26 August 2016
Project 731674401

Mr. Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Addendum to Soil and Groundwater Investigation Report
and Request for No Further Action
730 – 750 A Street
Hayward, California
Alameda County SCP Case No. RO3178
Langan Project: 731674401

Dear Ms. Detterman:

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document titled *Addendum to Soil and Groundwater Investigation Report and Request for No Further Action, 730 – 750 A Street, Hayward, CA*, Alameda County SCP Case No. RO3178, are true and correct to the best of my knowledge.

Sincerely yours,

Jeanne Burns

ADDENDUM TO SOIL AND GROUNDWATER INVESTIGATION REPORT AND REQUEST FOR NO FURTHER ACTION 730-750 A STREET HAYWARD, CALIFORNIA PROJECT NO. 731674401 SCP: RO3178

Prepared For:

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1131 Harbor Bay Parkway

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Ms. Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
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Subject: **Addendum to Soil and Groundwater Investigation Report and Request for No Further Action**
730-750 A Street
Hayward, California
Project No. 731674401
SCP: RO3178

Dear Mrs. Detterman:

Langan Treadwell Rollo (Langan) is pleased to submit this Addendum to Soil and Groundwater Investigation Report and Request for No Further Action for 730-750 A Street, located in Hayward, California (Site). This project was conducted on behalf of Ms. Jeanne Burns (Client) by the request of the Alameda County Environmental Health Department (ACEH).

This addendum describes environmental activities and remedial actions undertaken at the Site, results of previous sampling relative to February 2016 San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs), the distribution of historic sampling results, results of nearby, adjacent leaking underground storage tank (LUST) Sites that may have contributed to groundwater contamination, a sensitive receptor survey consisting of a well survey, to locate potential sensitive receptors downgradient of the Site, technical justification for an expected maximum plume length and provides a conceptual site model.

The work was undertaken to obtain regulatory closure in accordance with the State Water Resources Control Board's 2012 Low Threat Underground Storage Tank Closure Policy Criteria. On behalf of the Client, Langan requests that ACEH concur that no further regulatory action is necessary with regards to the sumps, waste oil underground storage tank (UST) or hydraulic lifts that were formerly at the Site. If you have any questions, please do not hesitate to call.

Sincerely yours,
Langan Treadwell Rollo

Noel Liner, PG
Project Geologist

Peter Cusack
Senior Associate/Vice President

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ADDENDUM TO SOIL AND GROUNDWATER INVESTIGATION REPORT AND REQUEST FOR NO FURTHER ACTION 730-750 A STREET HAYWARD, CALIFORNIA

1.0 INTRODUCTION

This addendum to the *Soil and Groundwater Investigation Report* is being presented in accordance with a request from the Alameda County Environmental Health Department (ACEH) for additional information in a meeting at ACEH offices on 4 August 2016 to supplement the results of Langan Treadwell Rollo's (Langan) soil and groundwater investigation performed on 25 February 2016. Based on the information presented, this addendum is also a formal request for case closure related to the subject property (Site) located at 730 and 750 A Street, in Hayward, California. The investigation was undertaken to ascertain the status of potential soil and groundwater impacts as a result of a recognized environmental condition (REC) identified in an 8 May 2015 Phase I Environmental Site Assessment by ERAS Environmental Inc. Following the investigation and receipt of Langan's Soil and Groundwater Investigation report, ACEH requested this additional work as part of a formal request for case closure.

- This report is organized as follows:
- This introduction;
- Site background in Section 2;
- Selected Screening Levels in Section 3;
- Summary of environmental investigations performed on the Site in Section 4;
- The nature and extent of contamination remaining on the Site in Section 5;
- Summary of environmental investigations performed at nearby off-Site properties in Section 6;
- Summary, conclusions and rationale for closing the site in Section 7; and
- Tables and figures presenting information described in the text. Attachment A provides the Conceptual Site Model (CSM).

2.0 SITE BACKGROUND

The Site is located at 730-750 A Street (Site) in Hayward, California (Figure 1). Historic data indicate that portions of the Site contained residential dwellings to at least 1923. Following improvements at the Site, the Site contained storefronts, and the Site was developed into its current configuration approximately 1962. The Site formerly housed an automobile service and sales facility and several automobile dealerships. The property is currently occupied by Aaron's Rent to Own Furniture, Electronics, and Appliances (730 A Street) and Larry's Tire Express (750 A Street) (ERAS 2015a).

3.0 SELECTED SCREENING LEVELS

Selected screening levels for the Site were the Tier I Environmental Screening Levels (ESLs) from the San Francisco Bay Regional Water Quality Control Board for soil and groundwater. The Tier I ESLs selected are the most conservative screening levels of the ESLs, and assume groundwater is to be used as a drinking water resource. Results from previous investigations (discussed in Section 4.0) were compared to the most current San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) from February 2016. The results of the investigations indicated detected concentrations of soil and groundwater contaminants were below the ESLs (Tables 1 through 3).

4.0 PREVIOUS ON-SITE INVESTIGATIONS

Previous Site Investigations include the following:

- Removal of a 550 gallon waste oil underground storage tank (UST) in 1993 by Soil Tech;
- Limited soil investigation in 1998 by ERAS Environmental;
- Environmental remediation activities performed by ERAS Environmental in 2000;
- A Phase I Environmental Site Assessment performed by ERAS in 2015;
- Soil sampling around former hydraulic hoist locations performed by ERAS in 2015; and
- Additional soil and groundwater investigation by Langan in 2016.

Figure 2 presents the locations of the former sumps, UST and historical boring locations associated with the sumps and UST. Figure 3 presents the locations of the former hydraulic

lifts and borings from 2015 and 2016 associated with characterization for the hydraulic lifts. The following sections summarize the investigations performed at the Site.

4.1 Removal of 550 Gallon Waste Oil UST by Soil Tech in 1993

On 16 March 1993, a 550-gallon UST for storage of waste oil was excavated and removed by Alpha Geo Services from the Site. The former UST was located along the northwest corner of the building at 750 A Street. The depth of the UST excavation was eight feet below ground surface (bgs). Upon excavation and removal of the UST, one soil sample was collected at the base of the excavation which was analyzed for total petroleum hydrocarbons as gasoline and diesel (TPH-g, and TPH-d), benzene, toluene, ethylbenzene, total xylenes (BTEX), volatile organic compounds (VOCs) total oil and grease (TOG), and leaking underground fuel tank (LUFT) five metals (cadmium, chromium, lead, nickel, and zinc). Additionally, one sample of the stockpile excavation spoils was collected and analyzed for the same suite of chemicals. The excavation base sample had non-detectable levels of non-metal compounds. The stockpile sample had non-detectable levels of non-metals with the exception of oil and grease, which was detected at a level of 2,900 milligrams per kilogram (mg/kg). The LUFT 5 metals were detected at low levels (below screening levels). The UST was observed to be single-wall steel, and no holes were observed in the UST. The empty UST was disposed of at Erickson Inc., on 255 Parr Boulevard, in Richmond, California as non-RCRA hazardous waste (Soil Tech, 1993).

In correspondence dated 29 April 1993, the Hayward Fire Department, acting as the agent for the San Francisco Water Quality Control Board concurred that the UST excavation site did not require any further investigation, and directed the owner to replace the excavated backfill material with imported backfill free of any contamination.

4.2 Limited Soil Investigation by ERAS in 1998

ERAS Environmental Inc., (ERAS) performed a limited soil investigation at the Site on 20 December 1998, which consisted of the following:

- Soil borings were advanced within one foot of each of two, three-foot deep sumps containing waste oil sludge. One sump was located at 730 A Street, behind the main show room building, and the other sump was located at 750 A Street.
- Soil samples were collected at 3.5 feet bgs at 730 A Street, and at a depth of 5.5 feet bgs at 750 A Street, near the outlet pipes of the sumps, and the samples were analyzed for TPH-g, -d, VOCs and TOG.

Detections in the samples consisted only of very low levels of petroleum hydrocarbons that were reportedly heavier than the diesel standard (ERAS, 2000).

4.3 Remediation Activities by ERAS in 2000

On 11 January 2000 ERAS filled the sumps with concrete. Following the sump filling, waste consisting of three 20 gallon drums of waste liquid consisting of coolant and grease and a 200 gallon tank of 10 gallons of waste solvent were removed from the Site.

4.4 Phase I Environmental Site Assessment by ERAS in 2015

ERAS Environmental Inc., (ERAS) performed a Phase I Environmental Site Assessment (ESA) for the property and the results were presented in their report dated 18 May 2015. ERAS observed that 18 underground hydraulic lifts had been previously removed from the property and no environmental sampling appeared to have been conducted at the time of the hydraulic lift removals. ERAS recommended the collection of soil samples directly adjacent to the former hydraulic lifts to determine if the soils underlying the former hydraulic lifts had been impacted.

4.5 2015 Soil Sampling Surrounding Hydraulic Hoists by ERAS

In June 2015, ERAS collected 18 soil samples from 18 boring locations where the former hydraulic lifts were located at depths ranging between 9.5 feet bgs and 11.5 feet bgs. Soil samples were analyzed for total petroleum hydrocarbons (TPH) quantified as hydraulic oil (TPH-ho) by EPA Method 8015M and polychlorinated biphenyls (PCBs) by EPA Method 8081. TPH-ho was detected in five out of 18 samples analyzed. Concentrations ranged between 5.6 milligrams per kilogram (mg/kg) and 10,000 mg/kg. The results indicated the following:

- Current ESLs for hydraulic oil have not been established; the most conservative ESL potentially applicable to the hydrocarbon range for hydraulic oil selected was the Tier I ESL for motor oil of 5,100 mg/kg. Based on the this ESL, a single detection of hydraulic oil exceeded the tier I ESL of 5,100 mg/kg for motor oil at sample location B-6 (where TPH-ho was detected at 10,000 mg/kg a depth of 9.5 feet bgs). This concentration exceeds the Tier I ESL for motor oil of 5,100 mg/kg, but is significantly less than the Tier II commercial/industrial ESL for motor oil of 140,000 mg/kg.

The remaining results indicated only very low levels of hydrocarbon detections, within limited areas based on the following:

- The highest detection of hydraulic oil was sample B-15, where TPH-ho was detected at 2,500 mg/kg at a depth 11.5 feet bgs;

- Of the remaining sixteen samples, 11 had non-detectable concentrations of hydraulic oil, and three had concentrations ranging between 5.6 to 34 mg/kg.
- PCBs were not detected at or above laboratory reporting limits in any of the samples analyzed.
- No groundwater samples were collected during ERAS's investigation.

4.6 Soil and Groundwater Sampling by Langan in 2016

In electronic correspondence dated 2 February 2016, ACEH requested additional characterization at the Site consisting of the collection of one grab groundwater sample and additional soil samples from the former automotive repair facility to characterize soil and groundwater near the location of previous boring B-6. Following ACEH's request, soil and groundwater sampling was performed in accordance with Langan's Work Plan for Grab Groundwater Sampling and Analysis, 730-750 A Street, Hayward California dated 23 November 2015 and approved by Alameda County Environmental Health Department (ACEH).

On 25 February 2016, Langan drilled one exploratory boring (LB-01) with a limited access track-mounted direct push drill rig to collect soil and one grab groundwater sample for chemical analysis in the vicinity of borings B-6 and B-15 to characterize the groundwater beneath the area of the former hydraulic lifts to a depth of 71 feet bgs. Soil samples were collected at depths of approximately 5, 10, 20, 30, 40, 50, 57, and 71 feet bgs. Samples were analyzed at McCampbell Analytical Laboratory; a State of California certified analytical laboratory located in Pittsburg, California (McCampbell) for the following:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-g), diesel (TPH-d), motor oil (TPH-mo), and hydraulic oil (TPH-ho) by EPA Method 8015;
- Volatile organic compounds (VOCs) by EPA Method 8260B; and
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270 using selected ion monitoring (SIM).

TPH-g, TPH-d, VOCs, or SVOCs were not detected at or above any laboratory reporting limits in the soil samples analyzed. The highest detection of petroleum hydrocarbons in the soil samples was 7.2 mg/kg for TPH-mo, found in Sample LB-01-05, at a depth of 5 feet bgs.

A grab groundwater sample was collected using a temporary 2-inch diameter schedule 40 polyvinyl chloride (PVC) casing with a 10-foot screen was installed from 61 to 71 feet bgs.

Groundwater was collected with a clean disposable bailer and decanted into laboratory supplied containers. Detections in the grab groundwater sample included TPH-mo and TPH-ho at concentrations of 1,100 micrograms per liter (µg/L). Low levels of VOCs were detected, including acetone, t-butyl alcohol (TBA) and trichloroethene (TCE) at concentrations ranging from 0.96 µg/L to 31 µg/L.

Guidance provided by the Water Board indicates that TPH-mo is insoluble in groundwater (Water Board, 2016). The Water Board advises that "If the detections are degradates, add TPH-motor oil and TPH diesel results and compare to TPH diesel criterion". As discussed in the conceptual site model (CSM - Attachment A), comparison of the diesel standard provided by the analytical laboratory to the chromatogram for the analytical result of the groundwater sample indicates that the detection in the groundwater sample does not consist of petroleum degradates (the result represents a hydrocarbon range outside of the diesel range, consistent with motor oil); therefore the ESL for TPH-d is not applicable as a comparison criteria.

5.0 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of contamination at the Site was generally defined through the analysis of soil and groundwater and samples collected during field investigations by Soil Tech in 1993, by ERAS from in 1998, 2000 and 2015, and Langan in 2016. The sampling results from each of the investigations indicate that residual contamination left on the Site in soil and groundwater is below February 2016 ESLs (Tables 1 through 3). The residual contamination in Site groundwater was detected as motor oil at a concentration of 1,100 µg/L. Subsequent comparison of the analytical results to the diesel standard indicates that the detection is consistent with motor (or potentially hydraulic) oil, and not the result of degradation of diesel. On this basis, the ESL for diesel does not apply. Since no other petroleum hydrocarbons were detected at the Site, and motor oil is considered essentially immobile in groundwater, the applicable Tier I ESL was used of 5,000 µg/L. On this basis there is no indication of groundwater contamination exceeding the ESLs at the Site.

6.0 SUMMARY OF ENVIRONMENTAL INVESTIGATIONS OF OFF-SITE PROPERTIES

This section summarizes the results of nearby upgradient properties having a history of environmental contamination to either soil and/or groundwater. The properties reviewed include:

- Abrott Plumbing, located at 784 A Street, upgradient of the Site by approximately 350 feet;

- Albertson Store No. 7138, located at 22555 Mission Boulevard, approximately 200 feet upgradient to cross-gradient; and

- Chevron Facility 6049, located at 898 A Street, upgradient of the Site by approximately 550 feet.

Selected environmental documents were reviewed for these properties as available on Geotracker and ACEH databases and are summarized below. Each of these properties are either directly upgradient or have a component of upgradient flow. Contaminant concentrations detected in groundwater at these properties include:

- In August 2008, PCE concentrations ranging from <0. 5 to 1,200 µg/L were detected at the Albertson cleanup site. This property was also the subject of LUST case that has subsequently been recommended for closure.

- In January 2007, THP-g was detected at a concentration of 240,000 µg/L at the Chevron Facility No. 351746. Delineation in 2015 by Arcadis of off-site impacts from this property indicate that groundwater contained 1,2-DCA and MTBE exceeding ESLs. Although the downgradient extent of TPH plumes exceeding ESLs were defined in this study (to within approximately 80 feet of this property), the results of the sampling "were consistent with previous findings indicating southwest migration of constituents of interest (COIs) through groundwater flow".

Regional geologic mapping indicates that the each of these nearby properties overlie Holocene alluvium deposited at the base of an outwash (Figure 4). Cross-sections were developed based on boring logs from nearby upgradient and downgradient properties (Figure 5). The cross-sections indicate continuous soil types and groundwater conditions along an east to west transect, below the Hayward Fault. Maximum concentrations of contaminants in groundwater are noted on the cross-section on Figure 5. The adjacent off-property locations discussed below are presented on Figure 6.

6.1 Former Abrott Plumbing LUST Cleanup Site

The former Abrott Plumbing property is located approximately 350 feet east of the Site at 784 A Street and is listed on CA Geotracker as a closed LUST cleanup site as of 7/19/2004 (Global ID: T0600156031).

The site closure letter dated August 24, 2004 from the California Regional Water Quality Control Board states that residual petroleum impacts at the site from two 550 gallon gasoline tanks that were removed from the site in 1986 do not pose a potential threat to human health and the environment under current commercial land use. However, the water board requires additional risk assessment be performed addressing the residual contamination in deep soil if the site undergoes redevelopment to more sensitive uses (e.g., residential).

The closure summary states that after removal of the USTs that the excavated soil was aerated and re-used as backfill. Verification sampling occurred on 6/20/1986 when the USTs were removed, with the maximum TPH-g concentration reported as 1,400 ppm in the soil (Trace Analysis Laboratory). On 19 April 2004, additional soil borings were advanced as part of the UST Case Closure Investigation. No groundwater was encountered during the advancement of the borings to 30 feet, therefore only soil analytical data is available for this site. The closure summary states the GW levels ranged from 18 feet bgs to 68 feet bgs in the area with a west-southwest flow direction based on regional data from nearby cases and monitoring wells. Twenty-four soil samples were collected from four boring locations, one at the former location of the USTs and three additional borings around it, 10 feet to 30 feet away. The maximum concentrations for TPH-g, xylenes, and ethylbenzene in soil were reported as 1,510 mg/kg, 103 mg/kg, and 15.2 mg/kg, respectively. Maximum concentrations were from boring B-1 (Attachment C), located approximately 10 feet directly north of the boring at the former UST location, at a depth of 30 feet bgs.

6.2 Albertsons Cleanup Program Site

The Albertsons #7138 (formerly #7088) property is located approximately 200 feet southeast of the Site at 22555 Mission Boulevard and is listed on CA Geotracker as an inactive cleanup program site as of 9/39/1999 (Global ID: T1000000112).

A letter from the City of Hayward to the California Regional Water Quality Control Board dated May 20, 2008 reveals that the current SLIC case (Case #01s0528) was preceded by a LUST case (Case #01-1141). The original LUST site was located at 22531 Watkins Street, midway between A Street and B Street. The letter to the RWQCB states that on 7 and 8 January 1991 three underground storage tanks were removed from what was then a taxicab garage with auto repair facilities: a 500-gallon waste oil tank, a 10,000 gallon gasoline tank, and an 8,000 gallon gasoline tank. Verification sampling following the removal of the USTs did not reveal any

concentrations of TPH-g, TPH-d (for the waste oil tank), or BTEX above laboratory reporting limits. During tank removal and over excavation of the area, no groundwater was encountered.

A Phase I Site Assessment was conducted by Pinyon Environmental Engineering Resources, Inc. in 1997 prior to redevelopment of the site into the current grocery store. The assessment revealed that prior uses of the site and adjacent properties included dry cleaners, gas stations, auto repair facilities, and a used car lot.

The revised Environmental Activities Report dated December 15, 2006 revealed that further investigations at the site by LFR and others at the immediate vicinity of the site indicated that soil and groundwater had been affected by PCE from prior releases at nearby drycleaners. In September 2000, LFR directed the excavation and disposal of approximately 1,300 cubic yards of PCE-affected soils from the site in accordance with LFR's Work Plan. Affected soils were excavated until PCE concentrations were below the site-specific cleanup target levels developed by LFR and approved by the RWQCB. In October 2001, four groundwater monitoring wells were installed in the vicinity of the site. Groundwater monitoring began in November 2001 and ended in September 2004. An off-site groundwater investigation was conducted in July 2002 to further assess the downgradient extent of PCE in groundwater.

The PCE isoconcentration map and data tables in the 2006 Environmental Activities Report reveal that grab groundwater samples GGW-1 through GGW-25 collected between March and August 2008 had PCE concentrations ranging from <0. 5 to 1,200 µg/L and CPT-28 through CPT-39 collected between 50-70 feet in July 2002 had PCE concentrations ranging from <0. 5 to 140 µg/L. The groundwater monitoring wells LF-1 through LF-5 had PCE concentrations ranging from 0.8 to 190 µg/L between November 2001 and December 2003. The well elevations ranged from 93.41 to 98.26 feet bgs and the groundwater elevations ranged from 37.00 to 39.78 feet bgs between November 2001 and December 2003. The most recent water level data collected in December 2003 from the five monitoring wells indicate that the groundwater is flowing west toward the San Francisco Bay.

6.3 Chevron LUST Cleanup Site

The Former Unocal Station 6049 – Chevron Facility No. 351746 property is located approximately 550 feet northeast of the Site at 898 A Street and is listed on CA Geotracker as an open LUST cleanup site as of 6/11/2008 (Global ID: T0600101491).

According to Delta Environmental Consultants, Inc. "Work Plan for Additional Subsurface Assessment," two 10,000-gallon steel gasoline USTs and one 550-gallon steel waste oil UST and associated piping were removed in July 1993. No holes or cracks were observed in the gasoline USTs, but the waste oil UST contained several holes. The initial soil sample collected from the base of the waste oil UST pit (9.25 feet bgs) contained TPH-g at 440 mg/kg, TPH-d at 990 mg/kg, and total oil and grease (TOG) at 6,700 mg/kg. Based on the initial soil sample analytical results the waste pit was overexcavated to 16 feet bgs. The sample from the bottom of the overexcavated pit at 16 ft bgs and the four sidewall samples collected at depths of 12 feet bgs did not contain detectable concentrations of any hydrocarbon constituents analyzed. During the overexcavation associated with the product piping trenches, a steel 200-gallon rectangular tank was discovered. No holes or cracks were evident in the tank and the tank was filled with soil. An additional waste oil UST was removed in 1998 and one confirmation sample from approximately 9.5 feet bgs did not reveal and hydrocarbon constituents above detectable levels.

In February 2006, Delta supervised the advancement of boring B-1 to determine the depth to groundwater and obtain soil and groundwater samples as part of ongoing monitoring at the site. Soil samples collected to 50-foot depth from boring B-1 showed no detectable concentrations of petroleum hydrocarbons. Analytical results of groundwater collected between 51-60.5 feet bgs showed the following maximum concentrations: 56,000 µg/L TPH-g; 1,900 µg/L benzene; 1,700 µg/L ethylbenzene; 5,900 µg/L toluene; and 9,600 µg/L total xylenes.

Grab groundwater samples were collected by Delta in 2007 at five soil boring locations. Results of the sampling indicated that the greatest contaminant concentration observed at the property was 240,000 µg/L for THP-g at location SB-2, collected on 17 January 2007.

The First Half 2016 Semi-Annual Groundwater Monitoring Report by Arcadis reveals that TPH-g has ranged from <50 to 430 µg/L in MW-1, 86 to 2,000 µg/L in MW-2, and 8,500 to 49,000 µg/L between 2012 and 2016. The groundwater flow direction has been established as south southwest.

7.0 SUMMARY CONCLUSIONS AND RATIONALE FOR CLOSURE

The results of the investigations and remedial actions described above support a no further action (NFA) determination by ACEH on the following basis:

- The primary sources, impacted media, release mechanism(s), and secondary source(s) of site contamination, have been removed from the Site.

- Extensive sampling has been performed to delineate the lateral and vertical extent of potential impacts from the identified sources.

- Based on the chromatographic signature of the grab groundwater sample and the sum of the historic soil sampling results, there are no contaminants on the Site that exceed current (February 2016) ESLs.

- There are no on-Site or off-Site impacts and therefore Site conditions will not result in an unacceptable risk level to on-Site or off-Site receptors.

- The distance to the nearest downgradient receptor (domestic well) is approximately 3,000 feet (1/2 mile) to the southwest of the Site. Assuming natural attenuation is on-going, we would expect concentrations of TPH to degrade significantly (below ESLs) by the time groundwater at this location was to reach the nearest down-gradient supply well. This supply well was sampled in 1999 and 2006 for constituents typically indicative of TPH impacts, including LUFT 5 metals. Contamination was not evident at this downgradient supply well.

- The greatest detection of contamination in soil was found at location B-6, at a depth of 9.5 feet bgs, at a level 10,000 mg/kg for hydraulic oil range hydrocarbons. This level exceeds the Tier I ESL of 5,100 mg/kg, but is significantly below the Tier II commercial/industrial ESL of 140,000 mg/kg. Considering the Site land use, and depth of detection, this concentration of hydraulic oil is not considered a human health risk or environmental concern.

- The detection of TPH as hydraulic oil/motor oil in groundwater was 1,100 µg/L. Comparison of the chromatogram for the analytical result to the diesel standard indicates that the sample detection consisted solely of hydraulic oil/motor oil range hydrocarbons. In the 2016 ESLs, the Water Board states that TPH motor oil is insoluble. Based on this comparison, the sampling result does not indicate a threat to water quality.

- Off-property impact studies for the nearest upgradient, open LUST case with ongoing contamination to groundwater, (the Chevron Facility No. 351746) indicates that even with historically detected concentrations of soluble petroleum contaminants in groundwater that greatly exceed ESLs, concentrations rapidly drop below ESLs over a short distance; we would expect similar conditions at the 730-750 A Street Site.

Sites appropriate for closure include those that satisfactorily meet applicable criteria, pose a low threat to human health, safety, and the environment, and, therefore, do not require further corrective action. On the basis of the information provided in this report, the Site at 730 to 750 A Street does not pose a significant risk to human health or the environment, meets the

closure criteria provided by the Water Board for a low threat site and are therefore appropriate for NFA. On behalf of the Client, Langan requests closure for the Site at 730 to 750 A Street, Hayward California, in accordance with the following:

a) **Pollutant sources are identified and evaluated:** The former **s**umps, USTs, and hydraulic lifts are the only known sources of petroleum hydrocarbon compounds. The sumps and USTs were removed and contaminated soil was excavated to the extent feasible in accordance with the regulatory agency approval. The former hydraulic lifts were removed without regulatory oversight, however, extensive sampling has been performed since that time to characterize the potential for residual impacts.

b) **The site is adequately characterized:** The nature and extent of TPH, BTEX, and metals contamination in soil and groundwater is laterally and vertically defined by 30 soil and 1 groundwater samples.

c) **Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed:** Soil and groundwater data were compared to Water Board Tier I screening levels based on the residential land use and use of groundwater as a drinking water resource. The distribution of residual petroleum hydrocarbons in soil and groundwater appears to be limited in extent, and are below the applicable ESLs. Only one soil detection at a depth of 9.5 exceeds Tier I ESLs for motor oil. This detection of 10,000 mg/kg is still less than the direct exposure ESL in shallow soil for residential scenarios of 11,000 mg/kg, is significantly less than the ESL for construction workers of 32,000 mg/kg and is a magnitude of order less than the ESL for commercial industrial shallow soil exposure of 140,000 mg/kg.

d) **Pollutant sources are remediated to the extent feasible:** Remediation efforts were conducted in 1993 (removal of the former 550 gallon waste oil UST) 1998 and 2000 (cleaning, filling in of the sumps with concrete, removal of the sump contents and sampling) and the removal of the former hydraulic lifts from the Site, and follow-up environmental sampling in soils and groundwater (2015 and 2016).

e) **Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated:**

With the exception of the very limited extent of residual soil contamination at location B-6, TPH and metals detected in soil and groundwater were either non-detect or below Tier I screening levels.

f) **Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated:** The groundwater sample results show that TPH constituents consist only of insoluble heavy chain hydrocarbons in the hydraulic/motor oil range.

g) **Groundwater plumes are stable or decreasing:** Motor oil range hydrocarbons are considered to be immobile in groundwater; the detected concentration of 1,100 µg/L is five times less than the applicable Tier I ESL for motor oil of 5,000 µg/L.

h) **Cleanup standards have been met or can be met in a reasonable timeframe:** Cleanup standards have not been established for this Site, as the sampling results do not indicate a need for such.

i) **Risk management measures are appropriate, documented, and do not require future oversight:** Risk management measures for the Site are not appropriate on the basis of the low to non-detectable levels of contaminants and the narrowly constrained distribution of detections do not indicate a risk to human health or the environment.

In our opinion, the data at this location do not indicate a risk to human health or the environment, and therefore there is no need for further action with regards to the former presence of the hydraulic lifts at the Site. Based on these findings, Langan respectfully requests case closure for the Site on behalf of the owner.

8.0 LIMITATIONS

Activities undertaken as part of this report were conducted solely on behalf of the Client to assess and address the presence of known contaminants of concern at the site and to present this information to the regulating agencies for their use in evaluating the work. No other party should rely on this information without the express, written permission of Langan. Langan assumes no responsibility or liability for errors in the information used or statements from sources other than those of Langan. Unless otherwise referenced, conclusions and recommendations in this report concerning the Site are those professional opinions of the

Langan personnel involved with the project, and this report should not be considered a legal interpretation of existing environmental regulations. Opinions presented herein apply to site conditions existing at the time of Langan's assessment, and cannot necessarily be taken to apply to Site changes or conditions of which we are not aware and have not had the opportunity to evaluate.

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TABLES

Table 1
Soil Analytical Results for Non-Metals
730-750 A Street
Hayward, California

Sample ID	Depth (feet)	Date Sampled	TPHg	TPHd	TPHmo	TPHho	VOCs	PAHs/PNAs
			(mg/kg)					
LB-01-05	5.0	02/25/16	< 1.0	< 1.0	7.2	7.2	ND	ND
LB-01-10	10.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-20	20.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-30	30.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-40	40.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-50	50.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-57	57.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
LB-01-71	71.0	02/25/16	< 1.0	< 1.0	< 5.0	< 5.0	ND	ND
Environmental Screening Levels			(mg/kg)					
ESLs			100	240	100	--	--	--

Notes:
mg/kg - milligrams per kilograms
TPHg - Total Petroleum Hydrocarbons as Gasoline, EPA Method 8015B
TPHd - Total Petroleum Hydrocarbons as Diesel Range, EPA Method 8015B
TPHmo - Total Petroleum Hydrocarbons as Motor Oil, EPA Method 8015B
TPHho - Total Petroleum Hydrocarbons as Hydraulic Oil, EPA Method 8015B
VOCs - Volatile Organic Compounds, EPA 8260B
PAHs/PNAs - Polynuclear Aromatic Hydrocarbons, EPA Method 8270C-SIM
< - Analyte was not detected at or above the laboratory reporting limit
ND - Not detected at or above the laboratory reporting limit
NE - Criteria not established
-- - ESLs varies by compound
ESLs - Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Tier 1 ESLs, February 2016

Table 2
Groundwater Analytical Results for Non-Metals
730-750 A Street
Hayward, California

Sample ID	Date Sampled	TPHg	TPHd	TPHmo	TPHho	Acetone	TBA	TCE	All other VOCs	PAHs/PNAs
		(µg/L)								
LB-01-GW	02/25/16	< 50	< 50	1,100	1100	31	2.1	0.96	ND	ND
Environmental Screening Levels		(µg/L)								
ESLs		100	100	5,000	NE	1,500	12	5	--	--

Notes:

µg/L - micrograms per Liter

TPHg - Total Petroleum Hydrocarbons as Gasoline, EPA Method 8015B

TPHd - Total Petroleum Hydrocarbons as Diesel Range, EPA Method 8015B

TPHmo - Total Petroleum Hydrocarbons as Motor Oil, EPA Method 8015B

TPHho - Total Petroleum Hydrocarbons as Hydraulic Oil, EPA Method 8015B

VOCs - Volatile Organic Compounds, EPA 8260B

PAHs/PNAs - Polynuclear Aromatic Hydrocarbons, EPA Method 8270C-SIM

TBA - t-Butyl alcohol

TCE - Trichloroethene

< - Analyte was not detected at or above the laboratory reporting limit

ND - Not detected at or above the laboratory reporting limit

ESLs - Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, Tier 1 ESLs, February 2016

Bold - sample concentration exceeds ESL

[1] - According to the February 2016 ESLs, TPH motor oil is not soluble. Chromatogram patterns provided by the analytical laboratory indicate that the detection of motor oil is does not overlaop with the diesel standard, therefore the tier I ESL of 5,000 µg/L was selected.

NE - Criteria not established

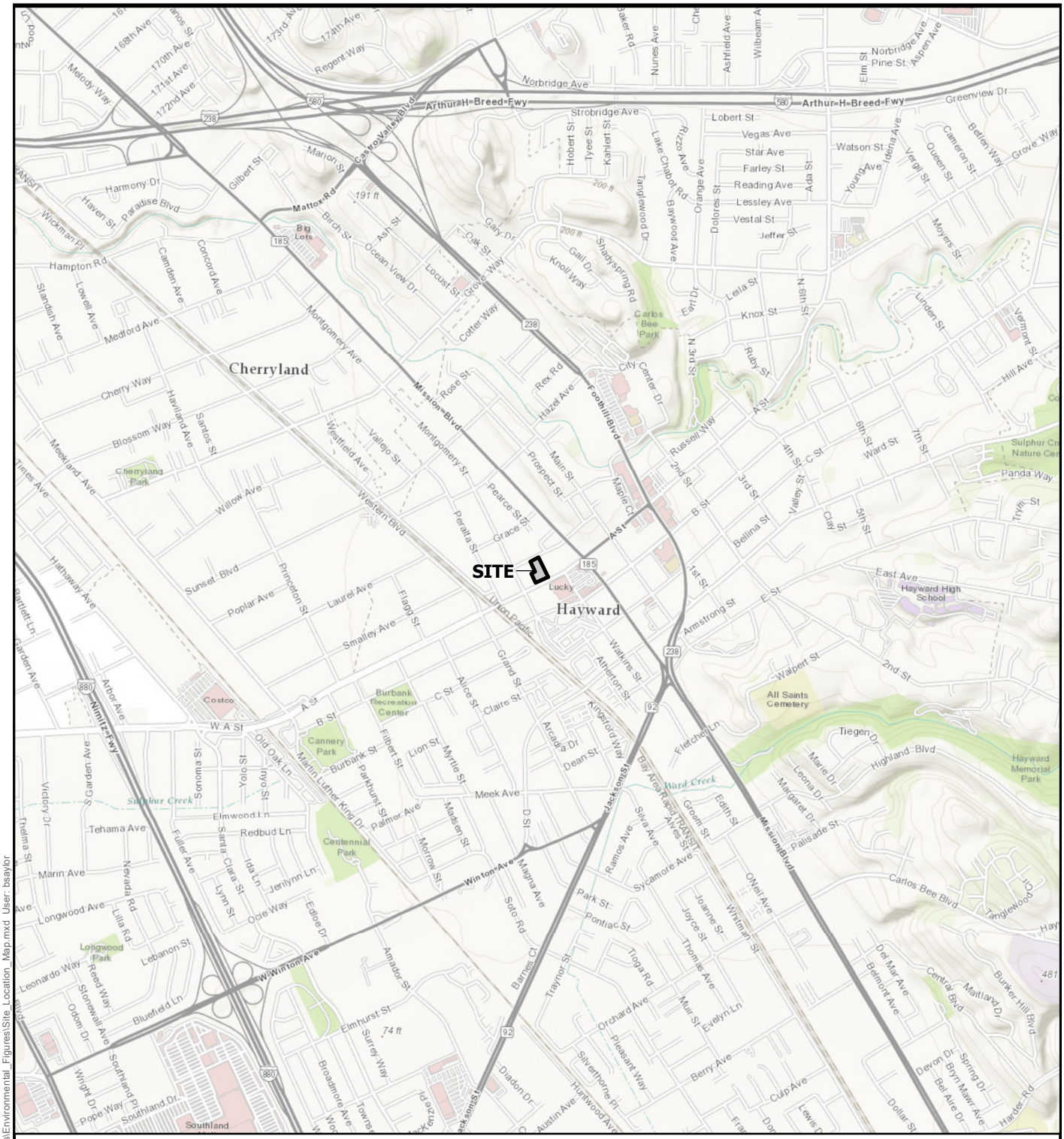
-- - ESLs varies by compound

Table 3
Historical Analytical Data
730-750 A Street
Hayward, CA

Consultant	Report/Date	Sample ID	Depth	Date Sampled	TPHg	TPHd	TPHho	TOG	Benzene	Toluene	Ethylbenzene	Xylenes	VOCs	PCBs	Cadmium	Chromium	Lead	Nickel	Zinc
			(feet)		(mg/kg)														
Soil Tech Engineering, INC.	Soil Sampling at the Former Underground Storage Tank Area - April 2, 1993	B-1-8	8	03/16/93	<1.0	<1.0	----	<50	<0.005	<0.005	<0.005	<0.005	<0.005	----	0.7	36	9.9	38	50
		ST-1,2,3	composite	03/16/93	<1.0	<1.0	----	2,900	<0.005	<0.005	<0.005	<0.005	<0.005	----	0.7	35	53	30	48
Eras Environmental, INC.	Final Environmental Summary Report - April 12, 2000	B-1-3.0	3	12/20/98	<1.0	6.1 YH	----	72	----	----	----	----	ND	----	----	----	----	----	----
		B-2-5.0	5	12/20/98	<1.0	3.1 YH	----	<50	----	----	----	----	ND	----	----	----	----	----	----
Eras Environmental, INC.	Limited Soil Investigation - June 30, 2015	B-1	11-11.5	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-2	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-3	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-4	10.5-11	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-5	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-6	9.5-10	06/16/15	----	----	10,000	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-7	9.5-10	06/16/15	----	----	20	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-8	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-9	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-10	11.5-12	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-11	10.5-11	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-12	10.5-11	06/16/15	----	----	34	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-13	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-14	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-15	11.5-12	06/16/15	----	----	2,500	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-16	6.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-17	9.5-10	06/16/15	----	----	5.6	----	----	----	----	----	----	<0.050	----	----	----	----	----
		B-18	9.5-10	06/16/15	----	----	<5.0	----	----	----	----	----	----	<0.050	----	----	----	----	----
Environmental Screening Levels (ESLs)					(mg/kg)														
Tier 1 ESLs					100	230	NE	NE	0.044	2.9	1.4	2.3	Various	0.25	39	120,000	80	86	23,000
Residential ESLs					740	230	NE	NE	0.23	970	5.1	560	Various	0.25	39	120,000	80	820	23,000

Notes:
< 0.50 - Analyte was not detected above the laboratory reporting limit (0.50 mg/kg)
ND - Not detected above laboratory reporting limit
NE - Not Established
-- Not analyzed
mg/kg - Milligrams per kilogram
Various - Analysis of multiple compounds with various ESLs
Y - Sample exhibits fuel pattern which does not resemble standard
H - Heavier hydrocarbons than indicated standard

FIGURES



Legend

Site Boundary

0 1,000 2,000 4,000

Feet

N

Notes:

1. Topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online Copyright: © 2011 National Geographic Society, i-cubed.

730-750 A STREET
Hayward, California

SITE LOCATION MAP

LANGAN TREADWELL ROLLO

Date 8/17/2016	Project 731674401	Figure 1

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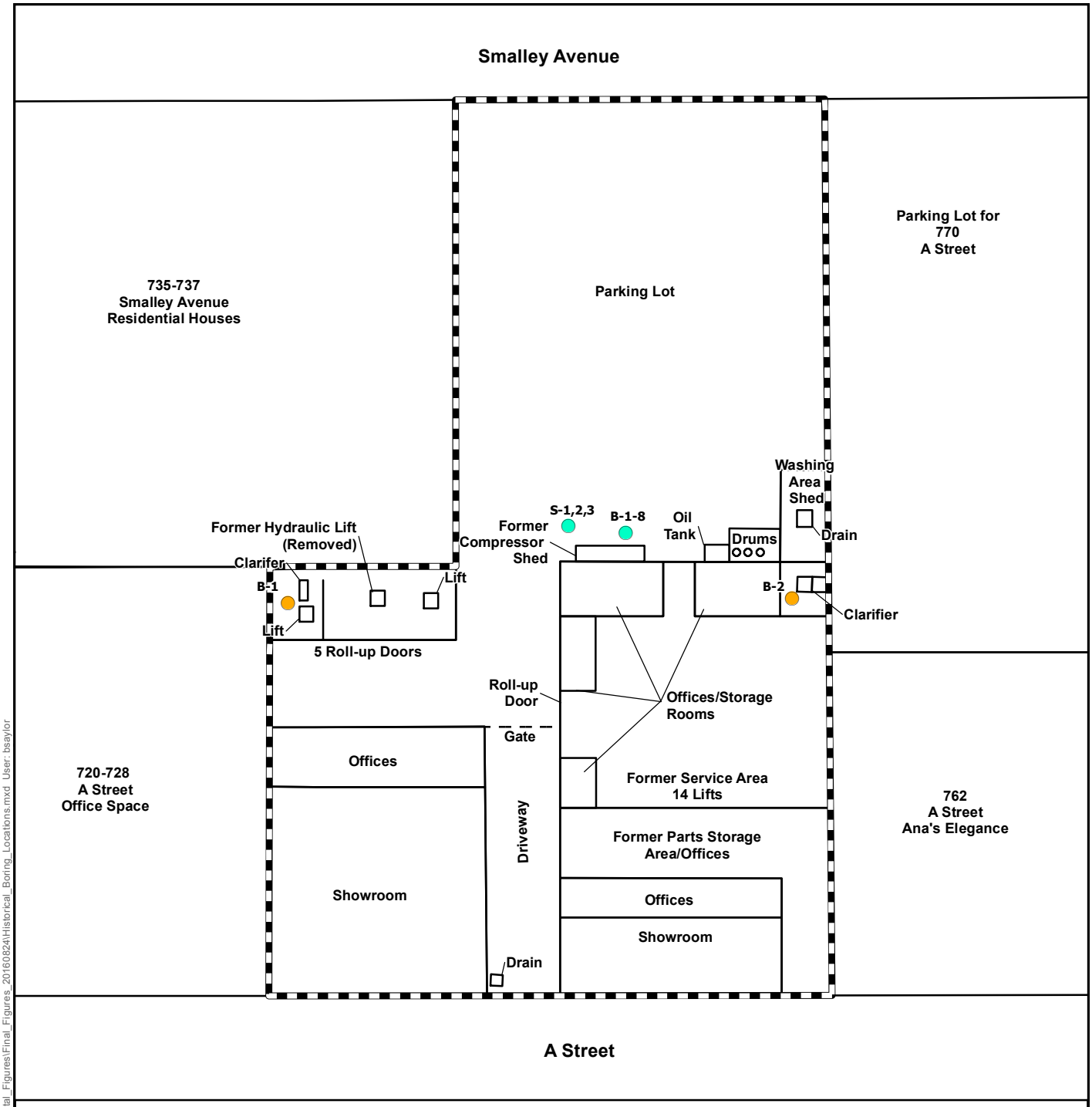


Legend

- Approximate Location of Soil Boring at Former Sump by Eras Environmental, 1998
- Approximate Location of Soil Boring and Composite Sample at Former UST by Soil Tech Engineering, 1993
- Site Boundary

0 25 50 100
Feet

Notes:
1. Base map from a drawing titled "Property Site Plan," by Eras Environmental, dated 2015.
2. Base map from a drawing titled "Property Site Plan" by Eras Environmental, dated 1998.
3. All locations are approximate.

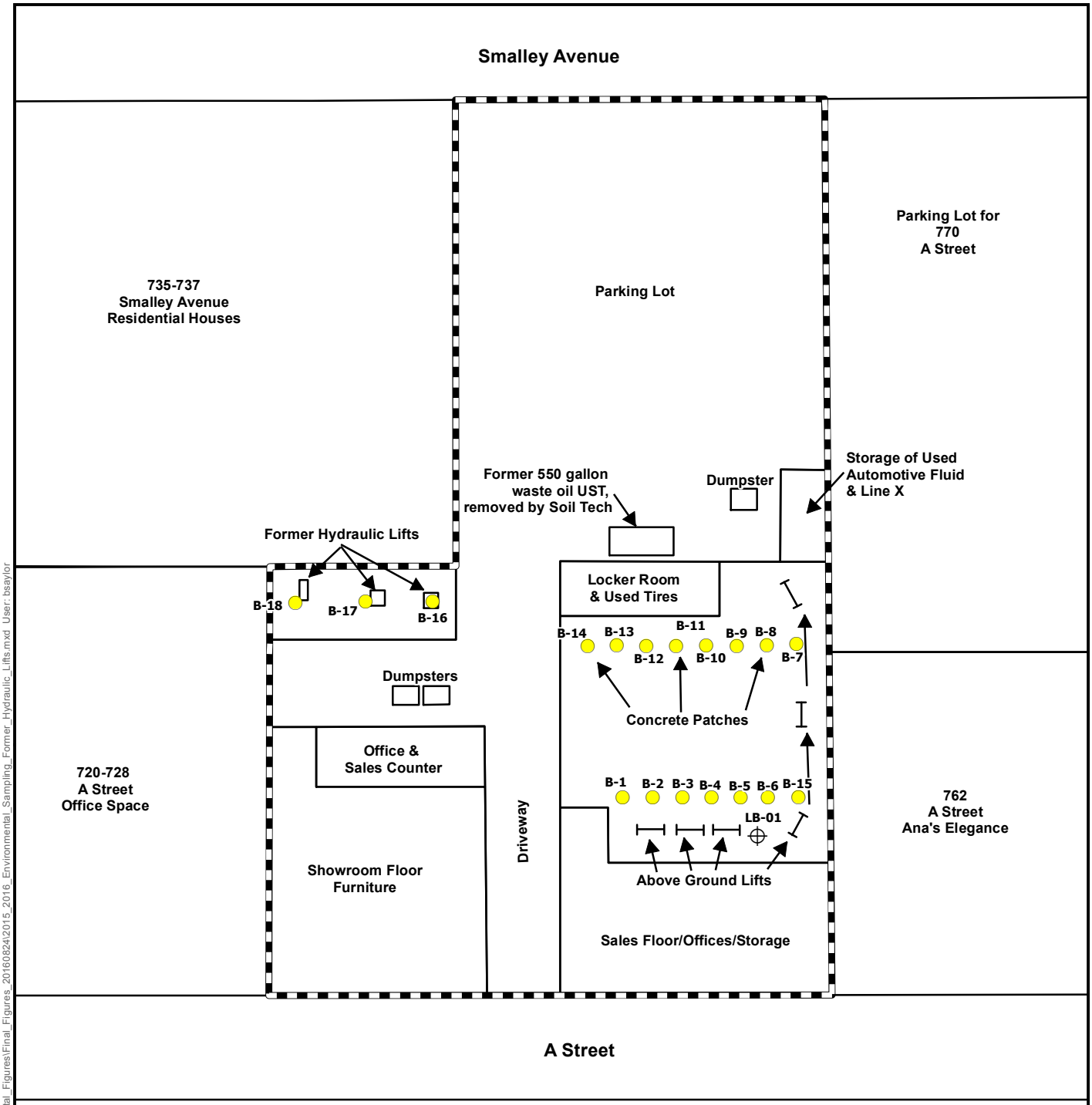
730-750 A STREET
Hayward, California

HISTORICAL BORING LOCATIONS

LANGAN TREADWELL ROLLO

Date 8/24/2016	Project 731674401	Figure 2

\\langan.com\data\SFO\data4\731674401\ArcGIS\ArcMap_Documents\Environmental_Figures\Final_Figures_20160824\Historical_Boring_Locations.mxd User: bsaylor



Legend

- Approximate location of soil boring by Eras Environmental, 2015
- Approximate location of environmental boring by Langan Treadwell Rollo, February 2016
- Site Boundary

0 25 50 100
Feet

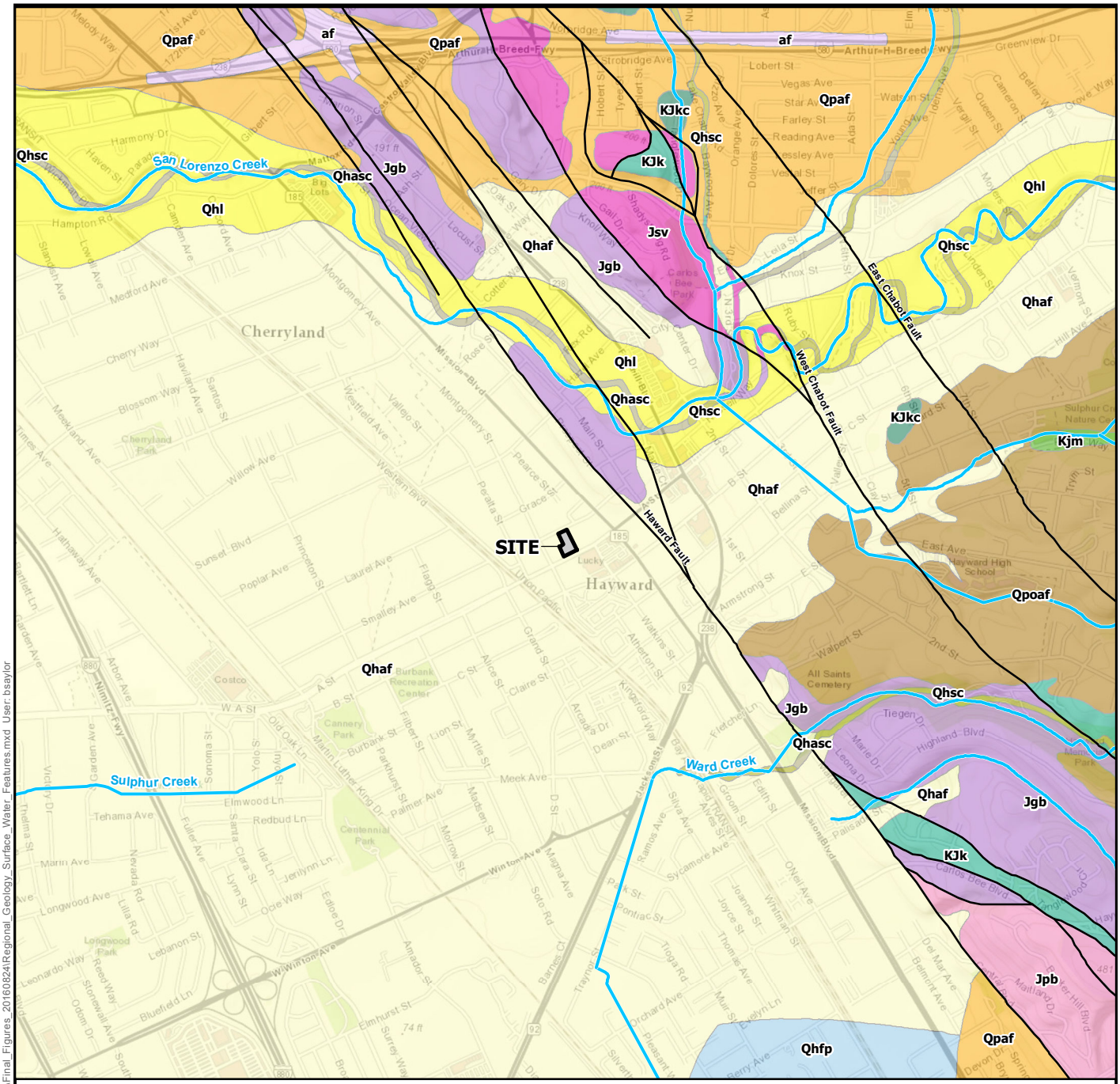
Notes:
1. Base map from a drawing titled "Property Site Plan," by Eras Environmental, dated 2015.
2. All locations are approximate.

730-750 A STREET
Hayward, California

2015 AND 2016 ENVIRONMENTAL SAMPLING FOR FORMER HYDRAULIC LIFTS

LANGAN TREADWELL ROLLO

Date 8/24/2016	Project 731674401	Figure 3



Legend

- Site Boundary
- Stream Channel
- Fault Location
- Jgb - Gabbro
- Jpb - Pillow basalt, basalt breccia, and minor diabase
- Jsv - Keratophyre and quartz keratophyre (Late Jurassic)
- KJk - Knoxville Formation (Early Cretaceous and Late Jurassic)
- KJkc - Knoxville Formation conglomerate
- Kjm - Joaquin Miller Formation (Late Cretaceous, Cenomanian)
- Qhaf - Alluvial fan and fluvial deposits (Holocene)
- Qhasc - Artificial stream channels (Historic)
- Qhfp - Floodplain deposits (Holocene)
- Qhl - Natural levee deposits (Holocene)
- Qhsc - Stream channel deposits (Holocene)
- Qpaf - Alluvial fan and fluvial deposits (Plesitocene)
- Qpoaf - Older alluvial fan deposits (Pleistocene)
- af - Artifical fill (Historic)

Notes:
1. Geologic map provided by the USGS. "Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California" by R.W. Graymer 2000.
2. Stream flow lines and lakes provided by the National Hydrologic dataset for California.

0 1,000 2,000 4,000
Feet

N

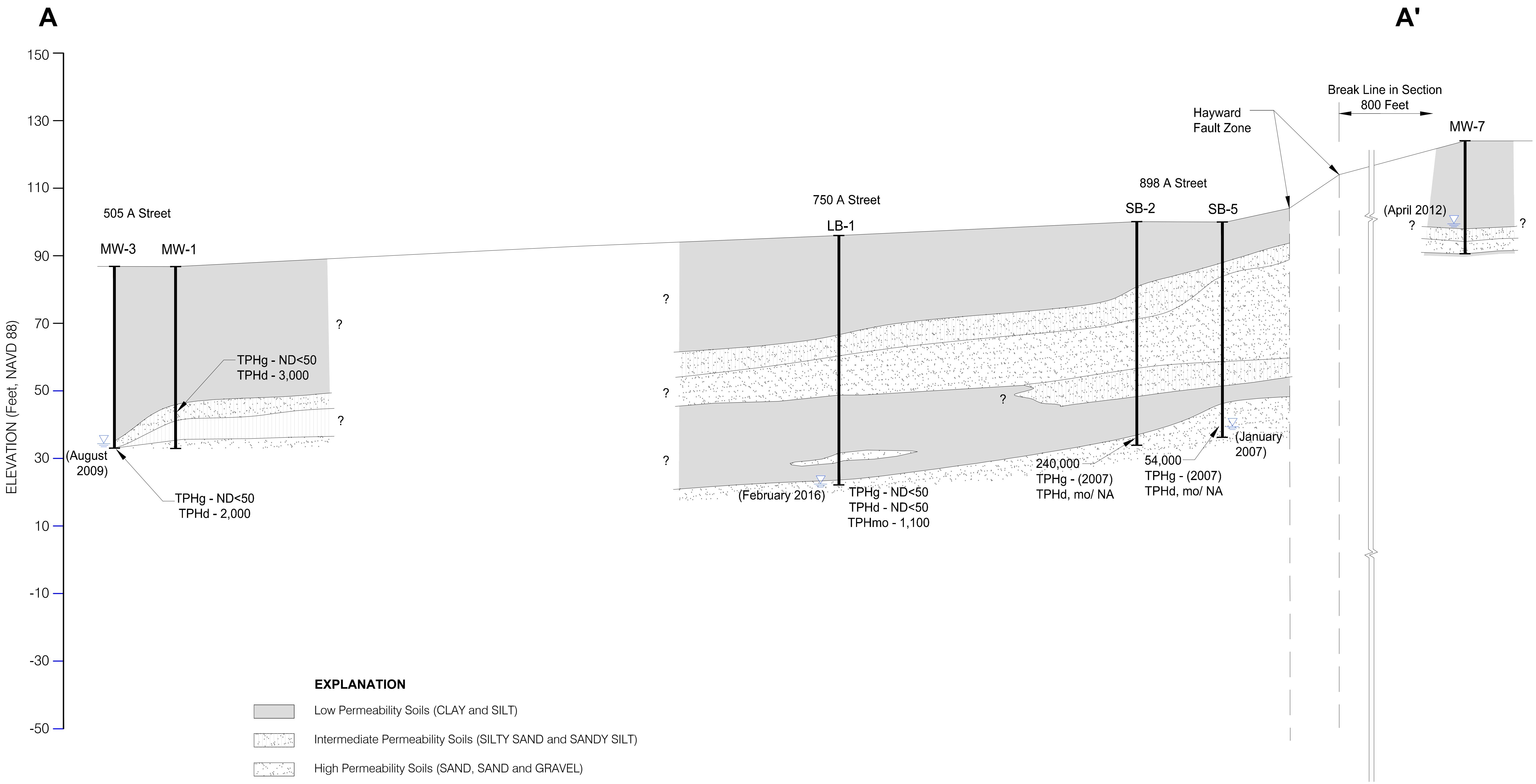
730-750 A STREET
Hayward, California

REGIONAL GEOLOGY AND KEY SURFACE WATER FEATURES

LANGAN TREADWELL ROLLO

Date 8/24/2016	Project 731674401	Figure 4

\\langan.com\data\SFO\data\731674401\ArcGIS\ArcMap_Documents\Environmental_Figures\Final_Figures_20160824\Regional_Geology_Surface_Water_Features.mxd User: bsaylor



EXPLANATION

Low Permeability Soils (CLAY and SILT)

Intermediate Permeability Soils (SILTY SAND and SANDY SILT)

High Permeability Soils (SAND, SAND and GRAVEL)

All units in micrograms per liter (µg/L)

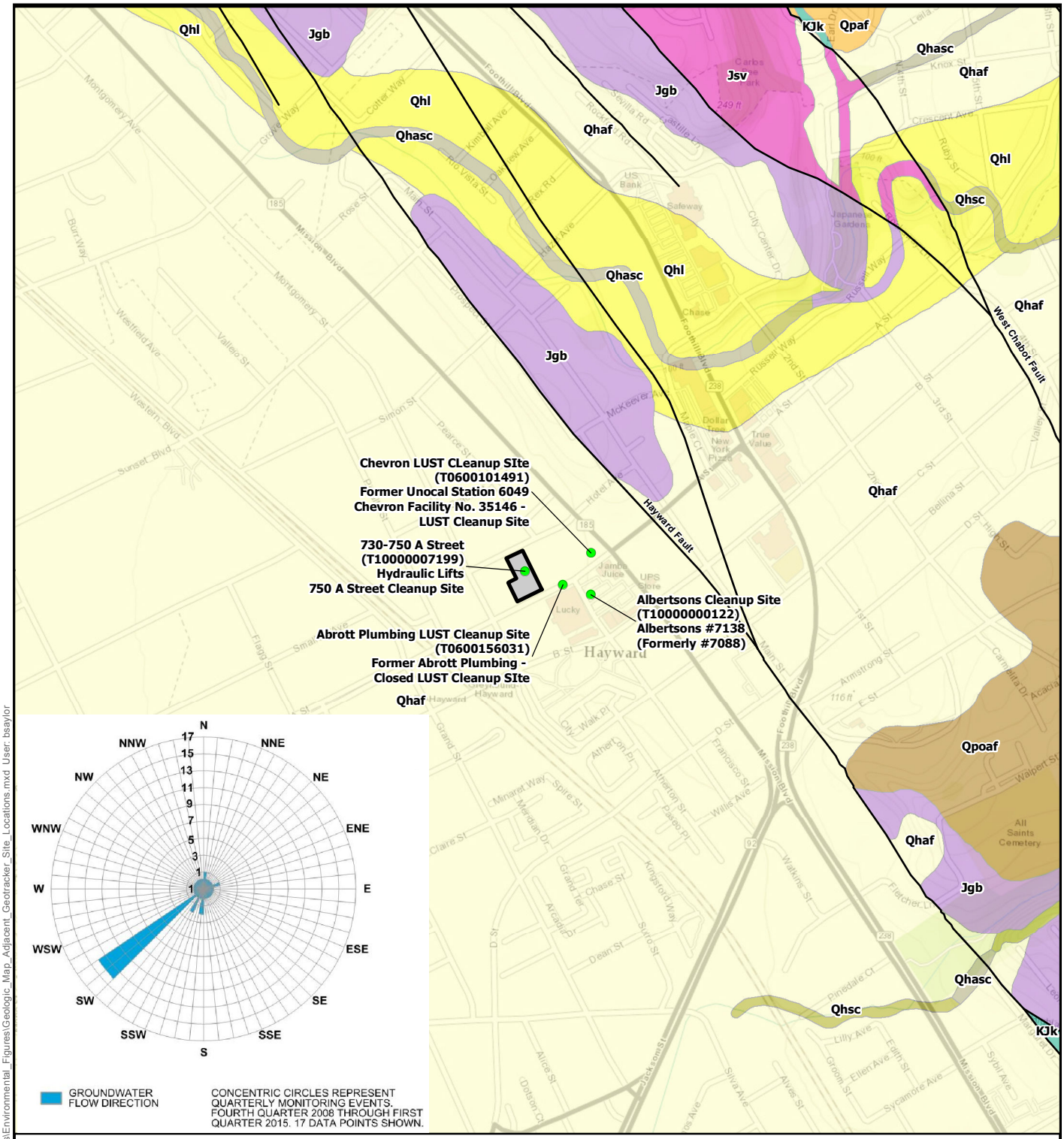
Notes:
1. The above profile represents a generalized soil cross section interpreted from widely spaced borings. Soil deposits may vary in type, strength, and other important properties between points of exploration.

ATTACHMENT A
730 - 750 A STREET
Hayward, California

IDEALIZED SUBSURFACE PROFILE A-A'

Date 08/23/16 | Project No. 731674401 | Figure 5

LANGAN TREADWELL ROLLO



Legend

- Site Boundary
- Geotracker Site Location
- Fault Location
- Stream Channel

Notes:

1. Topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online Copyright: © 2011 National Geographic Society, i-cubed.
2. Geologic map provided by the USGS. "Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California" by R.W. Graymer 2000.
3. Stream flow lines and lakes provided by the National Hydrologic dataset for California.

0 500 1,000 2,000

Feet

730-750 A STREET
Hayward, California

ADJACENT GEOTRACKER SITE LOCATIONS

LANGAN TREADWELL ROLLO

Date 8/24/2016	Project 731674401	Figure 6

\\langan.com\data\SFO\data\731674401\ArcGIS\ArcMap_Documents\Environmental_Figures\Geologic_Map_Adjacent_Geotracker_Site_Locations.mxd User: bsaylor

ATTACHMENT A
CONCEPTUAL SITE MODEL

ATTACHMENT A
CONCEPTUAL SITE MODEL
730 – 750 A Street
Hayward, California

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
1	Site Description	The Site is located at 730 to 750 A Street in Hayward, California (the "Site" – assessor parcel number 428-51-48-3). The Site has an approximate area of 45,707 square feet, and contains two commercial buildings of 19,360 square feet. The Site is occupied by Aaron's Rent to Own Furniture, Electronics and Appliances at 730 A Street, and Larry's Tire Express at 750 A Street. The Site formerly housed Humphrey Motors, Jim Close Motors, and American Auto Sales. ERA identified the following in connection with the Site: • The former presence of a UST and two sumps was identified as a historic recognized environmental condition (HREC), both of which have been removed from the Site and sampling conducted. The Hayward Fire Department indicated that the former presence of the sumps and UST did not represent a threat to public health or the environment and did not require additional investigation. • The presence of hazardous waste on the property and the former presence of underground hydraulic lifts were identified as recognized environmental conditions (RECs) identified in ERA's 2015 Phase I ESA for the Site. In 2015, ERAS performed a limited site investigation consisting of 18 borings around the former hydraulic lifts for collection of soil samples to depths up to 12 feet below ground surface (bgs). At two locations, TPH as hydraulic oil (TPH-HO) was found exceeding San Francisco Bay Regional Water Quality Control Board environmental Screening Levels (ESLs). At the request of the Alameda County Department of Environmental Health (ACEH), Langan advanced one soil boring in February 2016 for soil and groundwater sampling in the vicinity of the former hydraulic lifts where TPH-HO was found at a concentration of 10,000 milligrams per kilogram (mg/kg). Results of Langan's investigation indicated that total petroleum hydrocarbons as motor oil (TPH-mo) were detected in groundwater at 1,100 micrograms per liter (µg/L) as well as low level VOCs, including acetone, t-butyl alcohol (TBA) and trichloroethene (TCE) were detected above laboratory reporting limits in the sample analyzed at concentrations ranging from 0.96 µg/L to 31 µg/L at a depth of approximately 70 feet bgs. TPHmo and TPHho were detected above the laboratory reporting limit in one of the eight soil samples (Sample LB-01-05 at a depth of 5 feet bgs) analyzed at concentrations of 7.2 milligrams per kilogram (mg/kg). No TPHg, TPHd, VOCs, or SVOCs were detected at or above any laboratory reporting limits in any soil samples analyzed.	Figure 1. Site Location Map Figure 2. Historical Boring Locations Figure 3. 2015 and 2016 Environmental Sampling for Former Hydraulic Lifts	*ERAS Environmental, Inc. 2015. Phase I Environmental Site Assessment 730-750 A Street, Hayward, California 94541. 18 May.* *Eras Environmental, Inc., 2015. Limited Soil Investigation. June 30.* *Langan Treadwell Rollo, 2016. Work Plan for Grab Groundwater Sampling and Analysis, 730-750 A Street, Hayward, California. 23 November* *Langan Treadwell Rollo, 2016. Soil and Groundwater Investigation Report, 730-750 A Street, Hayward, California. 22 April*	None	Not Applicable
2	Regional Geology and Hydrogeology	<u>Regional Geology</u> Regional physiographic conditions are reflective of and affected by the tectonic framework, regional faulting, and geologic units that comprise the Site and surrounding area. The regional topography is characterized by northwest to southeast oriented coastal hills and intervening valleys, developed as a consequence of plate motions at the boundary of the North American and Pacific lithospheric plates. Under the current tectonic framework, compressive and shearing forces from the plate motions are distributed regionally across several active, sub-parallel, northwest to southeast trending fault zones. Horizontal motion is distributed across the major active strike-slip faults. Within the East Bay, these faults include	Figure 4. Regional Geology and Key Surface Water Features	*Sloan, Doris, 2006. Geology of the San Francisco Bay Region, California Natural History Guides, University of California Press; First Printing edition. (360 pages). June 27.*	None	Not Applicable

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		the Hayward, Calaveras and Concord Faults, which comprise the East Bay Fault System (EBFS) (Sloan, 2006). Compressive deformation is distributed across northwest to southeast trending thrust and reverse faults parallel to the major strike-slip faults of the EBFS (Graymer, 2000). Regional uplift of the East Bay hills was coincident with a change in tectonic forces to a component of compression beginning approximately 3.5 million years ago (Sloan, 2006); current measurements indicate uplift is occurring at a rate of as much as 1 millimeter per year (Graymer, 2000). Regionally, bedrock is composed of the Mesozoic Franciscan Assemblage (complexly faulted and folded marine sedimentary and volcanic rocks) and is overlain by Quaternary to modern sedimentary formations which include alluvial fans, and basin and stream valley deposits, amongst others (Graymer, 2000). These Quaternary sedimentary formations were deposited during regional uplift. <u>Regional Hydrogeology</u> The San Francisco Bay hydrologic region has 28 identified groundwater basins underlying approximately 30 percent of the entire San Francisco Bay region (DWR 2003). Alameda County is within the East Bay Plain sub-basin of the Santa Clara Valley groundwater basin. The East Bay Plain sub-basin is bounded to the north by San Pablo Bay, to the east by Franciscan bedrock, to the south by the Niles Cone groundwater basin, and extends to the west below the San Francisco Bay. The East Bay Plain is formed in an alluvial plain; the main water bearing units consist of unconsolidated Quaternary sedimentary formations, including the Pleistocene Santa Clara and Alameda Formations, and the Holocene Temescal Formation as well as artificial fill. With the exception of artificial fill, these main water-bearing formations were deposited as alluvial fans. Total groundwater storage capacity within the East Bay Plain was estimated to be 2,670,0000 acre feet, of which, approximately 2,500,000 acre feet is in storage to a depth of 1,000 feet below mean sea level; adjusting for potential sea water intrusion reduces the groundwater is storage to approximately 80,000 acre feet (storage above mean sea level). The San Francisco Bay Regional Water Quality Control Board identified 13 areas of major groundwater pollution in the East Bay Plain; contamination was most commonly associated with release of fuels and solvents, and was generally found within the upper 50 feet (DWR 2004). The regional surficial geology and key surface water features are shown on Figure 4. The Site is mapped overlying the Younger Holocene alluvium. Approximately 650 feet east of the Site is the historically active Hayward Fault. The Hayward fault acts as a low permeability barrier to groundwater flow, thus groundwater on the eastern side of the Hayward fault ("above Hayward fault sub-basin") is at a significantly higher elevation than groundwater on the western side of the Hayward Fault ("below Hayward fault sub-basin") (Alameda County Water District, 2016).		*Graymer, R.W,2000. Geologic Map and Map Database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California. Miscellaneous Field Studies MF-2342.* *California Department of Water Resources. (DWR), 2003. Bulletin 118, Update 2003. October.* *LFR, 2004. Revised Environmental Activities Report for October 1 through December 31, 2003, Albertsons Store No. 7138 (Formerly Store No. 7088), 22555 Mission Boulevard, Hayward, California.* *Arcadis, 2016. First Half 2016 Semi-Annual Groundwater Monitoring Report Submittal, 27 May.*		

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		Regional shallow groundwater flow is interpreted to follow topography, flowing west-southwest towards San Francisco Bay. Langan reviewed the groundwater flow directions for sites identified on the State's online database of groundwater cleanup cases, Geotracker. Groundwater monitoring reports for the following Sites were reviewed (west of the Hayward fault): • 898 A Street, Hayward, California (76 Service Station No. 6049), and; • 22555 Mission Boulevard, Hayward (Albertson's Store No. 7138). Both reports indicated groundwater flow direction to the southwest. This finding is consistent with what we expect the regional groundwater flow direction to be.				
3	Surface Water Bodies	San Lorenzo Creek is located approximately 0.3 miles northeast of the subject Site. Ward Creek is located approximately 0.7 miles southeast of the subject Site. The San Francisco Bay is approximately 4 miles west of the Site.	Figure 4. Regional Geology and Key Surface Water Features	None	None	Not Applicable
4	Nearby Wells	Langan reviewed the State Water Resources Quality Control Board (RWQCB) Geotracker Groundwater Ambient Monitoring and Assessment (GAMA) website in April 2016. Additionally, Langan contacted Alameda County Public Works Agency for a well search for permitted wells and borings in the area. The following are the results of Langan's inquiries: • According to GAMA, the nearest down-gradient supply well is located approximately 3,000 feet (1/2 mile) to the southwest of the Site. • The nearest domestic supply well is located approximately 2.4 miles southwest of the Site. There are two irrigation wells within 1,500 feet of the Site, one located 386 feet south of the Site, and the other 1,200 feet northwest of the Site. Both of these wells are cross-gradient to regional groundwater flow. • One two-inch monitoring well with a depth of 11 feet was listed on the Site at 750 A Street. The drilling date was listed as May 1986. The database does not indicate whether the well had been destroyed or not. Monitoring wells have not been recorded in documentation of environmental activities at the Site by ERAS, Soil Tech or Langan. Should the well have been or be located on the Site, it would not be in contact with groundwater, based on the recorded depth to groundwater of 70 feet bgs.	Attachment B – Well Search Request	*State Water Resource Quality Control Board, 2016. Geotracker GAMA Website. Accessed in April.* *Alameda County Public Works Agency, 2016. 1,500-foot radius search at 730-750 A St, Hayward, CA. Transmitted 10 August, 2016.*	Status of listed monitoring well on the Site.	Site inspection to verify absence of monitoring well. Records review with Department of Water Resources.
5	Site Geology	The Site surficial geology is mapped as Holocene-aged alluvial fan deposits. Pleistocene deposits (Qpaf) occupy higher topographic positions east of the Site (largely east of the Hayward Fault) at the Site, forming the uplifted low lying hills. These Pleistocene fan deposits are described as brown, dense, gravely and clayey sand or clayey gravel fining upward to sandy clay (Graymer, 2000). The Holocene deposits (Qhaf) overly the Pleistocene deposits at the base of Pill Hill, downslope from the Site. The Holocene deposits are described as brown or tan, medium dense to dense, gravely sand or sandy gravel that generally fine upwards to sandy or silty clay (Graymer, 2000). The Pleistocene deposits can	Figure 5. Idealized Subsurface Profile A-A' Attachment C. Boring Logs	*Graymer, R.W,2000. Geologic Map and Map Database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California. Miscellaneous Field*	None	Not Applicable

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		be distinguished from the Holocene deposits by higher topographic position, greater degree of dissection, stronger soil profile development and lower permeability. Jurassic volcanic rocks outcrop in northwest to southeast in elongated, relatively narrow bands, within and parallel to the Hayward Fault Zone (Graymer, 2000). Lithologic logs from ERAS 2015 investigation indicate the Site is underlain by silty clay with minor interfingered silty sand to a depth of ten feet. Soils logged by Langan in 2016 indicate the Site is underlain by medium to very stiff silt with sand in the upper seven feet, with a thick layer of silty clay to 207 feet bgs, sandy silt and sand with silt and gravel between 27 to 43 feet bgs, clay/silty clay to 53 feet bgs, silty caly with sand to 64 feet bgs, sand to 64 feet bgs, cla to 69 feet bgs, and sand with gravel and clay to the maximum depth of the boring. Groundwater was encountered at a depth of approximately 70 feet bgs. Cross-sections presented for the adjacent Chevron site at 898 A Street (550 feet east of and upgradient from the Site), indicate this upgradient site is underlain by a thick (approximately 15 to 20 foot) clay and silt, and is in turn underlain by sand and silty sand, with lenses of silty gravel, to approximately 50 feet bgs, a continuous clay layer between 5 to 20 feet thick, and silty sand to the depth of the borings at approximately 70 feet bgs. Cross-sections were drafted incorporating the cross-sections from previous reports at the adjacent 898 A street and 505 A Street properties and Langan's 2016 subsurface observations at the Site. The combined cross-section A-A' is presented as Figure 5. Langan's 2016 boring log is included in Attachment C.		*Studies MF-2342.* *Arcadis, 2015. Off-Site Groundwater Delineation Assessment Report, Former UNOCAL Site No. 6049, 898 A Street, Hayward, California. 4 March.* *Delta Environmental, 2007. Subsurface Soil and Groundwater Investigation, 76 service Station No. 6049, 898 A Street, Hayward, California. 12 March.* *Eras Environmental, Inc., 2015. Limited Soil Investigation. June 30.* *Stantec, 2009. Additional Site Assessment Report, Former Chevron-branded Service Station 9-1884, 505 A Street, Hayward, California. 19 November.* *Langan Treadwell Rollo, 2016. Soil and Groundwater Investigation Report, 730-750 Hayward Street, Hayward, California. 22 April.*		
6	Site Groundwater Depth and Flow	During Langan's 2016 investigation, groundwater was encountered at a depth of approximately 70 feet bgs. The predominant Site-scale groundwater flow direction is inferred to the south-southwest, based on monitoring data from the nearby Chevron Facility 6049, located 898 A Street. Langan reviewed investigation reports from the following adjacent sites to estimate the	Figure 6. Adjacent Geotracker Site Locations Attachment D. Groundwater Elevation Maps from Nearby	*Arcadis, 2016. First Half 2016 Semi-Annual Groundwater Monitoring Report Submittal, 27 May.* *LFR, 2006.*	None	Not Applicable

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		groundwater depth and flow direction: • Abrott Plumbing, located at 784 A Street, upgradient of the Site by 350 feet. Case closure summary for this property indicates that groundwater was not encountered at a maximum depth of 32 feet bgs. Groundwater was reported ranging from 18 feet to 68 feet bgs ranging from the years 1951 to 1992. The closure summary further indicates that no domestic wells were found within 500 feet upgradient or 2,500 feet downgradient of this property. • Albertson Store No. 7138, located at 22555 Mission Boulevard, 200 feet upgradient to cross-gradient. Groundwater monitoring data for this property indicate depth to water ranged from 54 to 61 feet bgs (37 to 39 feet AMSL) form 2001 to 2003, consistent with the nearby upgradient Chevron facility (discussed below). • Chevron Facility 6049, located at 898 A Street, upgradient of the Site by 550 feet. Semiannual groundwater monitoring conducted by LFR in March 2016 indicated groundwater was at a depth of approximately 61 feet bgs (elevation approx. 39 feet AMSL). TPHg was detected at a maximum concentration in groundwater of 14,000 micrograms per liter (µg/L) during this sampling event. Grab samples collected at this property in 2007 indicated THPg was detected at 240,000 µg/L and MTBE at 1,000 µg/L. Samples were not analyzed for TPHd and TPHmo. Nearby groundwater data indicate that stabilized groundwater levels from 2001 to 2016 consistently range from approximately 37 to 39 feet above mean sea level or 50 to 70 feet bgs. The groundwater gradient at the nearby 898 A Street Chevron was estimated at less than 0.001 feet per foot by LFR.	Properties	*Environmental Activities Report for October 1 through December 31, 2003, Albertsons Store No. 7138, 22555 Mission Boulevard, Hayward, California. 15 December.* *SFRWQCB, 2004. Site Closure Summary, 784 A Street, Hayward, California. 12 August.* *Langan Treadwell Rollo, 2016. Soil and Groundwater Investigation Report, 730-750 A Street, Hayward, California. 22 April*		
7	Preferential Pathways	Based on the depth to groundwater (between 50 to 70 feet bgs), preferential pathways such as utility corridors are not expected to result in contamination at a depth of 70 feet. One other potential vertical conduit has been identified at the Site, based on the well survey provided to us by Alameda county Public Works Agency (ACPWA). The well survey indicates a monitoring well onsite with a depth of 11 feet, which is significantly above the groundwater level at the Site. It is not clear what purpose the monitoring would have served, or if it is actually located on the Site, since historic records may be of limited reliability (as indicated to us by the ACPWA regarding well survey data [James Yoo, pers. comm., 19 August 2016]).	None	None	Status of listed monitoring well on the Site.	Site inspection to verify absence of monitoring well. Records review with Department of Water Resources.

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
8	Systems or Release Source	According to Soil Tech Engineering's Soil Sampling at the Former Underground Storage Tank Area Report, on March 16, 1993, a 550-gallon underground storage tank for waste oil was removed by Alpha Geo Services from the site. The tank was located along the northwest corner of the building that is currently present at the 750 A Street. According to ERAS Final Environmental Summary Report dated April 12, 2000, a limited soil investigation and sump abandonment were conducted at the Site between 1998 and 2000. Soil borings were drilled within one foot of each of the two stage sumps that were full of waste oil sludge. One of the sumps was located near the western corner inside a small service building behind the main showroom building at 730 A Street. The other sump was in the former service area near the northern corner of the building at 750 A Street. Both sumps were emptied and cleaned. Soil samples were collected from near the outlet pipe side of the sumps at depths of approximately 3.5 feet at the boring near the sump at 730 A Street and 5.5 feet near the sump at 750 A Street. The analytical results indicated no significant release appears to have occurred from the sumps to subsurface soils; only low levels of petroleum hydrocarbons were detected and volatile hydrocarbons and solvents were not detected. Both sumps appeared in good condition with no holes or leaks observed. In 2015, ERAS performed a Phase I ESA for the Site. During the Phase I ESA, ERAS observed that 18 underground hydraulic lifts had been previously removed from the property and no environmental sampling appeared to have been conducted at the time of the hydraulic lift removals. ERAS recommended the collection of soil samples directly adjacent to the former hydraulic lifts to determine if the soils underlying the former hydraulic lifts had been impacted.	Figure 2. Historical Boring Locations	*State Water Resources Control Board, 2016. Geotracker Database Search. Accessed in August.* *Soil Tech Engineering, Inc., 1993. Soil Sampling at the Former Underground Storage Tank Area. April 2.* *Eras Environmental, Inc., 2000. Final Environmental Summary Report. April 12.* *Eras Environmental, Inc., 2015. Phase I Environmental Site Assessment. May 18.* *Eras Environmental, Inc., 2015. Limited Soil Investigation. June 30.*	None	Not Applicable
9	LNAPL	LNAPL has not been observed at the Site.	None	None	None	Not Applicable
10	Contaminants of Concern	All detected concentrations of TPH, BTEX, MTBE and LUFT 5 metals in soil were below the February 2016 Tier 1 ESLs. No chemicals have been detected in Site groundwater at concentrations greater than the February 2016 Tier 1 ESLs. • Although TPH as motor oil (TPHmo) was detected at 1,100 µg/L, a comparison of the chromatogram of the groundwater sampling result to the diesel chromatogram standard indicates that the detection pattern is inconsistent with diesel, and is therefore unlikely to be a weathered diesel therefore the Tier 1 ESL of 5,000 µg/L for TPHmo is the most conservative ESL that would apply.	Table 1. Analytical Results for Non-Metals in Soil Attachment E. Chromatograms for Diesel Standard and Groundwater Sampling Result.	None	None	Not Applicable
11	Soil Impacts	In June 2016, ERAS collected 18 soil samples from 18 boring locations where the former hydraulic lifts were located at depths ranging between 9.5 feet below ground surface (bgs) and 11.5 feet bgs. Soil samples were analyzed for total petroleum hydrocarbons (TPH) quantified as hydraulic oil (TPHho) by EPA Method 8015M and polychlorinated biphenyls (PCBs) by EPA Method 8081. TPHho was detected in five out of 18 samples analyzed.	Table 1. Analytical Results for Non-Metals in Soil Figure 2. Historical Boring Locations	*Langan Treadwell Rollo, 2016. Soil and Groundwater Investigation Report, 730-750 A Street, Hayward, California. 22*	None	Not Applicable

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		Concentrations ranged between 5.6 milligrams per kilogram (mg/kg) and 10,000 mg/kg. The greatest concentrations of hydraulic oil were at the following locations: • Sample location B-15 TPHho was detected at 2,500 mg/kg at a depth 11.5 feet bgs; • Sample location B-6 TPHho was detected at 10,000 mg/kg a depth of 9.5 feet bgs. Current ESLs for hydraulic oil have not been established; the most conservative ESL potentially applicable to the hydrocarbon range for hydraulic oil selected was the Tier I ESL for motor oil of 5,100 mg/kg. Based on the this ESL, a single detection of hydraulic oil exceeded the Tier I ESL of 5,100 mg/kg for motor oil at sample location B-6 (where TPH-ho was detected at 10,000 mg/kg a depth of 9.5 feet bgs). This concentration exceeds the Tier I ESL for motor oil of 5,100 mg/kg, but is significantly less than the Tier II commercial/industrial ESL for motor oil of 140,000 mg/kg. PCBs were not detected at or above laboratory reporting limits in any of the samples analyzed. No groundwater samples were collected during ERAS's investigation. Based on the sampling result at location B-6, Langan performed additional characterization at the Site in 2016, which is documented in our April 2016 Soil and Groundwater Investigation Report. On 25 February 2016, Langan drilled one exploratory boring (LB-01) with a limited access track-mounted direct push drill rig to collect soil and one grab groundwater sample for chemical analysis in the vicinity of borings B6 and B15 to characterize the groundwater beneath the area of the former hydraulic lifts. Soil samples were collected at depths of approximately 5, 10, 20, 30, 40, 50, 57, and 71 feet bgs. Langan compared the soil sampling results from the Site with the February 2016 ESLs. Total oil and grease was only detected at a concentration of 72 mg/kg near the former sumps. Soil samples were collected and analyzed during the following activities: • Soil samples were collected from the tank pit during removal of the underground storage tanks (USTs) in 1993 by Soil Tech Engineering; • Soil samples were collected from borings drilled adjacent to the former sump locations in 1998 by Eras Environmental; • Soil samples were collected in adjacent to former hydraulic lifts in 2015 in the soil investigation by Eras Environmental; • Soil samples were collected in the vicinity of the former hydraulic lifts in 2015 by Langan Treadwell Rollo. In the most recent investigation by Langan Treadwell Rollo, TPHmo and TPHho were detected above the laboratory reporting limit in one of the eight soil samples (Sample LB-01-05 at a depth of 5 feet bgs) analyzed at concentrations of 7.2 milligrams per kilogram (mg/kg). No TPHg, TPHd, VOCs, or SVOCs were detected at or above any laboratory reporting limits in any soil samples analyzed.	Figure 3. 2015 and 2016 Environmental Sampling for Former Hydraulic Lifts	*April*		

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
12	Groundwater Impacts	On 25 February 2016, Langan drilled one exploratory boring to collect soil and one grab groundwater sample for chemical analysis to characterize the groundwater beneath the area of the former hydraulic lifts. The recent groundwater sampling results from the Site indicate TPHmo was found at a concentration of 1,100 micrograms per liter (µg/L). Low level VOCs, including acetone, t-butyl alcohol (TBA) and trichloroethene (TCE) were detected above laboratory reporting limits in the sample analyzed at concentrations ranging from 0.96 µg/L to 31 µg/L. No other VOCs, TPHg, TPHd, or SVOCs were detected above their respective laboratory reporting limits in any of the samples analyzed.	Figure 5. Idealized Subsurface Profile A-A' Table 2. Analytical Results for Non-Metals in Groundwater	*Langan Treadwell Rollo, 2016. Soil and Groundwater Investigation Report, 730-750 A Street, Hayward, California. 22 April*	None	Not Applicable
13	Soil Vapor Impacts	No soil gas data is available for the Site. Based on soil and groundwater concentrations, the depth to groundwater, the type of contaminant (long-chain petroleum) and screening of the results against the Low Threat Closure Policy scenarios, a vapor intrusion condition at the Site is considered extremely unlikely.	None	None	None	Not Applicable
14	Source Removal and Remediation	Soil was removed from the area immediately surrounding the waste oil UST during removal in 1993. The USTs were granted closure by the Hayward Fire Department in a communication dated 29 April 1993. A soil sample collected from the tank excavation pit at a depth of 8 feet following the UST removal did not reveal detectable levels of hydrocarbons in the soil. The tank was removed under supervision by and was later issued closure by the Hayward Fire Department Hazardous Materials Office. Between 1998 and 2000, Eras Environmental abandoned two sumps at the Site. One of the sumps was located near the western corner inside a small service building behind the main showroom building at 730 A Street. The other sump was in the former service area near the northern corner of the building at 750 A Street. Both sumps were emptied and cleaned. The 2000 Environmental Summary Report by Eras Environmental states that three hydraulic lifts had been previously removed from the building behind 730 A, but no environmental sample information was available. According to the Phase I Environmental Site Assessment by Eras Environmental, no records were present for the removal of the underground hydraulic lifts on the Property.	Figure 2. Historical Boring Locations Figure 3. 2015 and 2016 Environmental Sampling for Former Hydraulic Lifts	*Soil Tech Engineering, Inc., 1993. Soil Sampling at the Former Underground Storage Tank Area. April 2.* *Eras Environmental, Inc., 2000. Final Environmental Summary Report. April 12.* *Eras Environmental, Inc., 2015. Phase I Environmental Site Assessment. May 18.*	None	Not Applicable
15	Risk Evaluation	This CSM identifies the primary source, impacted media, release mechanism(s), and secondary source(s) of site contamination, all of which have been removed from the Site. Extensive sampling has been performed to delineate the lateral and vertical extent of potential impacts from the identified sources. Additionally, based on the chromatographic signature of the grab groundwater sample (motor oil), as well as historic soil sampling results, no contaminants are on the Site that exceed current (February 2016) ESLs. There are no Site or offsite impacts and therefore Site conditions will not result in an unacceptable risk level to onsite or offsite receptors. The distance to the nearest downgradient receptor (domestic well) is approximately 3,000 feet (1/2 mile) to the southwest of the Site. Assuming natural attenuation is on-going, we would expect concentrations of TPH to degrade significantly (likely below ESLs) by the time groundwater at this location was to reach the nearest down-gradient supply well. This supply well was sampled in 1999 and 2006 for constituents typically indicative of TPH impacts,	None	*State Water Resources Control Board, Technical Justification for Groundwater Media-Specific Criteria (Final 04-24-2012)* *State Water Resource Quality Control Board, 2016. Geotracker GAMA Website. Accessed in April.*	None	Not applicable

NO.	CSM ELEMENT	DESCRIPTION	EXHIBITS	REFERENCES	DATA GAPS	RESOLUTION
		including LUFT 5 metals (cadmium, chromium, lead, nickel and zinc) BTEX (benzene, ethylbenzene, toluene and xylenes), and MTBE (GAMA, accessed 18 April 2016). These constituents were not detected, indicating the well has not historically been impacted by TPH from up-gradient sources. Based on the results of the sampling, no formal risk evaluation is warranted for the Site.				

LANGAN TREADWELL ROLLO

ATTACHMENT B
WELL SEARCH REQUEST

Public Works Agency
Alameda County

COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
WATER RESOURCES SECTION
399 Elmhurst Street, Hayward, CA 94544-1307
James Yoo PH: (510) 670-6633 FAX: (510) 782-1939
FOR GENERAL DRILLING PERMIT INFO:
www.acgov.org/pwa/wells

RO 3178

WELL COMPLETION REPORT RELEASE AGREEMENT—AGENCY

(Government and Regulatory Agencies and their Authorized Agents)

730-750 A St.,

Project No./Site Address: Langan Project Number 731674401 City: ~~Oakland~~ Hayward, CA

Township, Range, and Section: S16 T3S R2W Radius: ~~1,000 feet~~ 1,500ft

(Must include entire study area and a map that shows the area of interest.)

Under California Water Code Section 13752, the agency named below requests permission from Department of Water Resources to inspect or copy, or for our authorized agent named below to inspect or copy, Well Completion Reports filed pursuant to Section 13751 to (check one):

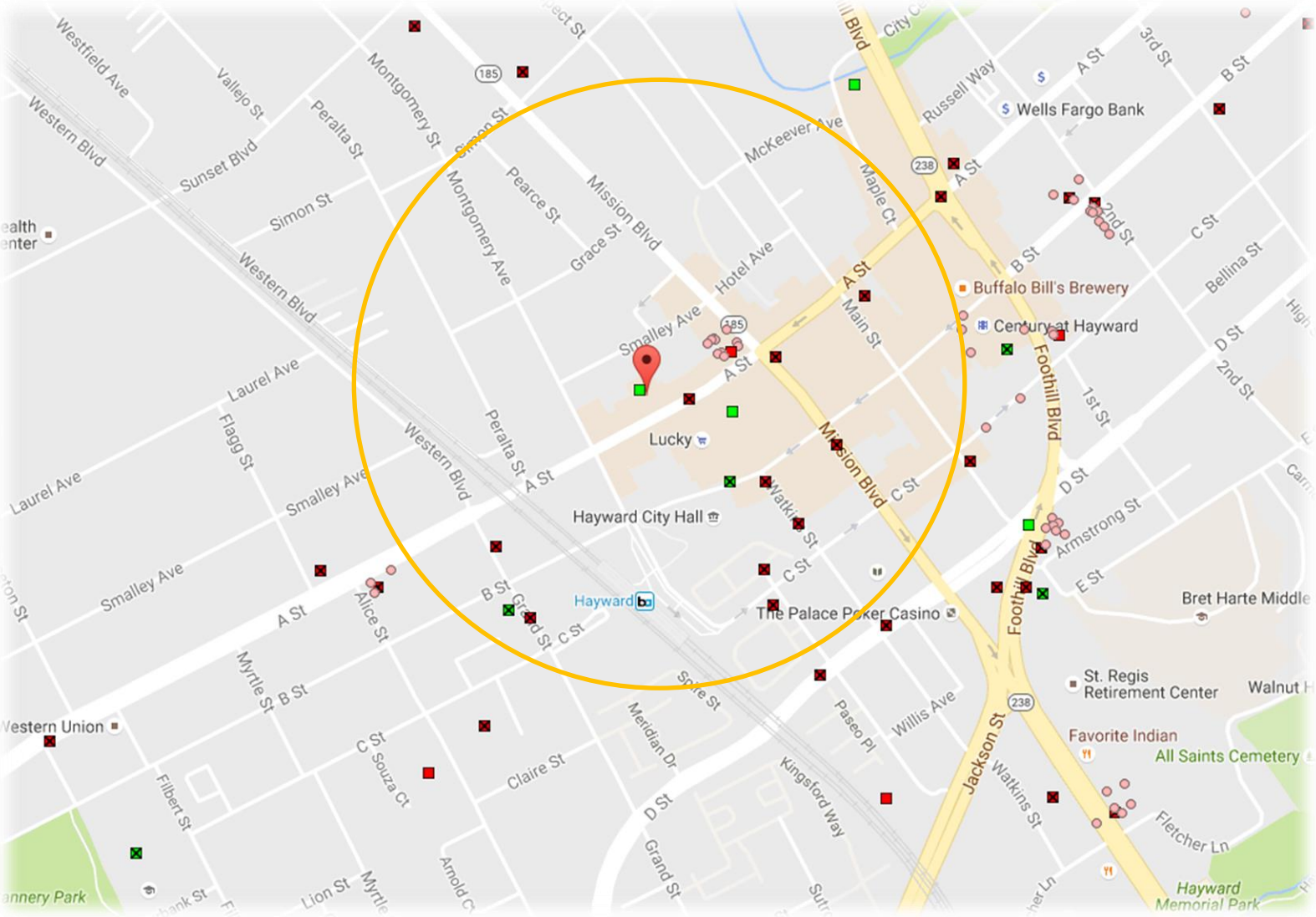
[x] Make a study, or,

[ ] Perform an environmental cleanup study associated with an unauthorized release of a contaminant within a distance of 2 miles.

In accordance with Section 13752, information obtained from these reports shall be kept confidential and shall not be disseminated, published, or made available for inspection by the public without written authorization from the owner(s) of the well(s). The information shall be used only for the purpose of conducting the study. Copies obtained shall be stamped **CONFIDENTIAL** and shall be kept in a restricted file accessible only to agency staff or the authorized agent.

Noel Liner, Langan Treadwell Rollo	Karel Detterman Alameda County Department of Environmental Health
Authorized Agent	Government or Regulatory Agency
501 14th Street, 3rd Floor	1131 Harbor Bay Parkway
Address	Address
Oakland, CA. 94612	Alameda, CA, 94502
City, State, and Zip Code	City, State, and Zip Code
Signature	Karel Detterman Signature
Project Manager	Hazardous Materials Specialist
Title	Title
Telephone 510-874-7041	Telephone 510-567-~~6700~~ 6708
Fax 510-874-7001	Fax 510-567-9335
8-8-16	Aug 8, 2016
Date	Date
nliner@langan.com	karel.detterman@acgov.org
E-mail	E-mail

Approximate 1,500 Foot Search Radius
730-750 A Street
Hayward, CA.
Langan Project Number: 731674401



Permit	Tr	Section	Address	Longcity	Owner	Update	Xcoord	Ycoord	Matchlevel	Tsrqq	Rec_code	Phone	City	Drilldate	Elevation	Totaldepth	Waterdepth	Diameter	Use															
	3S/2W	16F 1	504 LAURAL	Hayward	KING	8/3/1984	122091979	37672831	9	3S/2W 16F	4537	0	HAY	4/43	0	59	0	8	?	D	0	0	0	0	L		504	LAURAL	0010B706.TIF					
91563	3S/2W	16F 2	Laurel Ave & Flag St	Hayward	PG&E	9/30/1992	122093047	37672286	1	3S/2W 16F	8179	0	HAY	Dec-91	0	100	0	0	OTH	D	0	0	0	0	D		Laurel	Ave & Flag	0010B707.t	not legible				
86030	3S/2W	16G	374 JACKSON ST	Hayward	BOB GENNOY	4/30/1986	122083567	37661981	0	3S/2W 16G	4538	0	HAY	2/86	0	10	0	0	DES	D	0	0	0	0	L		374	JACKSON S	0010B708.	150993				
77634	3S/2W	16G 1	22270 PERALTA	Hayward	EMILIA CHAVES		122089537	37674085	2	3S/2W 16G	4539	0	HAY	8/77	0	80	46	6	IRR	D	0	0	0	0	L		22270	PERALTA	0010B709.	33278				
	3S/2W	16G 3	760 SMALLEY AVE	Hayward	HUMPHREY MOTORS INC	5/21/1986	122086569	37673191	0	3S/2W 16G	4541	0	HAY	Feb-86	0	45	0	2	MON	G	0	0	0	0	L		760	SMALLEY AVE						
	3S/2W	16G 4	750 A-STREET	Hayward	HUMPHREY MOTORS INC	7/22/1986	122087534	37672831	9	3S/2W 16G	4542	0	HAY	5/86	0	11	0	2	MON	G	0	0	0	0	L		750	A-STREET						
79141	3S/2W	16G 2	21367 GARDEN	Hayward	PAUL SWART	8/3/1984	122087534	37672831	9	3S/2W 16G	4540	0	HAY	8/79	0	56	22	6	IRR	D	0	0	0	0	L		21367	GARDEN	0010B70A.	33222				
	3S/2W	16H 3	22620 WATKINS ST	Hayward	CITY OF HAYWARD	1/18/1990	122083714	37671283	0	3S/2W 16H	4545	0	HAY	Mar-89	0	82	68	2	MON	G	0	0	0	0	L		22620	WATKINS ST						
	3S/2W	16H 4	22620 WATKINS ST	Hayward	CITY OF HAYWARD	1/18/1990	122083714	37671283	0	3S/2W 16H	4546	0	HAY	Mar-89	0	82	68	2	MON	G	0	0	0	0	L		22620	WATKINS ST						
	3S/2W	16H 5	22620 WATKINS ST	Hayward	CITY OF HAYWARD	1/18/1990	122083714	37671283	0	3S/2W 16H	4547	0	HAY	Mar-89	0	81	68	2	MON	G	0	0	0	0	L		22620	WATKINS ST						
	3S/2W	16H 1	22525 MAIN ST	Hayward	SCHAEFFER & FOSTER	10/30/1984	122082518	37673578	0	3S/2W 16H	4543	0	HAY	Oct-84	0	0	0	6	GEO*	G	0	0	0	0	L		22525	MAIN ST						
	3S/2W	16H 2	22547 WATKINS ST	Hayward	VETERANS YELLOW CAB	10/22/1986	122084654	37672020	0	3S/2W 16H	4544	0	HAY	Sep-86	0	46	0	2	MON	G	0	0	0	0	L		22547	WATKINS ST						
	3S/2W	16J	22645 Watkins St.	Hayward	McCullough Chevrolet	3/14/1991	122083661	37670967	0	3S/2W 16J	1264	0	HAY	Nov-90	25	15	12	3	BOR*	G	0	0	0	13	D		22645	Watkins St.						
7643	3S/2W	16J 1	WATKINS & WILLIS ST	Hayward	PG&E	8/3/1984	122081200	37668500	0	3S/2W 16J	4548	0	HAY	3/76	0	120	0	0	CAT	D	0	0	0	0	L		WATKINS	& WILLIS S	0010B713.	1417380				
	3S/2W	16J 10	22645 Watkins Street	Hayward	McCullough Chevrolet	6/21/1990	122083661	37670967	0	3S/2W 16J	288	0	HAY	4/90	0	75	65	2	MON	D	0	0	0	0	D		22645	Watkins Street						
	3S/2W	16J 11	22645 Watkins Street	Hayward	McCullough Chevrolet	6/21/1990	122083661	37670967	0	3S/2W 16J	289	0	HAY	4/90	0	79	66	2	MON	D	0	0	0	0	D		22645	Watkins Street						
	3S/2W	16J 12	22645 Watkins Street	Hayward	McCullough Chevrolet	6/21/1990	122083661	37670967	0	3S/2W 16J	290	0	HAY	4/90	0	75	66	2	MON	D	0	0	0	0	D		22645	Watkins Street						
	3S/2W	16J 13	22645 Watkins Street	Hayward	McCullough Chevrolet	7/13/1990	122083661	37670967	0	3S/2W 16J	577	0	HAY	1/90	0	75	66	2	MON	D	0	0	0	0	D		22645	Watkins Street						
	3S/2W	16J 14	Atherton St. & D St.	Hayward	Gennoy Realty	2/27/1991	122082900	37669000	0	3S/2W 16J	1000	0	HAY	9/89	9	23	15	2	MON	G	0	0	0	-6	D		Atherton	St. & D St.						
	3S/2W	16J 15	22645 Watkins St.	Hayward	McCullough Chevrolet	3/14/1991	122083661	37670967	0	3S/2W 16J	1257	0	HAY	Oct-90	36	45	26	2	MON	G	0	0	0	10	D		22645	Watkins St.						
	3S/2W	16J 16	22645 Watkins St.	Hayward	McCullough Chevrolet	3/14/1991	122083661	37670967	0	3S/2W 16J	1258	0	HAY	Nov-90	0	60	0	4	MON	D	0	0	0	0	D		22645	Watkins St.						
	3S/2W	16J 17	22645 Watkins St	Hayward	McCullough Chevrolet AW1	8/14/1992	122083661	37670967	1	3S/2W 16J	7703	0	HAY	6/91	0	60	0	4	EXT	D	0	0	0	0	D		22645	Watkins St						
	3S/2W	16J 18	22645 Watkins St	Hayward	McCullough Chevrolet AW2	8/14/1992	122083661	37670967	1	3S/2W 16J	7704	0	HAY	6/91	0	60	0	4	EXT	D	0	0	0	0	D		22645	Watkins St						
	3S/2W	16J 19	Atherton St & 'D' St	Hayward	Gennoy Realty MW-1	10/7/1992	122082900	37669000	1	3S/2W 16J	8364	0	HAY	8/88	0	70	63	2	MON	D	0	0	0	0	D		Atherton	St & 'D' St						
	3S/2W	16J 2	22645 WATKINS ST	Hayward	McCULLOUGH CHEVROLET	11/6/1989	122083661	37670967	0	3S/2W 16J	4549	0	HAY	May-89	0	18	0	0	DES	?	0	0	0	0	L		22645	WATKINS ST						
	3S/2W	16J 2					0	0	9	3S/2W 16J	6850	0		Sep-85	0	45	0	2	MON	G	0	0	0	0	I		#VALUE!	#VALUE!						
	3S/2W	16J 20	Atherton St. && B St.	Hayward	City of Hayward SW-1	7/27/1993	122084354	37670759	1	3S/2W 16J	0	0	HAY	7/92	0	75	65	2	MON	G	0	0	0	0	D		Atherton	St. && B St.						
	3S/2W	16J 3	22645 WATKINS ST	Hayward	McCULLOUGH CHEVROLET	10/9/1985	122083661	37670967	0	3S/2W 16J	4550	0	HAY	Sep-85	0	10	0	2	MON	G	0	0	0	0	L		22645	WATKINS ST						
	3S/2W	16J 4	22701 WATKINS ST.	Hayward	DICK HEMINGER	2/3/1988	122082920	37670280	0	3S/2W 16J	4551	0	HAY	Nov-86	0	27	0	2	MON	G	3		0	0	L		22701	WATKINS ST.						
	3S/2W	16J 5	CRN 'D' & ATHERTON	Hayward	HAYWARD DOWNTOWN HOUSING	12/14/1988	122083106	37669361	9	3S/2W 16J	4552	0	HAY	Sep-88	0	70	62	2	MON	G	0	0	0	0	L		CRN	'D' & ATHERTON						
	3S/2W	16J 6	22645 WATKINS ST	Hayward	UNOCAL CO	9/6/1989	122083661	37670967	0	3S/2W 16J	4553	0	HAY	Mar-89	0	77	65	8	MON	G	0	0	0	0	L		22645	WATKINS ST						
	3S/2W	16J 7	C ST & WATKINS ST	Hayward	CITY OF HAYWARD	1/11/1990	122083000	37670500	0	3S/2W 16J	4554	0	HAY	Mar-89	0	82	68	2	MON	D	0	0	0	0	L		C	ST & WATKINS ST						
	3S/2W	16J 8	C ST & WATKINS ST	Hayward	CITY OF HAYWARD	1/11/1990	122083000	37670500	0	3S/2W 16J	4555	0	HAY	Mar-89	0	82	68	2	MON	D	0	0	0	0	L		C	ST & WATKINS ST						
	3S/2W	16J 9	C ST & WATKINS ST	Hayward	CITY OF HAYWARD	1/11/1990	122083000	37670500	0	3S/2W 16J	4556	0	HAY	Mar-89	0	81	68	0	MON	D	0	0	0	0	L		C	ST & WATKINS ST						
77698	3S/2W	16K 1	722 B ST	Hayward	?	8/3/1984	122085678	37671176	0	3S/2W 16K	4557	0	HAY	9/77	0	132	60	8	IRR	D	0	0	0	0	L		722	B ST	0010B728.	106186				
	3S/2W	16K 3	22721 Alice St	Hayward	BIGHAM-TAYLOR ROOFING	6/3/1992	122089590	37667769	1	3S/2W 16K	7400	0	HAY	3/92	0	73	61	4	MON	G	0	0	0	0	D		22721	Alice St						
	3S/2W	16K 2	529 C-STREET	Hayward	WILMAC METALS	3/9/1987	122087534	37669361	9	3S/2W 16K	4558	0	HAY	Dec-86	0	45	0	2	MON	G	0	0	0	0	L		529	C-STREET						
W2013-0455	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182742							486	A St						
W2013-0456	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182743							486	A St						
W2013-0457	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182747							486	A St						
W2013-0458	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182748							486	A St						
W2013-0459	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182749							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182756							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182757							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY			40			DES	WCR-e0182761							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182752							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182750							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182751							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182753							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182763							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182754							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182764							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182758							486	A St						
W2013-0454	3S/2W	16L	486 A St	Hayward	Massood Habibian	8/2/2016				3S/2W 16L			HAY						DES	WCR-e0182759							486	A St						
	3S/2W	16L 1	SMALLEY AVE	Hayward	HEILMAIN	8/3/1984	122093100	37670650	2	3S/2W 16L	4559	0	HAY	?	0	112	0	0	?	D	0	0	0	0	L		SMALLEY	AVE	0010B72B.TIF					
	3S/2W	16L 2	150 E. 14TH ST	San Leandro	LEE DOUGAN	8/3/1984	122162617	37735005	0	3S/2W 16L	4560	0	SLE	8/49	0	148	0	0	?	D	0	0	150	0	L		150	E. 14TH ST	0010B72C.TIF					
W2006-0233	3S/2W	16L 3	486 A Street-OS-1	Hayward	MOA Service Station	4/14/2006				3S/2W 16L			HAY	4/14/2006	0	51	45	2	EXT	e066673							486	A Street-OS-1		e066673				
W2006-0233	3S/2W	16L 4	487 A Street-OS-1	Hayward	MOA Service Station	4/14/2006				3S/2W 16L			HAY	4/14/2006	0	51	45	2	EXT	e066673										e066673				
W2006-0234	3S/2W	16L 5	487 A Street-MW-4	Hayward	MOA Service Station	4/14/2006				3S/2W 16L			HAY	4/14/2006	0	60	0	2	MON	N/A														
W2006-0235	3S/2W	16L 6	487 A Street-MW-5	Hayward	MOA Service Station	4/14/2006				3S/2W 16L			HAY	4/14/2006	0	60	0	2	MON	N/A														
85149	3S/2W	16P	353 B St	Hayward	City of Hayward	3/25/2010				3S/2W 16P			HAY	15-Aug		185			TEST BORING										0010B743.	155985, 155986				
	3S/2W	16P 1	24072 SAKLAN RD	Hayward	MAVIS GREBROK	8/3/1984	122117300	37645927	0	3S/2W 16P	4584	0	HAY	6/76	0	80	17	10	DOM	D	0	0	70	0	L		24072	SAKLAN RD	0010B745.	illegible				
	3S/2W	16Q 1	?	Hayward	SAKTA	8/3/1984	122087534	37665822	9	3S/2W 16Q	4585	0	HAY	?	0	93	0	0	?	?	0	0	0	0	L		#VALUE!	#VALUE!	0010B747.TIF					
77468	3S/2W	16Q 2	24027 ALICE	Hayward	THOMAS MCGRATH	12/19/1984	122085688	37663720	2	3S/2W 16Q	4586	0	HAY	6/77	0	91	50	6	IRR	D	0	0	0	0	L		24027	ALICE	0010B748.	33257				
77593	3S/2W	16Q 3	22866 MYRTLE ST	Hayward	J. PEREDA	8/3/1984	122087534	37665822	9	3S/2W 16Q	4587	0	HAY	7/77	0	84	48	6	IRR	D	0	0	0	0	L		22866	MYRTLE ST	0010B749.	33268				
	3S/2W	16Q 4	469 ARNALD CT	Hayward	CHARLES DEBIOLLES	8/3/1984	122087534	37665822	9	3S/2W 16Q	4588	0	HAY	Oct-56	0	72	50	6	IRR	D	0	0	0	0	L		469	ARNALD CT	0010B746.	24778				

Well Legend

DOM=Domestic well

IRR=Irrigation well

MUN= Municipal well

IND=Industrial well

CAT=Cathodic well

DES=well destroyed (through permit)

ABN=Abandoned and not being used (but has not been destroyed through permit process)

TES=Test well

BOR= Geotechnical investigation

MON= Monitoring well

EXT=Extraction/ Vapor wells

PIE=Piezometers

REC=Recovery well (extraction/ vapor)

? = Unknown or no information found or given

ATTACHMENT C
BORING LOGS

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **68.0'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **65.5'**

Boring No: **SB-1**
Date Drilled: **1/17/07**
Page **1** of **4**

▽ = First Water

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					0				**Asphalt** - 4-5"
					1				**Fill?**
		damp		Air-Knife	2				CL **Lean clay** brown; firm; low to medium plasticity; 5-10% fine sand; medium to high toughness; trace roots and rocks; damp
					3				
					4				
					5				**No recovery - rocks or sand**
					6				
					7				
					8				
					9				ML **Silt** brown; medium plasticity; some clay; low toughness; slow dilatancy; soft to medium soft; moist; no odor (0,0,100)
		moist	5.5		10				
					11				
					12				
					13				
					14				
				SB-1 @15.5' 11:50	15				ML **Same as above**; low plasticity; less clay
		moist	10.0		16				
					17				
					18				
					19				
					20				SC **Clayey sand** brown; 15% clay; moderate gradation; fine to medium grained sand with trace coarse sand; moist; loose; weak cementation; no odor (0,85,15)
		moist	6.0		21				
					22				

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **68.0'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **65.5'**

Boring No: **SB-1**
Date Drilled: **1/17/07**
Page **2** of **4**

▽ = First Water

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				
					24				
		moist	7.8		25				**ML** **Silt** brown; non-plastic; soft; moist; no odor (0,0,100)
					26				
					27				
					28				
					29				
				SB-1 @30.5' 12:10	30				**GM** **Silty gravel with sand** brown; well-graded; fine to coarse grained sand; moist; medium dense to loose; little clay; no odor (45,30,25)
		moist	8.8		31				
					32				
					33				
					34				
					35				**Refusal**
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **68.0'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **65.5'**

Boring No: **SB-1**
Date Drilled: **1/17/07**
Page **3** of **4**

▽ = First Water

Contacts estimated

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					45				**No recovery - rocks or sand**
					46				
					47				
					48				
					49				
					50				
		damp	5.4		51				**SM** **Silty sand with gravel** brown; well-graded; fine to coarse sand; very loose to loose; trace clay; damp; no odor (20,50,30); 4-5 strips of gray plastic or duct tape about 2" long
					52				
					53				
					54				
					55				
		moist	4.4	SB-1 @55.5' 14:25	56				**CH** **Fat clay** brown; high plasticity; medium to high stiffness; firm; moist; trace sand; some odor (0,5,95)
					57				
					58				
					59				
					60				
		damp	6.8	SB-1 @60.5' 14:35	61				**ML** **Silt with sand** brown; low plasticity; soft; well-graded sand and gravel; fine to coarse sand; with gravel; little clay; damp; no odor (10,30,60)
					62				
					63				
					64				
	▽	moist -wet	8.5		65				**Sandy silt** brown; low plasticity; firm; **ML** with clay; fine to coarse sand; moderate grading; trace gravel; moist-wet; no odor (5,35,65)
					66				

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips** | Boring No: **SB-1**
Logged By: **Lisa Stelzner** | Location: **898 A St.** | Date Drilled: **1/17/07**
Driller: **Gregg Drilling & Testing** | **Hayward, CA** | Page **4** of **4**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **68.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **65.5'**

▽ = First Water

Elevation	Northing	Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					67				
					68				Total Depth = 68.0 feet bgs
					69				
					70				
					71				
					72				
					73				
					74				
					75				
					76				
					77				
					78				
					79				
					80				
					81				
					82				
					83				
					84				
					85				
					86				
					87				
					88				

Delta Consultants

Project No: **C106049101** | Client: **ConocoPhillips** | Boring No: **SB-2**
Logged By: **Lisa Stelzner** | Location: **898 A St.** | Date Drilled: **1/19/07**
Driller: **Gregg Drilling & Testing** | **Hayward, CA** | Page **1** of **3**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **58.0'**

▼ = Static Groundwater

Contacts estimated

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					0			**Asphalt** - 4-5"
					1			**Fill?**
		damp		Air-Knife	2–5			CL **Lean clay** dark brown; soft; medium plasticity; medium toughness; no odor; damp (0,0,100)
		moist	4.2		6–9			CL **Same as above**; no dilatancy; medium soft to stiff; moist
		moist	3.2	SB-2 @10.5' 8:58	10–12			CH **Fat clay** dark brown; high plasticity; high toughness; very stiff; moist; no odor (0,0,100)
		moist	4.9	SB-2 @15.5' 9:02	13–16			ML **Silt** brown; with clay; low to medium plasticity; low toughness; soft; no odor; moist (0,0,100)
		moist	3.6		17–21			ML **Same as above**; some clay; low plasticity; trace fine sand (0,5,100)
					22			

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips** | Boring No: **SB-2**
Logged By: **Lisa Stelzner** | Location: **898 A St.** | Date Drilled: **1/19/07**
Driller: **Gregg Drilling & Testing** | **Hayward, CA** | Page **2** of **3**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **58.0'**
Elevation | Northing | Easting

▼ = Static Groundwater

Contacts estimated from CPT log

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				
					24				
					25				
		moist	4.5		26				**SP-SM** **Poorly graded sand with silt** brown; little clay; fine grained sand; poorly graded; weak to moderate cementation; loose sand; moist; no odor (0,90,10)
					27				
					28				
					29				
					30				
		moist	3.9	SB-2 @30.5' 9:23	31				**SP** **Poorly graded sand** brown; trace clay; fine grained sand with little medium grained sand; trace coarse grained sand; poorly graded; medium dense to loose; weak cementation; moist; no odor (0,95,5)
					32				
					33				
					34				
					35				**Refusal**
					36				
					37				
					38				
					39				
					40				**Refusal**
					41				
		moist	6.2		42				**SM** **Silty sand with gravel** brown; fine to coarse sand; fine gravel; well-graded; very loose; moist; no odor (15,65,20)
					43				
					44				

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **65.0'**
Well Diameter: NA
Well Depth: NA
Groundwater Depth: **58.0'**

Boring No: **SB-2**
Date Drilled: **1/19/07**
Page **3** of **3**

▼ = Static Groundwater

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					45				**Refusal**
					46				
					47				
					48				
					49				
					50				
		moist	3.2		51				**ML** **Silt** brown; little fine-grained sand; some clay; low plasticity; medium-soft; no odor; moist (0,10,90)
					52				
					53				
					54				
					55				**CL** **Lean clay** brown; medium plasticity; low toughness; soft; no odor; moist (0,0,100)
		moist	4.2	SB-2 @55.5' 9:55	56				
					57				
	▼				58				
					59				
					60				**CH** **Fat clay** orange brown; high plasticity; high toughness; stiff to hard; strong odor; moist to wet (0,0,100)
		moist -wet	24.0		61				
					62				
					63				
					64				
					65				
					66				Total Depth = 65.0 feet bgs

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **65.0'**
Well Diameter: NA
Well Depth: NA
Groundwater Depth: **61.0'**

Boring No: **SB-3**
Date Drilled: **1/19/07**
Page **1** of **3**

▼ = Static Groundwater

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					0				**Asphalt** - 6"
					1				**Fill ?**
		moist		Air-Knife	2				CL **Lean clay** dark brown; with silt; firm; medium plasticity; moist, no odor
					3				
					4				
					5				
		moist	4.9	SB-3 @6.5' 13:05	6				CH **Fat clay** dark brown; medium to high plasticity; high toughness; medium soft to stiff; moist; no odor (0,0,100)
					7				
					8				
					9				
		damp	8.2		10				CH **Same as above;** high plasticity; very stiff to hard; damp
					11				
					12				
					13				
					14				
		moist	10.1		15				SM **Silty sand** brown; fine sand; poorly graded; some clay; loose to very loose; moist; no odor (0,60,40)
					16				
					17				
					18				
					19				
		moist	12.1	SB-3 @20.5' 13:25	20				SP **Poorly graded sand** brown; fine sand; poorly graded; trace silt; loose to very loose; moist; no odor (0,95,5)
					21				
					22				

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips**
Logged By: **Lisa Stelzner** | Location: **898 A St.**
Driller: **Gregg Drilling & Testing** | **Hayward, CA**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **61.0'**
Elevation | Northing | Easting

Boring No: **SB-3**
Date Drilled: **1/19/07**

▼ = Static Groundwater

Contacts estimated from CPT log

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				
					24				
					25				**Refusal**
					26				
					27				
					28				
					29				
		damp	7.5		30				**SM** **Silty sand with gravel** brown; fine to coarse sand; fine gravel; well graded; very loose; damp; no odor (20,50,30) *very small hand sample
					31				
					32				
					33				
					34				
					35				
		dry	3.2	SB-3 @35.5' 13:45	36				**SW** **Well graded sand** brown; fine sand; well graded; much of it moderate sementation, breaking into fine gravel sized chunks; breaks with finger or nail pressure; trace silt; dry; no odor (0,95,5) *very small hand sample
					37				
					38				
					39				
					40				**Refusal**
					41				
					42				
					43				
					44				

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **65.0'**
Well Diameter: NA
Well Depth: NA
Groundwater Depth: **61.0'**

Boring No: **SB-3**
Date Drilled: **1/19/07**

▼ = Static Groundwater

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					45			**Refusal**
					46			
					47			
					48			
					49			
		moist	5.5	SB-3 @50.5' 14:05	50			**CL** **Lean clay** brown; with silt; medium plasticity; low toughness; soft; no odor; moist (0,0,100)
					51			
					52			
					53			
					54			
		moist	4.9		55			**CL** **Same as above**; gray; no silt; very soft
					56			
					57			
					58			
					59			
					60			**No recovery - rocks and sand**
	▼				61			
					62			
					63			
					64			
					65			
					66			Total Depth = 65.0 feet bgs

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips** | Boring No: **SB-4**
Logged By: **Lisa Stelzner** | Location: **898 A St.** | Date Drilled: **1/18/07**
Driller: **Gregg Drilling & Testing** | **Hayward, CA** | Page **1** of **3**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **58.0'**
Elevation | Northing | Easting

▼ = Static Groundwater

Contacts estimated from CPT log

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					0				**Asphalt**
					1				**Fill**
		moist		Air-Knife	2				CL **Lean clay** dark brown; with silt; trace sand; firm; medium plasticity; moist; no odor
					3				
					4				
					5				CH **Fat clay** brown; high plasticity; high toughness; stiff to very stiff; no odor; moist (0,0,100)
		moist	1.6		6				
					7				
					8				
					9				
				SB-4 @10.5' 7:55	10				CH **Fat clay** brown; medium plasticity; medium to high toughness; stiff to very stiff; some silt; no odor; damp (0,0,100)
		damp	2.2		11				
					12				
					13				
					14				
					15				
				SB-4 @16.5' 8:05	16				ML **Sandy silt** brown; low plasticity; medium soft to soft; weak cementation; little clay; 35% fine to medium grained sand; moderate gradation; little coarse grained sand and pebbles; moist; no odor (2, 35, 63)
		moist	3.0		17				
					18				
					19				
				SB-4 @20.5' 8:15	20				ML **Sandy silt with gravel** brown; non-plastic; very soft; fine to coarse sand; well graded; weak cementation; fine gravel; very loose sand; no odor; damp (15,40,45)
		damp	2.6		21				
					22				

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips** | Boring No: **SB-4**
Logged By: **Lisa Stelzner** | Location: **898 A St.** | Date Drilled: **1/18/07**
Driller: **Gregg Drilling & Testing** | **Hayward, CA** | Page **2** of **3**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **58.0'**

▼ = Static Groundwater

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement		damp	3.6	SB-4 @25.5' 8:25	23–27				**SW-SM Well-graded sand with silt and gravel** brown; fine to coarse sand; well graded; with gravel; fine to coarse gravel; very loose; weak cementation; damp; no odor (20,70,10) *very small hand sample
		damp	2.2		30–31				**SW-SM Same as above**
		damp	3.6		35–36				**SW-SM Same as above;** moderate sorting; gap; fine and coarse sand
					40–41				**Note:** Soil sampler broke off at 40' and could not be retrieved. Hydropunch was drilled to 65' to collect water sample.

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **65.0'**
Well Diameter: NA
Well Depth: NA
Groundwater Depth: **58.0'**

Boring No: **SB-4**
Date Drilled: **1/18/07**

▼ = Static Groundwater

Elevation	Northing	Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement	▼				45–66		⊠ at 58		Total Depth = 65.0 feet bgs

Delta
Consultants

Project No: **C106049101**
Logged By: **Lisa Stelzner**
Driller: **Gregg Drilling & Testing**
Drilling Method: **CPT**
Sampling Method: **Direct Push**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **898 A St.**
Hayward, CA
Hole Diameter: **1.75"**
Hole Depth: **65.0'**
Well Diameter: NA
Well Depth: NA
Groundwater Depth: **53.0'**

Boring No: **SB-5**
Date Drilled: **1/18/07**
Page **1** of **3**

▼ = Static Groundwater
▽ = First Water

Contacts estimated from CPT log

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					0				**Asphalt** - 3-4"
					1				**Fill**
		moist		Air-Knife	2				CL **Lean clay** dark brown; some silt; trace sand; firm; medium plasticity; moist; no odor
					3				
					4				
				SB-5 @5.5' 12:25	5				CH **Fat clay** brown; high plasticity; high toughness; very stiff to hard; no dilatancy; no odor; damp (0,0,100)
		damp	9.1		6				
					7				
					8				
					9				
					10				CH **Same as above**; medium toughness; medium soft to stiff; some silt; dilatancy not tested
		damp	4.2		11				
					12				
					13				
					14				
					15				ML **Silt** brown; low plasticity; soft; some sand; little clay; fine grained sand with a few coarse grains; no odor; damp (0,15,85)
		damp	9.0	SB-5 @15.5' 13:35	16				
					17				
					18				
					19				
					20				SC **Clayey sand** brown; fine sand; poorly sorted; little medium and coarse grained sand; with clay; loose; weak cementation; trace gravel; damp; no odor (1,60,39)
		damp	8.8	SB-5 @20.5' 13:40	21				
					22				

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips**
Logged By: **Lisa Stelzner** | Location: **898 A St.**
Driller: **Gregg Drilling & Testing** | **Hayward, CA**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **53.0'**
Elevation | Northing | Easting

Boring No: **SB-5**
Date Drilled: **1/18/07**
Page **2** of **3**

▼ = Static Groundwater
▽ = First Water

Contacts estimated from CPT log

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement		damp	12.1	SB-5 @25.5' 13:50	25–26				**SM** **Silty sand with gravel** brown; fine to coarse sand; fine gravel; well sorted; very loose; damp; no odor (20,60,20)
					30				**Refusal**
		damp	10.0		37–38				**ML** **Sandy silt with gravel** brown; clay with silt chunks present (low plasticity; soft to stiff); fine to coarse grained sand; fine gravel; well graded; damp; no odor (20,35,45)
		damp	4.5		43–44				**ML** **Same as above**; clay chunks have less silt (medium plasticity; medium soft to stiff)

Delta
Consultants

Project No: **C106049101** | Client: **ConocoPhillips**
Logged By: **Lisa Stelzner** | Location: **898 A St.**
Driller: **Gregg Drilling & Testing** | **Hayward, CA**
Drilling Method: **CPT** | Hole Diameter: **1.75"**
Sampling Method: **Direct Push** | Hole Depth: **65.0'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | Groundwater Depth: **53.0'**
Elevation | Northing | Easting

Boring No: **SB-5**
Date Drilled: **1/18/07**
Page **3** of **3**

▼ = Static Groundwater
▽ = First Water

Contacts estimated from CPT log

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					45				
					46				
					47				
					48				
		damp	2.6	SB-5 @49.5' 15:40	49				CL **Lean clay** brown; medium plasticity; medium toughness; no dilatancy; soft to medium soft; no odor; damp (0,0,100)
					50				
					51				
					52				
					53				
					54				
		moist	5.2		55				CH **Fat clay** brown; high plasticity; high toughness; medium soft to stiff; trace silt; no odor; moist (0,0,100)
					56				
					57				
	▽	moist -wet	5.9		58				ML **Silt with sand** brown; low plasticity; very soft; little clay; trace fine gravel; fine and coarse sand; medium graded; gap; moist to wet; no odor (3,20,77)
					59				
					60				
					61				
					62				
					63				
					64				
					65				
					66				Total Depth = 65 feet bgs

ATTACHMENT C

CPT Site Investigation Report

GREGG IN SITU, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

January 22, 2007

Delta Environmental
Attn: Lisa Stelzner
3164 Gold Camp Dr., Suite 200
Rancho Cordova, California 95670

Subject: CPT Site Investigation
76 Station #6049
Hayward, California
GREGG Project Number: 07-018MA

Dear Ms. Stelzner:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	☒
7	Soil Sampling	(SS)	☒
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, Inc.

Mary Walden
Operations Manager

Cone Penetration Test Sounding Summary

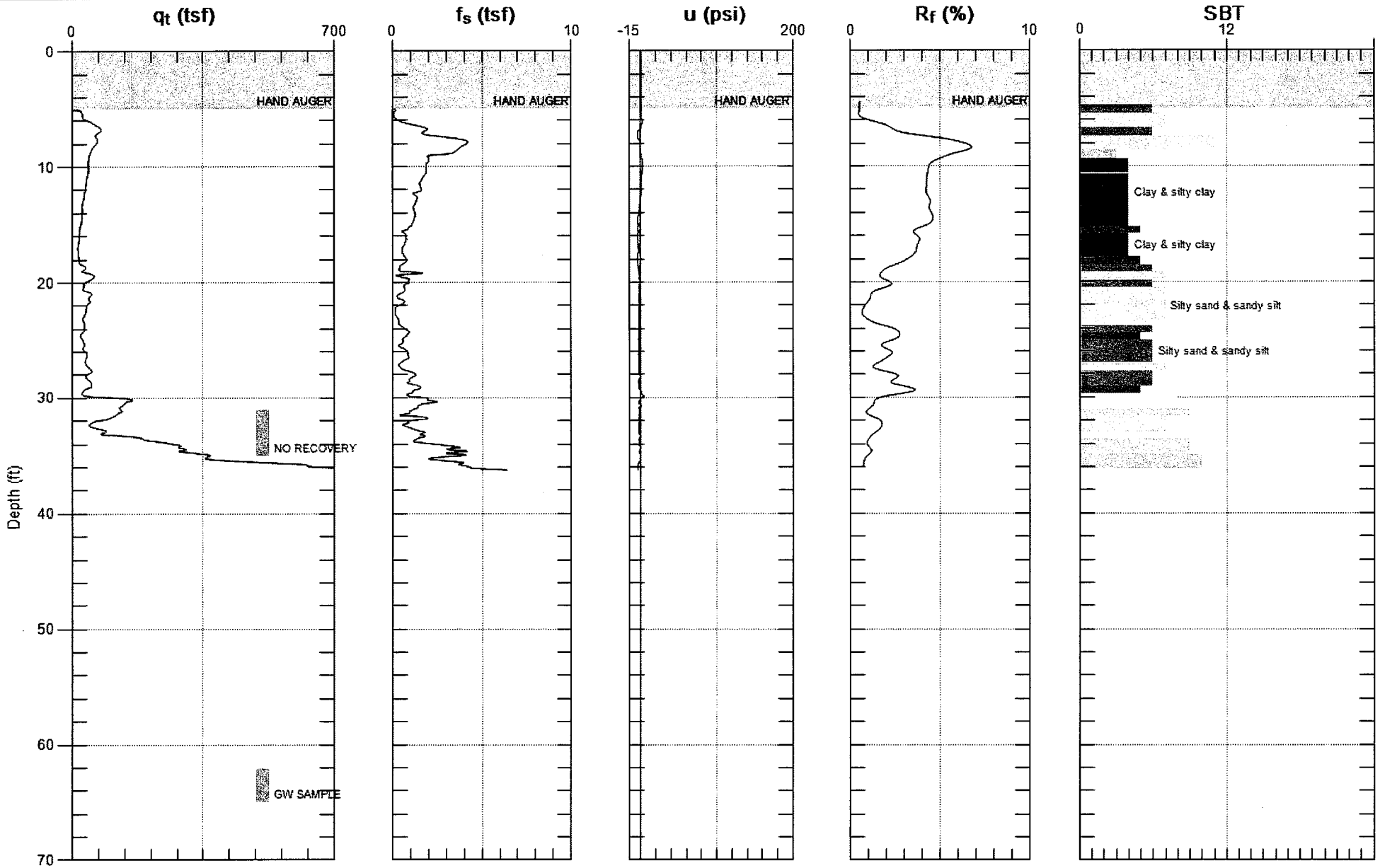
-Table 1-

CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (Feet)	Depth of Soil Samples (Feet)	Depth of Pore Pressure Dissipation Tests (Feet)
CPT-SB1	1/17/07	36	35NR, 65		36.3
CPT-SB2	1/19/07	67	65		-
CPT-SB3	1/19/07	70	65		-
CPT-SB4	1/17/07	70	65		64.5
CPT-SB5	1/18/07	65	65		57.9, 65.1

DELTA CONSULTANTS

Site: 76 STATION #6049
Sounding: CPT-SB1

Engineer: L.STELZNER
Date: 1/17/2007 10:23



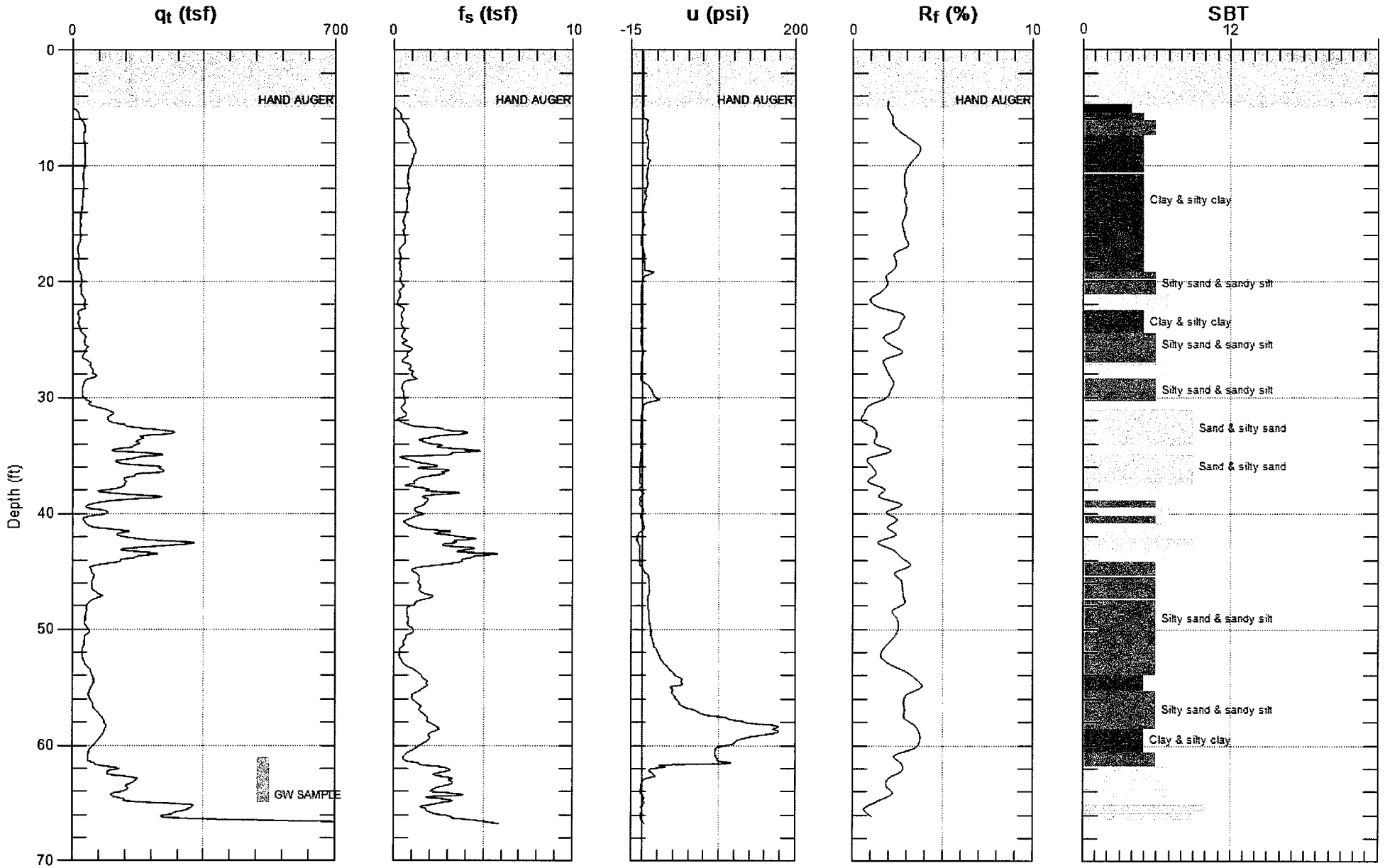
Max. Depth: 36.250 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

DELTA CONSULTANTS

Site: 76 STATION #6049
Sounding: CPT-SB2

Engineer: L.STELZNER
Date: 1/19/2007 08:05



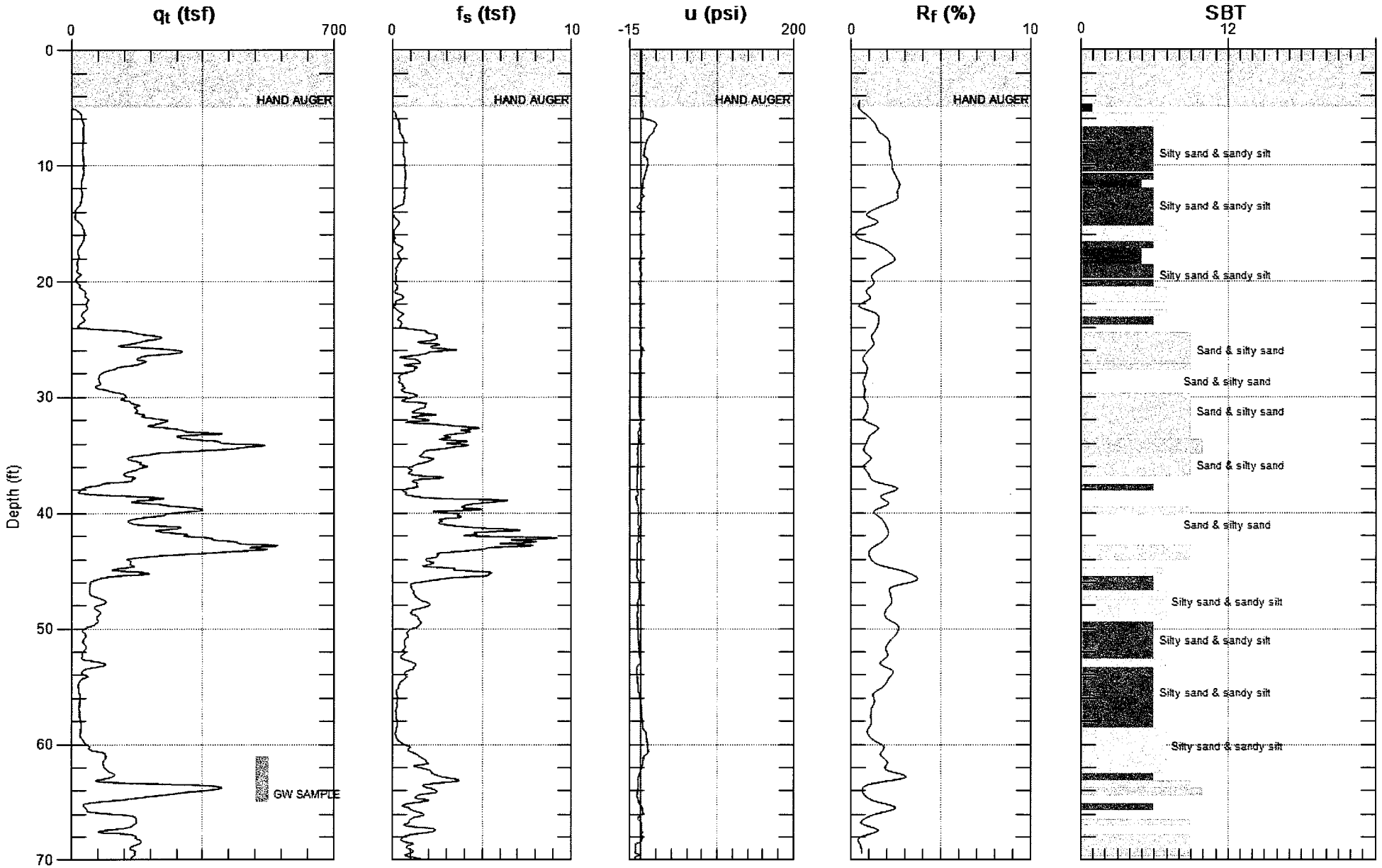
Max. Depth: 66.770 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

DELTA CONSULTANTS

Site: 76 STATION #6049
Sounding: CPT-SB3

Engineer: L.STELZNER
Date: 1/19/2007 12:10



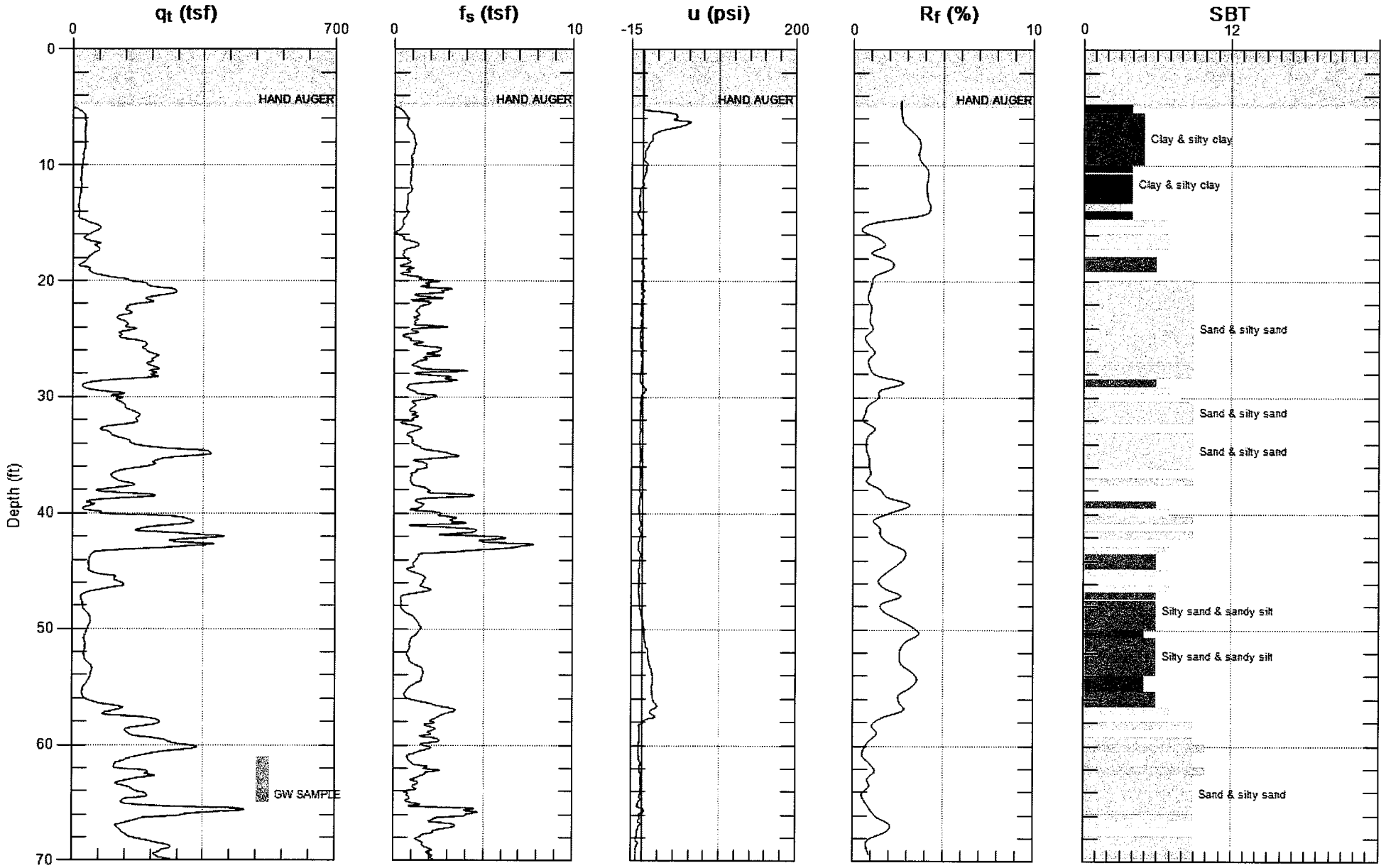
Max. Depth: 70.210 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

DELTA CONSULTANTS

Site: 76 STATION #6049
Sounding: CPT-SB4

Engineer: L.STELZNER
Date: 1/17/2007 04:38



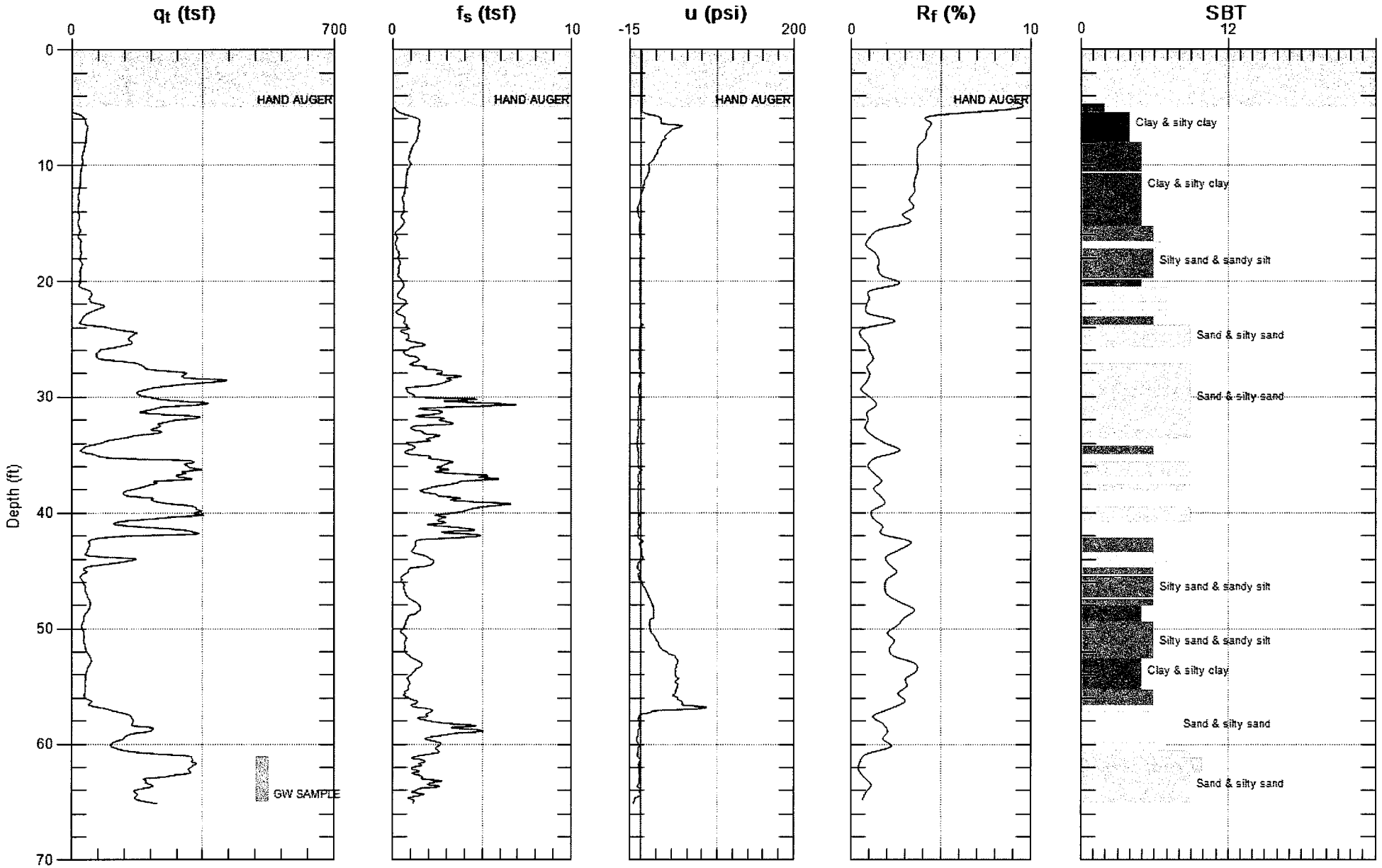
Max. Depth: 70.050 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

DELTA CONSULTANTS

Site: 76 STATION #6049
Sounding: CPT-SB5

Engineer: L.STELZNER
Date: 1/18/2007 11:36



Max. Depth: 65.120 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

PROJECT: **Former Chevron 9-1884**
LOCATION: **505 A Street, Hayward, CA**
PROJECT NUMBER: **211200063**

BOREHOLE / MONITORING WELL CONSTRUCTION LOG:

MW-1

PAGE 1 OF 1

Stantec

AIR KNIFING: STARTED **8/18/09** COMPLETED: **8/18/09**
DRILL/INSTALL: STARTED **8/20/09** COMPLETED: **8/20/09**
DRILLING COMPANY: **WDC Exploration & Wells**
DRILLING EQUIPMENT: **CME 65 Limited Access Rig**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Modified California Sampler**

LATITUDE (deg): **37.6701352** LONGITUDE (deg): **122.0912716**
DEG/MIN/SEC: **37° 40' 12.486"** DEG/MIN/SEC: **122° 5' 28.5792"**
GROUND ELEV (ft): **87.33** TOC ELEV (ft): **86.90**
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **55.0**
STATIC DTW (ft): **49.69** **9/19/09** WELL DEPTH (ft): **55.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8.25**
LOGGED BY: **T. Cuevas** CHECKED BY: **J. May**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
08:40		GP	(5YR 2.5/1) black; **ASPHALT**; black (5YR 2.5/1); 6-inch thick layer							
		ML	**GRAVEL TRACE SAND AND SILT** ; GP; (5YR 5/1) gray; fine-grained; loose; dry; no cementation; subrounded; poorly graded; homogeneous; Engineered Fill							
08:45 5			**CLAYEY SILT** ; ML; (10YR 4/3) brown; low plasticity; hard; dry; no cementation; homogeneous							
			Dark yellowish brown (10YR 4/6)		08:50 MW-1-10'	1.5	17 29 35	0.3 ppm		
08:50 10									10	
					09:05 MW-1-15'	1.5	20 24 33	0.2 ppm		
09:05 15									15	
		ML	**SANDY SILT SOME CLAY** ; ML; (10YR 4/3) brown; low plasticity; hard; dry; no cementation; homogeneous		09:15 MW-1-20'	1.5	18 23 30	0.2 ppm		Portland Cement Grout
09:15 20									20	
					09:30 MW-1-25' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	27 28 33	0.4 ppm		
09:30 25									25	
					09:40 MW-1-30'	1.5	25 30 36	0.4 ppm		
09:40 30									30	
					09:50 MW-1-35'	1.5	15 18 25	0.7 ppm		
09:50 35									35	Medium Bentonite Chips
			Firm, moist		10:00 MW-1-40'	1.5	16 19 23	0.7 ppm		Monterey #3 Lapis Lustre Sand
40									40	
					10:05 MW-1-45' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	9 14 17	0.9 ppm		
			Soft, wet							
10:05 45									45	2-inch Schedule 40 PVC (0.020 slot size) Lab Analyses: 24 SEP 09 BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH
					10:15 MW-1-50' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	11 13 16	0.8 ppm		
			Reduction in clay							
10:15 50									50	
		SM	**SILTY SAND** ; SM; (10YR 5/3) brown; fine to medium-grained; loose; wet; no cementation; rounded; poorly graded; homogeneous		10:25 MW-1-55' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	13 16 19	0.9 ppm		
10:25 55			Hole terminated at 55 feet.						55	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
No. 8021
STATE OF CALIFORNIA

GEO FORM 304 9-1884(REV).GPJ SUNCOR DATA TEMPLATE.GDT 11/13/09

PROJECT: **Former Chevron 9-1884**
LOCATION: **505 A Street, Hayward, CA**
PROJECT NUMBER: **211200063**

BOREHOLE / MONITORING WELL CONSTRUCTION LOG:

MW-2

AIR KNIFING: STARTED **8/18/09** COMPLETED: **8/18/09**
DRILL/INSTALL: STARTED **8/19/09** COMPLETED: **8/19/09**
DRILLING COMPANY: **WDC Exploration & Wells**
DRILLING EQUIPMENT: **CME 65 Limited Access Rig**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Modified California Sampler**

LATITUDE (deg): **37.6699609** LONGITUDE (deg): **122.0916321**
DEG/MIN/SEC: **37° 40' 11.8596"** DEG/MIN/SEC: **122° 5' 29.8752"**
GROUND ELEV (ft): **86.40** TOC ELEV (ft): **85.97**
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **55.0**
STATIC DTW (ft): **48.85** **9/19/09** WELL DEPTH (ft): **55.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8.25**
LOGGED BY: **T. Cuevas** CHECKED BY: **J. May**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
14:40			**TOPSOIL**; planter area							
		GP	**GRAVEL TRACE SAND AND SILT** ; GP; (5YR 5/1) gray; fine-grained; loose; dry; no cementation; subrounded; poorly graded; homogeneous; Engineered Fill							
		ML	**SILT SOME CLAY TRACE ORGANICS** ; ML; (10YR 4/3) brown; low plasticity; hard; dry; no cementation; homogeneous							
14:45 5			No recovery in core barrel						5	
14:50 10									10	
15:00 15									15	
15:10 20		ML	**SANDY SILT SOME CLAY** ; ML; (10YR 4/6) dark yellowish brown; low plasticity; hard; dry; no cementation; homogeneous		15:10 MW-2-20'	1.5	19 29 29	0.0 ppm	20	Portland Cement Grout
15:20 25					15:20 MW-2-25' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	18 23 28	0.2 ppm	25	
15:30 30					15:30 MW-2-30'	1.5	22 30 35	0.4 ppm	30	
			Brownish yellow (10YR 6/6)		15:40 MW-2-35'	1.5	21 26 31	0.6 ppm	35	Medium Bentonite Chips
15:50 40		ML	**GRAVELLY SILT SOME CLAY** ; ML; (10YR 4/6) dark yellowish brown; low plasticity; hard; moist; no cementation; homogeneous		15:50 MW-2-40'	1.5	24 30 36	0.8 ppm	40	Monterey #3 Lapis Lustre Sand
16:10 45			Dark grayish gray (GLEY 1 4/10GY), wet, hydrocarbon staining		16:10 MW-2-45' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	17 23 33	84 ppm	45	
16:20 50					16:20 MW-2-50' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	16 20 23	12.6 ppm	50	2-inch Schedule 40 PVC (0.020 slot size) Lab Analyses: 24 SEP 09 BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH
16:30 55			Hole terminated at 55 feet.		16:30 MW-2-55' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	13 16 23	4.6 ppm	55	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
NO. 8021
STATE OF CALIFORNIA

GEO FORM 304 9-1884(REV).GPJ SUNCOR DATA TEMPLATE.GDT 11/13/09

PROJECT: **Former Chevron 9-1884**
LOCATION: **505 A Street, Hayward, CA**
PROJECT NUMBER: **211200063**

BOREHOLE / MONITORING WELL CONSTRUCTION LOG:

MW-3 PAGE 1 OF 1

Stantec

AIR KNIFING: STARTED **8/18/09** COMPLETED: **8/18/09**
DRILL/INSTALL: STARTED **8/19/09** COMPLETED: **8/19/09**
DRILLING COMPANY: **WDC Exploration & Wells**
DRILLING EQUIPMENT: **CME 65 Limited Access Rig**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Modified California Sampler**

LATITUDE (deg): **37.66983285** LONGITUDE (deg): **122.0915551**
DEG/MIN/SEC: **37° 40' 11.3982"** DEG/MIN/SEC: **122° 5' 29.5974"**
GROUND ELEV (ft): **86.75** TOC ELEV (ft): **86.44**
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **55.0**
STATIC DTW (ft): **49.18** **9/19/09** WELL DEPTH (ft): **55.0**
WELL CASING DIAMETER (in): **2** BOREHOLE DIAMETER (in): **8.25**
LOGGED BY: **T. Cuevas** CHECKED BY: **J. May**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
12:30		GP	(5YR 2.5/1) black; **ASPHALT**; black (5YR 2.5/1); 6-inch thick layer							
		CL-ML	**GRAVEL TRACE SAND AND SILT** ; GP; (5YR 5/1) gray; fine-grained; loose; dry; no cementation; subrounded; poorly graded; homogeneous; Engineered Fill							
12:35 5			**SILTY CLAY SOME SAND** ; CL-ML; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous						5	
		ML	**CLAYEY SILT TRACE SAND** ; ML; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous		12:40 MW-3-10'	1.5	12 22 28	0.0 ppm		
12:40 10									10	
					12:50 MW-3-15'	1.5	10 25 28	0.0 ppm		
12:50 15									15	Portland Cement Grout
			Dark greenish gray (10YR 4/2)		13:00 MW-3-20'	1.5	8 11 21	0.0 ppm		
13:00 20									20	
					13:10 MW-3-25' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	15 21 24	0.0 ppm		
		ML	**SANDY SILT** ; ML; (10YR 4/3) brown; low plasticity; hard; dry; no cementation; homogeneous						25	
13:10 25					13:15 MW-3-30'	1.5	16 19 23	0.2 ppm		
13:15 30									30	
		SM	**SILTY SAND TRACE GRAVEL** ; SM; (10YR 4/3) brown; fine to coarse-grained; loose; dry; no cementation; rounded; well graded; homogeneous		13:25 MW-3-35'	1.5	20 25 28	0.0 ppm		
13:25 35					13:35 MW-3-40' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH				35	Medium Bentonite Chips
			Fine grained, wet			1.5	18 26 29	0.4 ppm		Monterey #3 Lapis Lustre Sand
13:35 40									40	
		ML	**SILT SOME SAND AND CLAY** ; ML; (10YR 4/3) brown; low plasticity; soft; wet; no cementation; mottled		13:50 MW-3-45' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	18 21 23	0.0 ppm		
13:50 45									45	
			Homogeneous		13:55 MW-3-50'	1.5	10 13 18	0.3 ppm		2-inch Schedule 40 PVC (0.020 slot size) Lab Analyses: 24 SEP 09 BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH
13:55 50									50	
		SP	**GRAVELLY SAND** ; SP; (10YR 4/3) brown; fine to coarse-grained; loose; wet; no cementation; subrounded; well graded; homogeneous		14:15 MW-3-55' BTEX, TPH-DRO, TPH-GRO, OXYs, ETOH	1.5	16 18 22	0.0 ppm		
14:15 55			Hole terminated at 55 feet.						55	18-inches of slough at bottom of borehole

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-1** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/21/09 COMPLETED: 1/21/09
AIR KNIFING DATE: 1/20/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): 43.2 1/21/09 BOREHOLE DEPTH (ft): 55.0
STATIC DTW (ft): WELL DEPTH (ft): 55.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			ASPHALT; 6-inch thick layer							Concrete surface competion to match surface
			FILL; 2-foot thick layer below asphalt							
		ML	**SILT WITH CLAY AND FINE SAND** ML; (10YR 4/3) brown; low plasticity; firm; dry; no cementation; homogeneous		13:45 --			0.0 ppm	5	
13:50			Grading to dark yellowish brown (10YR 3/6) medium plasticity silt with clay at 8 feet bgs		13:50 B-1 @ 10' EPA			0.0 ppm	10	
			Grading to dark brown (10YR 3/3) at 10 feet bgs							
		CL-ML	**SILTY CLAY WITH TRACE FINE SAND** CL-ML; (10YR 3/6) dark yellowish brown; medium plasticity; firm; dry; no cementation; homogeneous		14:00 --			0.0 ppm	15	
14:05			Grading to dark brown (10YR 3/3) at 20 feet bgs		14:05 B-1 @ 20' EPA			0.0 ppm	20	
			Grading to dark yellowish brown (10YR 4/6) at 25 feet bgs		14:10 --			0.0 ppm	25	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
14:20		ML	**SILT WITH CLAY** ML; (10YR 3/3) dark brown; low plasticity; firm; moist; no cementation; homogeneous		14:20 B-1 @ 30' EPA			0.0 ppm	30	
		GW	**SANDY GRAVEL WITH SILT** GW; (10YR 3/3) dark brown; fine to coarse-grained; loose; wet; no cementation; angular; well graded; homogeneous		14:30 --			0.0 ppm	35	
		CL-ML	**SILTY CLAY** CL-ML; (10YR 3/3) dark brown; low plasticity; firm; moist; no cementation; homogeneous							
14:45		ML	**SILT WITH CLAY** ML; (10YR 3/3) dark brown; low plasticity; firm; moist; no cementation; homogeneous		14:45 B-1 @ 40' EPA			0.0 ppm	40	
					14:55 --			0.0 ppm	45	
15:05			Grading to medium plasticity silt with fine sand at 50 feet bgs		15:05 B-1 @ 50' EPA			0.0 ppm	50	
15:25		GW	**GRAVEL WITH SILT AND SAND** GW; (10YR 3/3) dark brown; fine to coarse-grained; loose; wet; no cementation; subangular; well graded; homogeneous		15:45 B-1 @ 55' EPA			0.0 ppm	55	
			Hole terminated at 55 feet.						60	
									65	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
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STATE OF CALIFORNIA

GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-2** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/21/09 COMPLETED: 1/21/09
AIR KNIFING DATE: 1/20/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): 49.6 1/21/09 BOREHOLE DEPTH (ft): 55.0
STATIC DTW (ft): WELL DEPTH (ft): 55.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			ASPHALT, 4-inch thick layer							Concrete surface completion to match surface
			FILL; 9-inch thick layer of engineered fill below asphalt							
			ASPHALT, 3-inch think layer below engineered fill		0:00 --			0.0 ppm	5	
	5	ML	**FILL**; Approximately 4-foot thick unit of junk fill below aspahlt/fill unit							
			SILT WITH CLAY TRACE FINE SAND ML; (10YR 2/2) very dark brown;							
8:35	10	CL-ML	fine-grained; low plasticity; hard; dry; no cementation; homogeneous		8:35 B-2 @ 10' EPA			0.0 ppm	10	
			Dry; Grading to dark brown (10YR 3/3) at 8 feet bgs							
8:50	15		**SILTY CLAY WITH TRACE FINE SAND** CL-ML; (10YR 3/3) dark brown; fine-grained; medium plasticity; hard; dry; no cementation; homogeneous		8:50 --			0.0 ppm	15	
9:00	20		Grading to moist at 15 feet bgs		9:00 B-2 @ 20' EPA			0.0 ppm	20	
9:14	25	ML	**SILT WITH CLAY TRACE FINE SAND** ML; (10YR 5/3) brown; fine-grained; medium plasticity; hard; moist; no cementation; homogeneous		9:14 --			0.0 ppm	25	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
9:20	30		Grading to low plasticity, dark yellowish brown (10YR 4/4) silt some clay at 30 feet bgs		9:20 B-2 @ 30' EPA			0.0 ppm	30	
9:55	35		Grading to wet at 35 feet bgs		9:35 --			0.0 ppm	35	
9:40	40	CL-ML	**SILTY CLAY WITH TRACE FINE SAND** CL-ML; (10YR 4/6) dark yellowish brown; fine-grained; medium plasticity; hard; wet; no cementation; homogeneous		9:40 B-2 @ 40' EPA			0.0 ppm	40	
	45	ML	**SILT WITH FINE SAND SOME CLAY** ML;						45	
10:10			(10YR 4/2) dark grayish brown; fine-grained; low plasticity; hard; wet; no cementation; homogeneous		10:10 B-2 @ 47' EPA			0.0 ppm		
11:40	50		Siliceous; Chert nodules described in cores at 50 feet bgs		11:40 --			0.0 ppm	50	
12:15	55	GW	**GRAVEL WITH SAND SOME SILT** GW; (10YR 3/3) dark brown; fine to coarse-grained; loose; wet; no cementation; homogeneous; Thin lenses of gravel in shoe at 54.5 feet bgs		12:15 B-2 @ 55' EPA			0.0 ppm	55	
	60		Hole terminated at 55 feet.						60	
	65								65	

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GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-3** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/22/09 COMPLETED: 1/22/09
AIR KNIFING DATE: 1/19/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): BOREHOLE DEPTH (ft): 55.0
STATIC DTW (ft): WELL DEPTH (ft): 55.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		TOPSOIL; in Planter, no surface plant due to sewer repairs							Excess soil from area used to backfill hole to match surface
	ML	**SILT TRACE FINE SAND TRACE CLAY** ML; (7.5YR 3/2) dark brown; low plasticity; firm; moist; no cementation; homogeneous		15:04 --			0.0 ppm	5	
10	CL-ML	**SILTY CLAY TRACE FINE SAND** CL-ML; (10YR 3/3) dark brown; medium plasticity; firm; dry; no cementation; homogeneous		15:05 --			0.2 ppm	10	
15								15	
15:10 20				15:10 B-3 @ 20' EPA			1.2 ppm	20	
25		Grading to low plasticity clay at 25 feet bgs		15:25 --			1.6 ppm	25	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
15:35 30		Grading to moist at 30 feet bgs		15:35 B-3 @ 30' EPA			1.7 ppm	30	
35				15:50 --			0.4 ppm	35	
	ML	**SILT WITH FINE SAND** ML; (10YR 3/3) dark brown; low plasticity; firm; moist; no cementation; homogeneous		16:05 B-3 @ 40' EPA			0.0 ppm	40	
16:05 40									
45	CL	**CLAY WITH SILT** CL; (10YR 3/1) very dark gray; low plasticity; firm; wet; no cementation; homogeneous		16:15 --			0.6 ppm	45	
		Greenish black (GLEY 1 2.5/5GY) hydrocarbon staining from 48.5 to 55 feet bgs with slight odor		16:35 B-3 @ 50' EPA			0.7 ppm	50	
16:35 50									
17:00 55		Hole terminated at 55 feet.		17:00 B-3 @ 55' EPA			4.3 ppm	55	
60								60	
65								65	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
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STATE OF CALIFORNIA

GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-4** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/23/09 COMPLETED: 1/23/09
AIR KNIFING DATE: 1/19/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): BOREHOLE DEPTH (ft): 50.0
STATIC DTW (ft): WELL DEPTH (ft): 50.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			TOPSOIL; in ivy landscaping above silt							Excess soil from area used to backfill hole to match surface
		ML	**SILT WITH TRACE FINE SAND** ML; (10YR 4/4) dark yellowish brown; low plasticity; hard; dry; no cementation; homogeneous		13:00 --			0.0 ppm	5	
					7:45 --			0.0 ppm	10	
		CL-ML	**SILTY CLAY WITH FINE SAND** CL-ML; (10YR 3/3) dark brown; medium plasticity; hard; dry; no cementation; homogeneous							
			Grading to dark yellowish brown (10YR 3/4) at 15 feet bgs		7:50 --			0.0 ppm	15	
8:00					8:00 B-4 @ 20' EPA			0.3 ppm	20	
		ML	**SILT WITH CLAY TRACE FINE SAND** ML; (10YR 3/4) dark yellowish brown; low plasticity; hard; dry; no cementation; homogeneous		8:10 --			0.0 ppm	25	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
8:20			Grading to yellowish brown (10YR 5/6) silt with fine sand at 30 feet bgs		8:20 B-4 @ 30' EPA			0.0 ppm	30	
			Grading to dark yellowish brown (10YR 4/4) at 35 feet bgs		8:30 --			0.0 ppm	35	
8:35			Grading to saturated at 40 feet bgs		8:35 B-4 @ 40' EPA			0.0 ppm	40	
		CL	**CLAY WITH SILT** CL; (GLEY 1 4/10GY) dark greenish gray; medium plasticity; firm; saturated; slight odor; hydrocarbon staining; no cementation; homogeneous; Hydrocarbon staining from 45 to 50 feet bgs		8:40 --			0.4 ppm	45	
9:00			Hole terminated at 50 feet.		9:00 B-4 @ 50' EPA			3.5 ppm	50	
									55	
									60	
									65	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
NO. 8021
STATE OF CALIFORNIA

GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-5** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/22/09 COMPLETED: 1/22/09
AIR KNIFING DATE: 1/19/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): 50 1/23/09 BOREHOLE DEPTH (ft): 65.0
STATIC DTW (ft): WELL DEPTH (ft): 65.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID Method	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			ASPHALT; Asphalt Surface							Concrete surface completion to match surface
			FILL; Disturbed and compacted native soils below asphalt surface							
		ML	**SILT TRACE FINE SAND** ML; (10YR 5/4) yellowish brown; low plasticity; firm; dry; no cementation; homogeneous		9:55 --			0.0 ppm	5	
			Grading to dark brown (10YR 3/3) with chert nodules at 8 feet bgs		7:45 B-5 @ 10' EPA			0.0 ppm	10	
7:45	10	CL-ML	**SILTY CLAY WITH FINE SAND** CL-ML; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous							
	15				7:50 --			0.0 ppm	15	
8:00	20				8:00 B-5 @ 20' EPA			0.3 ppm	20	
	25	SW-SM / CL	**SAND WITH SILT**; SW-SM; (10YR 3/3) dark brown; fine to coarse-grained; loose; dry; no cementation; subangular; well graded; homogeneous		8:10 --			0.2 ppm	25	
			SANDY CLAY WITH FINE GRAVEL CL; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous		8:25 B-5 @ 30' EPA			0.3 ppm	30	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
8:25	30	ML	**SILT WITH CLAY**; ML; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous							
	35				8:35 --			1.0 ppm	35	
		SW-SM / CL-ML	**SAND WITH SILT TRACE GRAVEL** SW-SM; (10YR 2/2) very dark brown; fine to coarse-grained; loose; dry; no cementation; subangular; well graded; homogeneous		8:35 --			1.3 ppm		
8:50	40		**SILTY CLAY WITH FINE SAND** CL-ML; (10YR 3/3) dark brown; low plasticity; hard; dry; no cementation; homogeneous		8:50 B-5 @ 40' EPA			0.7 ppm	40	
			Grading to moist at 40 feet bgs							
9:05	45		Hydrocarbon staining from 43 to 50 feet bgs with slight odor		9:05 B-5 @ 45' EPA			3.0 ppm	45	
			Grading to dark greenish gray (GLEY 1 4/5GY) at 43 feet bgs							
9:20	50		Grading to dark grayish brown (10YR 4/2) at 50 feet bgs		9:20 B-5 @ 50' EPA			9.4 ppm	50	
					9:25 --			9.4 ppm		
	55				9:35 --			8.1 ppm	55	
10:15	60	CL	**SANDY CLAY WITH FINE SAND** CL; (10YR 3/3) dark brown; low plasticity; hard; moist; no cementation; homogeneous		10:15 B-5 @ 60' EPA			20.2 ppm	60	
10:35	65		Hole terminated at 65 feet.		10:35 B-5 @ 65' EPA			0.9 ppm	65	

PROFESSIONAL GEOLOGIST JAMES PATRICK MAY NO. 8021 STATE OF CALIFORNIA

GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

PROJECT: Former Chevron Service St. 9-1884
LOCATION: 505 A Street, Hayward, CA
PROJECT NUMBER: 211201063

WELL / PROBEHOLE / BOREHOLE NO: **B-6** PAGE 1 OF 1

Stantec

DRILLING: STARTED: 1/22/09 COMPLETED: 1/22/09
AIR KNIFING DATE: 1/20/09 RESURFACING DATE: 1/23/09
DRILLING COMPANY: WDC Exploration & Wells
DRILLING EQUIPMENT: Geoprobe 7730DT
DRILLING METHOD: Continuous Core
SAMPLING EQUIPMENT: Acetate Sleeves

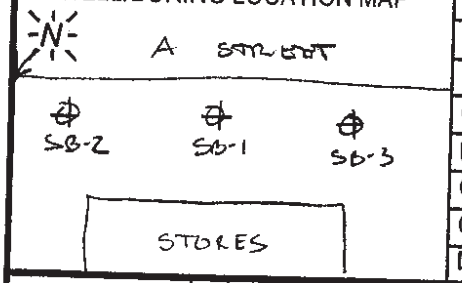
NORTHING: EASTING:
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): 48.5 1/22/09 BOREHOLE DEPTH (ft): 55.0
STATIC DTW (ft): WELL DEPTH (ft): 55.0
WELL CASING DIAMETER (in): NA BOREHOLE DIAMETER (in): 2
LOGGED BY: T. Cuevas CHECKED BY: J. May

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			ASPHALT; 6-inch thick layer							Concrete surface completion to match surface
			FILL; Debris in artificial fill							
		CL-ML	**SILTY CLAY TRACE FINE SAND** CL-ML; (10YR 3/2) very dark grayish brown; medium plasticity; firm; dry; no cementation; homogeneous		11:05 --			0.0	5	
11:10	10				11:10 B-6 @ 10'			0.0	10	
	15	ML	**SILT TRACE FINE SAND** ML; (10YR 3/2) very dark grayish brown; dry; no cementation; homogeneous		11:15 --			0.0	15	
		CL-ML	**SILTY CLAY WITH FINE SAND** CL-ML; (10YR 3/3) dark brown; medium plasticity; firm; dry; no cementation; homogeneous							
11:20	20				11:20 B-6 @ 20'			0.0	20	
			Grading to very dark grayish brown (10 YR 3/2) at 20 feet bgs							
		ML	**SILT**; ML; (10YR 3/3) dark brown; medium plasticity; firm; dry; no cementation; homogeneous							
	25	CL-ML	**SILTY CLAY TRACE FINE SAND** CL-ML; (10YR 3/2) very dark grayish brown; medium plasticity; firm; dry; no cementation; homogeneous		11:30 --			0.0	25	Hydrated Portland cement (3 bags) + Bentonite Powder (1/2 bag)
11:40	30				11:40 B-6 @ 30'			0.0	30	
		ML	**SILT WITH SAND SOME GRAVEL** ML; (10YR 3/2) very dark grayish brown; dry; no cementation; homogeneous							
	35	CL-ML	**SILTY CLAY WITH FINE SAND** CL-ML; (10YR 3/3) dark brown; medium plasticity; firm; moist; no cementation; homogeneous		11:55 --			0.0	35	
12:10	40		Grading to low plasticity silty clay at 40 feet bgs		12:10 B-6 @ 40'			0.0	40	
	45	ML	**SILT WITH CLAY SOME FINE SAND** ML; (10YR 3/2) very dark grayish brown; low plasticity; firm; wet; no cementation; homogeneous		12:40 --			0.0	45	
13:00	50		Grading to silt with fine sand some clay at 50 feet bgs		13:00 B-6 @ 50'			0.0	50	
13:30	55		Hole terminated at 55 feet.		13:30 B-6 @ 55'			0.0	55	
	60								60	
	65								65	

PROFESSIONAL GEOLOGIST
JAMES PATRICK MAY
NO. 8021
STATE OF CALIFORNIA

GEO FORM 304 9-1884.GPJ SECOR INTL.GDT 3/30/09

WELL/BORING LOCATION MAP



Remediation Risk Management, Inc. | WELL/BORING: SB-1

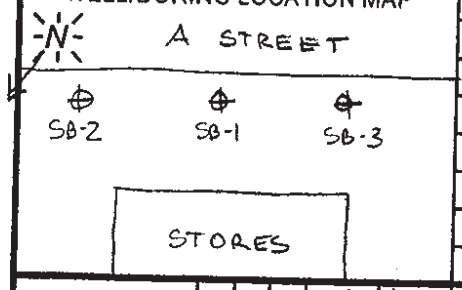
DATE: 4/11/06	DRILLING METHOD: HSA
PROJECT: IA485	SAMPLING METHOD: GS
CLIENT: SALVTOS CORP.	BORING DIAMETER: 8"
LOCATION: 505A Street	BORING DEPTH: 21.5'
CITY: Hayward	WELL CASING: N/A
CO./STATE: Alameda / CA	WELL SCREEN: N/A
DRILLER: Exploration Geo	SAND PACK: N/A

WATER LEVEL:	N/A		
TIME:	N/A		
DATE:	N/A		

DESCRIPTION/LOGGED BY: Cate Townsend

WELL/BORING COMPLETION	FIRST ☑	STABILIZED ▼	MOISTURE	DENSITY BLOWS / FT	FIELD TEST PID (ppm)	SAMPLE NUMBER	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	USCS SYMBOL	DESCRIPTION
CEMENT GROUT			D	28,11	0		2 4 6 8 10 12 14 16 18 20 22				CL	Lean Clay w/ Sand; medium brn.; 80-% medium-plasticity fines; 20-% fine sand; no odor 0
			D	11,12,14	8						CL	Lean Clay w/ Sand; light to medium brn.; 85-% medium-plasticity fines; 15-% sand; no odor
			D	11,11,14	6						CL	Lean Clay w/ Sand; light to medium brn; 80-% medium plasticity fines; 20-% very fine sand, no odor 0
			M	8,9,9	5						GP	Poorly Graded Gravel w/ Sand; medium brown; 80-% fine sub-angular gravel; 15-% coarse sand; 5-% medium-plasticity fines; some weathering; no odor 0
BOTTOM OF CORING					21.5'							

WELL/BORING LOCATION MAP



Remediation Risk Management, Inc. | WELL/BORING: SB-2

DATE: 4/11/06	DRILLING METHOD: HSA
PROJECT: IA485	SAMPLING METHOD: SS
CLIENT: SALUTOS CORP.	BORING DIAMETER: 8"
LOCATION: 505 A St	BORING DEPTH: 45'
CITY: Hayward	WELL CASING: N/A
CO./STATE: Alameda / CA	WELL SCREEN: N/A
DRILLER: Exploration Geo	SAND PACK: N/A

WATER LEVEL:	≈ 45'		
TIME:	1107		
DATE:	4-11-06		

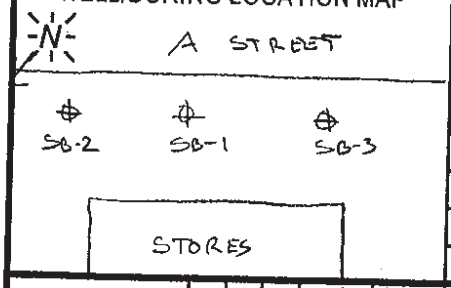
DESCRIPTION/LOGGED BY: Cate Townsend

WELL/BORING COMPLETION	FIRST ▽	STABILIZED ▼	MOISTURE	DENSITY BLOWS / FT	FIELD TEST PID (ppm)	SAMPLE NUMBER	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	USCS SYMBOL	DESCRIPTION
							2					Not native - appears to be backfill material, No pea gravel present
							4					
			D	6,9,6	8		6				CL	Lean Clay w/ Sand; light brn; 75% medium plasticity fines; 25% fine sand; bottom of sample more sandy; loose; poorly graded; roots; occassional sub-rounded pebble; no odor
							8					
			D	9,17,22	2		10				CL	Lean Clay w/ Sand; 80% medium plasticity fines; 20% very fine sand; stiff; roots; no odor
							12					
							14					
			D	14,16,22	6		16				CL	Same as above; more sandy at bottom of sample
							18					
			D	8,8,10	4	B-2-20	20				SC	Clayey Sand; medium-reddish brown; 60% medium sand (poorly graded); 40% medium-plasticity fines; loose; no odor
							22					
							24					
			D	11,16,25	0		26				CL	Lean Clay w/ Sand; medium brown; 80% medium-plasticity fines; 20% very fine sand stiff; no odors
							28					
							30				CL	Same as above
			D	14,15,22	1	B-2-30	32					
							34					
							36				CL	Sandy Lean Clay; light-medium brn; 70% medium-plasticity fines; 30% fine sand; no odor
			M	9,14,15	0		38					
							40				CL	Same as above
			M	10,11,18	2	B-2-40	42					
							44					
							45					

CEMENT GROUT

Bottom of boring 45'

WELL/BORING LOCATION MAP



Remediation Risk Management, Inc. | WELL/BORING: SB-3

DATE: 4/11/06	DRILLING METHOD: HSA
PROJECT: IA485	SAMPLING METHOD: SS
CLIENT: SALVTOS CORP.	BORING DIAMETER: 8"
LOCATION: 505 A ST.	BORING DEPTH: 46.5'
CITY: Hayward	WELL CASING: N/A
CO./STATE: Alameda / CA	WELL SCREEN: N/A
DRILLER: Exploration Geo	SAND PACK: N/A

WATER LEVEL:	≈ 44'
TIME:	1430
DATE:	4-11-06
DESCRIPTION/LOGGED BY:	Cate Townsend

WELL/BORING COMPLETION	FIRST ▽	STABILIZED ▼	MOISTURE	DENSITY BLOWS / FT	FIELD TEST PID (ppm)	SAMPLE NUMBER	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	USCS SYMBOL	
CEMENT - GROUT			D	9,12,14	Ø	B-3-5	4				CL	Lean Clay w/ Sand; light to medium brn; 75% medium-plasticity fines; 25% fine sand; no odor
			D	10,12,14	2		10				CL	Lean Clay w/ Sand; light brn; 80% medium-plasticity fines; 20% fine sand; roots; no odor
			D	12,17,24	Ø	B-3-15'	16				CL	Sandy Lean Clay; light brn; 70% medium-plasticity fines; 30% fine sand roots; no odor
			DP	13,17,24	Ø		20				CL	Lean Clay w/ Sand; medium brn; 80% medium-plasticity fines; 20% fine sand no odor
			DP	12,13,23	Ø	B-3-25'	26				CL	Same as above; Grades to more of a Sandy lean Clay; 60% medium plasticity fines; 40% fine sand; no odor
			DP	12,24,34	3		30				CL	Lean Clay w/ Sand; light to medium brn; 75% medium-plasticity fines; 25% very fine sand; no odor
			M	12,17,24	1		36				CL	Lean Clay w/ Sand; medium brn; 85% medium-plasticity fines; 15% very fine sand no odor
			M	13,14,23	1		40				CL	Same as above
	▽		S	7,7,8	7		46				CL	Sandy Lean Clay; light brn; 65% medium plasticity fines 35% very fine sand; no odor

BOTTOM OF BORING 46.5'

Date Start/Finish: 2/12/2015
Drilling Company: Cascade Drilling, L.P.
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 65 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: B-9

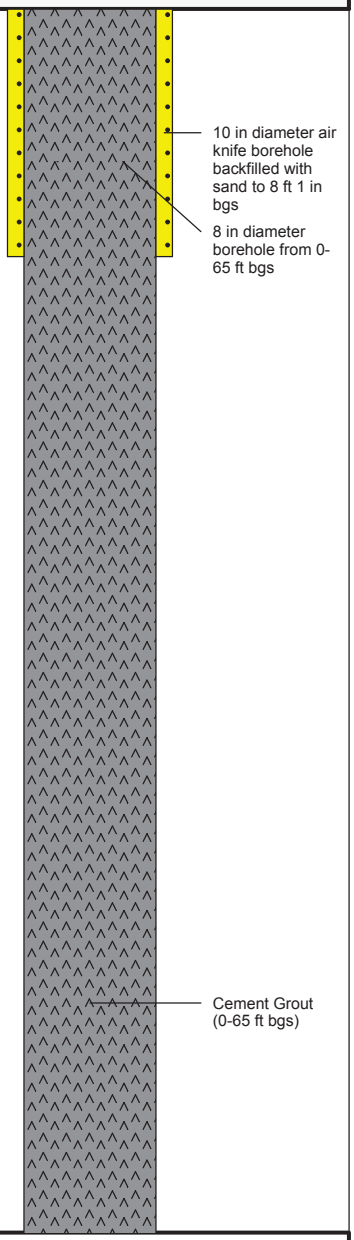
Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
				8.1						0-0.25 ft bgs ASPHALT
										0.25-10 ft bgs CLAY, little Silt, 10 YR 3/4 (dark yellowish brown), poorly graded, medium plasticity, stiff, moist, no odor
5	-5									
				2			0.3			
10	-10			5			0.4			10-15 ft bgs CLAY, some Silt, 10 YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor
							0.5			
							0.6			
15	-15			5			0.6			15-20 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor
							0.5			
							0.5			
20	-20			5			0.5			20-25 ft bgs very fine SAND, some Silt, trace Clay, 10YR 5/4 (yellowish brown), poorly graded, non plastic, soft, moist, no odor
							0.4			
							0.5			
25	-25			2.5			0.6			25-27.5 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, non plastic, soft, moist, no odor
							0.4			
				NR						27.5-30 ft bgs NO RECOVERY
30	-30			2.1			0.3			30-32 ft bgs very fine SAND, some Silt, trace Clay, 10YR 5/4 (yellowish brown), poorly graded, non plastic, soft, moist, no odor
				NR						32-32.1 ft bgs SAND, trace Silt, 10 YR 5/3 (brown), poorly graded, non plastic, soft, moist, no odor
35	-35			2			0.1			32.1-35 ft bgs NO RECOVERY
							0.3			35-37 ft bgs fine SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), well graded, non plastic, soft, moist, no odor, green and orange mottling
				NR						37-40 ft bgs NO RECOVERY

Well/Boring Construction



Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-8.
Driller noted change in drilling pressure at 37 ft bgs.
Depth to water 59.3 ft bgs. Collected grab groundwater sample GW-1-W-20150212 from 60-65 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

ARCADIS
Infrastructure, environment, facilities

Date Start/Finish: 2/12/2015
Drilling Company: Cascade Drilling, L.P.
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 65 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: B-9

Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				1			0.3			40-41 ft bgs fine SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), well graded, non plastic, soft, moist, no odor, green and orange mottling	
				NR						41-45 ft bgs NO RECOVERY	
45	-45			4			0.3			45-48.5 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor	
							0.2				
							0.7			48.5-49 ft bgs CLAY, some Silt, trace Gravel (subangular to subrounded),10YR 5/4 (yellowish brown), moderately graded, medium plasticity, medium stiff, moist, no odor.	
				NR							
50	-50			2			0.2			49-50 ft bgs NO RECOVERY	
				NR						50-52 ft bgs SILT, some Sand, trace Clay, 10YR 5/4 (yellowish brown), moderately graded, slightly plastic, soft, moist, no odor	
										52-55 ft bgs NO RECOVERY	
55	-55			4.5			0.3			55-57 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist. no odor	
							0.2			57-59.5 ft bgs CLAY, little Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor	
		GW-1					0.1	▽			
60	-60			NR						59.5-60 ft bgs NO RECOVERY	
				2			0.2			60-62 ft bgs very fine SAND, trace Silt, 10YR 5/3 (brown), poorly graded, poorly graded, soft, wet, no odor	
				NR						62-65 ft bgs NO RECOVERY	
65	65									Bottom of boring @ 65 ft bgs backfilled with neat Portland cement grout to surface.	
70	-70										

ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-8.
Driller noted change in drilling pressure at 37 ft bgs.
Depth to water 59.3 ft bgs. Collected grab groundwater sample GW-1-W-20150212 from 60-65 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

Date Start/Finish: 2/12/2015
Drilling Company: Cascade Drilling, L.P.
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: CA Modified Split Spoon

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 65 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: **B-10**

Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
				8.1						0-0.25 ft bgs ASPHALT
										0.2-13.5 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.
5	-5									
				1.9			0.1			
10	-10			3.5			0.1			
							0.2			
				NR						13.5-15 ft bgs NO RECOVERY
15	-15			4.5			0.1			15-16 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.
							0.1			16-19.5 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, low plasticity, medium stiff, moist, no odor.
20	-20			NR						
				2			0.2			19.5-20 ft bgs NO RECOVERY
				3						20-21 ft bgs SAND, some Silt, 10YR 5/4 (yellowish brown), poorly graded, very fine-grained sand, loose, moist, no odor.
										21-22 ft bgs SILTY CLAY, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.
25	-25			1.5			0.1			
				NR						22-25 ft bgs NO RECOVERY
										25-26.5 ft bgs very fine SAND, some Silt, trace Clay, 10YR 5/4 (yellowish brown), poorly graded, very fine-grained sand, moist, no odor.
30	-30			2			0.2			26.5-30 ft bgs NO RECOVERY
				NR						30-32 ft bgs very fine SAND, some Silt,, trace Clay, trace Gravel (sub rounded to sub angular), 10 YR 5/4 (yellowish brown), poorly graded, non plastic, soft, moist, no odor.
35	-35			1						32-35 ft bgs NO RECOVERY
				NR						35-36 ft bgs very fine SAND, some Silt, trace Gravel (angular to sub rounded), well graded, non plastic, soft, moist, no odor.
										36-40 ft bgs

Well/Boring Construction

- 10 in diameter air knife borehole backfilled with sand to 8 ft 1 in bgs
- 8 in diameter borehole from 0-65 ft bgs
- Cement Grout (0-65 ft bgs)

ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-9.
Driller noted change in drilling pressure at 33 ft bgs.
Depth to water 61.32 ft bgs. Collected grab groundwater sample GW-2-W-20150212 from 60-65 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

Date Start/Finish: 2/12/2015
Drilling Company: Cascade Drilling, L.P.
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: CA Modified Split Spoon

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 65 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: **B-10**

Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				2.5			0.4			NO RECOVERY 40-42.5 ft bgs CLAY, some Silt, 10YR 5/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.	
				NR						42.5-45 ft bgs NO RECOVERY	
45	-45			3			0.4 0.3			45-48 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.	
				NR						48-50 ft bgs NO RECOVERY	
50	-50			2.5			0.4			50-52.5 ft bgs CLAY, some Silt, 10YR 5/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, with trace light green and orange mottling, no odor.	
				NR						52.5-55 ft bgs NO RECOVERY	
55	-55			5			0.3 0.3 0.2			55-61 ft bgs CLAY, some Silt, 10YR 5/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, light green and orange mottling, no odor.	
60	-60	GW-2		2			0.3			61-62 ft bgs SAND, little Silt, 10YR 5/4 (dark yellowish brown), poorly graded, very fine-grained sand, medium dense, wet, no odor.	
				NR						62-65 ft bgs NO RECOVERY	
65	65									Bottom of boring @ 65' bgs backfilled with neat Portland cement grout to surface.	

ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-9.
Driller noted change in drilling pressure at 33 ft bgs.
Depth to water 61.32 ft bgs. Collected grab groundwater sample GW-2-W-20150212 from 60-65 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

Date Start/Finish: 2/11/2015
Drilling Company: Gregg Drilling
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 70 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: **B-11**

Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
				8.1			0.0			0-0.25 ft bgs ASPHALT
							0.0			0.2-14 ft bgs CLAY, some Silt, 10YR (dark yellowish brown), poorly sorted, medium plasticity, medium stiff, moist, no odor.
5	-5						0.0			
							0.0			
							0.0			
				2			0.2			
10	-10						0.4			
							0.4			
							0.3			
				NR			0.3			14-15 ft bgs NO RECOVERY
15	-15			5						15-18 ft bgs CLAY, some Silt, 10YR (dark yellowish brown), poorly sorted, medium plasticity, medium stiff, moist, no odor.
							0.4			
							0.4			18-20 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), poorly graded, low plasticity, medium stiff, moist, no odor.
							0.5			@18 ft bgs-1 in. seam of poorly sorted, fine to very coarse-grained sand
20	-20			3.5						20-23 ft bgs SILT, some very fine Sand, 10YR 5/4 (yellowish brown), poorly graded, very fine-grained sand, no plasticity, soft, moist, no odor.
							0.4			
				NR			0.4			23-23.5 ft bgs SILT, some Clay, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, soft, moist, no odor.
25	-25			4						23.5-25 ft bgs NO RECOVERY
							0.4			25-29 ft bgs SILT, some Clay, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, soft, moist, no odor.
							0.4			
				NR			0.3			
30	-30			2.5			0.4			29-30 ft bgs NO RECOVERY
							0.4			30-32.5 ft bgs SILT, some Clay, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, soft, moist, no odor.
							0.3			
				NR						32.5-35 ft bgs NO RECOVER
35	-35			1.5			0.3			35-36.5 ft bgs SILT, some Clay, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, soft, moist, no odor.
							0.4			
				NR						36.5-40 ft bgs NO RECOVERY

Well/Boring Construction

- 10 in diameter air knife borehole backfilled with sand to 8 ft 1 in bgs
- 8 in diameter borehole from 0-65 ft bgs
- Cement Grout (0-65 ft bgs)

Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-10.
Driller noted change in drilling pressure at 37 ft bgs.
Depth to water 61.83 ft bgs. Collected grab groundwater sample GW-3-W-20150211 and GW-3-WD-20150211 from 65-70 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

ARCADIS
Infrastructure, environment, facilities

Date Start/Finish: 2/11/2015
Drilling Company: Gregg Drilling
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 70 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: **B-11**

Client: Chevron EMC

Location: Chevron Site 351746
838 A Street
Hayward, California

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				2.5			0.4			40-42.5 ft bgs SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), well graded, loose, moist, little green, yellow, and red mottling, no odor.	
				NR			0.4			42.5-45 ft bgs NO RECOVERY	
45	-45			3						45-47 ft bgs SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), well graded, loose, moist, little green, yellow, and red mottling, no odor.	
							0.4				
				NR			0.4			47-48 ft bgs CLAY some Silt, trace fine-grained Sand, 10YR 5/4 (yellowish brown), poorly graded, low plasticity, medium stiff, moist, no odor.	
50	-50			3			0.4			48-50 ft bgs NO RECOVERY	
							0.4			50-51 ft bgs CLAY some Silt, trace fine-grained Sand, 10YR 5/4 (yellowish brown), poorly graded, low plasticity, medium stiff, moist, no odor.	
				NR			0.3			51-53 ft bgs CLAY, trace Silt, 10YR 5/4 (yellowish brown), poorly graded, high plasticity, medium stiff, moist, trace green and red mottling, no odor.	
55	-55			5			0.4			53-53.1 ft bgs CLAY, some Silt, 10YR 5/4 (yellowish brown), medium platicity, medium stiff, moist.	
							0.5			53.1-55 ft bgs NO RECOVERY	
							0.4			55-60 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.	
60	-60			3			0.6				
		GW-3					0.3	⊠		60-62 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor. trace silt and clay nodules.	
				NR			0.4			62-63 ft bgs CLAY, some Silt, 10YR 4/4 (dark yellowish brown), poorly graded, high plasticity,, medium stiff, moist, no odor. trace silt , no odor.	
65	-65			2.5			0.5			63-63.1 ft bgs very fine SAND, trace Silt, 10YR5/4 (yellowish brown), poorly graded, moist, medium stiff, little plastic, no odor.	
				NR			0.4			63.1-65 ft bgs NO RECOVERY	
70	-70									65-67.5 ft bgs fine to medum SAND, 10YR 4/4 (dark yellowish brown), poorly graded, soft, wet, no odor.	
										67.5-70 ft bgs NO RECOVERY	
										Bottom of boring @ 70 ft bgs backfilled with neat Portland cement grout to surface.	
75	-75										

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Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-10.
Driller noted change in drilling pressure at 37 ft bgs.
Depth to water 61.83 ft bgs. Collected grab groundwater sample GW-3-W-20150211 and GW-3-WD-20150211 from 65-70 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

Date Start/Finish: 2/11/15
Drilling Company: Cascade Drilling, LP
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 70 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

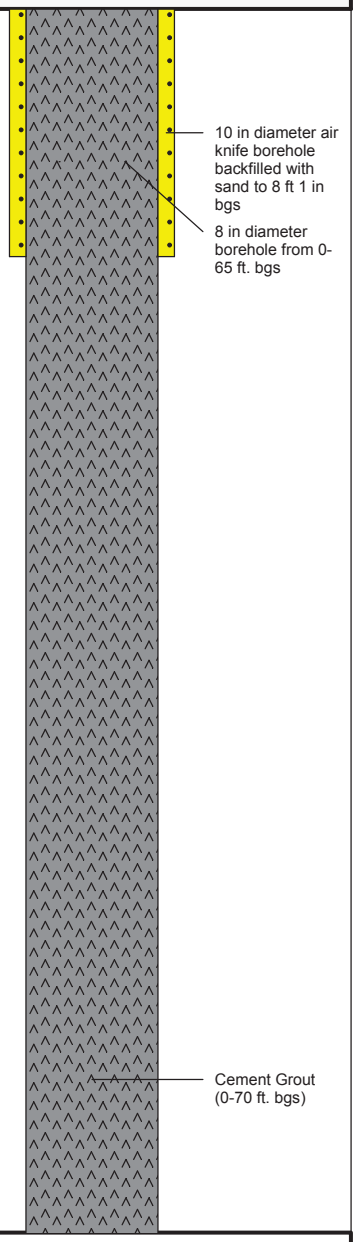
Well/Boring ID: **B-12**

Client: Chevron EMC

Location: Chevron Site 351746
898 A Street
Hayward, CA

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				8.1						0-0.25 ft bgs ASPHALT	
							0.0			0.25-15 ft bgs CLAY, trace Silt, 10YR 4/4 (dark yellowish brown), poorly graded, highly plastic, medium stiff, moist, no odor.	
5	-5						0.0				
							0.0				
							0.0				
				2			0.0				
10	-10			5			0.0				
							0.0				
							0.0				
							0.0				
15	-15			5			0.0			15-20 ft bgs CLAY, little Silt, trace very fine-grained Sand, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.	
							0.0				
							0.0				
20	-20			5			0.0			20-25 ft bgs very fine SAND, some Silt, trace Clay, 10YR 5/4 (yellowish brown), poorly graded, low plasticity, soft to medium stiff, moist, no odor.	
							0.0				
							0.0				
25	-25			2			0.0			25-27 ft bgs CLAY, some Silt, trace very fine Sand, 10YR 5/4 (yellowish brown), poorly graded, medium plasticity, medium stiff, moist, no odor.	
				NR			0.0			27-30 ft bgs NO RECOVERY	
							0.0				
30	-30			2			0.0			30-32 ft bgs fine-very fine SAND, some Gravel (angular to subrounded), trace Silt, 10YR 5/4 (yellowish brown), poorly graded, soft, moist, no odor.	
				NR			0.0			32-35 ft bgs NO RECOVERY	
										35-35.5 ft bgs fine-very fine SAND, some Gravel (angular to subrounded), trace Silt, 10YR 5/4 (yellowish brown), poorly graded, soft, moist, no odor.	
35	-35			0.5			0.0				
				NR						35.5-40 ft bgs NO RECOVERY	



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Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-11.
Driller noted change in drilling pressure at 33 ft bgs.
Depth to water 63 ft bgs. Collected grab groundwater sample GW-4-W-20150211 from 65-70 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

Date Start/Finish: 2/11/15
Drilling Company: Cascade Drilling, LP
Driller's Name: A. Arroyo, R. Martinez, R. Lea
Drilling Method: Hollow Stem Auger
Auger Size: 8.25 in
Rig Type: CME 95
Sampling Method: 5 ft Continuous Core Barrel

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 70 ft
Surface Elevation: NA

Descriptions By: Kevin Corrigan

Well/Boring ID: **B-12**

Client: Chevron EMC

Location: Chevron Site 351746
898 A Street
Hayward, CA

Reviewed By: Christine Meyer

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				2			0.0			40-42 ft bgs SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), poorly graded, soft, moist, no odor.	
				NR			0.0			42-45 ft bgs NO RECOVERY	
45	-45			5						45-46 ft bgs coarse SAND,some Gravel (angular-subrounded), trace Silt, trace Clay, 10YR 5/4 (dark yellowish brown), poorly graded, non plastic, loose, moist, no odor.	
							0.0			SILT, some Clay and very fine-grained Sand, 10YR 5/4 (yellowish brown), moderately graded, medium plasticity, medium stiff, moist.	
							0.0				
							0.0				
50	-50			5			0.0			50-51 ft bgs CLAY, trace Silt, 10YR 5/4 (yellowish brown), poorly graded, high plasticity, medium stiff, moist, no odor, trace darker clay nodules.	
							0.0			51-55 ft bgs CLAY, trace Silt, 10YR 4/4 (dark yellowish brown), poorly graded, high plasticity, medium stiff, moist, no odor, trace clay nodules	
							0.0				
							0.0				
55	-55			5			0.0			55-60 ft bgs CLAY, trace Silt, 10 YR 4/4 (dark yellowish brown), poorly graded, high plasticity, medium stiff, moist, no odor, trace clay nodules.	
							0.0				
							0.0				
							0.0				
60	-60			3			0.0			60-62.9 ft bgs CLAY, trace Silt, 10YR 5/4 (yellowish brown), poorly graded, high plasticity, medium stiff, moist, no odor, trace clay nodules.	
							0.0				
		GW-4		NR			0.0	▽		63-63.1 ft bgs very fine SAND, trace Silt, 10YR 5/4 (yellowish brown), poorly graded, no plasticity, medium stiff, moist, no odor.	
65	-65			2.5			0.0			63.1-65 ft bgs NO RECOVERY	
							0.0			65-67.5 ft bgs SAND, some Gravel (angular to subrounded), trace Silt, trace Clay, 10YR 4/4 (dark yellowish brown), poorly graded, non plastic, soft, no odor.	
				NR						67.5-70 ft bgs NO RECOVERY	
70	-70									Bottom of boring @ 70 ft bgs backfilled with neat Portland cement grout to surface	
75	-75										

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Infrastructure, environment, facilities

Remarks: bgs = below ground surface ft = feet in = inches NA = not available
NR=no recovery SAA=same as above

Boring ID originally B-11.
Driller noted change in drilling pressure at 33 ft bgs.
Depth to water 63 ft bgs. Collected grab groundwater sample GW-4-W-20150211 from 65-70 ft bgs using temporary screen.
Air knife 10 in diameter boring to 8 ft 1 in bgs. Hollow stem auger to total depth.

ERAS Environmental

Log of Boring B-1

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 12 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@2.5' 0.1		NR	CL		Silty Clay, very dark brown (10YR 2/2) damp, medium stiff, medium plasticity, no hydrocarbon (HC) odor
			NR			
			NR			
5	@6.5' 0.2		NR	SW		Gravely Sand, very dark brown (10YR 2/2) damp, low density, ~30% fines, ~60% fine to coarse well graded sand, no HC odor
			NR			
			NR			
10	@11.5' 0.1		NR	CL		Silty Clay, dark yellowish brown (10YR 3/6) damp, stiff, medium plasticity, no HC odor
						Bottom of Boring 12 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-2

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@3 0.1		NR	CL		Silty Clay, very dark brown (10YR 2/2) damp medium stiff, medium plasticity, no HC odor
			NR			at 4 feet color change to dark yellowish brown (10YR 3/6)
5				CL		
	@7.5 0.1		NR			
				CL		
10	@10 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-3
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch baserock
	@3.5 / 0.1		NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, medium stiff, medium plasticity, no HC odor
5				CL		
	@8 / 0.1			CL		
10	@10 / 0.1					Bottom of Boring 10 feet bgs. 6-16-15
15						
20						

ERAS Environmental | **Log of Boring** B-4

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 11 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch baserock
	@2' 0.1		NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR 3/6) low stiffness, medium plasticity, no HC odor
5	@6.5' 0.2		NR NR NR	CL		
10	@11' 0.1			CL		at 9 feet change to stiff silty Clay
						Bottom of Boring 11 feet bgs. 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-5

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@4 0.1			CL		Silty Clay, dark yellowish brown (10YR 3/6) damp, medium stiff, medium plasticity, no HC odor
5				CL		
	@8 0.1					
	@10 0.1			CL		at 9 feet stiff
10						Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-6

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@3.5' 0.1	NR		CL		Silty Clay, dark yellowish brown (10YR3/6) damp, medium stiff, medium plasticity, no HC odor
5				CL		
	@7' 2.1	NR NR		SM		Silty Sand, dark yellowish brown (10YR3/6) damp low density, ~30% fines, ~70% fine to medium grain poorly graded sand, HC odor present
	@10' 3.4			CL		Silty Clay, dark yellowish brown (10YR3/6) damp stiff, medium plasticity, HC odor present
10						Bottom of Boring 10 feet bgs. 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-7

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@1.5 / 0.1		NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, no HCodor
			NR			
			NR			
			NR			
			NR			
5				CL		
	@8 / 0.8					
				CL		at 9 feet Start Silty Clay
10	@10 / 1.2					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-8
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch baserock
	@8 0.1		NR NR NR NR			Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, no HC odor
5						
	@8 0.1					at 9 feet stiff silty clay
10	@10 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-9

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@2 0.1		NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR 3/6) damp, low stiffness, medium plasticity, no H2S odor
5				CL		
	@8 0.2			CL		at 9 feet shelby silty clay
10	@10 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-10

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 12 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@2' 0.1		NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR 3/6) damp, low stickiness, medium plasticity, no H2S odor
5	@6' 0.2		NR NR NR NR	CL		
				CL		at 9 feet slight silty clay
10	@12' 0.1					Bottom of Boring 12 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-11

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 12 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@2 / 0.1		NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stickiness, medium plasticity, no HCodor
5	@5.5 / 0.1		NR	CL		
			NR			at 9 feet start silty clay
10	@11 / 0.1		NR	CL		
						Bottom of Borng 12 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-12
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 12 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@2' 0.1		NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, mottled
5				CL		
	@7' 0.1		NR NR			
				CL		at 9 feet silty Clay
10	@11' 0.1		NR NR			
						Bottom of Boring 12 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-13

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
				CL		Silty Clay, dark yellowish brown (10YR3/6) damp, medium stiff, medium plasticity, no H2S odor
	@3.5' 0.1		NR			
5				CL		
	@8' 0.1					
				CL		at 9 feet stiff silty clay
10	@10' 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-14
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch baserock
	@2 0.1		NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR 3/6) damp, medium stiff, medium plasticity, mottled
5				CL		
	@8 0.1			CL		
10	@10 0.2					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-15
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 12 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@3' 0.1		NR NR	CL		Silty Clay, very dark brown (10YR2/2) damp, medium stiff, medium plasticity, no HC odor at 3 feet low stiffness dark yellowish brown (10YR3/6)
5	@6' 1.2		NR NR NR NR	SM		Silty Sand, dark yellowish brown (10YR3/6) low density, ~30% fines, ~70% fine to medium grained poorly graded sand, no HC odor
10	@12' 2.1			CL		Silty Clay, dark yellowish brown (10YR3/6) damp stiff, medium plasticity, no HC odor
						Bottom of Boring 12 feet bgs. 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-16
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch baserock
	CL5 0.1		NR NR NR NR NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, no HC odor
5				CL		
	CB 0.1			CL		at 9 feet stiff silty clay
10	@10 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

ERAS Environmental

Log of Boring B-17

PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	@3' 0.1		NR NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, no odor
5				CL		
	@8' 0.3			CL		at 9 feet start silty clay
10	@10' 0.3					Bottom of Borng. 10 feet bgs 6-16-15
15						
20						

ERAS Environmental	Log of Boring B-18
PROJECT: 15091A	ADDRESS: 730-750 A Street
JOB NUMBER: 15091A	LOCATION:
DATE STARTED: June 16, 2015	First Water (ft. bgs.): NA DATE:
DATE FINISHED: June 16, 2015	TOTAL DEPTH: 10 feet
DRILLING METHOD: Hydraulic Push	GEOLOGIST: Andrew Savage
DRILLING COMPANY: ECA	Reviewed By:

DEPTH ft.	PID (ppm)	SAMPLE NO.	RECOVERY	GRAPHIC LOG	WATER LEVEL	GEOLOGIC DESCRIPTION
						Concrete + 3/4 inch base rock
	e2' 0.1		NR NR NR	CL		Silty Clay, dark yellowish brown (10YR3/6) damp, low stiffness, medium plasticity, no HC odor
5	e6.5' 0.1		NR NR NR	CL		
				CL		at 9 feet slightly silty clay
10	e10' 0.1					Bottom of Boring 10 feet bgs 6-16-15
15						
20						

PROJECT:	**730-750 A STREET** Hayward, California	**Log of Boring LB-1** PAGE 1 OF 3
Boring location: See Site Plan, Figure 2		Logged by: A. Brown
Date started: 2/25/16	Date finished: 2/25/16	
Drilling method: Direct Push		
Hammer weight/drop: NA	Hammer type: NA	
Sampler: Continuous		

DEPTH (feet)	SAMPLES: Sample Number	SAMPLES: Sample	SAMPLES: Blow Count	SAMPLES: Recovery (Inches)	PID (ppb)	LITHOLOGY	MATERIAL DESCRIPTION
0							6 inches concrete
1							2 inches aggregate base (AB)
2					0		SILT with SAND (ML) dark brown, medium stiff, moist, semi-plastic, no odor
3							
4						ML	
5	LB-1-5.0				0		stiff
6							
7				35/48			
8					0		
9							SILTY CLAY (CL) light brown, very stiff, moist, semi-plastic, no odor
10	LB-1-10.0				0		
11				48/48			
12					0		
13							
14							
15				48/48	0		
16							
17							
18					0	CL	
19				48/48			2 inch thick layer of sandy silt
20	LB-1-20.0				0		
21							
22							
23				48/48			
24							
25					0		
26							
27				24/48			SANDY SILT (ML) brown, soft, moist, semi-plastic, no odor
28						ML	
29							
30	LB-1-30.0			48/48	0		

LANGAN TREADWELL ROLLO

Project No.:	Figure:
731674401	A-1a

TEST ENVIRONMENTAL INCHES 731674401.GPJ T&R.GDT 2/29/16

PROJECT: **730-750 A STREET**
Hayward, California

Log of Boring LB-1

DEPTH (feet)	Sample Number	Sample	Blow Count	Recovery (Inches)	PID (ppb)	LITHOLOGY	MATERIAL DESCRIPTION
31						ML	SANDY SILT (ML) (continued)
32				48/48		SM	SILTY SAND (SM) brown, loose, moist, no odor
33							
34						SP-SM	SAND with SILT and GRAVEL (SP-SM) brown, medium dense, moist, subangular gravel up to 1/2 inch in diameter, no odor
35				35/48	0		
36							
37							
38							
39				48/48			
40	LB-1-40.0				0		
41							
42							very stiff
43				37/48			
44						CL	CLAY (CL) brown, medium stiff, moist, plastic, no odor
45					0		
46							
47				24/48			very stiff
48							
49							
50	LB-1-50.0				0		interbedded sands
51				48/48			
52							
53						CL	SILTY CLAY with SAND (CL) dark brown, very stiff, moist, semi-plastic, no odor
54							
55				18/36	0		
56							
57	LB-1-57.0						
58				18/36	0		
59							
60				0/48			

LANGAN TREADWELL ROLLO

Project No.:	Figure:
731674401	A-1b

TEST ENVIRONMENTAL INCHES 731674401.GPJ T&R.GDT 2/29/16

PROJECT: **730-750 A STREET**
Hayward, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sample Number	Sample	Blow Count	Recovery (Inches)	PID (ppb)	LITHOLOGY	MATERIAL DESCRIPTION
61							SILTY CLAY with SAND (CL) (continued)
62				0/48		CL	
63							
64					0		
65				48/48		SP	SAND (SP) tan, dense, moist, no odor
66							CLAY (CL) brown, stiff, moist, plastic, no odor
67					0	CL	
68							
69				48/48			
70	LB-1-71.0					SP	▽ (02/25/16) SAND with GRAVEL and CLAY (SP) brown, dense, wet, subangular gravel up to 1/2 inch in diameter, no odor
71					0		
72							
73							
74							
75							
76							
77							
78							
79							
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
90							

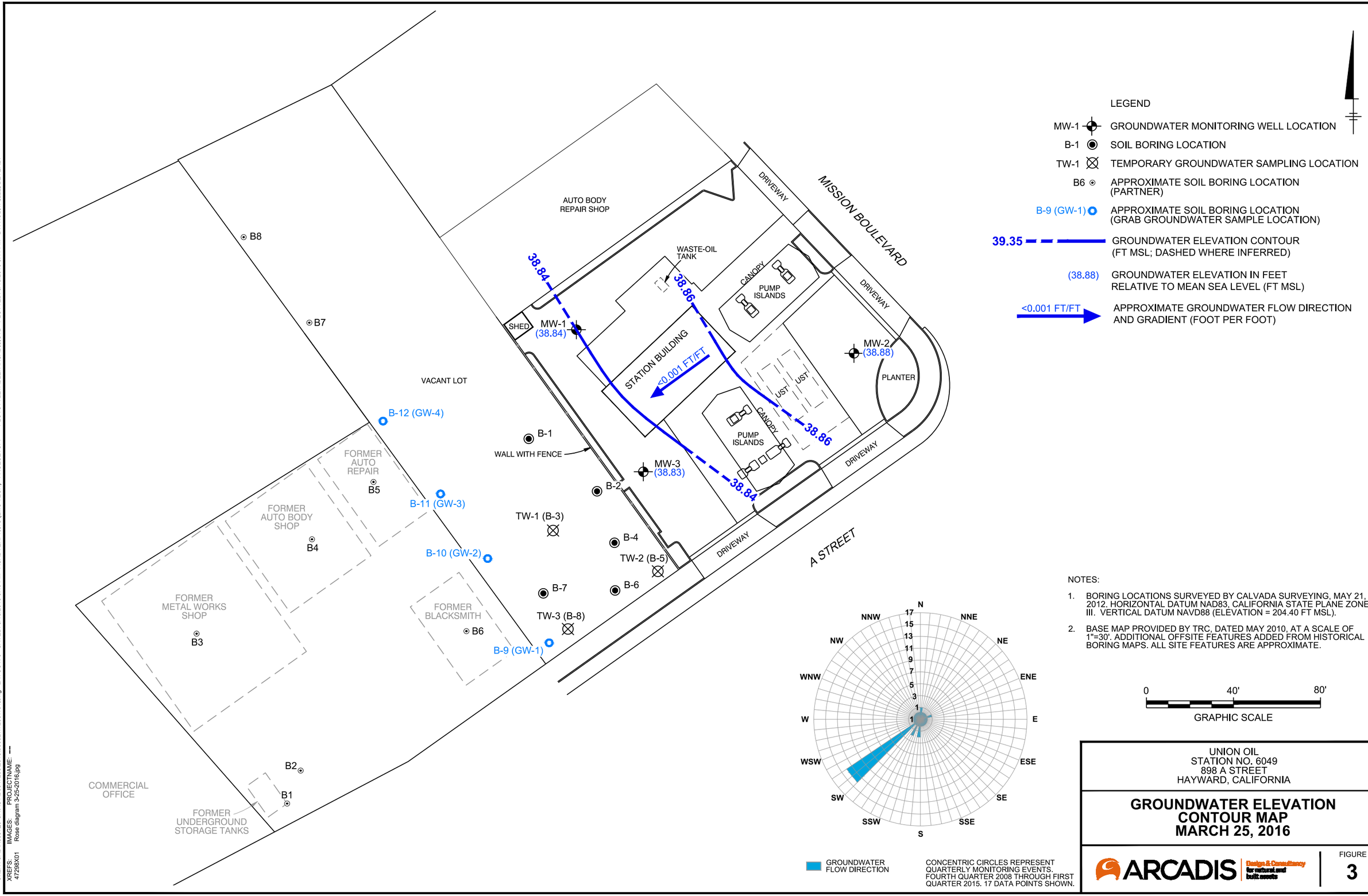
Boring terminated at a depth of 71 feet below ground surface.
Boring backfilled with cement grout.
Groundwater encountrered at 69.6 feet below ground surface during drilling.
Boring hand augered to 5 feet below ground surface.

LANGAN TREADWELL ROLLO

Project No.: 731674401
Figure: A-1c

TEST ENVIRONMENTAL INCHES 731674401.GPJ T&R.GDT 2/29/16

ATTACHMENT D
GROUNDWATER ELEVATION MAPS FROM NEARBY PROPERTIES



LEGEND

- MW-1 — GROUNDWATER MONITORING WELL LOCATION
- B-1 — SOIL BORING LOCATION
- TW-1 — TEMPORARY GROUNDWATER SAMPLING LOCATION
- B6 — APPROXIMATE SOIL BORING LOCATION (PARTNER)
- B-9 (GW-1) — APPROXIMATE SOIL BORING LOCATION (GRAB GROUNDWATER SAMPLE LOCATION)
- 39.35 — GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
- (38.88) — GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (FT MSL)
- <0.001 FT/FT — APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FOOT PER FOOT)

GROUNDWATER FLOW DIRECTION

CONCENTRIC CIRCLES REPRESENT QUARTERLY MONITORING EVENTS. FOURTH QUARTER 2008 THROUGH FIRST QUARTER 2015. 17 DATA POINTS SHOWN.

NOTES:

1. BORING LOCATIONS SURVEYED BY CALVADA SURVEYING, MAY 21, 2012. HORIZONTAL DATUM NAD83, CALIFORNIA STATE PLANE ZONE III. VERTICAL DATUM NAVD88 (ELEVATION = 204.40 FT MSL).
2. BASE MAP PROVIDED BY TRC, DATED MAY 2010, AT A SCALE OF 1"=30'. ADDITIONAL OFFSITE FEATURES ADDED FROM HISTORICAL BORING MAPS. ALL SITE FEATURES ARE APPROXIMATE.

0 40' 80'

GRAPHIC SCALE

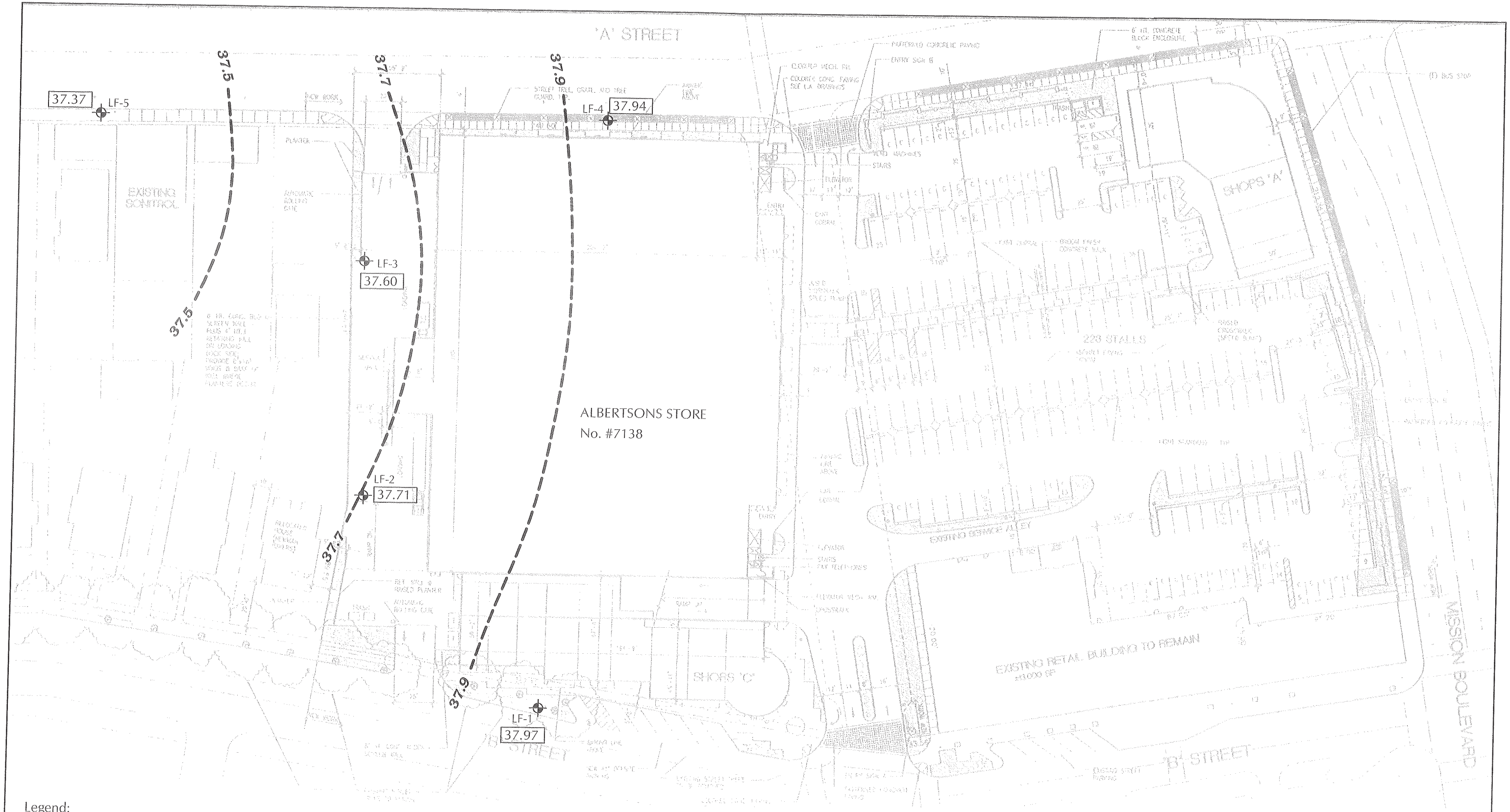
UNION OIL
STATION NO. 6049
898 A STREET
HAYWARD, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP MARCH 25, 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
G:\ENVCAD\Roseville-CA\ACTIB\004729802016\000024729 8W01.dwg LAYOUT: 3 SAVED: 5/16/2016 3:40 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 5/16/2016 3:41 PM BY: ROBITAILLE, BEVERLY
XREFS: PROJECTNAME: ---
47298X01 IMAGES: Rose diagram 3-25-2016.jpg



Legend:

LF-2	Groundwater Monitoring Well
37.71	Groundwater Elevation (Feet Mean Sea-Level)
37.5	Groundwater Elevation Contour

0 30' 60' 120'

Approximate Scale in Feet

Site Plan and Groundwater Elevation Contour Map December 11, 2003

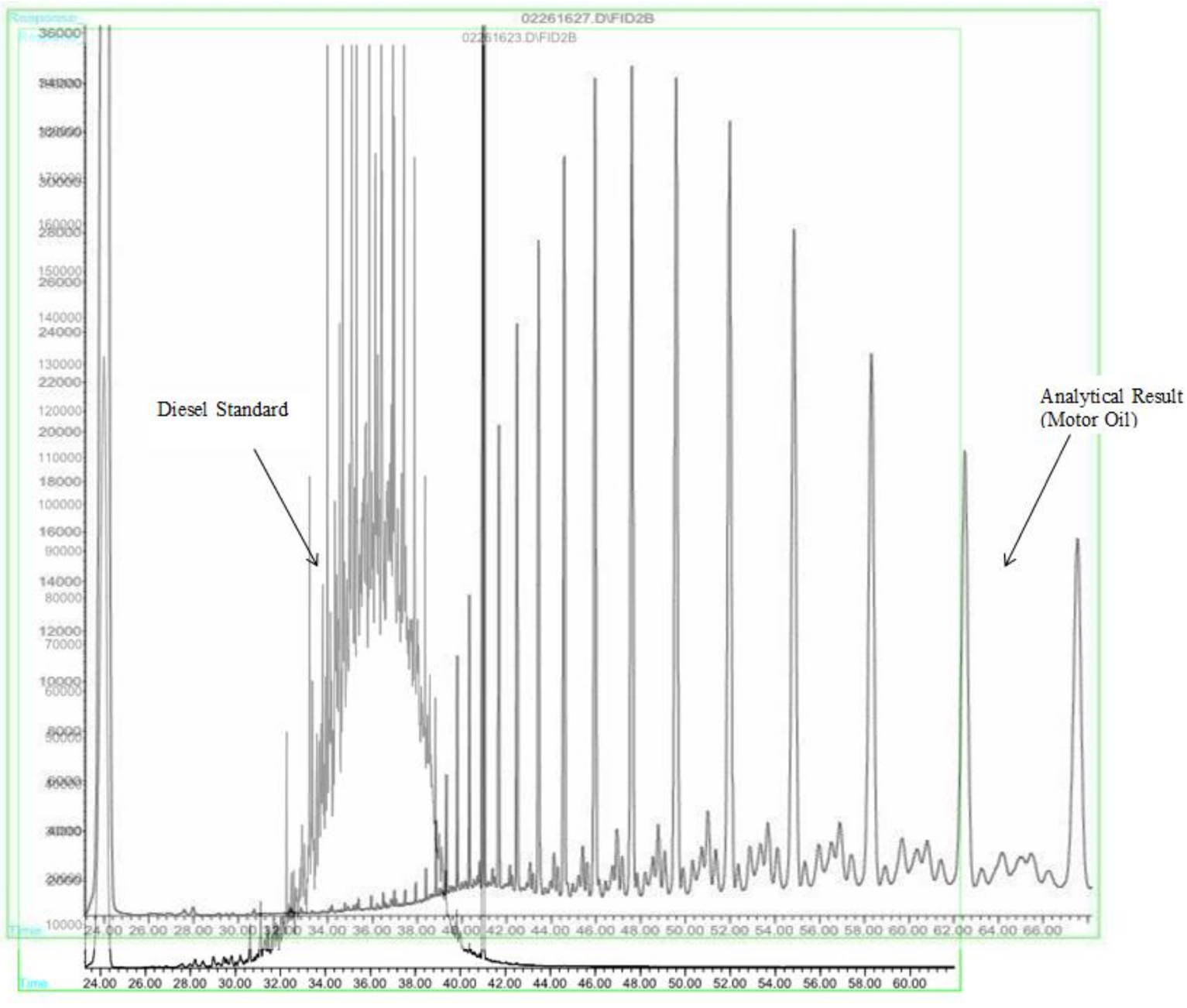
Albertsons Store #7138

LFR LEVINE • FRICKE

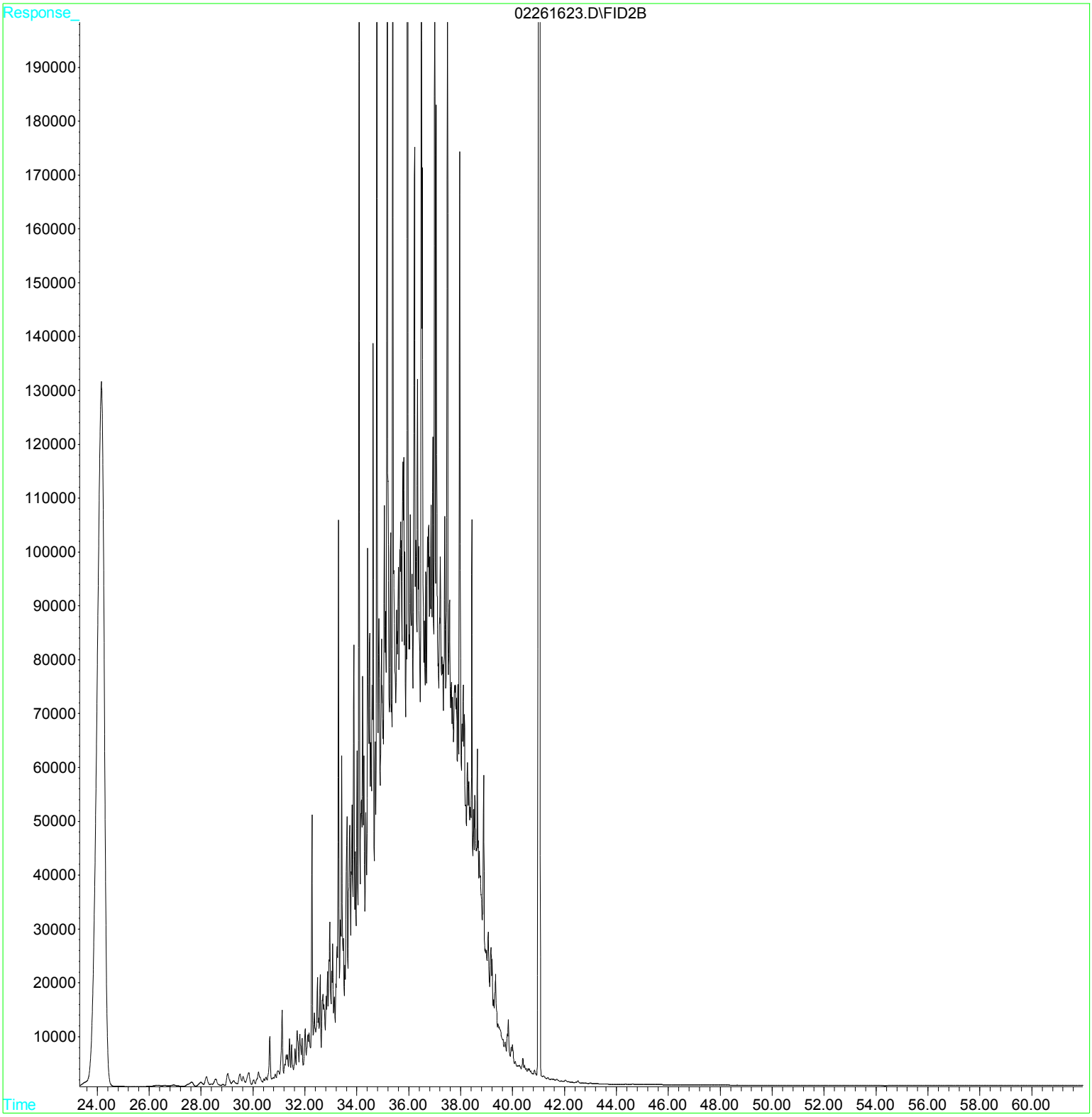
Figure 1

I:\Design\001\06858\00\019\DWG\GWE-121103.dwg, Layout1, 03/01/2004 11:24:58 AM

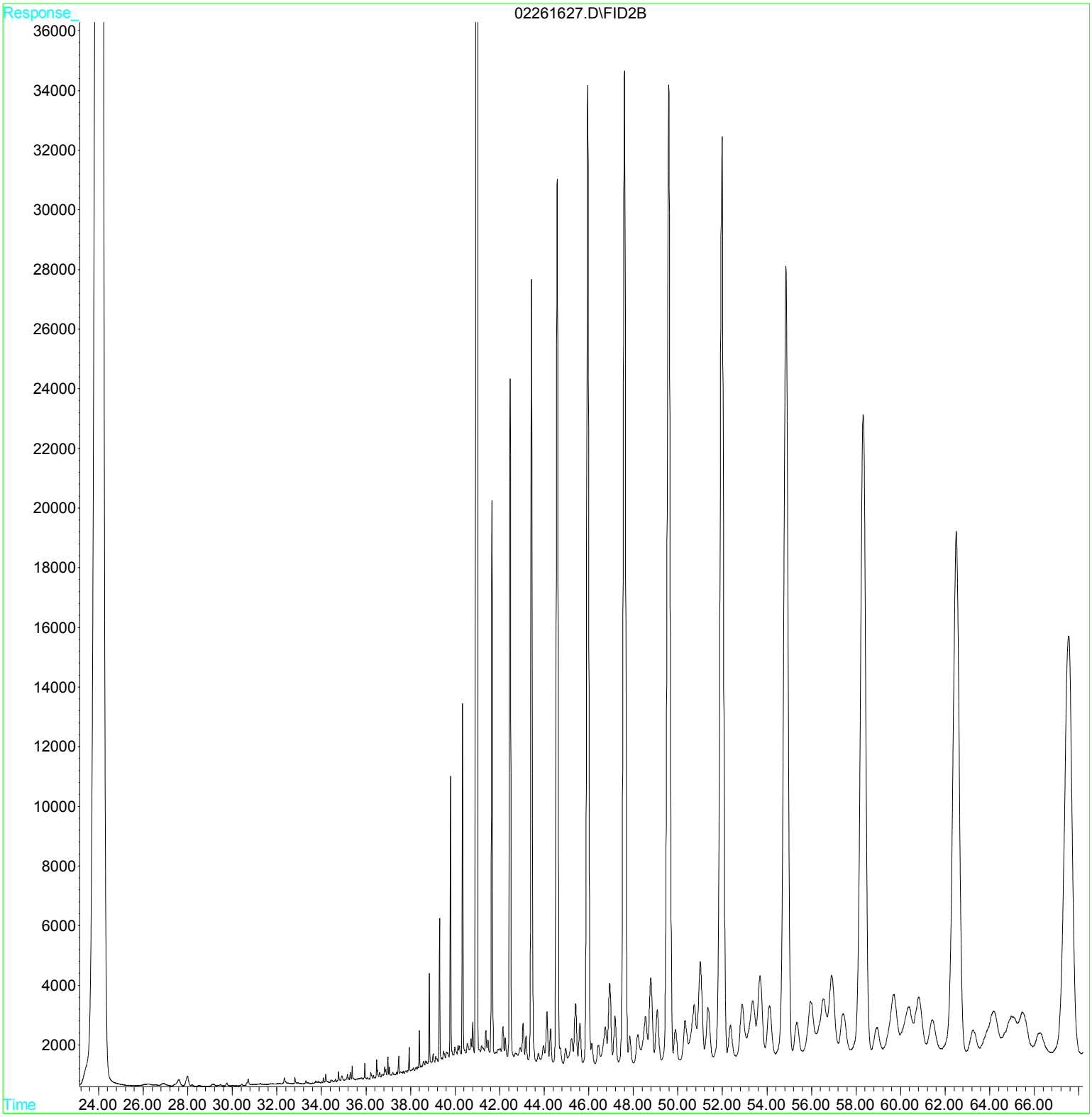
ATTACHMENT E
CHROMATOGRAMS FOR DIESEL STANDARD AND GROUNDWATER SAMPLING RESULT


02261627.D\FID2B
02261623.D\FID2B
Diesel Standard
Analytical Result
(Motor Oil)
Time
24.00 26.00 28.00 30.00 32.00 34.00 36.00 38.00 40.00 42.00 44.00 46.00 48.00 50.00 52.00 54.00 56.00 58.00 60.00 62.00 64.00 66.00

File : D:\HPCHEM\GC2\DATAB\02261623.D
Operator : Toshiko
Acquired : 29 Feb 2016 11:26 am using AcqMethod GC2ALVI8.M
Instrument : GC-2
Sample Name: CCV 2-2
Misc Info :
Vial Number: 62



File : D:\HPCHEM\GC2\DATAB\02261627.D
Operator : Toshiko
Acquired : 29 Feb 2016 1:59 pm using AcqMethod GC2ALVI8.M
Instrument : GC-2
Sample Name: 1602B07-001A W +HO RR
Misc Info : TPHSG
Vial Number: 64



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Treadwell&Rollo

Environmental and Geotechnical Consultant

CHAIN OF CUSTODY RECORD

Page 1 of 1

- [X] 555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415.955.9040/Fax: 415.955.9041
- [ ] 501 14th Street, Third Floor, Oakland CA 94612 Ph: 510.874.4500/Fax: 510.874.4507
- [ ] 777 Campus Commons Road, Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7413
- [ ] 50 Airport Parkway, Suite 175, San Jose, CA 95110 Ph: 408.437.7708/Fax: 408.437.7709

Site Name: 730-750 A Street
Job Number: 731674401
Project Manager\Contact: Dustyne Sutherland / Adam Brown
Samplers: Adam Brown
Recorder (Signature Required):

Turnaround Time: Standard

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix: Soil	Water	Air	Other	No. Containers & Preservative: HCL	H_2SO_4	HNO_3	Ice	Analysis Requested: TPH ho	TPH gas/dies	VOCs	SVOCs (SIM)	Silica gel clean-up	Hold	Remarks
LB-01-GW	02-25-16	1330			X		(AB)	4			1	X	X	X	X	X		
								8			4							

ICE/T° 2.5
GOOD CONDITION ___ APPROPRIATE
HEAD SPACE/ABSENT ___ CONTAINERS ___
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___
VOAS | O&G | METALS | OTHER
PRESERVATION

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	2-26-16	1115		2-26-16	1115
	2-26-16	1600		2/26/16	1600
			Received by Lab: (Signature)	Date	Time

Sent to Laboratory (Name): McCampbell
Laboratory Comments/Notes:

Method of Shipment: [X] Lab courier [ ] Fed Ex [ ] Airborne [ ] UPS [ ] Hand Carried [ ] Private Courier (Co. Name)

White Copy - Original Yellow Copy - Laboratory Pink Copy - Field COC Number: