASE I INJECTION WELL
- CPT/UVOST BORING (2013)
- GEOPROBE SOIL AND GRAB GROUNDWATER BORING (2013)
- ABANDONED MONITORING WELL
- SOIL BORING LOCATION (2010)
- PROPERTY BOUNDARY
- UNDERGROUND ELECTRICAL LINE
- STORM WATER/SEWER LINE
- WATER/FIRE SERVICE/IRRIGATION
- ELECTRIC/WATER LINE
- CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE

SB-2		
DATE	DEPTH	TPHD
4/8/10	7.0-7.5	4.2

TPHD = TOTAL PETROLEUM HYDROCARBONS AS DIESEL

DEPTH IN FEET BELOW GROUND SURFACE

ALL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (m/kg)

NS = NOT SAMPLED

340(670) = DUPLICATE SAMPLE TAKEN

0 50' 100'

GRAPHIC SCALE

UPS-OAKLAND HUB
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

HISTORICAL TPH-DRO IN SOIL

ARCADIS

FIGURE
D-4

ARCADIS

Appendix A

CPT/UVOST Logs

GREGG

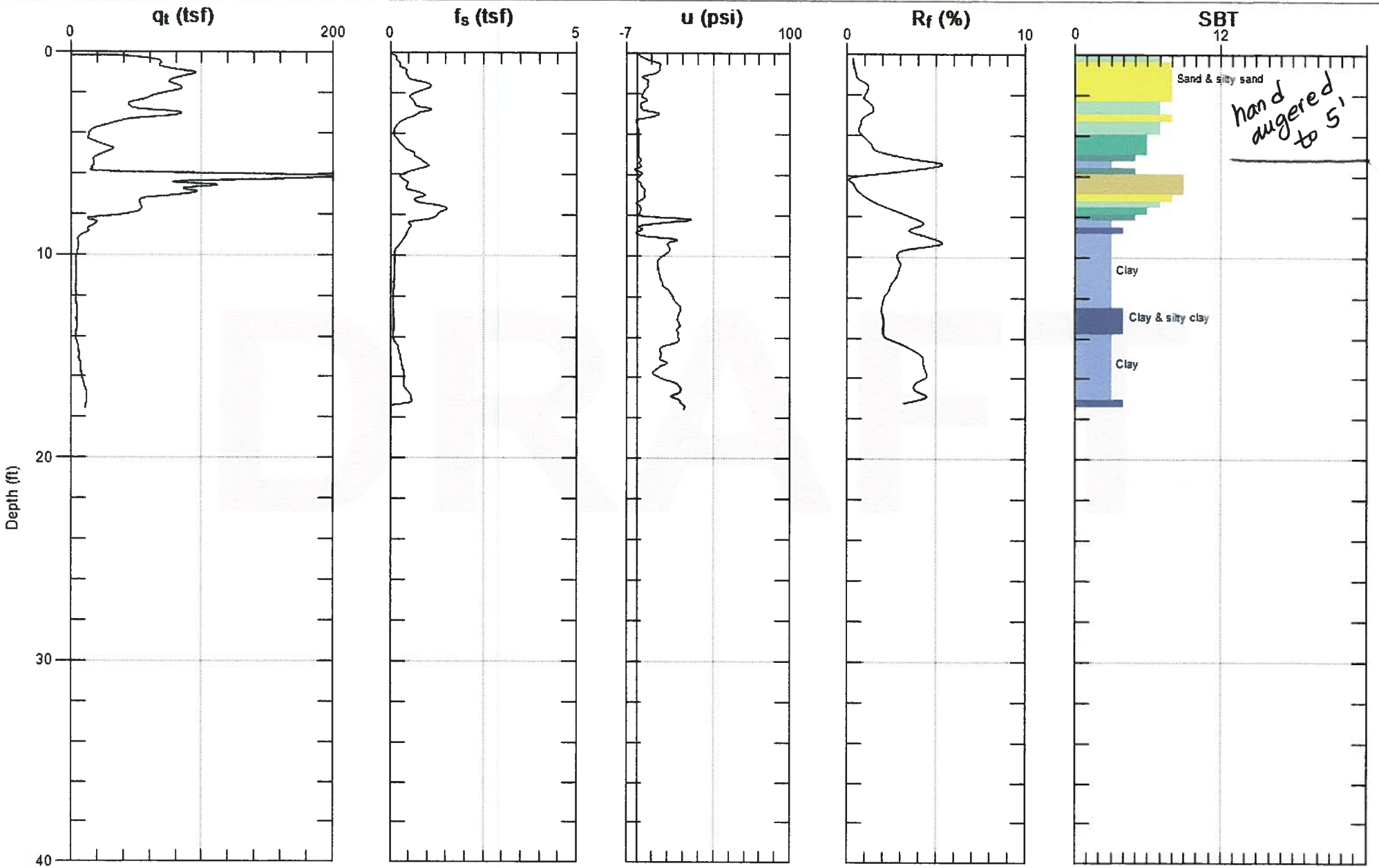
Arcadis

Site: UPS Oakland HUB

Sounding: CPT-01

Engineer: Miljan Draganic

Date: 10/10/2013 02:18



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

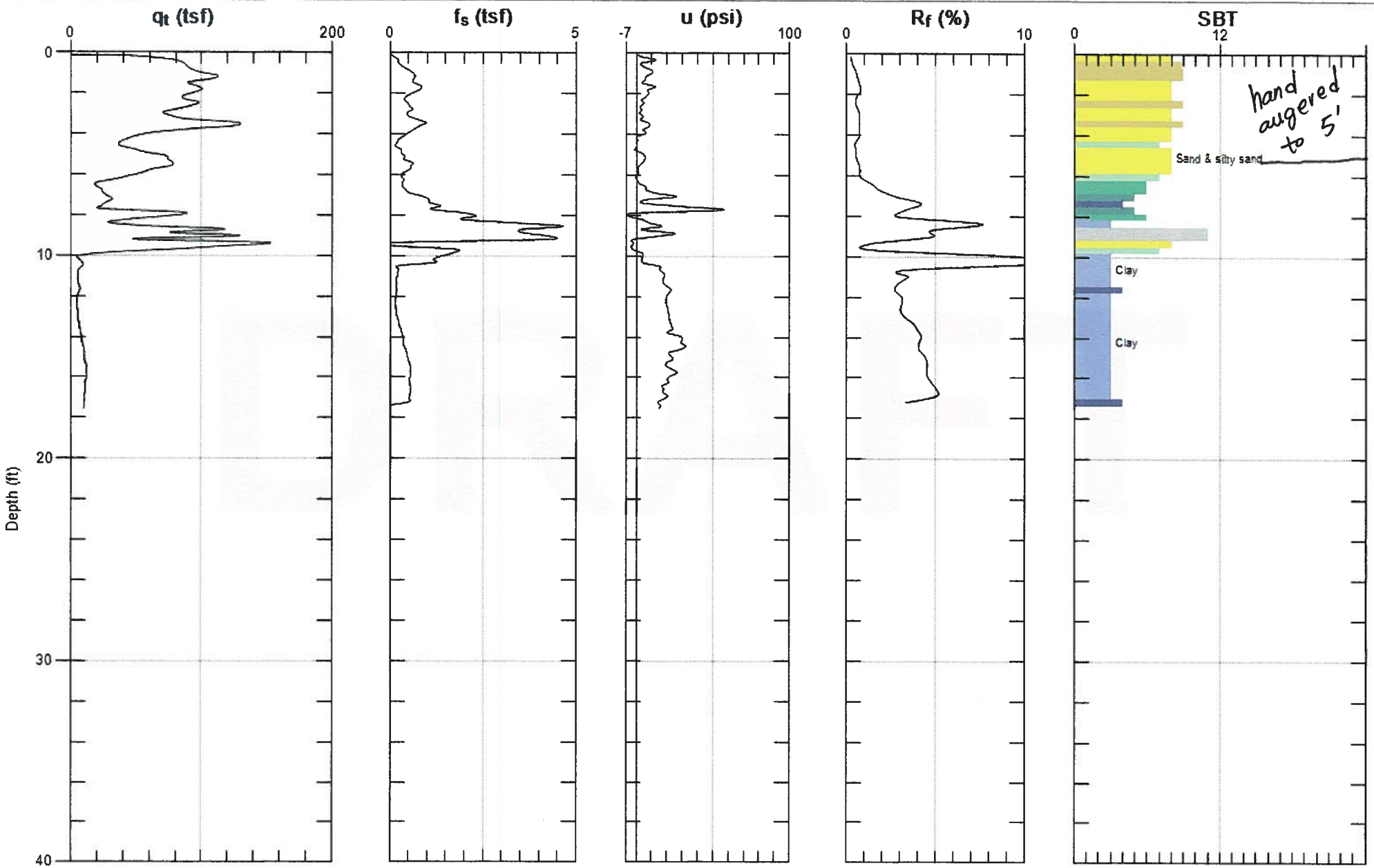
SBT: Soil Behavior Type (Robertson 1990)

GREGG

Arcadis

Site: UPS Oakland Hub
Sounding: CPT-02

Engineer: Miljan Draganic
Date: 10/10/2013 01:11



Max. Depth: 17.552 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

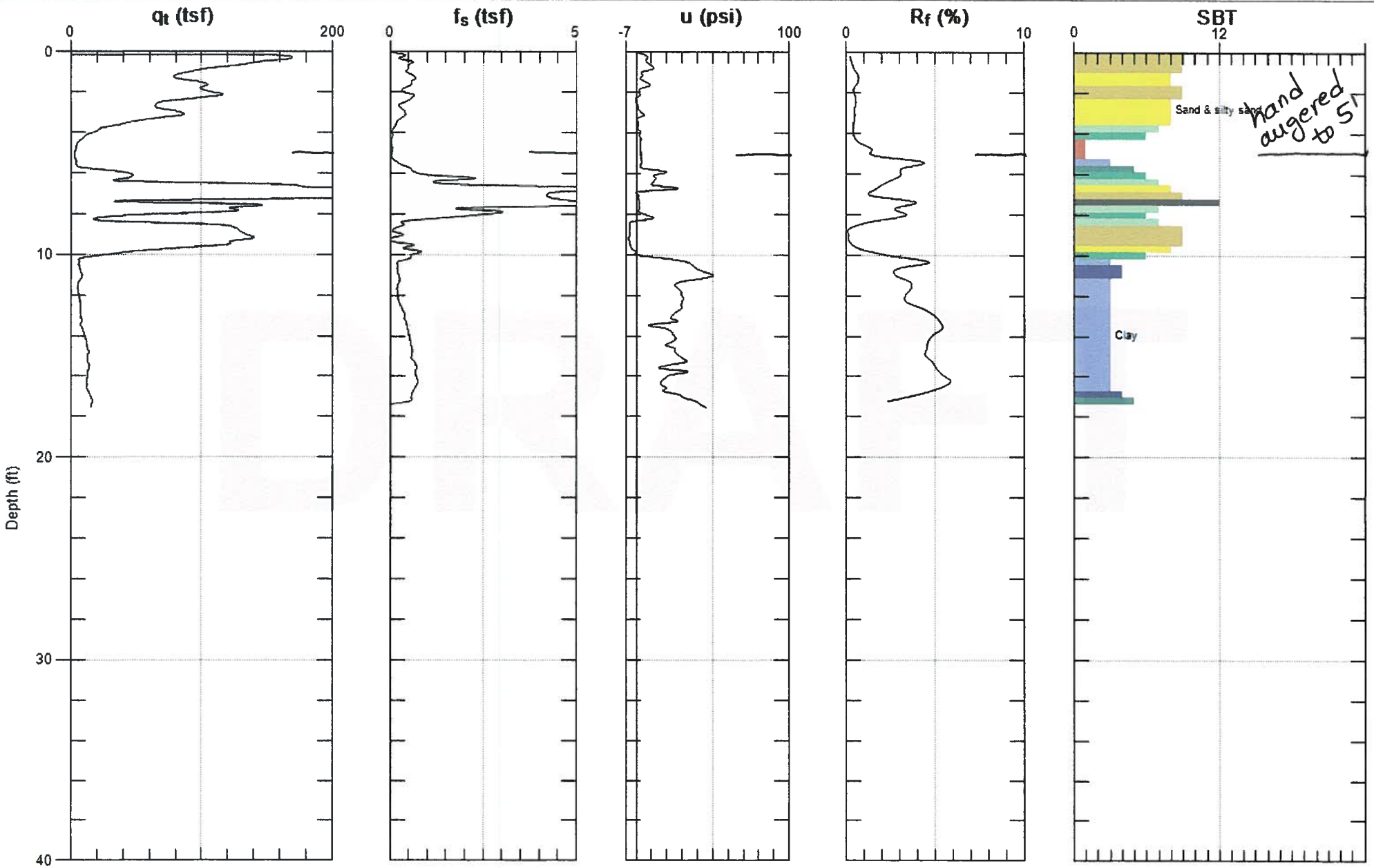
Arcadis

Site: UPS Oakland Hub

Sounding: CPT-03

Engineer: Miljan Draganic

Date: 10/10/2013 11:29



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

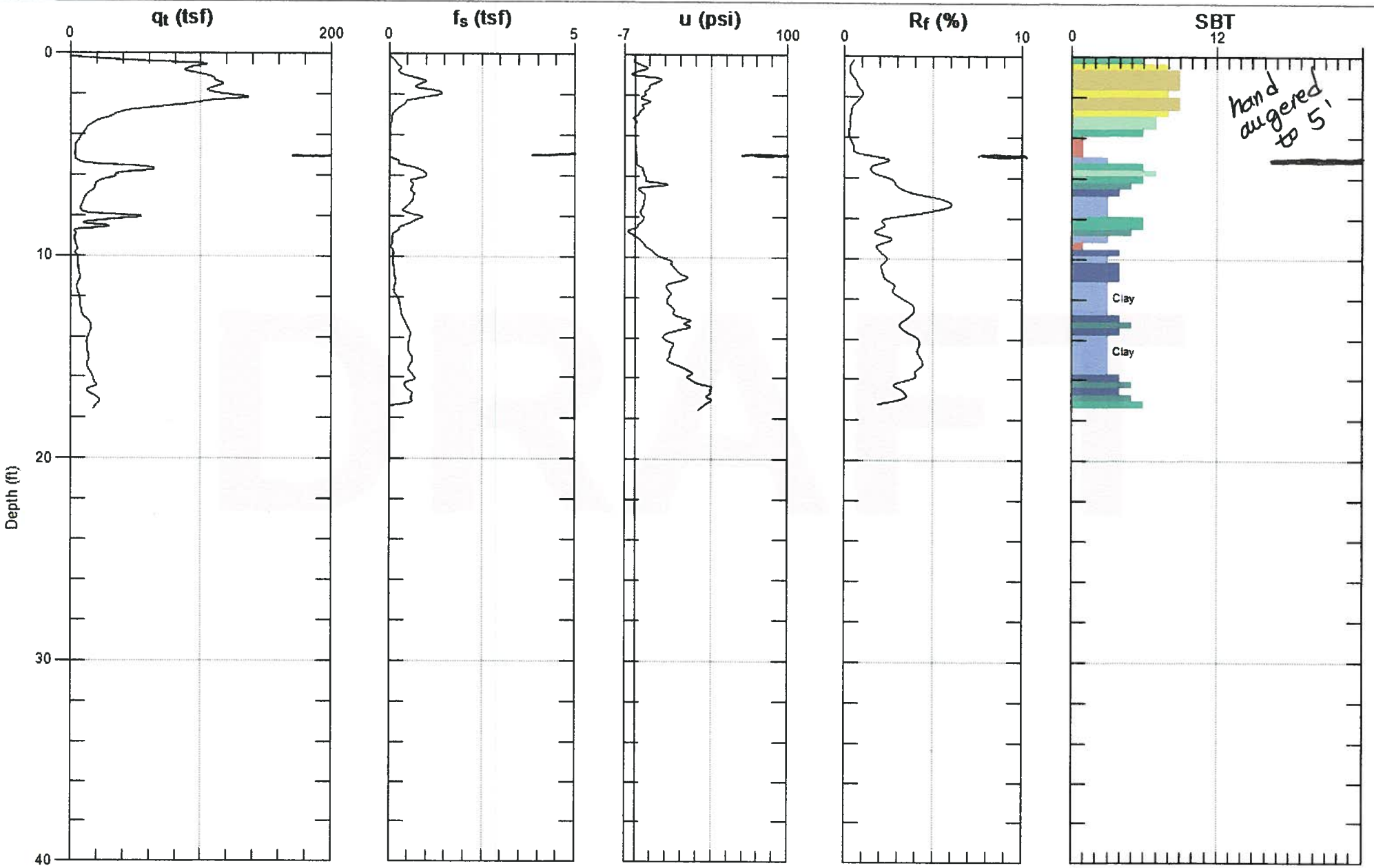
Arcadis

Site: UPS Oakland Hub

Sounding: UCPT-04

Engineer: Miljan Draganic

Date: 10/10/2013 08:51



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

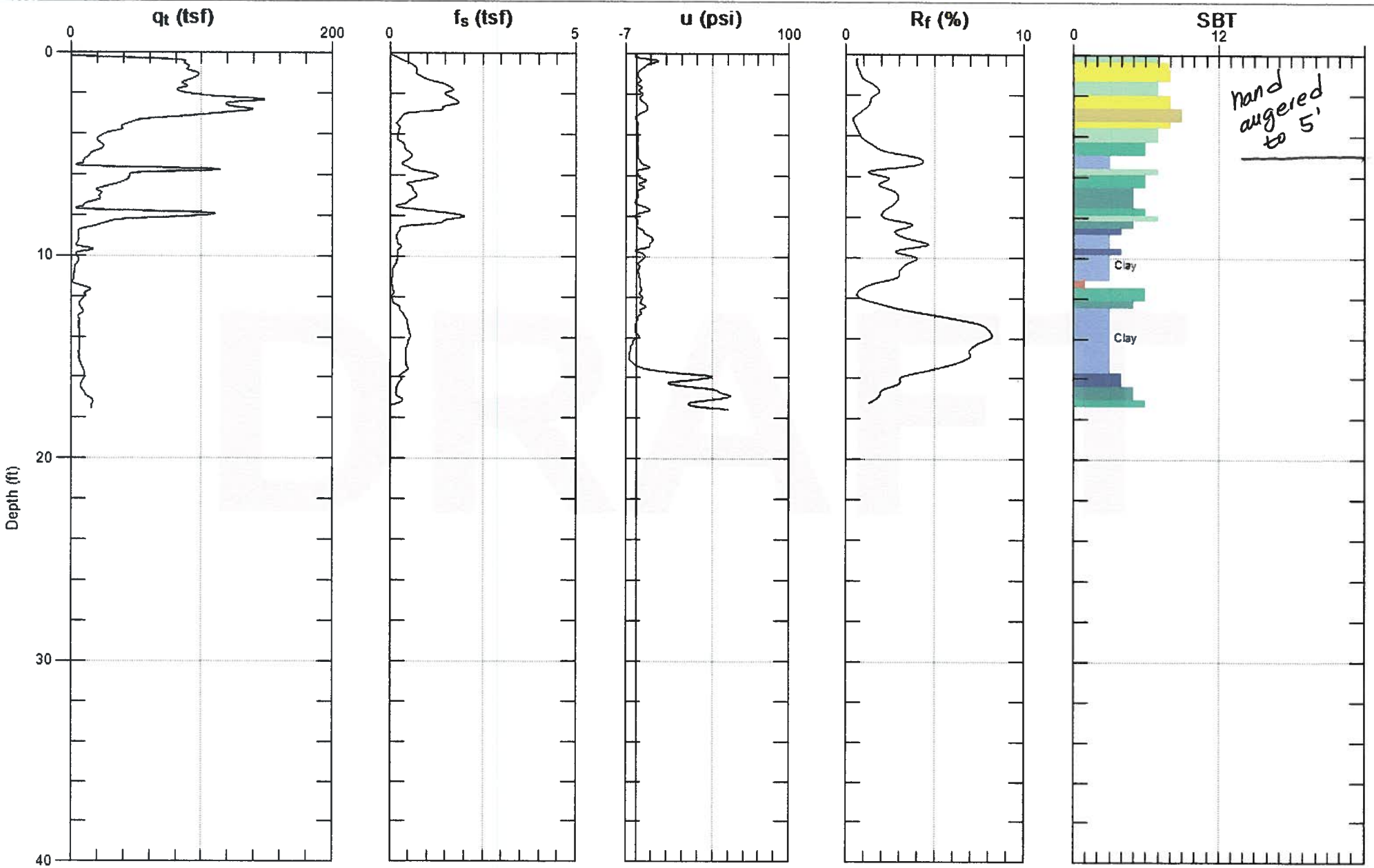
Arcadis

Site: UPS Oakland HUB

Sounding: CPT-05

Engineer: Miljan Draganic

Date: 10/10/2013 03:16



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

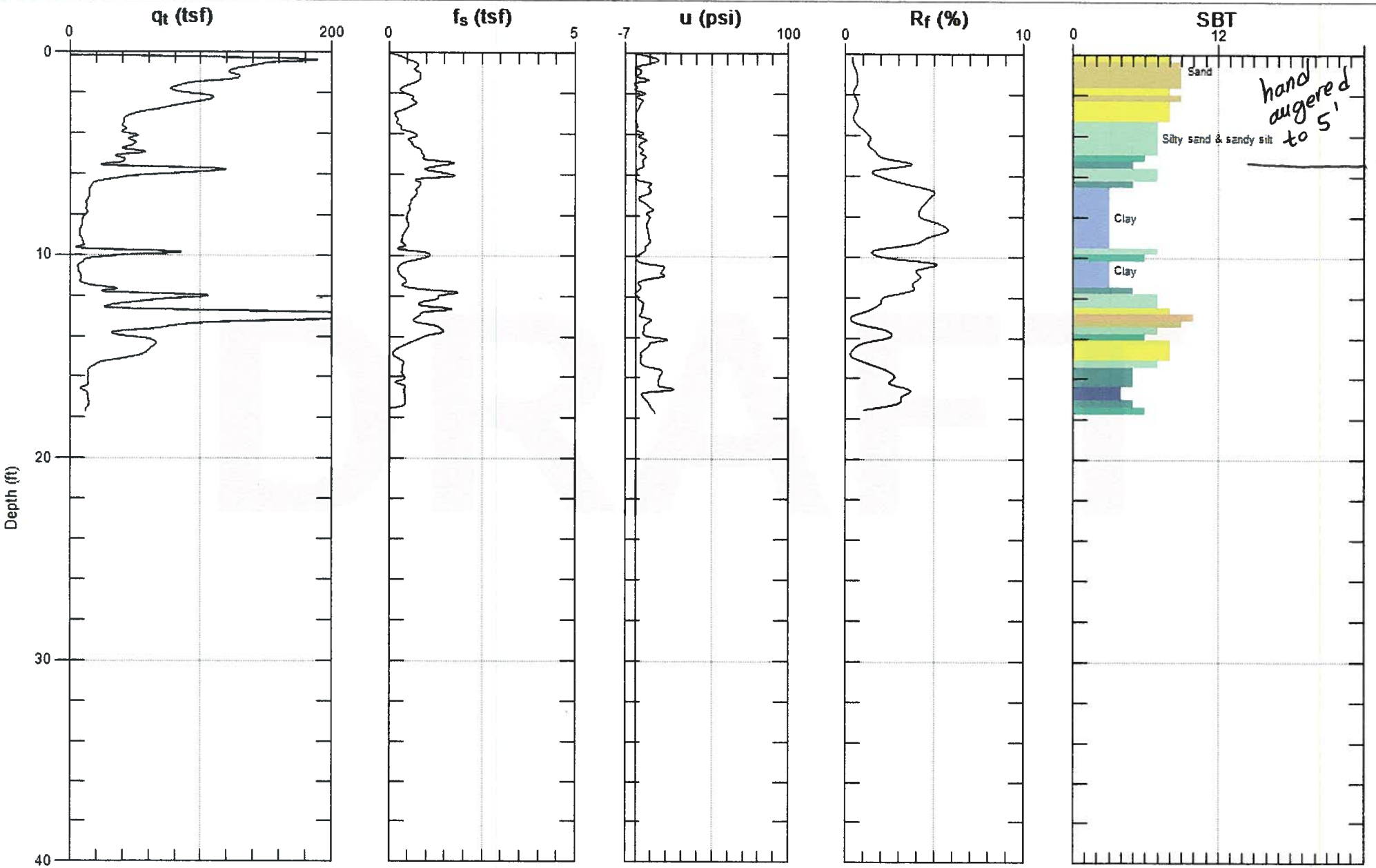
Arcadis

Site: UPS Oakland HUB

Sounding: CPT-06

Engineer: Miljan Draganic

Date: 10/10/2013 04:23



Max. Depth: 17.717 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

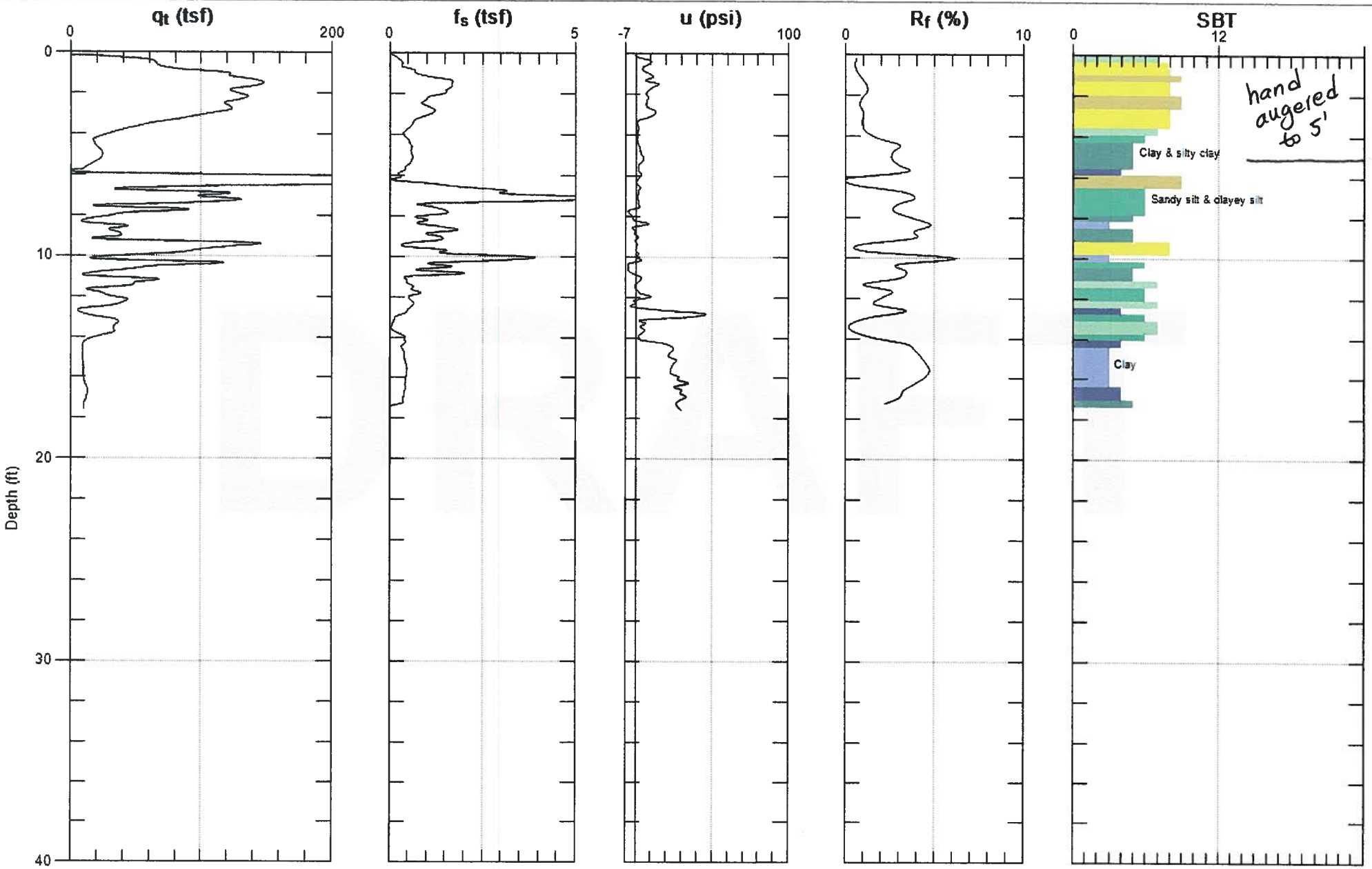
Arcadis

Site: UPS Oakland HUB

Sounding: CPT-07

Engineer: Miljan Draganic

Date: 10/10/2013 05:19



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG

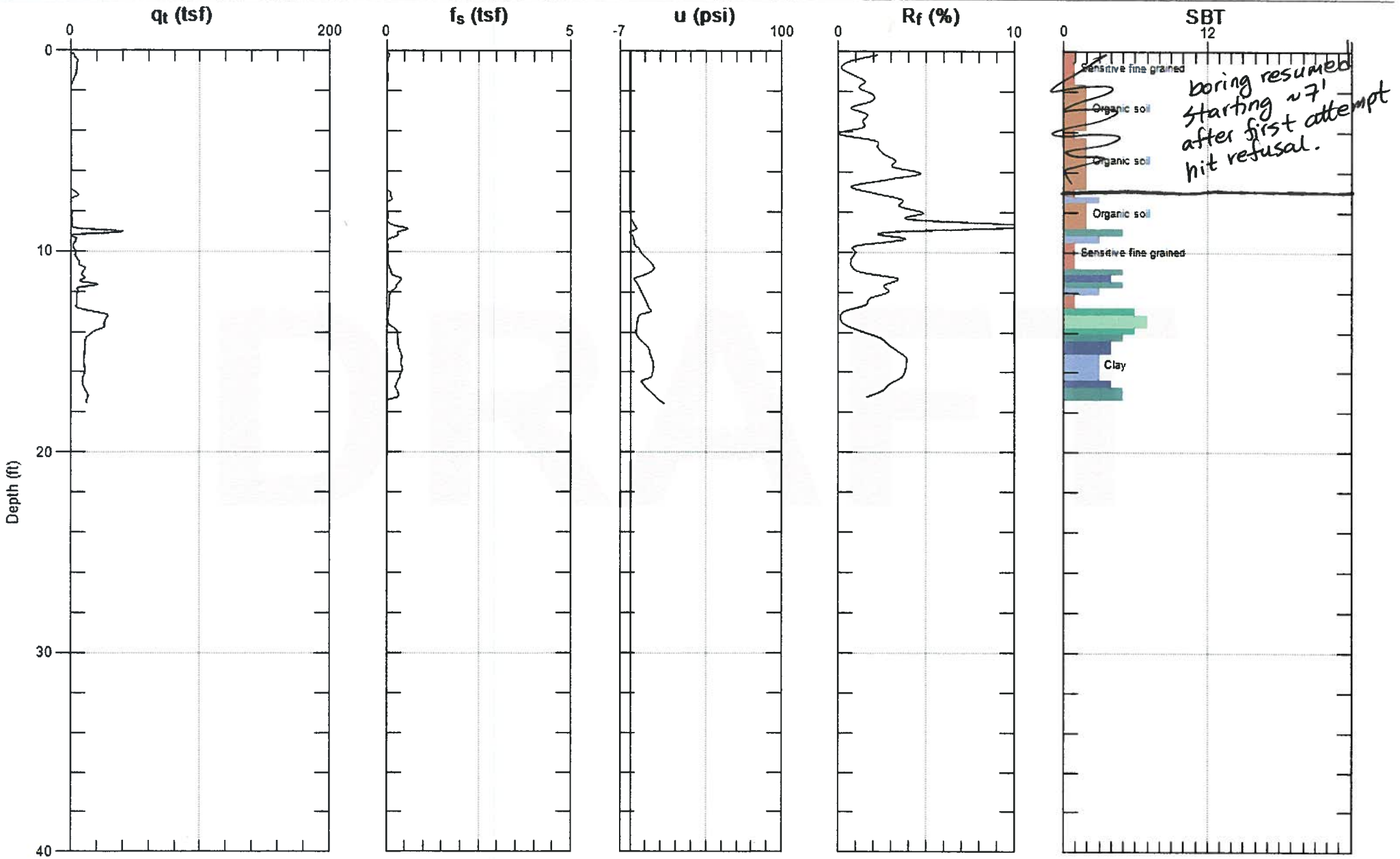
Arcadis

Site: UPS Oakland HUB

Sounding: CPT-08a

Engineer: Miljan Draganic

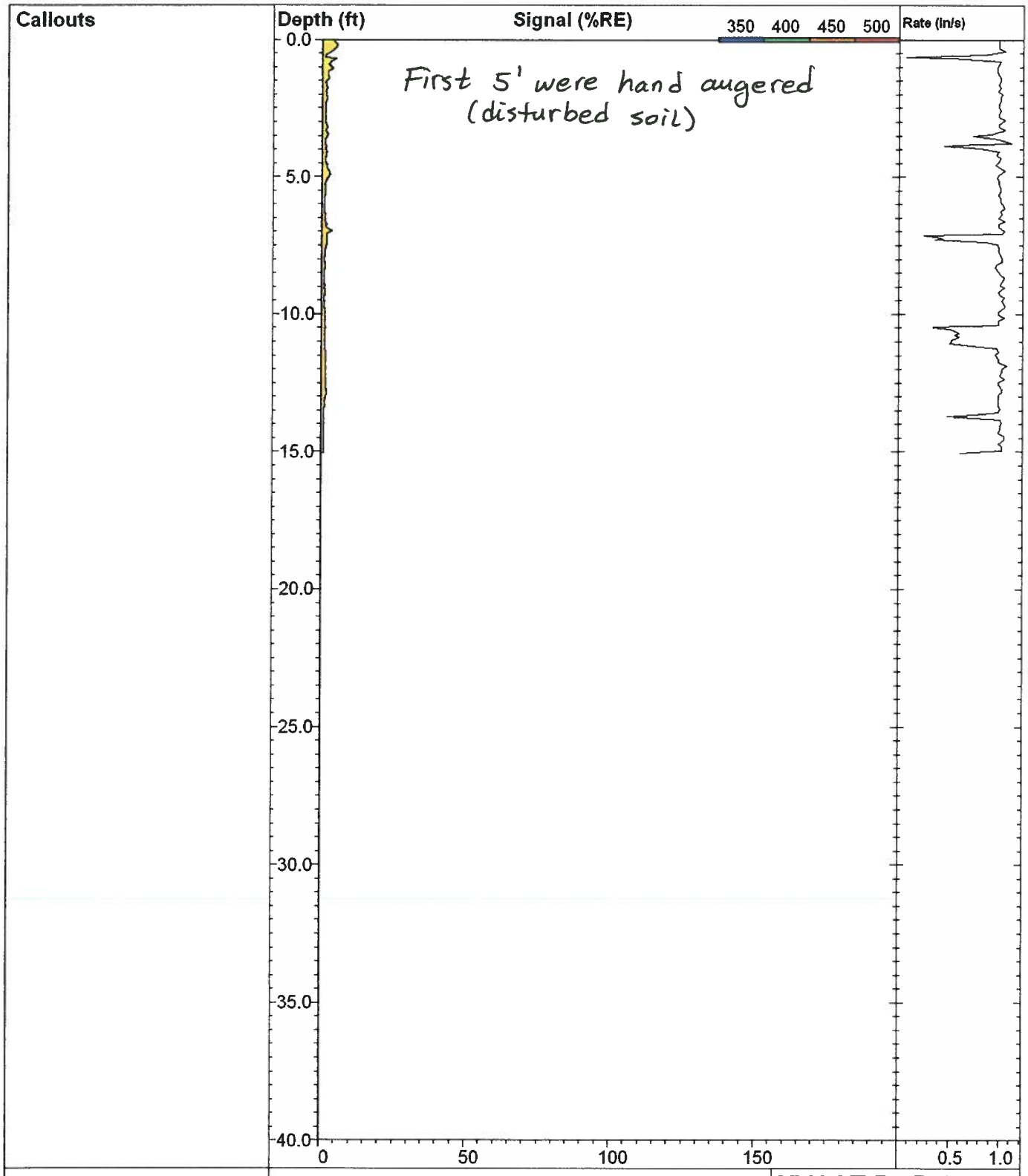
Date: 10/10/2013 06:45



Max. Depth: 17.552 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



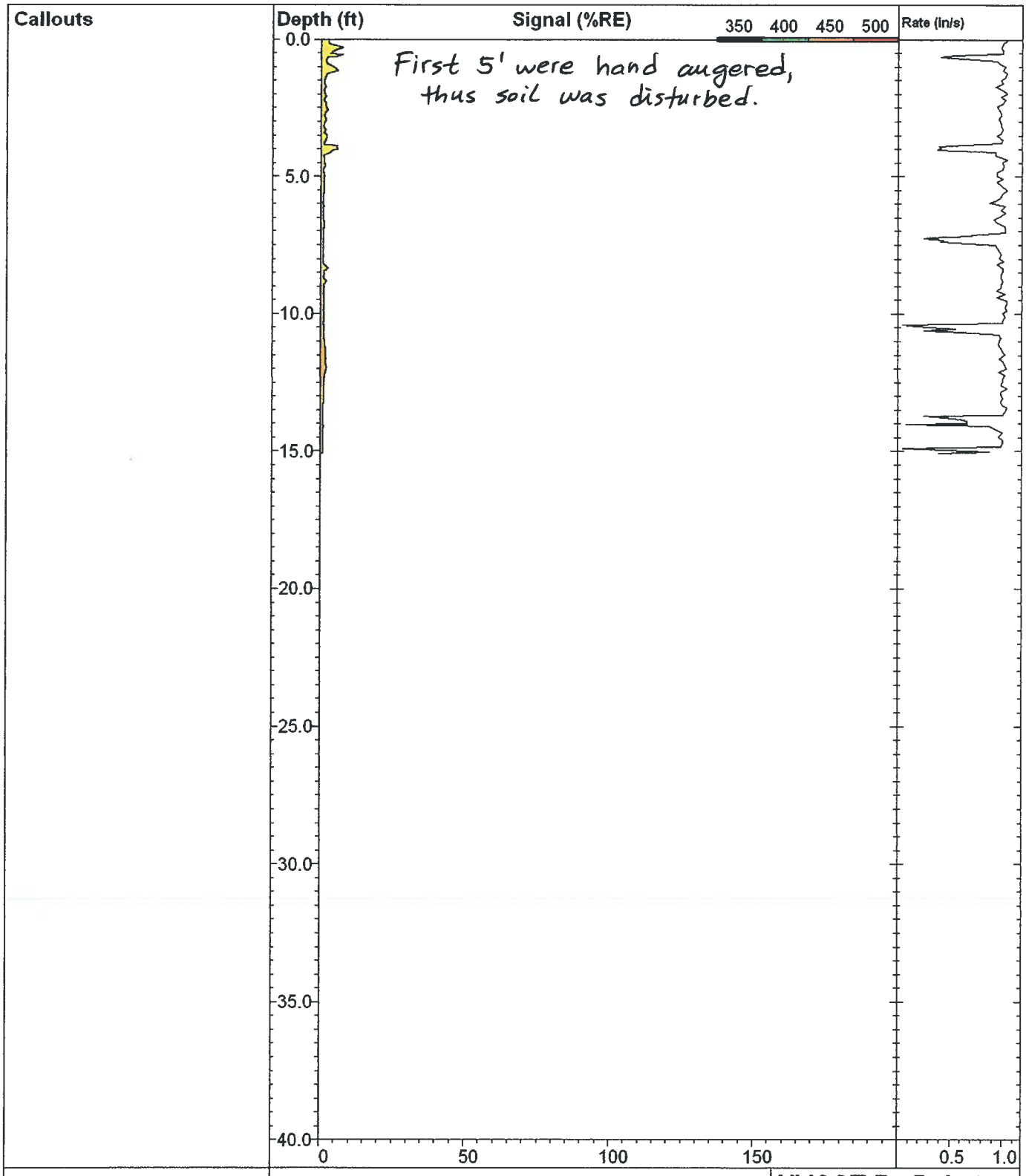
GREGG

www.greggdrilling.com

CPT-01

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.05 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.2 % @ 0.20 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 14:24 PDT**



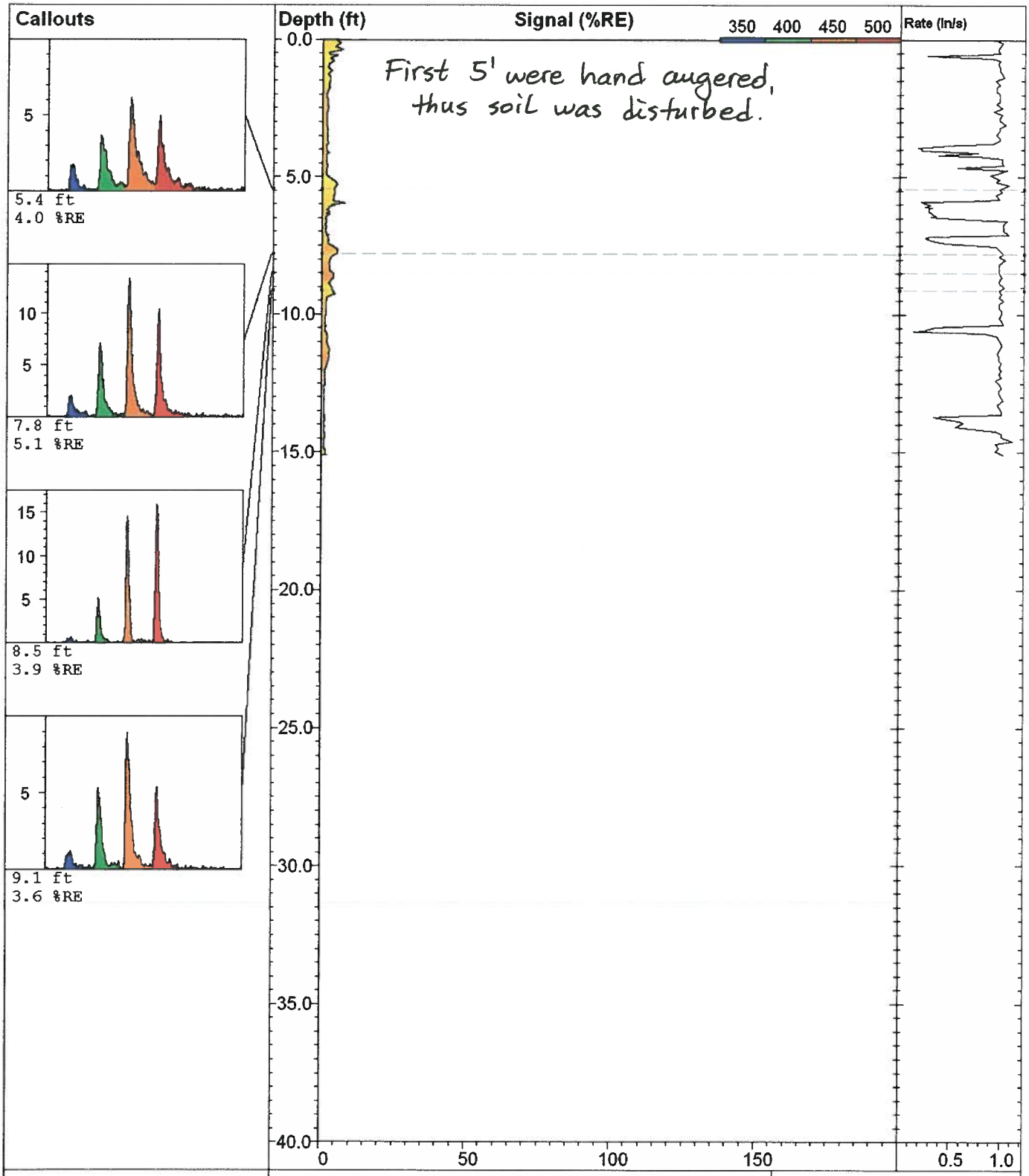
GREGG

www.greggdrilling.com

CPT-02

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.08 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **7.6 % @ 0.30 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 13:15 PDT**



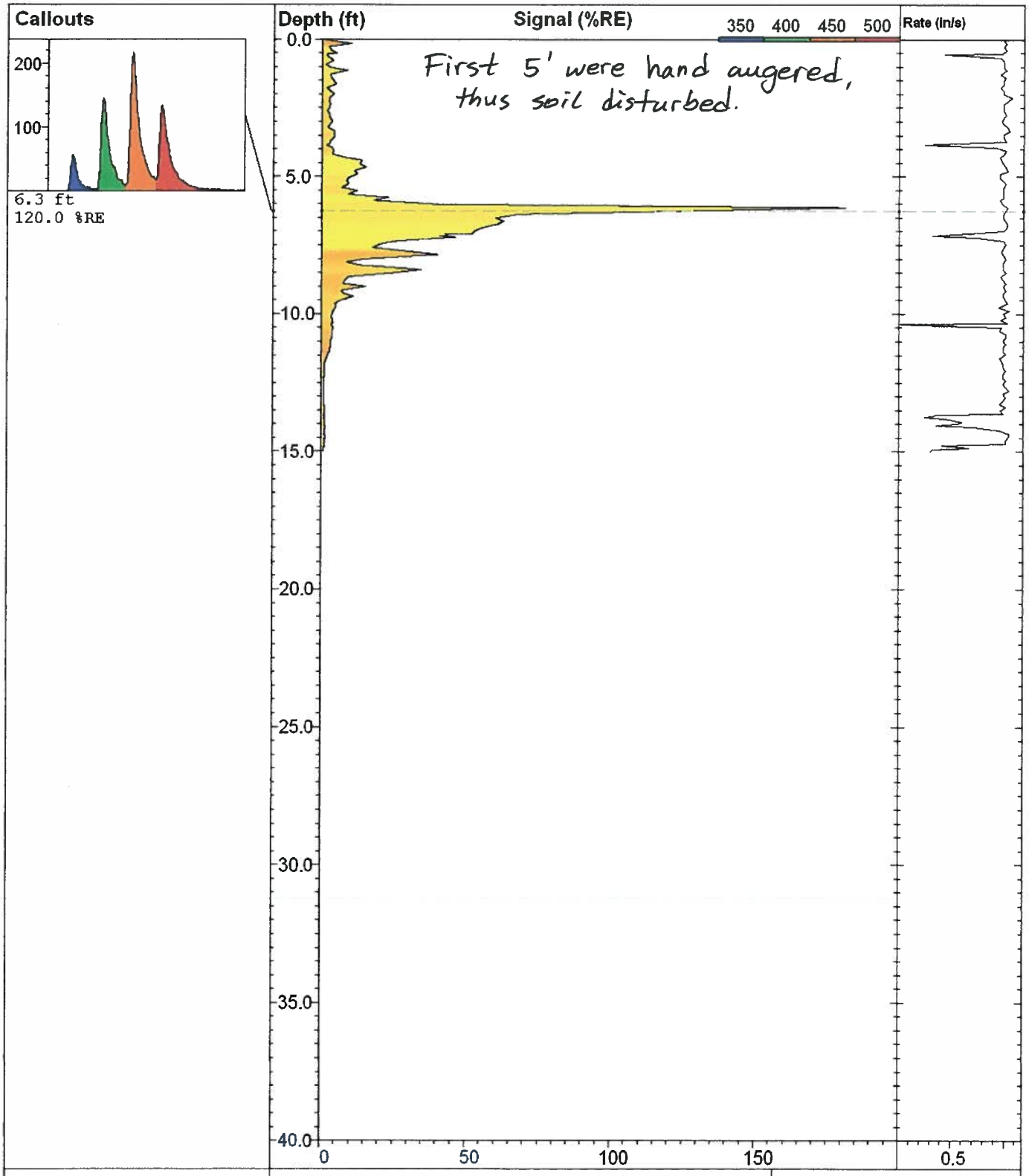
GREGG

www.greggdrilling.com

CPT-03

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.11 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **7.7 % @ 5.95 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 11:34 PDT**

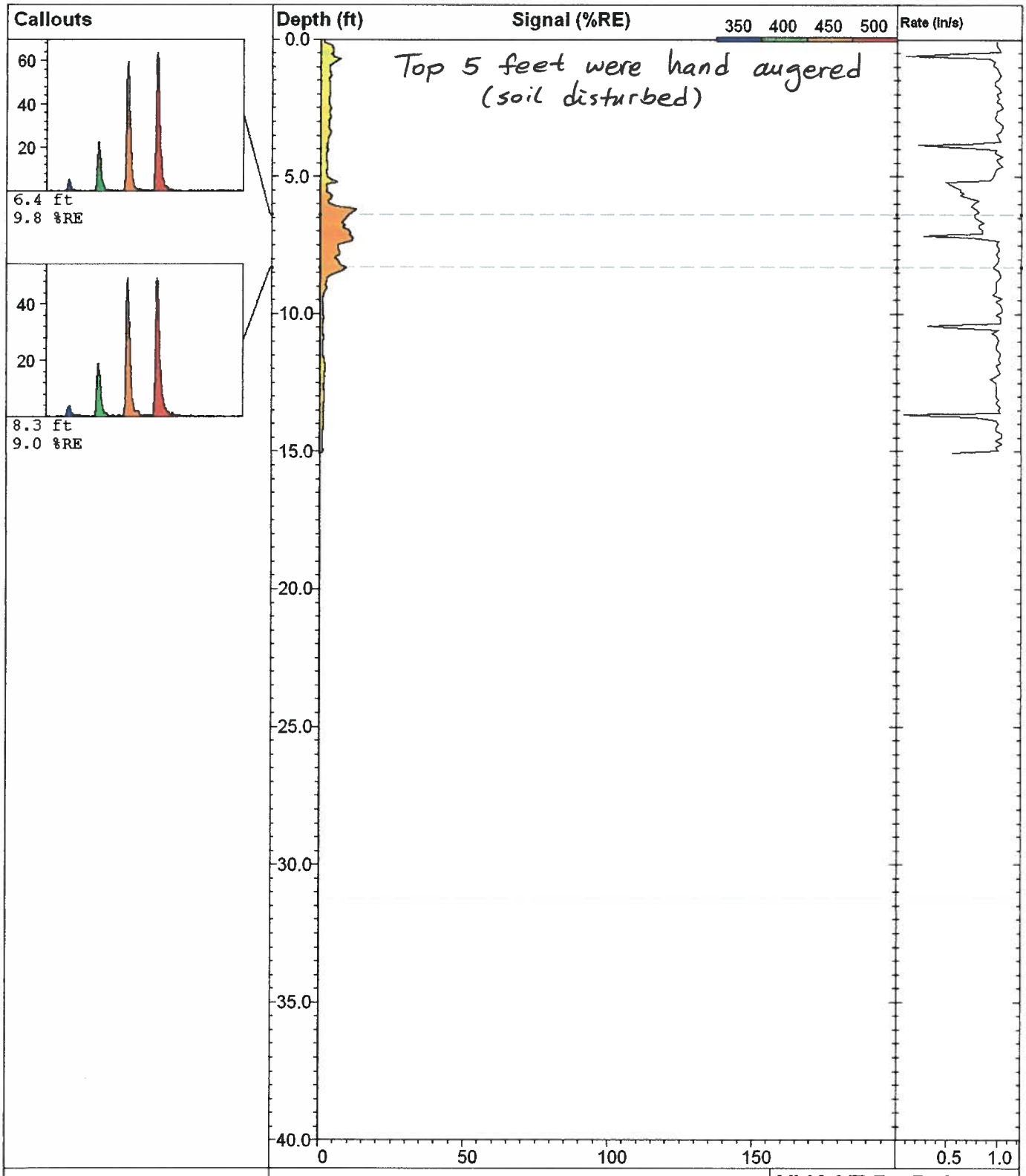


GREGG
www.greggdrilling.com

CPT-04

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.00 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **181.7 % @ 6.13 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 09:00 PDT**



GREGG

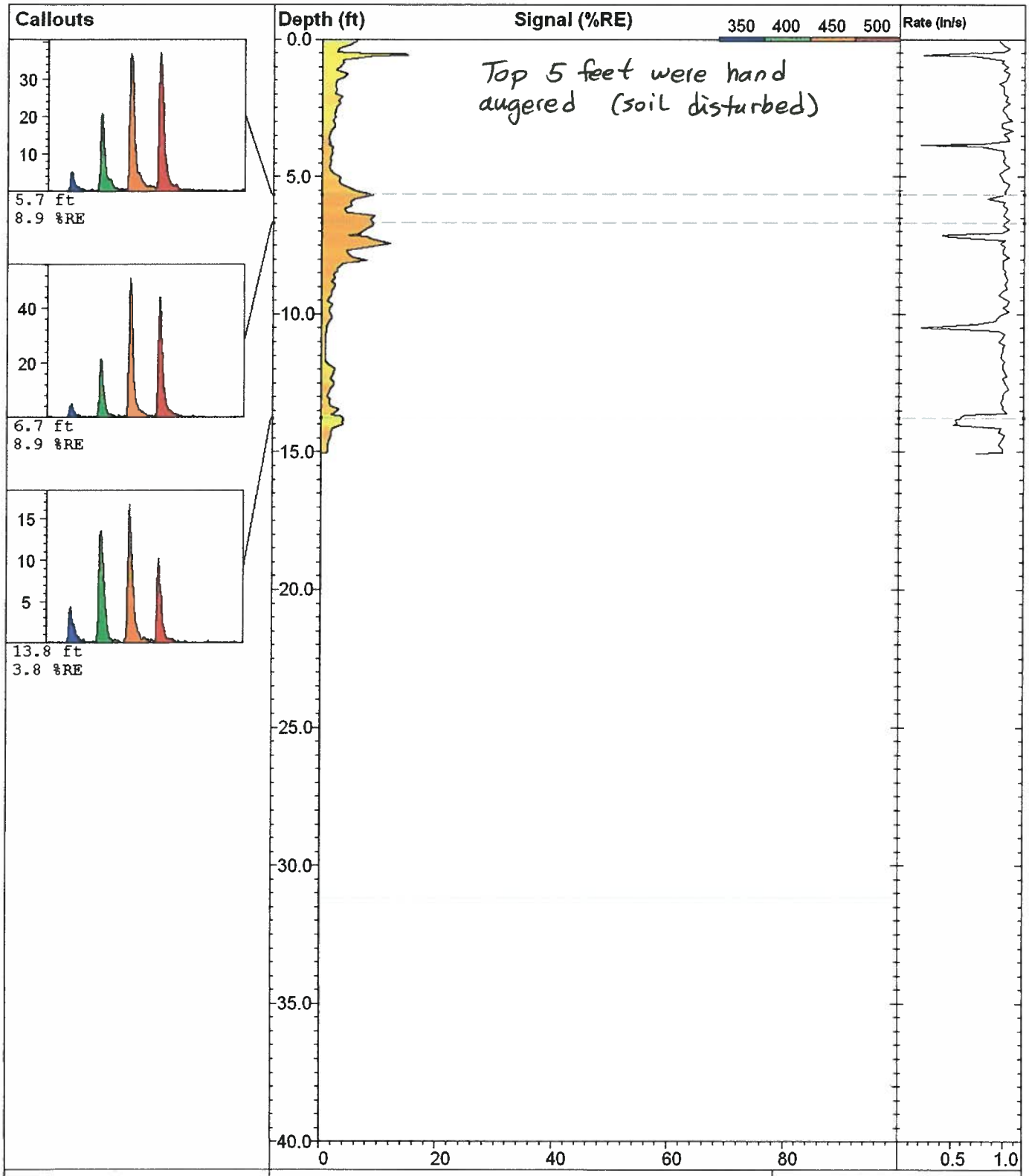
www.greggdrilling.com

CPT-05

UVOST By Dakota

www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.05 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **12.5 % @ 6.19 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 15:20 PDT**

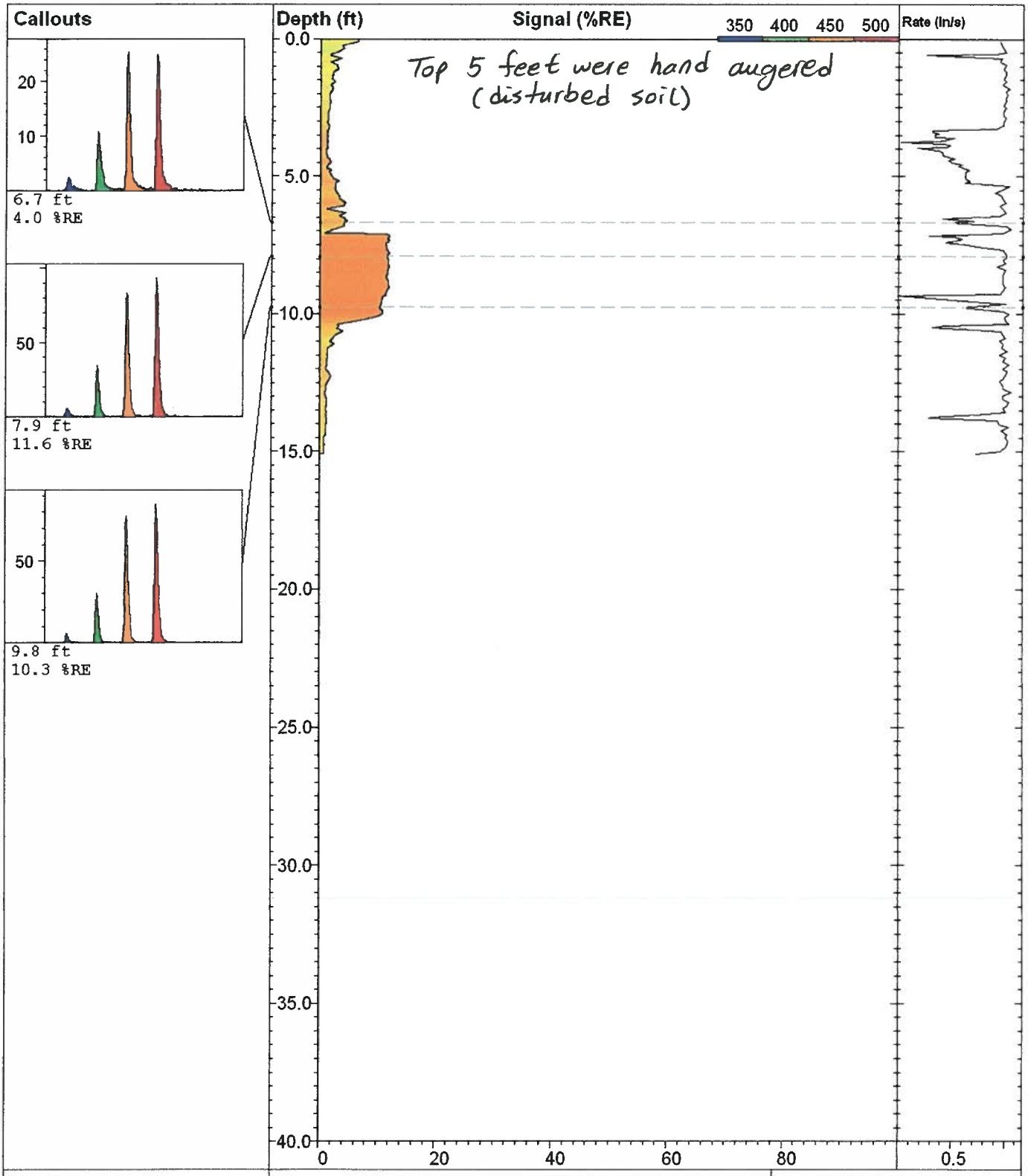


GREGG
www.greggdrilling.com

CPT-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.05 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **14.7 % @ 0.58 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 16:32 PDT**



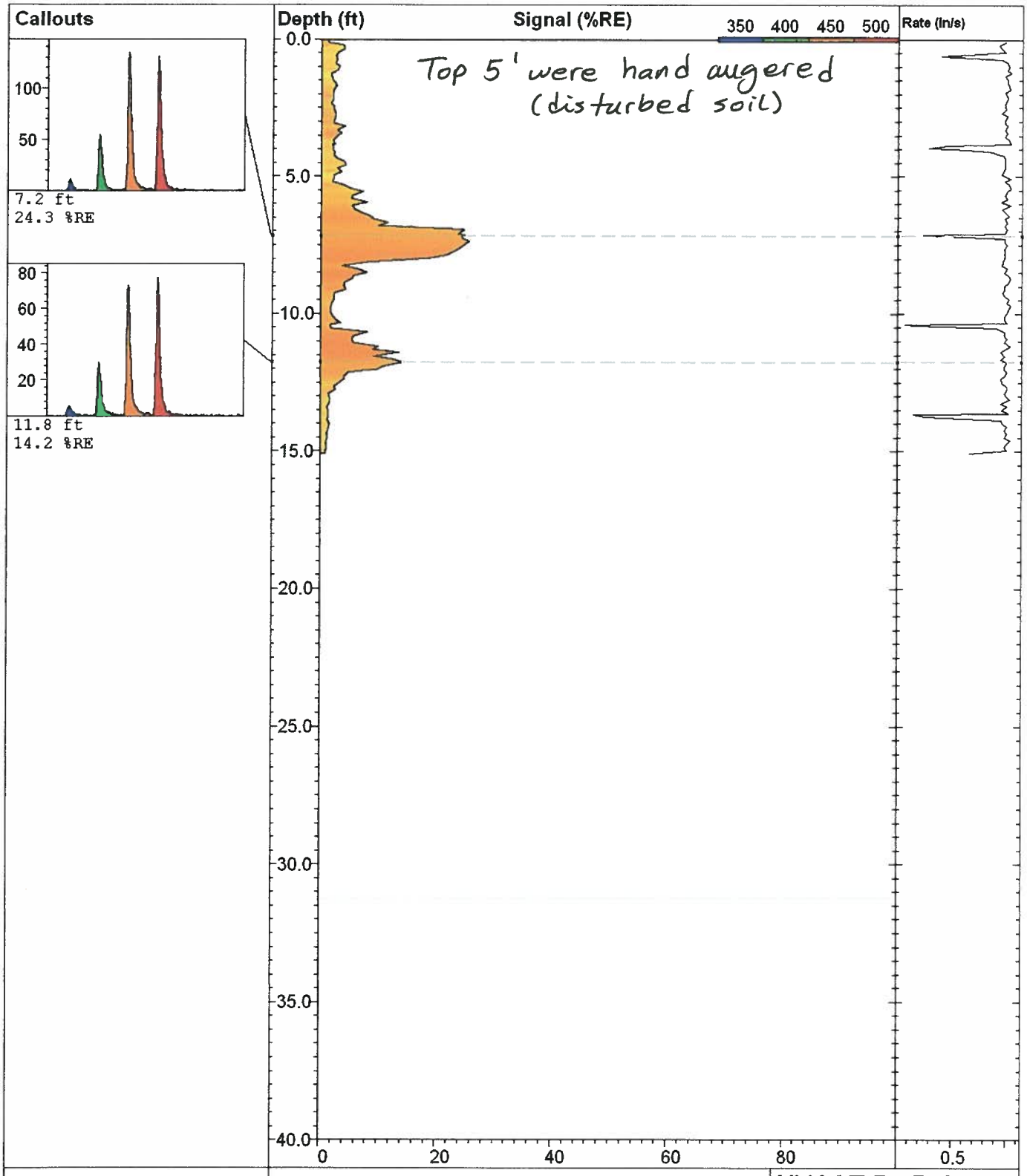
GREGG

www.greggdrilling.com

CPT-07

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.08 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **12.0 % @ 7.80 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 17:23 PDT**



GREGG

www.greggdrilling.com

CPT-08a

UVOST By Dakota
www.DakotaTechnologies.com

Site: **UPS Oakland Hub**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **15.08 ft**
Client: **Arcadis**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **25.6 % @ 7.37 ft**
Job: **B0038398.0017**	*Operator/Unit:* **John Hancock/UVOST100**	*Date & Time:* **2013-10-10 18:48 PDT**

Appendix B

Boring Logs

ARCADIS

EXPLORATORY BORING LOG

project no: B0038398.0017 | date: 10-11-13 | boring number: SB-13
client: UPS | page 1 of 1
location: Oakland, CA
logged by: Miljan Draganic
driller/helper: Gregg Drilling
field location of boring: Comcast property (planter)
drilling method: Geoprobe Direct push
hole diameter: 2"
casing diameter: n/a
well completion data: n/a
ground elevation: datum:

water level / time / date

boring/well construction	headspace: gastech (PID) FID ppm	sample number	blows per foot or pressure in psi	depth	sample recovery	soil group symbol (USCS)	
Abandoned by backfilling with grout	0.1			1		SM	Silty sand with gravel; no strength and soft; dry; dark olive brown color 2.5Y 3/3; Gravels throughout, subrounded, up to 1 inch diameter; sand ranges from fine to coarse moderately graded;
	0.2			2			
				3			
	0.2			4			Becoming harder with depth starting at 4'; with few interbedded clay layers.
				5		SM	
	0.1			6			
				7			Around 7.5', around 3" thick black layer of fine grained sand / silt mixture (SM/ML); dry and soft; looks glossy.
	0.2	SB-13-SS-7'-8' @1330		8			At 8', the color has changed again to yellowish brown 10YR 5/6; The geology at 8' is consistent of sandy gravels (SW), well ~~graded~~ sorted, hard, and dry.
				9			
	0.0			10			No recovery 8'-10'
				11		SW	Sandy gravels with some silts; dry and hard; well sorted, dark grayish brown color 2.5Y 4/2 gravels up to 1" diameter, sand is fine to coarse.
	0.2			12			Clay present through bottom 6 inches.
				13			Thick clay; dry; color change to very dark greenish gray Gley 2 3/5BG; overall the clay is hard but it is softer on top and gets harder with depth.
	0.1			14		CL	
	0.0			15			End boring at 15'
				16			
				17			
				18			No groundwater.
				19			
				20			

hand augered

USCS lithology; Munsell color; sorting; grain size; lith. %s; modifiers; consistency; moisture.

ARCADIS

EXPLORATORY BORING LOG

project no: B0038398.0017 date: 10-11-13
client: UPS
location: Oakland, CA
logged by: Miljan Draganic
driller/helper: Gregg Drilling

boring number: SB-14
page 1 of 1

field location of boring: Comcast Property (planter)

drilling method: Geoprobe direct push
hole diameter: 2"
casing diameter: n/a
well completion data: n/a

ground elevation: datum:

water level / time / date

boring/well construction	headspace: gastech (PID) FID ppm	sample number	blows per foot or pressure in psi	depth	sample recovery	soil group symbol (USCS)	
Abandoned by backfilling with grout	0.1			1		SM	Top soil; Silty Sand with gravels throughout; moderately graded; no strength and soft; Dry; overall color is dark olive brown 2.5Y 3/3. Few pockets of harder and slightly darker clay present, starting at ~3 feet bgs. Sand ranges from fine to coarse grained and is well sorted. No gravel past 3; down to ~4.5'
	0.0			2			
				3			
				4			
	0.2			5		SM	Silty sand with some small gravels. poorly graded, and hard; dry; very dark grayish brown color 2.5Y 3/2. Contains clay between 6'-7', (some);
	0.2			6			
				7			
	1.7	SB-14-SS-7'-8' @1230		8			At ~7.5' there is a two inch thick layer of black fine grained/silt mixture (MH); dry; soft. Color changes again to yellowish brown (10YR 5/6) from the thin layer above down to 8'. Hard layer.
				9	no recovery		
				10			
	0.0			11			No recovery 8'-11'
				12		SM	Silty sands with gravels, color changed to dark grayish brown 2.5Y 4/2; hard and dry. sand is fine-coarse grained, subrounded gravels, moderately graded. Clayey on bottom
	0.0			13			
				14		CL	Clay; very thick, soft at 13' with high plasticity, but gets harder with depth- non plastic and hard at 15'. Dry. color is very dark greenish gray Gley 2 3/5BG. (Color changed at 13')
	0.1			15			End boring at 15'
				16			
				17			
				18			No Groundwater.
				19			
				20			

hand augered

USCS lithology; Munsell color; sorting; grain size; lith. %s; modifiers; consistency; moisture.

ARCADIS

EXPLORATORY BORING LOG

project no: B0038398.0017 | date: 10-11-13 | boring number: SB-15
client: UPS Oakland | page 1 of 1
location: Oakland, CA
logged by: Milyan Draganic
driller/helper: Gregg Drilling

field location of boring: Comcast property (planter)

drilling method: Geoprobe direct push
hole diameter: 2"
casing diameter: n/a
well completion data: n/a

ground elevation: | datum:

water level | time | date

boring/well construction	headspace: gastech (PID) FID ppm	sample number	blows per foot or pressure in psi	depth	sample recovery	soil group symbol (USCS)	
Abandoned by backfilling grout	0.0			1		SM	Top Soil: Silty Sand with some gravel; Moderately graded; dry; no strength/soft; Sand ranges from fine to coarse grained; Thin and hard layer of clay ~2.5 ft L (1 inch); well sorted sand. Overall dark olive brown color 2.5Y 3/3. Clay layer is thick and hard, very dark gray color 2.5Y 3/1.
	0.2			2			
				3			
				4			
	0.1			5		CL	Silty Clay, with some fine-coarse sand (~15%); color change to very dark greenish gray Gley 1 3/5GY; dry and has medium plasticity; moderately hard
	0.3			6			
				7			▼ 7.15' Dry
				8			
	0.2	SB-15-SS-8'-9' @ 0945		9		SP	Poorly graded, fine to medium grained sand; trace amount of coarse sand; no strength; moist from 8-9'. Color is very dark greenish gray Gley 1 3/10 GY; poorly sorted
				10	no recovery		No recovery 9'-13'.
				11			
				12			Recovered bottom 1" at 13', and it is the sand above (same) but wet.
	0.0			13		SP(?)	
				14			No recovery 13'-15'; wet.
				15			
				16			End boring at 15'.
				17			
				18			GW Sample collected @ 1040 Screened 0'-11' (bottom collapsed)
				19			
				20			

hand augered

GW: pH = 7.02
Temp. = 21.79 °C
Cond. = 3,903 uS/cm
DO = 0.84 mg/L
ORP = -76.3 mV
Turb. = 12.5 NTU

USCS lithology; Munsell color; sorting; grain size; lith. %s; modifiers; consistency; moisture.

ARCADIS

EXPLORATORY BORING LOG

project no: B0038398.0017 | date: 10-11-13 | boring number: SB-16
client: UPS
location: Oakland, CA
logged by: Miljan Draganic
driller/helper: Gregg Drilling
page 1 of 1

field location of boring: Comcast Property (planter)
ground elevation: | datum:

drilling method: Geoprobe direct push
hole diameter: 2"
casing diameter: n/a
well completion data: n/a

boring/well construction	headspace: gastech (PID) / FID ppm	sample number	blows per foot or pressure in psi	depth	sample recovery	soil group symbol (USCS)	water level / time / date	
Abandoned by backfilling with grout	0.2			1		SM		Silty sand, with some gravels throughout, up to 1" diameter; moderately graded unit, soft, with no strength; and dry; Dark olive brown color 2.5Y 3/3; sand ranges from fine to coarse grained.
	0.0			3				Trace clay towards the bottom.
	0.1			5		CL		Silty clay, with some sand; dry, with low plasticity, and moderately hard; dark greenish gray color Gley1 3/5GY; sand is mostly medium grained
	0.0			6				
	0.2	SB-16-SS-7'-8' @1500		7.43' 8		SP		Sand; poorly graded; fine to medium grained, with trace coarse, no strength, moist 7'-8'. Very dark greenish gray color Gley 1 3/10 GY;
				10		SP(?)		No recovery 8'-12'.
				11		SP		Same sand as above, wet
	0.0			12				
				13		SP(?)		No recovery 12'-14.5'.
				14				
	0.0			15		SP		Same sand as above, wet.
								End boring at 15'.
				17				GW Sample collected @1540 & duplicate @1550. → both field filtered screened 0'-12' (bottom collapsed)
				18				GW: pH = 7.09, Temp. = 21.61 °C, Cond. = 4,730 uS/cm, DO = 1.14 mg/L, ORP = -58.5 mV, Turb = 8.61 NTU
				20				

hand augered

USCS lithology; Munsell color; sorting; grain size; lith. %s; modifiers; consistency; moisture.

Appendix C

Analytical Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

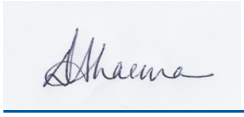
ANALYTICAL REPORT

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

TestAmerica Job ID: 720-52992-1
Client Project/Site: UPS-Oakland

For:
ARCADIS U.S. Inc
1000 Cobb Place Blvd NW
Suite 500-A
Kennesaw, Georgia 30144

Attn: Ms. Jennifer LeBeau



Authorized for release by:
10/18/2013 5:15:47 PM

Dimple Sharma, Project Manager I
(925)484-1919
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.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-52992-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-52992-1

Comments
No additional comments.

Receipt
The samples were received on 10/11/2013 5:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0º C and 2.3º C.

Except:

Split off and preserved for total metals.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method 8270C SIM: Surrogate recovery for the following sample was outside control limits: SB-15 (720-52992-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for prep batch 146361 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry
No other analytical or quality issues were noted.

Organic Prep
Method 3510C SGC: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: The following samples'720-52992-1 and 52992-7 initial amounts are less than 800 mL due to received aliquot in 1L amber bottles.

No other analytical or quality issues were noted.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Client Sample ID: SB-15 — Lab Sample ID: 720-52992-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (FID)	0.12		0.00099		mg/L	1		RSK-175	Total/NA
Iron	19		0.20		mg/L	1		6010B	Total/NA
Manganese	2.0		0.020		mg/L	1		6010B	Total/NA
Iron	4.5		0.20		mg/L	1		6010B	Dissolved
Manganese	1.6		0.020		mg/L	1		6010B	Dissolved
Sulfate	65		10		mg/L	10		300.0	Total/NA

Client Sample ID: SB-15-SS-8'-9' — Lab Sample ID: 720-52992-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.7		1.0		mg/Kg	1		8015B	Silica Gel Cleanup

Client Sample ID: SB-14-SS-7'-8' — Lab Sample ID: 720-52992-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	6.9		5.0		ug/Kg	1		8270C SIM	Total/NA
Acenaphthylene	9.6		5.0		ug/Kg	1		8270C SIM	Total/NA
Anthracene	22		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]anthracene	710		50		ug/Kg	10		8270C SIM	Total/NA
Benzo[a]pyrene	2200		50		ug/Kg	10		8270C SIM	Total/NA
Benzo[b]fluoranthene	2500		50		ug/Kg	10		8270C SIM	Total/NA
Benzo[g,h,i]perylene	2100		50		ug/Kg	10		8270C SIM	Total/NA
Benzo[k]fluoranthene	930		50		ug/Kg	10		8270C SIM	Total/NA
Chrysene	890		50		ug/Kg	10		8270C SIM	Total/NA
Dibenz(a,h)anthracene	720		50		ug/Kg	10		8270C SIM	Total/NA
Fluoranthene	450		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluorene	6.3		5.0		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	2000		50		ug/Kg	10		8270C SIM	Total/NA
Naphthalene	49		5.0		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	120		5.0		ug/Kg	1		8270C SIM	Total/NA
Pyrene	430		5.0		ug/Kg	1		8270C SIM	Total/NA
Diesel Range Organics [C10-C28]	84		0.99		mg/Kg	1		8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	85		49		mg/Kg	1		8015B	Silica Gel Cleanup

Client Sample ID: SB-13-SS-7'-8' — Lab Sample ID: 720-52992-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	11		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]anthracene	47		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]pyrene	56		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[b]fluoranthene	140		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[g,h,i]perylene	22		5.0		ug/Kg	1		8270C SIM	Total/NA
Chrysene	79		5.0		ug/Kg	1		8270C SIM	Total/NA
Dibenz(a,h)anthracene	9.3		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluoranthene	53		5.0		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	25		5.0		ug/Kg	1		8270C SIM	Total/NA
Naphthalene	52		5.0		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	88		5.0		ug/Kg	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-13-SS-7'-8' (Continued) — Lab Sample ID: 720-52992-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	43		5.0		ug/Kg	1		8270C SIM	Total/NA
Diesel Range Organics [C10-C28]	66		3.0		mg/Kg	3		8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	280		150		mg/Kg	3		8015B	Silica Gel Cleanup

Client Sample ID: SB-16-SS-7'-8' — Lab Sample ID: 720-52992-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	7.3		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[a]pyrene	14		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[b]fluoranthene	23		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[g,h,i]perylene	6.4		5.0		ug/Kg	1		8270C SIM	Total/NA
Benzo[k]fluoranthene	6.3		5.0		ug/Kg	1		8270C SIM	Total/NA
Chrysene	12		5.0		ug/Kg	1		8270C SIM	Total/NA
Fluoranthene	13		5.0		ug/Kg	1		8270C SIM	Total/NA
Indeno[1,2,3-cd]pyrene	6.2		5.0		ug/Kg	1		8270C SIM	Total/NA
Phenanthrene	9.2		5.0		ug/Kg	1		8270C SIM	Total/NA
Pyrene	12		5.0		ug/Kg	1		8270C SIM	Total/NA
Diesel Range Organics [C10-C28]	4.9		0.99		mg/Kg	1		8015B	Silica Gel Cleanup

Client Sample ID: SB-16 — Lab Sample ID: 720-52992-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (FID)	0.056		0.00099		mg/L	1		RSK-175	Total/NA
Iron	1.5		0.20		mg/L	1		6010B	Total/NA
Manganese	1.2		0.020		mg/L	1		6010B	Total/NA
Iron	1.6		0.20		mg/L	1		6010B	Dissolved
Manganese	1.1		0.020		mg/L	1		6010B	Dissolved
Sulfate	45		10		mg/L	10		300.0	Total/NA

Client Sample ID: SB-16D — Lab Sample ID: 720-52992-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane (FID)	0.077		0.00099		mg/L	1		RSK-175	Total/NA
Iron	1.1		0.20		mg/L	1		6010B	Total/NA
Manganese	1.3		0.020		mg/L	1		6010B	Total/NA
Iron	1.7		0.20		mg/L	1		6010B	Dissolved
Manganese	1.1		0.020		mg/L	1		6010B	Dissolved
Sulfate	52		10		mg/L	10		300.0	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 720-52992-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-15
Date Collected: 10/11/13 10:40
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-1
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	ND		0.50		ug/L			10/17/13 15:47	1
Benzene	ND		0.50		ug/L			10/17/13 15:47	1
Ethylbenzene	ND		0.50		ug/L			10/17/13 15:47	1
Toluene	ND		0.50		ug/L			10/17/13 15:47	1
Xylenes, Total	ND		1.0		ug/L			10/17/13 15:47	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/17/13 15:47	1
1,2-DCA	ND		0.50		ug/L			10/17/13 15:47	1
EDB	ND		0.50		ug/L			10/17/13 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*67 - 130*		*10/17/13 15:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*		*10/17/13 15:47*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/17/13 15:47*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Acenaphthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Acenaphthylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Fluorene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Phenanthrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Benzo[a]anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Chrysene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Benzo[a]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Benzo[b]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Benzo[k]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Benzo[g,h,i]perylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Indeno[1,2,3-cd]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1
Dibenz(a,h)anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*41*		*29 - 120*	*10/16/13 15:02*	*10/17/13 16:41*	*1*
Terphenyl-d14	*32*	*X*	*45 - 120*	*10/16/13 15:02*	*10/17/13 16:41*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	**0.12**		0.00099		mg/L			10/16/13 22:57	1

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		70		ug/L		10/17/13 08:55	10/17/13 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 5*	*10/17/13 08:55*	*10/17/13 19:43*	*1*
p-Terphenyl	*94*		*31 - 150*	*10/17/13 08:55*	*10/17/13 19:43*	*1*

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Client Sample ID: SB-15
Date Collected: 10/11/13 10:40
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**19**		0.20		mg/L		10/16/13 12:12	10/17/13 20:36	1
Manganese	**2.0**		0.020		mg/L		10/16/13 12:12	10/17/13 17:45	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.5**		0.20		mg/L		10/17/13 11:33	10/17/13 21:48	1
Manganese	**1.6**		0.020		mg/L		10/17/13 11:33	10/17/13 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.23		mg/L			10/12/13 03:09	1
Sulfate	**65**		10		mg/L			10/12/13 03:27	10
Sulfide	ND		1.0		mg/L			10/15/13 23:52	1

Client Sample ID: SB-15-SS-8'-9'
Date Collected: 10/11/13 09:45
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
Benzene	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
Ethylbenzene	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
Toluene	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
Xylenes, Total	ND		8.7		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
Gasoline Range Organics (GRO) -C5-C12	ND		220		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
EDB	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1
1,2-DCA	ND		4.4		ug/Kg		10/11/13 20:25	10/14/13 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*45 - 131*	*10/11/13 20:25*	*10/14/13 23:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 140*	*10/11/13 20:25*	*10/14/13 23:34*	*1*
Toluene-d8 (Surr)	*86*		*58 - 140*	*10/11/13 20:25*	*10/14/13 23:34*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Acenaphthylene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Anthracene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Benzo[a]anthracene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Benzo[a]pyrene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Benzo[b]fluoranthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Benzo[g,h,i]perylene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Benzo[k]fluoranthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Chrysene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Dibenz(a,h)anthracene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Fluoranthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Fluorene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Indeno[1,2,3-cd]pyrene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Naphthalene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Phenanthrene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1
Pyrene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*33 - 120*	*10/14/13 19:01*	*10/15/13 17:10*	*1*
Terphenyl-d14	*90*		*35 - 146*	*10/14/13 19:01*	*10/15/13 17:10*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.7**		1.0		mg/Kg		10/16/13 09:42	10/16/13 18:24	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		10/16/13 09:42	10/16/13 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.05*		*0 - 1*	*10/16/13 09:42*	*10/16/13 18:24*	*1*
p-Terphenyl	*108*		*38 - 148*	*10/16/13 09:42*	*10/16/13 18:24*	*1*

Client Sample ID: SB-14-SS-7'-8'
Date Collected: 10/11/13 12:30
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
Benzene	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
Ethylbenzene	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
Toluene	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
Xylenes, Total	ND		9.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
EDB	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1
1,2-DCA	ND		4.9		ug/Kg		10/11/13 20:25	10/15/13 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*45 - 131*	*10/11/13 20:25*	*10/15/13 00:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*	*10/11/13 20:25*	*10/15/13 00:03*	*1*
Toluene-d8 (Surr)	*92*		*58 - 140*	*10/11/13 20:25*	*10/15/13 00:03*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**6.9**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Acenaphthylene	**9.6**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Anthracene	**22**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Benzo[a]anthracene	**710**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Benzo[a]pyrene	**2200**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Benzo[b]fluoranthene	**2500**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Benzo[g,h,i]perylene	**2100**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Benzo[k]fluoranthene	**930**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Chrysene	**890**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Dibenz(a,h)anthracene	**720**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Fluoranthene	**450**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Fluorene	**6.3**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Indeno[1,2,3-cd]pyrene	**2000**		50		ug/Kg		10/14/13 19:01	10/16/13 15:12	10
Naphthalene	**49**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Phenanthrene	**120**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1
Pyrene	**430**		5.0		ug/Kg		10/14/13 19:01	10/15/13 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*90*		*33 - 120*	*10/14/13 19:01*	*10/15/13 17:33*	*1*
2-Fluorobiphenyl	*94*		*33 - 120*	*10/14/13 19:01*	*10/16/13 15:12*	*10*
Terphenyl-d14	*80*		*35 - 146*	*10/14/13 19:01*	*10/15/13 17:33*	*1*
Terphenyl-d14	*81*		*35 - 146*	*10/14/13 19:01*	*10/16/13 15:12*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**84**		0.99		mg/Kg		10/16/13 09:42	10/16/13 18:53	1
Motor Oil Range Organics [C24-C36]	**85**		49		mg/Kg		10/16/13 09:42	10/16/13 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*4*	*X*	*0 - 1*	*10/16/13 09:42*	*10/16/13 18:53*	*1*
p-Terphenyl	*88*		*38 - 148*	*10/16/13 09:42*	*10/16/13 18:53*	*1*

Client Sample ID: SB-13-SS-7'-8'
Date Collected: 10/11/13 13:30
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
Benzene	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
Ethylbenzene	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
Toluene	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
Xylenes, Total	ND		7.8		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
Gasoline Range Organics (GRO) -C5-C12	ND		200		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
EDB	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1
1,2-DCA	ND		3.9		ug/Kg		10/11/13 20:25	10/15/13 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*77*		*45 - 131*	*10/11/13 20:25*	*10/15/13 00:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*	*10/11/13 20:25*	*10/15/13 00:32*	*1*
Toluene-d8 (Surr)	*85*		*58 - 140*	*10/11/13 20:25*	*10/15/13 00:32*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Acenaphthylene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Anthracene	**11**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Benzo[a]anthracene	**47**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Benzo[a]pyrene	**56**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Benzo[b]fluoranthene	**140**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Benzo[g,h,i]perylene	**22**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Benzo[k]fluoranthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Chrysene	**79**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Dibenz(a,h)anthracene	**9.3**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Fluoranthene	**53**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Fluorene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Indeno[1,2,3-cd]pyrene	**25**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Naphthalene	**52**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Phenanthrene	**88**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1
Pyrene	**43**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*100*		*33 - 120*	*10/14/13 19:01*	*10/15/13 19:07*	*1*
Terphenyl-d14	*81*		*35 - 146*	*10/14/13 19:01*	*10/15/13 19:07*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**66**		3.0		mg/Kg		10/16/13 09:42	10/17/13 12:51	3
Motor Oil Range Organics [C24-C36]	**280**		150		mg/Kg		10/16/13 09:42	10/17/13 12:51	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.2*		*0 - 1*	*10/16/13 09:42*	*10/17/13 12:51*	*3*
p-Terphenyl	*55*		*38 - 148*	*10/16/13 09:42*	*10/17/13 12:51*	*3*

Client Sample ID: SB-16-SS-7'-8'
Date Collected: 10/11/13 15:00
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
Benzene	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
Ethylbenzene	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
Toluene	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
Xylenes, Total	ND		8.8		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
Gasoline Range Organics (GRO) -C5-C12	ND		220		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
EDB	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1
1,2-DCA	ND		4.4		ug/Kg		10/11/13 20:25	10/15/13 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*80*		*45 - 131*	*10/11/13 20:25*	*10/15/13 01:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*60 - 140*	*10/11/13 20:25*	*10/15/13 01:00*	*1*
Toluene-d8 (Surr)	*86*		*58 - 140*	*10/11/13 20:25*	*10/15/13 01:00*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Acenaphthylene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Anthracene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Benzo[a]anthracene	**7.3**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Benzo[a]pyrene	**14**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Benzo[b]fluoranthene	**23**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Benzo[g,h,i]perylene	**6.4**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Benzo[k]fluoranthene	**6.3**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Chrysene	**12**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Dibenz(a,h)anthracene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Fluoranthene	**13**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Fluorene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Indeno[1,2,3-cd]pyrene	**6.2**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Naphthalene	ND		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Phenanthrene	**9.2**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1
Pyrene	**12**		5.0		ug/Kg		10/14/13 19:01	10/15/13 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*33 - 120*	*10/14/13 19:01*	*10/15/13 19:30*	*1*
Terphenyl-d14	*88*		*35 - 146*	*10/14/13 19:01*	*10/15/13 19:30*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**4.9**		0.99		mg/Kg		10/16/13 09:42	10/16/13 19:52	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		10/16/13 09:42	10/16/13 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.008*		*0 - 1*	*10/16/13 09:42*	*10/16/13 19:52*	*1*
p-Terphenyl	*104*		*38 - 148*	*10/16/13 09:42*	*10/16/13 19:52*	*1*

Client Sample ID: SB-16
Date Collected: 10/11/13 15:40
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-6
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	ND		0.50		ug/L			10/17/13 16:16	1
Benzene	ND		0.50		ug/L			10/17/13 16:16	1
Ethylbenzene	ND		0.50		ug/L			10/17/13 16:16	1
Toluene	ND		0.50		ug/L			10/17/13 16:16	1
Xylenes, Total	ND		1.0		ug/L			10/17/13 16:16	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/17/13 16:16	1
1,2-DCA	ND		0.50		ug/L			10/17/13 16:16	1
EDB	ND		0.50		ug/L			10/17/13 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*67 - 130*		*10/17/13 16:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*72 - 130*		*10/17/13 16:16*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*10/17/13 16:16*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Acenaphthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Acenaphthylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Fluorene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Phenanthrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Benzo[a]anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Chrysene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Benzo[a]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Benzo[b]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Benzo[k]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Benzo[g,h,i]perylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Indeno[1,2,3-cd]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1
Dibenz(a,h)anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*41*		*29 - 120*	*10/16/13 15:02*	*10/17/13 17:05*	*1*
Terphenyl-d14	*52*		*45 - 120*	*10/16/13 15:02*	*10/17/13 17:05*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	**0.056**		0.00099		mg/L			10/16/13 23:10	1

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		51		ug/L		10/17/13 08:55	10/18/13 10:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.007*		*0 - 5*	*10/17/13 08:55*	*10/18/13 10:24*	*1*
p-Terphenyl	*101*		*31 - 150*	*10/17/13 08:55*	*10/18/13 10:24*	*1*

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Client Sample ID: SB-16
Date Collected: 10/11/13 15:40
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-6
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.5**		0.20		mg/L		10/16/13 12:12	10/17/13 20:45	1
Manganese	**1.2**		0.020		mg/L		10/16/13 12:12	10/17/13 17:58	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.6**		0.20		mg/L		10/17/13 11:33	10/18/13 11:20	1
Manganese	**1.1**		0.020		mg/L		10/17/13 11:33	10/17/13 22:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.23		mg/L			10/12/13 03:44	1
Sulfate	**45**		10		mg/L			10/12/13 04:01	10
Sulfide	ND		1.0		mg/L			10/15/13 23:54	1

Client Sample ID: SB-16D
Date Collected: 10/11/13 15:50
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-7
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	ND		0.50		ug/L			10/17/13 16:45	1
Benzene	ND		0.50		ug/L			10/17/13 16:45	1
Ethylbenzene	ND		0.50		ug/L			10/17/13 16:45	1
Toluene	ND		0.50		ug/L			10/17/13 16:45	1
Xylenes, Total	ND		1.0		ug/L			10/17/13 16:45	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/17/13 16:45	1
1,2-DCA	ND		0.50		ug/L			10/17/13 16:45	1
EDB	ND		0.50		ug/L			10/17/13 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*67 - 130*		*10/17/13 16:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*72 - 130*		*10/17/13 16:45*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*10/17/13 16:45*	*1*

Method: 8270C SIM - PAHs by GCMS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Acenaphthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Acenaphthylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Fluorene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Phenanthrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Benzo[a]anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Chrysene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Benzo[a]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Benzo[b]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Benzo[k]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Benzo[g,h,i]perylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Indeno[1,2,3-cd]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1
Dibenz(a,h)anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*46*		*29 - 120*	*10/16/13 15:02*	*10/17/13 17:28*	*1*
Terphenyl-d14	*54*		*45 - 120*	*10/16/13 15:02*	*10/17/13 17:28*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	**0.077**		0.00099		mg/L			10/16/13 23:24	1

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		69		ug/L		10/17/13 08:55	10/18/13 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.01*		*0 - 5*	*10/17/13 08:55*	*10/18/13 10:53*	*1*
p-Terphenyl	*101*		*31 - 150*	*10/17/13 08:55*	*10/18/13 10:53*	*1*

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Client Sample ID: SB-16D
Date Collected: 10/11/13 15:50
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-7
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.20		mg/L		10/16/13 12:12	10/17/13 20:50	1
Manganese	1.3		0.020		mg/L		10/16/13 12:12	10/17/13 18:03	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.7		0.20		mg/L		10/17/13 11:33	10/18/13 11:25	1
Manganese	1.1		0.020		mg/L		10/17/13 11:33	10/17/13 22:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.23		mg/L			10/12/13 04:18	1
Sulfate	52		10		mg/L			10/12/13 04:35	10
Sulfide	ND		1.0		mg/L			10/15/13 23:56	1

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Client Sample ID: TRIP BLANK
Date Collected: 10/11/13 00:00
Date Received: 10/11/13 17:50

Lab Sample ID: 720-52992-8
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	ND		0.50		ug/L			10/17/13 17:14	1
Benzene	ND		0.50		ug/L			10/17/13 17:14	1
Ethylbenzene	ND		0.50		ug/L			10/17/13 17:14	1
Naphthalene	ND		1.0		ug/L			10/17/13 17:14	1
Toluene	ND		0.50		ug/L			10/17/13 17:14	1
Xylenes, Total	ND		1.0		ug/L			10/17/13 17:14	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/17/13 17:14	1
1,2-DCA	ND		0.50		ug/L			10/17/13 17:14	1
EDB	ND		0.50		ug/L			10/17/13 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*67 - 130*		*10/17/13 17:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*		*10/17/13 17:14*	*1*
Toluene-d8 (Surr)	*91*		*70 - 130*		*10/17/13 17:14*	*1*

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

Lab Sample ID: MB 720-146177/7
Matrix: Solid
Analysis Batch: 146177

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	ND		5.0		ug/Kg			10/14/13 20:12	1
Benzene	ND		5.0		ug/Kg			10/14/13 20:12	1
Ethylbenzene	ND		5.0		ug/Kg			10/14/13 20:12	1
Toluene	ND		5.0		ug/Kg			10/14/13 20:12	1
Xylenes, Total	ND		10		ug/Kg			10/14/13 20:12	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			10/14/13 20:12	1
1,2-DCA	ND		5.0		ug/Kg			10/14/13 20:12	1
EDB	ND		5.0		ug/Kg			10/14/13 20:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*45 - 131*		*10/14/13 20:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*60 - 140*		*10/14/13 20:12*	*1*
Toluene-d8 (Surr)	*87*		*58 - 140*		*10/14/13 20:12*	*1*

Lab Sample ID: LCS 720-146177/10
Matrix: Solid
Analysis Batch: 146177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	960		ug/Kg		96	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 140*
Toluene-d8 (Surr)	*102*		*58 - 140*

Lab Sample ID: LCS 720-146177/8
Matrix: Solid
Analysis Batch: 146177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
MTBE	50.0	62.3		ug/Kg		125	70 - 144
Benzene	50.0	54.2		ug/Kg		108	70 - 130
Ethylbenzene	50.0	51.6		ug/Kg		103	80 - 137
Toluene	50.0	50.1		ug/Kg		100	80 - 128
1,2-DCA	50.0	45.0		ug/Kg		90	70 - 130
EDB	50.0	57.2		ug/Kg		114	70 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*112*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*90*		*60 - 140*
Toluene-d8 (Surr)	*100*		*58 - 140*

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

Lab Sample ID: LCSD 720-146177/11
Matrix: Solid
Analysis Batch: 146177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	991		ug/Kg		99	61 - 128	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 140*
Toluene-d8 (Surr)	*101*		*58 - 140*

Lab Sample ID: LCSD 720-146177/9
Matrix: Solid
Analysis Batch: 146177

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
MTBE			50.0	61.9		ug/Kg		124	70 - 144	1	20
Benzene			50.0	55.3		ug/Kg		111	70 - 130	2	20
Ethylbenzene			50.0	51.6		ug/Kg		103	80 - 137	0	20
Toluene			50.0	50.0		ug/Kg		100	80 - 128	0	20
1,2-DCA			50.0	45.3		ug/Kg		91	70 - 130	1	20
EDB			50.0	56.0		ug/Kg		112	70 - 140	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*112*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 140*
Toluene-d8 (Surr)	*100*		*58 - 140*

Lab Sample ID: MB 720-146442/5
Matrix: Water
Analysis Batch: 146442

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			10/17/13 11:35	1
Benzene	ND		0.50		ug/L			10/17/13 11:35	1
Ethylbenzene	ND		0.50		ug/L			10/17/13 11:35	1
Naphthalene	ND		1.0		ug/L			10/17/13 11:35	1
Toluene	ND		0.50		ug/L			10/17/13 11:35	1
Xylenes, Total	ND		1.0		ug/L			10/17/13 11:35	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			10/17/13 11:35	1
1,2-DCA	ND		0.50		ug/L			10/17/13 11:35	1
EDB	ND		0.50		ug/L			10/17/13 11:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*67 - 130*		*10/17/13 11:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*		*10/17/13 11:35*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*10/17/13 11:35*	*1*

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

Lab Sample ID: LCS 720-146442/6
Matrix: Water
Analysis Batch: 146442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methyl tert-butyl ether			25.0	24.8		ug/L		99	62 - 130		
Benzene			25.0	26.8		ug/L		107	79 - 130		
Ethylbenzene			25.0	27.7		ug/L		111	80 - 120		
Naphthalene			25.0	25.5		ug/L		102	70 - 130		
Toluene			25.0	27.6		ug/L		110	78 - 120		
m-Xylene & p-Xylene			50.0	53.7		ug/L		107	70 - 142		
o-Xylene			25.0	25.9		ug/L		104	70 - 130		
1,2-DCA			25.0	27.6		ug/L		110	61 - 132		
EDB			25.0	28.2		ug/L		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*94*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCS 720-146442/8
Matrix: Water
Analysis Batch: 146442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			500	515		ug/L		103	62 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 720-146442/7
Matrix: Water
Analysis Batch: 146442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether			25.0	25.6		ug/L		102	62 - 130	3	20
Benzene			25.0	26.8		ug/L		107	79 - 130	0	20
Ethylbenzene			25.0	27.3		ug/L		109	80 - 120	1	20
Naphthalene			25.0	26.4		ug/L		106	70 - 130	4	20
Toluene			25.0	27.7		ug/L		111	78 - 120	0	20
m-Xylene & p-Xylene			50.0	52.8		ug/L		106	70 - 142	2	20
o-Xylene			25.0	25.4		ug/L		101	70 - 130	2	20
1,2-DCA			25.0	27.6		ug/L		110	61 - 132	0	20
EDB			25.0	28.1		ug/L		112	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*93*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

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

Lab Sample ID: LCSD 720-146442/9
Matrix: Water
Analysis Batch: 146442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	527		ug/L		105	62 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Method: 8270C SIM - PAHs by GCMS (SIM)

Lab Sample ID: MB 720-146175/1-A
Matrix: Solid
Analysis Batch: 146162

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Acenaphthylene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Anthracene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Benzo[a]anthracene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Benzo[a]pyrene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Chrysene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Benzo[b]fluoranthene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Benzo[k]fluoranthene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Benzo[g,h,i]perylene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Fluorene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Indeno[1,2,3-cd]pyrene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Fluoranthene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Naphthalene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Phenanthrene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Pyrene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1
Dibenz(a,h)anthracene	ND		5.0		ug/Kg		10/14/13 15:14	10/15/13 03:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*33 - 120*	*10/14/13 15:14*	*10/15/13 03:06*	*1*
Terphenyl-d14	*110*		*35 - 146*	*10/14/13 15:14*	*10/15/13 03:06*	*1*

Lab Sample ID: LCS 720-146175/2-A
Matrix: Solid
Analysis Batch: 146162

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146175

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene			328	256		ug/Kg		78	49 - 120
Acenaphthylene			328	298		ug/Kg		91	52 - 120
Anthracene			328	290		ug/Kg		88	52 - 120
Benzo[a]anthracene			328	316		ug/Kg		96	52 - 120
Benzo[a]pyrene			328	295		ug/Kg		90	54 - 120
Chrysene			328	273		ug/Kg		83	40 - 120

Method: 8270C SIM - PAHs by GCMS (SIM) (Continued)

Lab Sample ID: LCS 720-146175/2-A
Matrix: Solid
Analysis Batch: 146162

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	328	316		ug/Kg		96	51 - 120
Benzo[k]fluoranthene	328	293		ug/Kg		89	56 - 120
Benzo[g,h,i]perylene	328	252		ug/Kg		77	48 - 120
Fluorene	328	310		ug/Kg		94	52 - 120
Indeno[1,2,3-cd]pyrene	328	255		ug/Kg		78	48 - 120
Fluoranthene	328	306		ug/Kg		93	57 - 120
Naphthalene	328	258		ug/Kg		79	46 - 120
Phenanthrene	328	294		ug/Kg		90	48 - 120
Pyrene	328	352		ug/Kg		107	53 - 120
Dibenz(a,h)anthracene	328	257		ug/Kg		78	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*33 - 120*
Terphenyl-d14	*96*		*35 - 146*

Lab Sample ID: LCSD 720-146175/3-A
Matrix: Solid
Analysis Batch: 146162

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146175

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	331	238		ug/Kg		72	49 - 120	7	20
Acenaphthylene	331	280		ug/Kg		84	52 - 120	6	20
Anthracene	331	267		ug/Kg		81	52 - 120	8	20
Benzo[a]anthracene	331	299		ug/Kg		90	52 - 120	6	20
Benzo[a]pyrene	331	283		ug/Kg		85	54 - 120	4	20
Chrysene	331	263		ug/Kg		79	40 - 120	4	20
Benzo[b]fluoranthene	331	301		ug/Kg		91	51 - 120	5	20
Benzo[k]fluoranthene	331	286		ug/Kg		86	56 - 120	3	20
Benzo[g,h,i]perylene	331	242		ug/Kg		73	48 - 120	4	20
Fluorene	331	286		ug/Kg		86	52 - 120	8	20
Indeno[1,2,3-cd]pyrene	331	242		ug/Kg		73	48 - 120	5	20
Fluoranthene	331	296		ug/Kg		89	57 - 120	4	20
Naphthalene	331	236		ug/Kg		71	46 - 120	9	20
Phenanthrene	331	275		ug/Kg		83	48 - 120	7	20
Pyrene	331	364		ug/Kg		110	53 - 120	3	20
Dibenz(a,h)anthracene	331	244		ug/Kg		74	50 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*33 - 120*
Terphenyl-d14	*102*		*35 - 146*

Lab Sample ID: MB 720-146383/1-A
Matrix: Water
Analysis Batch: 146501

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Acenaphthylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1

Method: 8270C SIM - PAHs by GCMS (SIM) (Continued)

Lab Sample ID: MB 720-146383/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146501 — **Prep Batch: 146383**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Benzo[a]anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Benzo[a]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Chrysene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Benzo[b]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Benzo[k]fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Benzo[g,h,i]perylene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Fluorene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Indeno[1,2,3-cd]pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Fluoranthene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Naphthalene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Phenanthrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Pyrene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1
Dibenz(a,h)anthracene	ND		0.10		ug/L		10/16/13 15:02	10/17/13 23:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*35*		*29 - 120*	*10/16/13 15:02*	*10/17/13 23:55*	*1*
Terphenyl-d14	*52*		*45 - 120*	*10/16/13 15:02*	*10/17/13 23:55*	*1*

Lab Sample ID: LCS 720-146383/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146501 — **Prep Batch: 146383**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	10.0	4.21		ug/L		42	24 - 120
Acenaphthylene	10.0	4.39		ug/L		44	24 - 120
Anthracene	10.0	4.92		ug/L		49	44 - 120
Benzo[a]anthracene	10.0	6.26		ug/L		63	48 - 120
Benzo[a]pyrene	10.0	5.05		ug/L		51	43 - 120
Chrysene	10.0	6.13		ug/L		61	47 - 120
Benzo[b]fluoranthene	10.0	5.47		ug/L		55	42 - 120
Benzo[k]fluoranthene	10.0	5.54		ug/L		55	42 - 120
Benzo[g,h,i]perylene	10.0	4.99		ug/L		50	35 - 120
Fluorene	10.0	4.56		ug/L		46	27 - 120
Indeno[1,2,3-cd]pyrene	10.0	4.79		ug/L		48	36 - 120
Fluoranthene	10.0	5.38		ug/L		54	43 - 120
Naphthalene	10.0	4.00		ug/L		40	19 - 120
Phenanthrene	10.0	4.60		ug/L		46	31 - 120
Pyrene	10.0	5.37		ug/L		54	47 - 120
Dibenz(a,h)anthracene	10.0	4.60		ug/L		46	33 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*41*		*29 - 120*
Terphenyl-d14	*54*		*45 - 120*

Method: 8270C SIM - PAHs by GCMS (SIM) (Continued)

Lab Sample ID: LCSD 720-146383/3-A
Matrix: Water
Analysis Batch: 146501

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146383

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			10.0	4.30		ug/L		43	24 - 120	2	35
Acenaphthylene			10.0	4.49		ug/L		45	24 - 120	2	35
Anthracene			10.0	5.14		ug/L		51	44 - 120	4	35
Benzo[a]anthracene			10.0	6.52		ug/L		65	48 - 120	4	35
Benzo[a]pyrene			10.0	5.26		ug/L		53	43 - 120	4	35
Chrysene			10.0	6.33		ug/L		63	47 - 120	3	35
Benzo[b]fluoranthene			10.0	6.10		ug/L		61	42 - 120	11	35
Benzo[k]fluoranthene			10.0	5.33		ug/L		53	42 - 120	4	35
Benzo[g,h,i]perylene			10.0	5.21		ug/L		52	35 - 120	4	35
Fluorene			10.0	4.67		ug/L		47	27 - 120	2	35
Indeno[1,2,3-cd]pyrene			10.0	4.96		ug/L		50	36 - 120	3	35
Fluoranthene			10.0	5.68		ug/L		57	43 - 120	5	35
Naphthalene			10.0	4.16		ug/L		42	19 - 120	4	35
Phenanthrene			10.0	4.73		ug/L		47	31 - 120	3	35
Pyrene			10.0	5.61		ug/L		56	47 - 120	4	35
Dibenz(a,h)anthracene			10.0	4.77		ug/L		48	33 - 120	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*42*		*29 - 120*
Terphenyl-d14	*57*		*45 - 120*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 440-138043/7
Matrix: Water
Analysis Batch: 138043

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	ND		0.00099		mg/L			10/16/13 19:06	1
Methane (TCD)	ND		1.0		mg/L			10/16/13 19:06	1

Lab Sample ID: LCS 440-138043/3
Matrix: Water
Analysis Batch: 138043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methane (TCD)			4.18	3.99		mg/L		96	80 - 120		

Lab Sample ID: LCS 440-138043/5
Matrix: Water
Analysis Batch: 138043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methane (FID)			0.0839	0.0739		mg/L		88	80 - 120		

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 440-138043/4
Matrix: Water
Analysis Batch: 138043

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)			4.18	3.84		mg/L		92	80 - 120	4	20

Lab Sample ID: LCSD 440-138043/6
Matrix: Water
Analysis Batch: 138043

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (FID)			0.0839	0.0729		mg/L		87	80 - 120	1	20

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-146348/1-A
Matrix: Solid
Analysis Batch: 146336

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 146348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		10/16/13 09:42	10/16/13 17:25	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		10/16/13 09:42	10/16/13 17:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.08*		*0 - 1*	*10/16/13 09:42*	*10/16/13 17:25*	*1*
p-Terphenyl	*91*		*38 - 148*	*10/16/13 09:42*	*10/16/13 17:25*	*1*

Lab Sample ID: LCS 720-146348/2-A
Matrix: Solid
Analysis Batch: 146336

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 146348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]			82.3	54.9		mg/Kg		67	36 - 112

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*115*		*38 - 148*

Lab Sample ID: LCSD 720-146348/3-A
Matrix: Solid
Analysis Batch: 146336

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 146348

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			82.8	54.8		mg/Kg		66	36 - 112	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl	*113*		*38 - 148*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 720-52992-2 MS
Matrix: Solid
Analysis Batch: 146337

Client Sample ID: SB-15-SS-8'-9'
Prep Type: Silica Gel Cleanup
Prep Batch: 146348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	1.7		83.3	47.2		mg/Kg		55	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
p-Terphenyl	*118*		*38 - 148*

Lab Sample ID: 720-52992-2 MSD
Matrix: Solid
Analysis Batch: 146337

Client Sample ID: SB-15-SS-8'-9'
Prep Type: Silica Gel Cleanup
Prep Batch: 146348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	1.7		83.0	58.8		mg/Kg		69	50 - 150	22	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
p-Terphenyl	*121*		*38 - 148*

Lab Sample ID: MB 720-146433/1-A
Matrix: Water
Analysis Batch: 146424

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 146433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		50		ug/L		10/17/13 08:55	10/17/13 23:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.005*		*0 - 5*	*10/17/13 08:55*	*10/17/13 23:38*	*1*
p-Terphenyl	*99*		*31 - 150*	*10/17/13 08:55*	*10/17/13 23:38*	*1*

Lab Sample ID: LCS 720-146433/2-A
Matrix: Water
Analysis Batch: 146424

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 146433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	2500	1670		ug/L		67	32 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*103*		*31 - 150*

Lab Sample ID: LCSD 720-146433/3-A
Matrix: Water
Analysis Batch: 146424

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 146433

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	2500	1550		ug/L		62	32 - 119	7	35

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 720-146433/3-A
Matrix: Water
Analysis Batch: 146424

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 146433

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl	*96*		*31 - 150*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-146361/1-A
Matrix: Water
Analysis Batch: 146502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		10/16/13 12:12	10/17/13 17:23	1

Lab Sample ID: MB 720-146361/1-A
Matrix: Water
Analysis Batch: 146531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20		mg/L		10/16/13 12:12	10/17/13 20:14	1

Lab Sample ID: LCS 720-146361/2-A
Matrix: Water
Analysis Batch: 146502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.00	0.917		mg/L		92	80 - 120

Lab Sample ID: LCS 720-146361/2-A
Matrix: Water
Analysis Batch: 146531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	9.78		mg/L		98	80 - 120

Lab Sample ID: LCSD 720-146361/3-A
Matrix: Water
Analysis Batch: 146502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	1.00	0.899		mg/L		90	80 - 120	2	20

Lab Sample ID: LCSD 720-146361/3-A
Matrix: Water
Analysis Batch: 146531

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	10.0	9.50		mg/L		95	80 - 120	3	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-52992-1 MS — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146502 — **Prep Batch: 146361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	2.0		1.00	2.87		mg/L		88	75 - 125

Lab Sample ID: 720-52992-1 MS — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146531 — **Prep Batch: 146361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	19		10.0	26.0	F	mg/L		65	75 - 125

Lab Sample ID: 720-52992-1 MSD — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146502 — **Prep Batch: 146361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	2.0		1.00	2.72	F	mg/L		72	75 - 125	6	20

Lab Sample ID: 720-52992-1 MSD — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146531 — **Prep Batch: 146361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	19		10.0	25.5	F	mg/L		60	75 - 125	2	20

Lab Sample ID: MB 720-146446/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 146497 — **Prep Batch: 146446**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20		mg/L		10/17/13 11:33	10/17/13 17:04	1
Manganese	ND		0.020		mg/L		10/17/13 11:33	10/17/13 17:04	1

Lab Sample ID: LCS 720-146446/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 146497 — **Prep Batch: 146446**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.7		mg/L		107	80 - 120
Manganese	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCSD 720-146446/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 146497 — **Prep Batch: 146446**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	10.0	10.8		mg/L		108	80 - 120	1	20
Manganese	1.00	1.01		mg/L		101	80 - 120	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-52992-1 MS — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 146532 — **Prep Batch: 146446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	4.5		10.0	13.6		mg/L		91	75 - 125
Manganese	1.6		1.00	2.55		mg/L		93	75 - 125

Lab Sample ID: 720-52992-1 MSD — **Client Sample ID: SB-15**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 146532 — **Prep Batch: 146446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	4.5		10.0	13.3		mg/L		88	75 - 125	2	20
Manganese	1.6		1.00	2.47		mg/L		85	75 - 125	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 720-146267/51 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146267

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0		mg/L			10/11/13 23:26	1

Lab Sample ID: LCS 720-146267/52 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	10.0		mg/L		100	90 - 110

Lab Sample ID: LCSD 720-146267/53 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146267

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	10.0	9.96		mg/L		100	90 - 110	1	20

Lab Sample ID: MB 720-146268/51 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146268

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.23		mg/L			10/11/13 23:26	1

Lab Sample ID: LCS 720-146268/52 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 146268

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.26	2.22		mg/L		98	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 720-146268/53
Matrix: Water
Analysis Batch: 146268

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N			2.26	2.22		mg/L		98	90 - 110	0	20

Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 500-207209/1
Matrix: Water
Analysis Batch: 207209

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0		mg/L			10/15/13 23:13	1

Lab Sample ID: LCS 500-207209/2
Matrix: Water
Analysis Batch: 207209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide			3.67	3.48		mg/L		95	80 - 120		

GC/MS VOA

Analysis Batch: 146177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Total/NA	Solid	8260B/CA_LUFT MS	146248
720-52992-3	SB-14-SS-7'-8'	Total/NA	Solid	8260B/CA_LUFT MS	146248
720-52992-4	SB-13-SS-7'-8'	Total/NA	Solid	8260B/CA_LUFT MS	146248
720-52992-5	SB-16-SS-7'-8'	Total/NA	Solid	8260B/CA_LUFT MS	146248
LCS 720-146177/10	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-146177/8	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-146177/11	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-146177/9	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
MB 720-146177/7	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 146248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Total/NA	Solid	5035	
720-52992-3	SB-14-SS-7'-8'	Total/NA	Solid	5035	
720-52992-4	SB-13-SS-7'-8'	Total/NA	Solid	5035	
720-52992-5	SB-16-SS-7'-8'	Total/NA	Solid	5035	

Analysis Batch: 146442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	8260B/CA_LUFT MS	
720-52992-6	SB-16	Total/NA	Water	8260B/CA_LUFT MS	
720-52992-7	SB-16D	Total/NA	Water	8260B/CA_LUFT MS	
720-52992-8	TRIP BLANK	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-146442/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-146442/8	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-146442/7	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-146442/9	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-146442/5	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

GC/MS Semi VOA

Analysis Batch: 146162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146175/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	146175
LCSD 720-146175/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C SIM	146175
MB 720-146175/1-A	Method Blank	Total/NA	Solid	8270C SIM	146175

GC/MS Semi VOA (Continued)

Prep Batch: 146175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Total/NA	Solid	3546	
720-52992-3	SB-14-SS-7'-8'	Total/NA	Solid	3546	
720-52992-4	SB-13-SS-7'-8'	Total/NA	Solid	3546	
720-52992-5	SB-16-SS-7'-8'	Total/NA	Solid	3546	
LCS 720-146175/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 720-146175/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 720-146175/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 146259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Total/NA	Solid	8270C SIM	146175
720-52992-3	SB-14-SS-7'-8'	Total/NA	Solid	8270C SIM	146175
720-52992-4	SB-13-SS-7'-8'	Total/NA	Solid	8270C SIM	146175
720-52992-5	SB-16-SS-7'-8'	Total/NA	Solid	8270C SIM	146175

Analysis Batch: 146358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-3	SB-14-SS-7'-8'	Total/NA	Solid	8270C SIM	146175

Prep Batch: 146383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	3510C	
720-52992-6	SB-16	Total/NA	Water	3510C	
720-52992-7	SB-16D	Total/NA	Water	3510C	
LCS 720-146383/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 720-146383/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 720-146383/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 146461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	8270C SIM	146383
720-52992-6	SB-16	Total/NA	Water	8270C SIM	146383
720-52992-7	SB-16D	Total/NA	Water	8270C SIM	146383

Analysis Batch: 146501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146383/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	146383
LCSD 720-146383/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	146383
MB 720-146383/1-A	Method Blank	Total/NA	Water	8270C SIM	146383

GC VOA

Analysis Batch: 138043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	RSK-175	
720-52992-6	SB-16	Total/NA	Water	RSK-175	
720-52992-7	SB-16D	Total/NA	Water	RSK-175	
LCS 440-138043/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 440-138043/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 440-138043/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	

GC VOA (Continued)

Analysis Batch: 138043 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-138043/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 440-138043/7	Method Blank	Total/NA	Water	RSK-175	

GC Semi VOA

Analysis Batch: 146336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146348/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	8015B	146348
LCSD 720-146348/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	8015B	146348
MB 720-146348/1-A	Method Blank	Silica Gel Cleanup	Solid	8015B	146348

Analysis Batch: 146337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	8015B	146348
720-52992-2 MS	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	8015B	146348
720-52992-2 MSD	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	8015B	146348
720-52992-3	SB-14-SS-7'-8'	Silica Gel Cleanup	Solid	8015B	146348
720-52992-5	SB-16-SS-7'-8'	Silica Gel Cleanup	Solid	8015B	146348

Prep Batch: 146348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-2	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	3546	
720-52992-2 MS	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	3546	
720-52992-2 MSD	SB-15-SS-8'-9'	Silica Gel Cleanup	Solid	3546	
720-52992-3	SB-14-SS-7'-8'	Silica Gel Cleanup	Solid	3546	
720-52992-4	SB-13-SS-7'-8'	Silica Gel Cleanup	Solid	3546	
720-52992-5	SB-16-SS-7'-8'	Silica Gel Cleanup	Solid	3546	
LCS 720-146348/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	3546	
LCSD 720-146348/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	3546	
MB 720-146348/1-A	Method Blank	Silica Gel Cleanup	Solid	3546	

Analysis Batch: 146423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Silica Gel Cleanup	Water	8015B	146433

Analysis Batch: 146424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146433/2-A	Lab Control Sample	Silica Gel Cleanup	Water	8015B	146433
LCSD 720-146433/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	8015B	146433
MB 720-146433/1-A	Method Blank	Silica Gel Cleanup	Water	8015B	146433

Analysis Batch: 146425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-4	SB-13-SS-7'-8'	Silica Gel Cleanup	Solid	8015B	146348

Prep Batch: 146433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Silica Gel Cleanup	Water	3510C SGC	
720-52992-6	SB-16	Silica Gel Cleanup	Water	3510C SGC	
720-52992-7	SB-16D	Silica Gel Cleanup	Water	3510C SGC	

GC Semi VOA (Continued)

Prep Batch: 146433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146433/2-A	Lab Control Sample	Silica Gel Cleanup	Water	3510C SGC	
LCSD 720-146433/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	3510C SGC	
MB 720-146433/1-A	Method Blank	Silica Gel Cleanup	Water	3510C SGC	

Analysis Batch: 146530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-6	SB-16	Silica Gel Cleanup	Water	8015B	146433
720-52992-7	SB-16D	Silica Gel Cleanup	Water	8015B	146433

Metals

Prep Batch: 146361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	3010A	
720-52992-1 MS	SB-15	Total/NA	Water	3010A	
720-52992-1 MSD	SB-15	Total/NA	Water	3010A	
720-52992-6	SB-16	Total/NA	Water	3010A	
720-52992-7	SB-16D	Total/NA	Water	3010A	
LCS 720-146361/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 720-146361/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
MB 720-146361/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 146446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Dissolved	Water	3005A	
720-52992-1 MS	SB-15	Dissolved	Water	3005A	
720-52992-1 MSD	SB-15	Dissolved	Water	3005A	
720-52992-6	SB-16	Dissolved	Water	3005A	
720-52992-7	SB-16D	Dissolved	Water	3005A	
LCS 720-146446/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 720-146446/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 720-146446/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 146497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-146446/2-A	Lab Control Sample	Total Recoverable	Water	6010B	146446
LCSD 720-146446/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	146446
MB 720-146446/1-A	Method Blank	Total Recoverable	Water	6010B	146446

Analysis Batch: 146502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	6010B	146361
720-52992-1 MS	SB-15	Total/NA	Water	6010B	146361
720-52992-1 MSD	SB-15	Total/NA	Water	6010B	146361
720-52992-6	SB-16	Total/NA	Water	6010B	146361
720-52992-7	SB-16D	Total/NA	Water	6010B	146361
LCS 720-146361/2-A	Lab Control Sample	Total/NA	Water	6010B	146361
LCSD 720-146361/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	146361
MB 720-146361/1-A	Method Blank	Total/NA	Water	6010B	146361

Metals (Continued)

Analysis Batch: 146531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	6010B	146361
720-52992-1 MS	SB-15	Total/NA	Water	6010B	146361
720-52992-1 MSD	SB-15	Total/NA	Water	6010B	146361
720-52992-6	SB-16	Total/NA	Water	6010B	146361
720-52992-7	SB-16D	Total/NA	Water	6010B	146361
LCS 720-146361/2-A	Lab Control Sample	Total/NA	Water	6010B	146361
LCSD 720-146361/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	146361
MB 720-146361/1-A	Method Blank	Total/NA	Water	6010B	146361

Analysis Batch: 146532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Dissolved	Water	6010B	146446
720-52992-1 MS	SB-15	Dissolved	Water	6010B	146446
720-52992-1 MSD	SB-15	Dissolved	Water	6010B	146446
720-52992-6	SB-16	Dissolved	Water	6010B	146446
720-52992-7	SB-16D	Dissolved	Water	6010B	146446

Analysis Batch: 146567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-6	SB-16	Dissolved	Water	6010B	146446
720-52992-7	SB-16D	Dissolved	Water	6010B	146446

General Chemistry

Analysis Batch: 146267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	300.0	
720-52992-6	SB-16	Total/NA	Water	300.0	
720-52992-7	SB-16D	Total/NA	Water	300.0	
LCS 720-146267/52	Lab Control Sample	Total/NA	Water	300.0	
LCSD 720-146267/53	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 720-146267/51	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 146268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	300.0	
720-52992-6	SB-16	Total/NA	Water	300.0	
720-52992-7	SB-16D	Total/NA	Water	300.0	
LCS 720-146268/52	Lab Control Sample	Total/NA	Water	300.0	
LCSD 720-146268/53	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 720-146268/51	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 207209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52992-1	SB-15	Total/NA	Water	SM 4500 S2 F	
720-52992-6	SB-16	Total/NA	Water	SM 4500 S2 F	
720-52992-7	SB-16D	Total/NA	Water	SM 4500 S2 F	
LCS 500-207209/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
MB 500-207209/1	Method Blank	Total/NA	Water	SM 4500 S2 F	

Client Sample ID: SB-15

Lab Sample ID: 720-52992-1

Date Collected: 10/11/13 10:40

Matrix: Water

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	146442	10/17/13 15:47	PDR	TAL PLS
Total/NA	Prep	3510C			146383	10/16/13 15:02	NDU	TAL PLS
Total/NA	Analysis	8270C SIM		1	146461	10/17/13 16:41	MQL	TAL PLS
Total/NA	Analysis	RSK-175		1	138043	10/16/13 22:57	SC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			146433	10/17/13 08:55	BB	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146423	10/17/13 19:43	JZT	TAL PLS
Total/NA	Analysis	6010B		1	146502	10/17/13 17:45	SLK	TAL PLS
Total/NA	Prep	3010A			146361	10/16/13 12:12	ECT	TAL PLS
Total/NA	Analysis	6010B		1	146531	10/17/13 20:36	SLK	TAL PLS
Dissolved	Prep	3005A			146446	10/17/13 11:33	JCR	TAL PLS
Dissolved	Analysis	6010B		1	146532	10/17/13 21:48	SLK	TAL PLS
Total/NA	Analysis	SM 4500 S2 F		1	207209		CLB	TAL CHI
					(Start)	10/15/13 23:52		
					(End)	10/15/13 23:54		
Total/NA	Analysis	300.0		10	146267	10/12/13 03:27	EYT	TAL PLS
Total/NA	Analysis	300.0		1	146268	10/12/13 03:09	EYT	TAL PLS

Client Sample ID: SB-15-SS-8'-9'

Lab Sample ID: 720-52992-2

Date Collected: 10/11/13 09:45

Matrix: Solid

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			146248	10/11/13 20:25	ASC	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	146177	10/14/13 23:34	ASC	TAL PLS
Total/NA	Prep	3546			146175	10/14/13 19:01	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	146259	10/15/13 17:10	MQL	TAL PLS
Silica Gel Cleanup	Prep	3546			146348	10/16/13 09:42	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146337	10/16/13 18:24	MQL	TAL PLS

Client Sample ID: SB-14-SS-7'-8'

Lab Sample ID: 720-52992-3

Date Collected: 10/11/13 12:30

Matrix: Solid

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			146248	10/11/13 20:25	ASC	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	146177	10/15/13 00:03	ASC	TAL PLS
Total/NA	Analysis	8270C SIM		1	146259	10/15/13 17:33	MQL	TAL PLS
Total/NA	Prep	3546			146175	10/14/13 19:01	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		10	146358	10/16/13 15:12	MQL	TAL PLS
Silica Gel Cleanup	Prep	3546			146348	10/16/13 09:42	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146337	10/16/13 18:53	MQL	TAL PLS

Client Sample ID: SB-13-SS-7'-8'

Lab Sample ID: 720-52992-4

Date Collected: 10/11/13 13:30

Matrix: Solid

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			146248	10/11/13 20:25	ASC	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	146177	10/15/13 00:32	ASC	TAL PLS
Total/NA	Prep	3546			146175	10/14/13 19:01	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	146259	10/15/13 19:07	MQL	TAL PLS
Silica Gel Cleanup	Prep	3546			146348	10/16/13 09:42	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		3	146425	10/17/13 12:51	JZT	TAL PLS

Client Sample ID: SB-16-SS-7'-8'

Lab Sample ID: 720-52992-5

Date Collected: 10/11/13 15:00

Matrix: Solid

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			146248	10/11/13 20:25	ASC	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	146177	10/15/13 01:00	ASC	TAL PLS
Total/NA	Prep	3546			146175	10/14/13 19:01	DFR	TAL PLS
Total/NA	Analysis	8270C SIM		1	146259	10/15/13 19:30	MQL	TAL PLS
Silica Gel Cleanup	Prep	3546			146348	10/16/13 09:42	NVP	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146337	10/16/13 19:52	MQL	TAL PLS

Client Sample ID: SB-16

Lab Sample ID: 720-52992-6

Date Collected: 10/11/13 15:40

Matrix: Water

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	146442	10/17/13 16:16	PDR	TAL PLS
Total/NA	Prep	3510C			146383	10/16/13 15:02	NDU	TAL PLS
Total/NA	Analysis	8270C SIM		1	146461	10/17/13 17:05	MQL	TAL PLS
Total/NA	Analysis	RSK-175		1	138043	10/16/13 23:10	SC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			146433	10/17/13 08:55	BB	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146530	10/18/13 10:24	DCH	TAL PLS
Total/NA	Analysis	6010B		1	146502	10/17/13 17:58	SLK	TAL PLS
Total/NA	Prep	3010A			146361	10/16/13 12:12	ECT	TAL PLS
Total/NA	Analysis	6010B		1	146531	10/17/13 20:45	SLK	TAL PLS
Dissolved	Prep	3005A			146446	10/17/13 11:33	JCR	TAL PLS
Dissolved	Analysis	6010B		1	146532	10/17/13 22:01	SLK	TAL PLS
Dissolved	Prep	3005A			146446	10/17/13 11:33	JCR	TAL PLS
Dissolved	Analysis	6010B		1	146567	10/18/13 11:20	EFH	TAL PLS
Total/NA	Analysis	SM 4500 S2 F		1	207209		CLB	TAL CHI
					(Start)	10/15/13 23:54		
					(End)	10/15/13 23:56		
Total/NA	Analysis	300.0		10	146267	10/12/13 04:01	EYT	TAL PLS
Total/NA	Analysis	300.0		1	146268	10/12/13 03:44	EYT	TAL PLS

Client Sample ID: SB-16D

Lab Sample ID: 720-52992-7

Date Collected: 10/11/13 15:50

Matrix: Water

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	146442	10/17/13 16:45	PDR	TAL PLS
Total/NA	Prep	3510C			146383	10/16/13 15:02	NDU	TAL PLS
Total/NA	Analysis	8270C SIM		1	146461	10/17/13 17:28	MQL	TAL PLS
Total/NA	Analysis	RSK-175		1	138043	10/16/13 23:24	SC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			146433	10/17/13 08:55	BB	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	146530	10/18/13 10:53	DCH	TAL PLS
Total/NA	Prep	3010A			146361	10/16/13 12:12	ECT	TAL PLS
Total/NA	Analysis	6010B		1	146502	10/17/13 18:03	SLK	TAL PLS
Total/NA	Analysis	6010B		1	146531	10/17/13 20:50	SLK	TAL PLS
Dissolved	Prep	3005A			146446	10/17/13 11:33	JCR	TAL PLS
Dissolved	Analysis	6010B		1	146532	10/17/13 22:06	SLK	TAL PLS
Dissolved	Prep	3005A			146446	10/17/13 11:33	JCR	TAL PLS
Dissolved	Analysis	6010B		1	146567	10/18/13 11:25	EFH	TAL PLS
Total/NA	Analysis	SM 4500 S2 F		1	207209		CLB	TAL CHI
					(Start)	10/15/13 23:56		
					(End)	10/15/13 23:59		
Total/NA	Analysis	300.0		10	146267	10/12/13 04:35	EYT	TAL PLS
Total/NA	Analysis	300.0		1	146268	10/12/13 04:18	EYT	TAL PLS

Client Sample ID: TRIP BLANK

Lab Sample ID: 720-52992-8

Date Collected: 10/11/13 00:00

Matrix: Water

Date Received: 10/11/13 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	146442	10/17/13 17:14	PDR	TAL PLS

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-14

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-14
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-28-14 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-14
New Mexico	State Program	6	N/A	01-31-14
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-14
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8270C SIM	PAHs by GCMS (SIM)	SW846	TAL PLS
RSK-175	Dissolved Gases (GC)	RSK	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
300.0	Anions, Ion Chromatography	MCAWW	TAL PLS
SM 4500 S2 F	Sulfide, Total	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-52992-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-52992-1	SB-15	Water	10/11/13 10:40	10/11/13 17:50
720-52992-2	SB-15-SS-8'-9'	Solid	10/11/13 09:45	10/11/13 17:50
720-52992-3	SB-14-SS-7'-8'	Solid	10/11/13 12:30	10/11/13 17:50
720-52992-4	SB-13-SS-7'-8'	Solid	10/11/13 13:30	10/11/13 17:50
720-52992-5	SB-16-SS-7'-8'	Solid	10/11/13 15:00	10/11/13 17:50
720-52992-6	SB-16	Water	10/11/13 15:40	10/11/13 17:50
720-52992-7	SB-16D	Water	10/11/13 15:50	10/11/13 17:50
720-52992-8	TRIP BLANK	Water	10/11/13 00:00	10/11/13 17:50

720-52992

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 2

Lab Work Order #: 149304

Send Results to:
Contact & Company Name: Hollis Phillips @ ARCADIS
Telephone:
Address:
Fax:
City State Zip: ON FILE
E-mail Address:

Project Name/Location (City, State): UPS Oakland (Oakland, CA)
Project #: B0038398.0017
Sampler's Printed Name: Miljan Draganic
Sampler's Signature:

Keys

Preservation Key:
A. H_2SO_4
B. HCl
C. HNO_3
D. NaOH
E. None
F. Other:
G. Other:
H. Other:

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other:
10. Other:

Matrix Key:
SO - Soil, SE - Sediment, NL - NAPL/Oil, W - Water, SL - Sludge, SW - Sample Wipe, T - Tissue, A - Air, Other:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	BTEX/MTBE (8260)	TPH-GRO (8015B)	TPH-DRO ⊛ (8015B)	EDB/1,2-DCA (8260)	PAHs (8270)	Dissolved total Fe and Mn (200.7/6010B)	Nitrate (353.2/EPA 300.0)	REMARKS
					Preservative								
					Filtered (✓)							Yes	
					# of Containers								
					Container Information								
SB-15	10/11/13	1040		X	water	X	X	X	X	X	X	X	Fe & Mn bottle field filtered
SB-15-SS-8'-9'		0945		X	soil	X	X	X	X	X			
SB-14-SS-7'-8'		1230		X	soil	X	X	X	X	X			
SB-13-SS-7'-8'		1330		X	soil	X	X	X	X	X			
SB-16-SS-7'-8'		1500		X	soil	X	X	X	X	X			
SB-16		1540		X	water	X	X	X	X	X	X	X	All bottles filtered in the field
SB-16-D		1550		X	water	X	X	X	X	X	X	X	All bottles filtered in the field
Trip Blank		—		X	water	X	X		X				

720-52992 Chain of Custody

2.3°/2.0°

Special Instructions/Comments:
⊛ With Silica Gel clean-up, using 10-gram column clean-up based on 3630C.
→ Short hold times present

☐ Special QA/QC Instructions(✓):

Bill directly to UPS

Laboratory Information and Receipt
Lab Name: Test America
☒ Cooler packed with ice (✓)
Specify Turnaround Requirements: Standard
Shipping Tracking #: Currier
Cooler Custody Seal (✓): ☐ Intact ☐ Not Intact
Sample Receipt: 9:18 2.3°c/2.0°c
Condition/Cooler Temp:

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Miljan Draganic	Printed Name:	Printed Name: BSD20	Printed Name: Justinn Gonzales
Signature:	Signature:	Signature:	Signature:
Firm: ARCADIS	Firm/Courier:	Firm/Courier:	Firm: TAP
Date/Time: 10/11/13 1650	Date/Time: 10/11/13 16:50	Date/Time: 10/11/13 5:50	Date/Time: 10/11/13 1750

20730826 CofC AR Form 01.12.2007

Distribution: WHITE – Laboratory returns with results; YELLOW – Lab copy; PINK – Retained by ARCADIS

10/18/2013

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

720-52992

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of 2

Lab Work Order #: 149304

Send Results to:

Contact & Company Name: Hollis Phillips @ ARCADIS
Telephone:
Address:
Fax:
City / State / Zip:
E-mail Address: ON FILE

Project Name/Location (City, State): UPS Oakland (Oakland, CA)
Project #: B0038398.0017
Sampler's Printed Name: Miljan Draganic
Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Sulfate (300/sw 846 9056)	Sulfide (method 376.1)	Methane (RSK-175)	REMARKS
SB-15	10/11/13	1040		X	water	X	X	X	
SB-16		1540		X	water	X	X	X	All bottles filtered in the field
SB-16-D		1550		X	water	X	X	X	All bottles filtered in the field

Preservative / Filtered (✓) / # of Containers / Container Information

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Special Instructions/Comments:
→ Short hold times present

☐ Special QA/QC Instructions(✓):
Bill directly to UPS

Laboratory Information and Receipt

Lab Name: Test America
☒ Cooler packed with ice (✓)
Specify Turnaround Requirements: Standard
Shipping Tracking #: Currier
Cooler Custody Seal (✓): ☐ Intact ☐ Not Intact
Sample Receipt: 2.3°/2.0°C
Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Miljan Draganic	Printed Name:	Printed Name:	Printed Name: Justinn Gonzales
Signature:	Signature:	Signature:	Signature:
Firm: ARCADIS	Firm/Courier:	Firm/Courier:	Firm: TAP
Date/Time: 10/11/13 1650	Date/Time: 10/11/13 16:50	Date/Time: 10/11/13 5:50	Date/Time: 10/11/13 1750

20730826 CofC AR Form 01.12.2007

Distribution: WHITE – Laboratory returns with results; YELLOW – Lab copy; PINK – Retained by ARCADIS

10/18/2013

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 720-52992-1

Login Number: 52992

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Mullen, Joan

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are 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.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received 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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 720-52992-1

Login Number: 52992
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago
List Creation: 10/15/13 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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 containers received 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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 720-52992-1

Login Number: 52992
List Number: 1
Creator: Sung, Hubert

List Source: TestAmerica Irvine
List Creation: 10/15/13 12:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received 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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ARCADIS

Appendix D

SPH Mobility Evaluation and High Vacuum Extraction Field Notes and Data Sheets

UPS Oakland

DTP/DTW measured from top of manifold

~~BP 262~~ ~~GP09BPNA.C125.G0000~~

Field personell Scott Wenning date 5/15/13

	Extraction well MW-12			Monitoring well EW-1		Monitoring well EW-2		Monitoring well MW-13		Monitoring well EW-3	
Time	Casing Vacuum [in/Hg]	PID [ppm]	Truck Vacuum [in/Hg]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]
1230	DTP=	9.62	DTW=9.86	—	9.60 / 9.61	—	6.49	—	6.24	—	—
1300	6.0	—	9.0	8.02	10.21 / 10.31	0.83	6.53	6.10	6.65	—	—
1330	10.0	425	9.0	10.14	10.29 / 10.35	8.84	6.60	7.86	6.85	—	—
1400	11.0	373	7.0	16.09	— / 10.31	0.71	6.68	8.80	6.89	—	—
1430	9.0	103	9.0	19.21	— / 10.31	0.41	6.72	8.84	6.91	—	—
1500	10.0	114	9.0	20.31	— / 10.31	0.72	6.83	7.68	6.99		
1530	7.0	91.9	9.0	22.91	— / 10.31	0.83	6.95	9.42	7.02		

- not monitored in traffic lane

UPS Oakland

DTW/DTP measured from Top of Manifold

~~BP 282~~ ~~GP09BPNA.C125.C0000~~

Field personell Scott Wenning date 5/15/13

	Extraction well IW-1			Monitoring well MW-12		Monitoring well MW-13		Monitoring well IW-2		Monitoring well IW-3		
Time	Casing Vacuum [in/Hg]	PID [ppm]	Truck Vacuum [in/Hg]	Casing vacuum [in/H20]	DTP / DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	
0830	—	DTP=7.34	DTW=7.99		8.85 / 9.88	—	6.08	-	5.97	—	—	IW-3 in traffic lane in 45 feet from extraction well - no monitored
0930	6.0	20.1	6.0	1.39	8.90 / 9.86	0.69	6.22	0.07	6.10	—	—	
1000	12.5	74.8	9.0	1.88	9.20 / 9.83	0.97	6.26	0.09	6.14	—	—	
1030	14.5	162	9.0	1.60	9.55 / 10.05	1.05	6.24	1.04	6.30	—	—	
1100	15.0	182	9.0	1.73	9.81 / 10.05	1.10	6.27	0.55	6.36	—	—	
1130	16.6	218	9.0	1.80	9.91 / 10.10	1.21	6.28	0.28	6.40	—	—	
1200	16.0	227	9.0	1.64	9.95 / 10.14	1.06	6.30	0.27	6.42	—	—	

5/15/13 UPS Oakland VTE event

0635 ARCADIS Onsite
Sign in with security
Call Angelene and michal and Jennifer
sign Yard rules
review H&SP

0700 ~~Open~~ Set up exclusion zone around IW-1, IW-2, MW-12, MW-13
- Open wells - not gaging all 17 wells, no time
- IW-3 located 20 feet outside of exclusion zone. Heavy truck traffic driving over IW-3
Call Jennifer - She wants to send out another person
Call Arpen - He recommend that the well does not need to be monitored
- Angelene returns phone call
- She does not want ARCADIS onsite after 4:30 pm and is concerned about our activities blocking traffic
- I recommend that IW-3 not be monitored to keep client happy and safety

0730 - ICON, Subcontractor, Onsite
- Sign in with guard shack
- tailgate H&S meeting
- Gauge wells - measured at Top of Casing

Well ID	DTP (ft)	DTW (ft)
IW-1	6.56	6.79
MW-12	6.09	6.51
MW-13	—	5.26
IW-2	—	5.21

0810 Begin Manifold Install and hose connection to truck
0830 record initial conditions
Speak to Hollis - confirms that we are not monitoring IW-3
0850 Begin lowering Stinger to depth in IW-1
0930 Close Bleeder Valve and begin recording data in FDS

1000 trouble shoot IW-2, no vaccuum
~ 1/8 tank of vac truck, 3000 gal tank
1115 ~ 3/16 Vac truck water tank level
3000 gal tank
~ extracted ~~pw~~ groundwater was initally dark brown/black then became lighter in color. at approx 1100 groundwater becam more brown/black again
1200 - Stop extracting from IW-1 switch to extraction from MW-12
Monitoring @ IW-1, IW-2 and MW-13
~ 3/16 Vac truck water level (3000 gal tank)
1230 - Begin recording FDS data
1300 - extracted groundwater dark brown becoming less turbid and water is extracted
IW-1 appears to be dry. Vacuum increases when the 1" PVC is closed from top of manifold otherwise no vaccum.
1500 ~ 1/4 Vac truck tank 3000 gal
- Ground water less turbid ~ opaque
1430 - OFFSITE total volume generated ~ 1200 gallons according to waste manifest

UPS B003898.0018

Field personell Scott w emerson date 4/4/13

* DTP/DTW measured @ top of manifold not to top well casing

Extraction well IW-1 Monitoring well MW-12 Monitoring well MW-13 Monitoring well IW-2 Monitoring well N/A

Time	Casing Vacuum [in/Hg]	PID [ppm]	Truck Vacuum [in/Hg]	Casing vacuum [in/H20]	* DTP / DTW [ft]	Casing vacuum [in/H20]	* DTW [ft]	Casing vacuum [in/H20]	* DTW [ft]	Casing vacuum [in/H20]	DTW [ft]
1500	10.5	3.2	26.0	1.22	8.64 / 8.93	0.92	7.82	NA	6.09		
1530	7.0	7.3	18.5	0.85	8.86 / 9.17	0.84	6.31	0.19	11.48		
1600	7.0	2.3	21.0	0.82	8.99 / 9.1	0.87	6.31	0.14	11.56		
1615	7.0	1.5	21.0	0.76	9.06 / 9.34	0.87	6.35	0.60	11.58		
1635	7.0	2.1	24.0	0.84	9.14 / 9.4	0.86	6.36	0.50	11.61		

had to reconfigure IW-2 manifold

measured to top of manifold

UPS B003898.0018

Field personell Scott Wenning date 4/4/13

	Extraction well			Monitoring well		Monitoring well		Monitoring well		Monitoring well	
						MW-13		IW-2			
Time	Casing Vacuum [in/Hg]	PID [ppm]	Truck Vacuum [in/Hg]	Casing vacuum [in/H20]	DTP / DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]	Casing vacuum [in/H20]	DTW [ft]
1749	4.0	5.8	26.0	8.70	9.45 / 9.61	8.20	6.78	0.67	11.64		
1808	5.0	7.1	20.0	4.02	10.01 / 10.1	5.83	6.91	2.11	11.71		
1818	5.5	4.4	21.0	3.60	10.01 / 10.1	6.91	7.02	2.21	11.80		
1830	6.0	2.3	22.0	2.84	10.11 / 10.1	11.61	7.07	1.10	11.70		
1845	6.6	1.2	22.0	1.29	10.08	13.00	7.11	2.51	11.88		

IW-1 - dry no product
IW-1 - dry no product

4/4/13 UPS Oakland

0645 ARCADIS Onsite
- locate 55 gal drums
- locate wells
- missing large socket to access wells - Home depot to purchase

0730 Set up exclusion zone
- retrieve 1 empty 55 gal drum

0750 Incorrect equipment - have water level meter, not interface probe
- sourced interface probe from enmyvilla
ARCADIS offsite to pick up interface probe

0925 ARCADIS onsite
Gauge wells
IW-1 - DTP - 5.64 ft DTW - 6.48 ft
TD - 9.29 ft - product is thick and black
MW-12 - DTP - 5.70 ft DTW - 5.95 ft
TD - 9.25 ft
MW-13 - DTW - 4.88 ft no product
IW-2 - DTW - 5.16 ft no product

0955 Sub-contractor Icon Environmental onsite
- Tailgate H&S

1020 Bail-down test at IW-1

1145 Bail-down test at MW-12

1230 ARCADIS & Sub offsite to get lunch

1300 ARCADIS and Sub-C onsite post lunch
- Communicate with PM & engineer to adjust tests and confirm resu
- Midday tailgate H&S meeting with Sub.
  - Increase size of exclusion zone
  - reposition vehicles
  - utilize hazard lights.
  - Stop work used to mitigate high volume heavy truck traffic
~1400 Gauge wells
MW-12 - DTP - 5.69 DTW - 5.85
MW-13 - DTW - 4.88
MIW-2 DTW - 5.16
IW-1 DTP - 5.74 DTW - 6.16
- Start Vac truck operations - IW-1
- build manifolds for all four wells
- IW-3 not monitored due to heavy truck traffic
- monitoring at IW-3 would close through traffic
1430 troubleshooting manifold leaks
1500 Vac-truck ~ 150 gallons
15' - record data for vac event

4/4/13 UPS Oakland

1600 Vac-truck at ~ 350 gallons
- Per Arpan Shah - compute draw-down test at IW-1 after Vac-event at IW-1

1630 Vac-truck at ~ 500 gal

1730 MW-13 - DTW - 6.30 ft from top of manifold
IW-2 - DTW - 11.65 ft from top of manifold
- measured before initiation Vacuum in MW-12

1735 Begin extraction from MW-12

1900 Begin MW-12 draw-down test

1930 Icon Environmental offsite

1945 Breakdown / decon / cleanup

2015 ARCADIS offsite

Icon removed all Purgewater from 3 ARCADIS drums onsite before site exit.

4/4/13 UPS Oakland

IW-1 Bail-down test

- Well bailed into std. 5 gal bucket
  - Total Product bailed = 0.08 ft
  - total Volume bailed = 0.52 ft

	Time	DTP [ft]	DTW [ft]
before bail →	0940	5.64	6.48
after bail	1023	5.85	5.95
↓	1025	5.85	5.99
	1027	5.82	6.01
	1030	5.81	6.01
	1035	5.80	6.03
	1038	5.80	6.04
	1042	5.80	6.05
↓	1044	5.80	6.06
	1050	5.79	6.09
	1055	5.79	6.11
	1100	5.78	6.12
	1106	5.78	6.15
	1116	5.77	6.17
	After bail-down test in MW-12		
↳	1400	5.74	6.16

4/4/13 UPS Oakland

MW-12 bail-down test

- bailed into std. 5 gal bucket
- total product bailed - 0.08 ft
- total volume bailed - 0.23 ft

DTP - 5.70 ft DTW - 5.95 ft - before bai

time	DTP [ft]	DTW [ft]
1150	5.81	5.86
1152	5.78	5.84
1158	5.78	5.86
1202	5.75	5.86
1205	5.74	5.86
1208	5.75	5.86
1211	5.75	5.85
1217	5.74	5.85
~1400	5.69	5.95

4/4/13 UPS Oakland

IW-1 - Second Draw-down test

- Post HUE
- measured at top of well casing

time	DTP	DTW
1652	8.40	8.42
1657	8.19	8.20
1702	8.13	8.14
1705	8.11	8.12
1709	8.10	8.12
1712	8.08	8.12
1715	8.07	8.12
1719	8.05	8.13
1723	8.04	8.13
1730	8.02	8.15

Site Visit Report

ARCADIS G&M Project Number:	Dates of Site Visit:
B0038398.0018	2/25/13
ARCADIS G&M Project Name:	**Location of Project:**
UPS Oakland	8400 Pardee Dr.
ARCADIS G&M Personnel Present:	**Other Persons Present:**
K. Firich	Icon Environmental

Purpose of Site Visit:

HVE Event

Date & Time:	Activities:
0640	Arrive Emeryville office to pick up equipment & field truck
0730	Berkeley shed- load more equipment onto truck
0830	Arrive at UPS Oakland H&S Tailgate, security check-in
0915	Begin setting up work station at MW-12 for extraction
	DTW: / DTP (Product) IW-1 6.50 / 5.65 IW-2 7.04 IW-3 5.90 MW-12 6.55 / 5.50 MW-13 4.61
1105	Phone calls to Arpen- working on setup
1115	Start running system, PID readings at MW-12 1115 = 0.2, 1200=0.2, 1400=1.1
1415	IW-1 DTW = 8.91 DTP = 8.00 275 gal of water extracted at MW-12
1430	Start extraction at IW-1
1500	PID reading = 0.2 at IW-1, hose length appx 25ft.
1600	Speak with Arpen- stop PID reading and Collect DTW at other wells

Weather: Sunny 50°

Signature & Date: Kari 2/25/13

Equipment billing submitted:_____

Date to accounting: _____

Site Visit Report

Date & Time:	Activities:
1615	MW-14 could not open
1630	MW-12 NO product. DTW = 8.62
1645	MW-8 DTW = 3.39
1655	Begin clean up. Stop running system. check IW-1
1700	DTW = 8.90 no solid beep but product on the probe. Begin extraction again with hose.
1720	check IW-1 again. Well is dry but residual product on probe.
1730	4.45 DTW in tank. 1100 gallons total Probe not working correctly (no solid beep for product)
1745	Empty Free Product drum and label as empty on-site
1800	off-site. Call Jennifer.
1830	Berkely Shed drop off
1915	Emeryville drop off and return truck.