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June 11, 2014

Mr. Mark Detterman  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Dear Mr. Detterman:

Attached for your review is the *Work Plan Addendum* for former Chevron-branded service station 92029, located at 890 West MacArthur Boulevard in Oakland, California. This work plan was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. I declare under penalty of perjury that the information and/or recommendations contained in the attached work plan are true and correct, to the best of my knowledge.

If you have any further questions, please do not hesitate to contact me or the Stantec project manager, Travis Flora, at (408) 356-6124 ext. 238, or [travis.flora@stantec.com](mailto:travis.flora@stantec.com).

Sincerely,

A handwritten signature in black ink that reads "Carryl MacLeod".

**Carryl MacLeod**  
Project Manager

## **Work Plan Addendum**

Former Chevron-branded  
Service Station 92029  
890 West MacArthur Boulevard  
Oakland, California



Prepared for:  
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June 11, 2014

This document entitled *Work Plan Addendum* was prepared by Stantec Consulting Services Inc. for the account of Chevron Environmental Management Company. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this work plan, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this work plan.

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## WORK PLAN ADDENDUM

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June 11, 2014

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(1) Due to copyright protection, Stantec will not attach the Chevron ETC Toolkit, Version 1.8, to this work plan. Chevron has previously provided the toolkit privately to ACEH for reference.

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### 1.0 Introduction

On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Services Inc. (Stantec) is pleased to submit this *Work Plan Addendum* for former Chevron-branded service station 92029, which was located at 890 West MacArthur Boulevard, Oakland, Alameda County, California (the Site - shown on **Figure 1**). This work plan addendum was prepared at the request of Alameda County Environmental Health (ACEH) in a letter dated December 18, 2013. Additionally, ACEH approved extensions on the work plan addendum in correspondence dated March 3, 2014, April 7, 2014, and May 14, 2014. ACEH correspondence is presented as **Appendix A**.

#### 1.1 PURPOSE

The purpose of this work plan addendum is to address comments made by ACEH in correspondence dated December 18, 2013, in response to the *Site Conceptual Model and Data Gap Work Plan*, dated August 16, 2013 (Stantec, 2013a), and in correspondence dated May 14, 2014, following a meeting on May 8, 2014, with representatives from ACEH, Chevron, Stantec, and the on-site property owner in attendance. The purpose of the scope of work proposed is to evaluate the lateral extent of petroleum hydrocarbons in soil and groundwater and determine if the Site meets the media-specific criteria set forth in the Low-Threat Underground Storage Tank (UST) Case Closure Policy (LTCP), (SWRCB, 2012).

#### 1.2 ORGANIZATION

The remainder of this work plan includes Site background information, the proposed scope of work for the additional investigation, the reporting elements, and an estimated schedule for the proposed activities.

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## 2.0 Site Background

### 2.1 SITE DESCRIPTION AND LAND USE

The Site is a former Chevron-branded service station located on the northeast corner at the intersection of West MacArthur Boulevard and Market Street in Oakland, California. The Site is currently a fenced vacant lot. A former Chevron-branded service station operated at the Site from approximately 1956 to 2004. Prior to 1970, Site features consisted of two 5,000-gallon and one 3,000-gallon gasoline underground storage tanks (USTs) located in the eastern portion of the Site, three fuel dispenser islands (one located in the northwestern portion of the Site and two located in the central portion of the Site), associated product piping, a station building with two hydraulic hoists, and a waste oil UST (unknown size) located in the northern portion of the Site. The product piping was replaced in 1970, and the 3,000-gallon UST was replaced with a 10,000-gallon UST sometime before 1978. In 1982, the two 5,000-gallon and one 10,000-gallon USTs were replaced with three 10,000-gallon fiberglass USTs. In 1984, the service station building was demolished, the hydraulic hoists were removed, and a kiosk was installed near the center of the Site. In addition, the three fuel dispenser islands were removed from the Site and replaced with five fuel dispenser islands (two located in the north-central portion of the Site and three located in the south-central portion of the Site). The fuel dispenser islands were replaced and the USTs were upgraded in 1997. The waste oil UST was removed from the Site sometime between 1984 and 1997. In 2005, the service station was closed and all Site structures, including the three 10,000-gallon fiberglass USTs and fuel dispenser islands, were removed. Extensive over-excavation was performed at this time and approximately 5,135 tons of impacted soil and 25,500 gallons of groundwater were removed and disposed off Site (Conestoga-Rovers & Associates [CRA], 2011). A Site Plan is shown on **Figure 2**.

As discussed in the project meeting held on May 8, 2014, the on-site property owner is pursuing redevelopment of the Site as a residential housing complex. Based on building plans for the proposed redevelopment, which have been approved by the Oakland Planning Department, the footprint of the proposed building based on foundation dimensions is shown on **Figure 2**. Maximum depths of the foundation below ground surface are also shown on this figure.

Land use near the Site consists of a mixture of commercial and residential properties. The Site is bounded to the north by a residential area, on the west by Market Street followed by a small grocery store and associated parking, on the south by West MacArthur Boulevard followed by a tire sales and service shop, and to the east by a small hotel.

### 2.2 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

Based on previous Site assessment activities, the subsurface beneath the Site outside the limits of excavation consists primarily of clay containing varying amounts of silt, sand, and gravel to approximately 21 to 22 feet below ground surface (bgs), underlain by well and poorly graded sands to the total depth explored of 25 feet bgs. Silt, clay, sand, and gravel mixtures were observed off Site to a total logged depth of 34 feet bgs (Stantec, 2013a).

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The historical range of depth-to-groundwater (DTW) measurements is approximately 3 to 13 feet below top of casing (TOC). During Fourth Quarter 2013, DTW measurements for the Site ranged from 9.27 to 12.63 feet below TOC and the direction of groundwater flow at the time of sampling was generally towards the southwest at an approximate hydraulic gradient of 0.025 feet per foot (ft/ft). This is generally consistent with the historical direction of groundwater flow (Stantec, 2013b).

### **2.3 PREVIOUS INVESTIGATIONS AND REMEDIATION**

Please refer to Stantec's *Site Conceptual Model and Data Gap Work Plan*, dated August 16, 2013 (Stantec, 2013a), for a complete summary of previous investigations and remediation conducted at the Site.

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### **3.0 Proposed Scope of Work**

Based on ACEH correspondence dated December 18, 2013, and May 14, 2014 (following the May 8, 2014 meeting), Stantec is proposing the advancement of five on-site soil borings (SB-11 through SB-15) and six off-site soil borings (SB-16 through SB-21) to further define the lateral extent of petroleum hydrocarbons in soil and groundwater to evaluate whether the Site meets the media-specific criteria set forth in the LTCP. The locations of the proposed soil borings are shown on **Figure 2**. Depending on soil and groundwater results from sampling of the on- and off-site soil borings, soil vapor probes may be installed. In addition, updated sensitive receptor and water supply well surveys may be conducted, if necessary based on the soil and groundwater data.

#### **3.1 PRELIMINARY FIELD ACTIVITIES**

##### **3.1.1 Permitting and Notifications**

Stantec will obtain all necessary permits from ACEH and the City of Oakland. Because some of the proposed locations will be located in the street or sidewalk, a right-of-way (ROW) encroachment permit will be required. A Traffic Control Plan will be prepared and implemented according to the guidelines established in the City of Oakland ROW encroachment permit. Access agreements will also have to be established with the affected property owners prior to commencing proposed activities. These permitting and access requirements can take several weeks to several months to complete.

A schedule of field activities will be communicated to the respective property owners and tenants a minimum of two weeks prior to field activities in order to minimize potential disruptions to normal activities.

As required by law, Underground Service Alert (USA) - North will be notified at least 48 hours before any intrusive activities. In addition to notifying USA - North, Stantec will retain the service of a private utility locating contractor to determine if underground utilities are located near the proposed boring locations.

##### **3.1.2 Health and Safety Plan**

Stantec will generate a Site-specific health and safety plan (HASP) as required by the State of California General Industry Safety Order 5192 and Title 29 of the Code of Federal Regulations, Section 1910.120. The HASP will outline potential hazards to Stantec personnel and subcontractors during the field activities described herein. Job safety analyses (JSAs) for tasks to be performed by Stantec personnel (e.g., driving, oversight of boring advancement, sample collection, etc.) will be included. The HASP will also include required personal protective equipment (PPE) to be worn by all Stantec field personnel for each task. In addition, Stantec will produce a Journey Management Plan (JMP) in an attempt to prevent losses associated with motor vehicle incidents driving to and from the Site. A copy of Stantec's HASP and JMP will be available on Site during all field activities.

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Subcontractors will also develop a Site-specific HASP and JSAs for tasks applicable to their scope of work (e.g., driving, advancing soil borings, etc.). Appropriate subcontractor HASPs will also be available on Site.

### 3.2 SOIL AND GROUNDWATER INVESTIGATION ACTIVITIES

#### 3.2.1 Soil Boring Advancement

Stantec will contract a California-licensed (C-57) driller to advance each of the proposed soil borings (SB-11 through SB-21; shown on **Figure 2**). Soil borings SB-11, SB-12, and SB-14 through SB-21 will be advanced to a depth of approximately 10 feet bgs, while soil boring SB-13 will be advanced to a total depth of approximately 14 feet bgs, 10 feet below the proposed on-site building foundation. Field activities will be performed under the direction of a State of California professional geologist. Detailed field records of all activities will be recorded by Stantec field personnel and will include Site conditions, sampling processes, names of field personnel, pertinent dates and times, etc.

Due to the shallow sample depths required for this assessment and to minimize the risk of disturbance to potentially undetectable subsurface utilities, the entire length of each soil boring will be advanced using a hand auger. The proposed locations may change slightly due to the presence of utilities at or near the proposed locations, and the completion depth may be adjusted based on conditions observed in the field.

#### 3.2.2 Soil Sampling

Soil cores may be collected using a slide hammer with a brass or stainless steel sleeve insert, or they may be collected using a brass or stainless steel sleeve insert within the auger head attachment. Stantec field personnel will log soil cores for lithological content using the Unified Soil Classification System (USCS) as a guide and for relative moisture content, composition, first-encountered DTW, photoionization detector (PID) readings, and other notable field observations. Portions of each soil core will be placed in a Ziploc® bag and field-screened using a PID to evaluate the presence of volatile organic compounds (VOCs) that may collect in the headspace of the bag.

Each soil boring will be logged, and soil samples will be collected from soil borings SB-11 through SB-21 at approximately 2.5, 5, 7.5, and 10 feet bgs (total depth). Soil boring SB-13 will have an additional soil sample collected at 14 feet bgs. Each soil sample collected for holding will be sealed with Teflon® sheets, capped with plastic end caps, labeled with identifying information, and stored in an ice-filled cooler for preservation pending submittal for laboratory analysis.

#### 3.2.3 Groundwater Sampling

Following advancement of each soil boring to total depth, a temporary pre-packed groundwater monitoring well casing will be installed, and groundwater samples will be collected. If groundwater is not encountered within 10 feet, the soil boring may be advanced

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deeper, but depth should be limited to no deeper than 2 to 3 feet below DTW. During groundwater sampling, a DTW measurement will be collected and used to calculate the three casing volumes that will be removed from the casing prior to collecting the groundwater sample. During this process, groundwater quality parameters, including temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) will be recorded in order to evaluate whether the collected groundwater is representative of the aquifer. Groundwater samples will be collected in sample containers appropriate for the specified analyses, sealed, labeled, and placed into an ice-filled cooler for preservation.

As requested in ACEH correspondence dated December 18, 2013, and May 14, 2014, groundwater samples collected from monitoring wells MW-5 through MW-8 during Second Quarter 2014 were analyzed for tetrachloroethene (PCE). This analysis was conducted in order to eliminate the former waste oil UST as a potential source for a PCE plume. The Second Quarter 2014 groundwater monitoring and sampling event was conducted on May 14, 2014, and results will be submitted in the Second Quarter 2014 groundwater monitoring report by July 13, 2014.

### 3.2.4 Laboratory Analysis

Soil and groundwater samples will be transported and submitted under chain-of-custody protocol to Eurofins Lancaster Laboratories, Inc. (Lancaster), a State of California-certified analytical laboratory, and analyzed for the following constituents of concern:

- Total petroleum hydrocarbons as gasoline range organics (TPH-GRO) by United States Environmental Protection Agency (US EPA) Method 8015B; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds), methyl *tertiary*-butyl ether (MtBE), di-isopropyl ether (DIPE), ethyl *tertiary*-butyl ether (EtBE), *tertiary*-amyl methyl ether (TAME), *tertiary*-butyl alcohol (TBA), ethanol, and naphthalene by US EPA Method 8260B (SW-846).

### 3.2.5 Soil Boring Completion Activities

After each soil boring has been advanced to the proposed depth and representative soil and groundwater samples have been collected, each soil boring will be completed to ground surface with cement grout. The cement grout will consist of approximately 95 percent Portland cement and 5 percent bentonite powder.

## 3.3 SOIL VAPOR INVESTIGATION ACTIVITIES

In the May 8, 2014 project meeting with representatives from ACEH, Chevron, Stantec, and the on-site property owner, a Site Management Plan (SMP) approach to contamination was discussed. In an email following the meeting dated May 14, 2014, ACEH stated that the alternative of soil removal during property redevelopment under an SMP may negate the need for an on-site soil vapor evaluation.

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Should soil and groundwater results from sampling of borings SB-11 through SB-21 indicate potential vapor intrusion risk to occupants of current or future on-site and off-site buildings, such as soil or groundwater results exceeding LTCP criteria, the proposed soil vapor investigation will be conducted to evaluate current soil vapor conditions and to determine if the Site meets petroleum vapor intrusion to indoor air LTCP criteria.

If a soil vapor investigation is warranted, soil vapor probes will be installed in locations where soil and groundwater results indicate potential vapor intrusion risk to occupants of current or future on-site and off-site buildings.

Procedures described in the following sections regarding the installation of soil vapor probes and collection of soil vapor samples are based on technical guidance detailed in the Chevron Energy Technology Company (Chevron ETC) Soil Vapor Sampling Technical Toolkit, Version 1.8 (**Appendix B**), which may be provided separately to ACEH but is not included in this document due to copyright protection. The toolkit follows guidance from several agencies and organizations including the American Petroleum Institute (API); American Society for Testing and Materials (ASTM), California Environmental Protection Agency (Cal EPA), and US EPA (API, 2004; ASTM, 2001; Cal EPA, 2005; Cal EPA 2012; and, US EPA, 2002).

### 3.3.1 Installation of Soil Vapor Probes

Stantec will contract a California-licensed (C-57) driller to install the soil vapor probes to depths of approximately 5.25 feet bgs using a 3.25-inch diameter stainless steel hand auger. The depth of the probes may be altered in the field based on the DTW observed during drilling. Target depths for the probes are approximately 1 to 2 feet above DTW.

The LTCP petroleum vapor intrusion to indoor air scenario for direct soil gas measurement requires soil gas samples be collected at least 5 feet below the depth of the foundation for a current or proposed building. As shown on **Figure 2**, the proposed depth of the foundation for the majority of the proposed on-site building is a maximum of 4 feet bgs. This means that the soil vapor probes would need to be installed to a depth of at least 9 feet bgs, which is not possible due to the shallow groundwater table in the vicinity of the Site. The historical range of DTW for wells MW-5 and MW-6, located adjacent to the Site, is 4.89 to 10.03 feet below TOC.

Drilling activities will be performed under the supervision of a State of California professional geologist. Detailed field records of all activities will be recorded by Stantec field personnel including Site conditions, names of field personnel, pertinent dates and times, etc. As the soil vapor probes will be installed in areas where recent shallow soil assessment has already been conducted, soil samples will not be collected for description of lithology or laboratory analysis.

After each borehole is advanced to its maximum depth of approximately 5.5 feet bgs, each soil vapor probe will be installed. Each soil vapor sampling probe will consist of a 6-inch screen section constructed of copper or stainless steel. The screen for the soil vapor probe will be approximately 6 inches long and set from approximately 4.75 to 5.25 feet bgs. Final screen intervals will be determined based on field observations. The vapor probe screen will be

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connected to 1/4-inch O.D. Teflon® tubing to complete the probe to the surface. Each tube will be fitted with a gas-tight cap (such as Swagelok® cap) at the ground surface.

The screen filter pack for the probe will be constructed by pouring sieve size #3 graded Lapis Lustre sand from the bottom of the borehole annular space to approximately 3 inches above the top of the probe screen casing such that the probe is centered at the midpoint of the sand pack. A one-foot layer of 3/8-inch dry bentonite chips will be placed in the annular space above the sand filter pack, followed by approximately 2 feet of hydrated bentonite powder. The bentonite will be allowed to swell for approximately 1 hour. The remaining annular space will be filled with a neat Portland cement grout to approximately 1 foot bgs.

A traffic-rated, bolt-down, vault box will be placed around the tops of the probe casings and secured in place with concrete. Soil vapor probe construction details will be recorded onto soil vapor probe construction field logs. Upon completion of the soil vapor probe installations, probes will be allowed to equilibrate a minimum of 48 hours before soil vapor samples are collected.

### 3.3.2 Soil Vapor Sample Collection

Prior to the soil vapor sampling event, weather reports will be checked to verify that a significant antecedent rain event (i.e., greater than or equal to 0.5 inches; Cal EPA, 2012) has not occurred within 24 hours. If a significant rain event has occurred, the sampling will be rescheduled for another date. Sampling immediately following a rain event increases the likelihood of soil pore occlusion by water, thereby potentially affecting soil vapor results.

Stantec personnel will maintain detailed notes during the soil vapor sample collection activities. Notes will include weather conditions, vacuum leak test data, purge data, and sample collection/tracer gas monitoring data. A soil vapor sample collection data log for the Site is included in **Appendix C**.

#### 3.3.2.1 Procuring Equipment and Supplies

Stantec will contact Eurofins Air Toxics, Inc. (Air Toxics), of Folsom, California, a State of California-certified and Chevron-approved laboratory, to coordinate shipment of the appropriate sample containers and equipment to perform soil vapor sampling. Coordination between Stantec and Air Toxics will include establishing arrival times of the samples to ensure Air Toxics has sufficient time to analyze soil vapor samples within the required hold time. If Air Toxics is unable to provide all required equipment, Stantec may subcontract an alternate laboratory.

Stantec will request Air Toxics provide the following supplies for the sampling event:

- 10% (batch) certified 1-liter (L) Summa™ canisters paired with laboratory-provided flow controllers (with built-in particulate filters) calibrated to deliver approximately 175 milliliters per minute (mL/min) – one for each soil vapor probe, one for a duplicate, and one spare to be used in the event of canister failure;

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- Sampling tee for duplicate sample collection;
- One pressurized canister filled with "zero air" (e.g., nitrogen) to supply a source for the equipment blank;
- One 10% (batch) certified 6-L Summa™ canister – for use as a purge canister; and
- Tedlar® bags – one for each soil vapor sample and one spare. The Tedlar® bags will be used for field leak check measurement.

Each Summa™ canister will be equipped with a laboratory-supplied flow controller set to collect samples at the desired flow rate and a vacuum gauge. Air Toxics will measure and record canister vacuum using their fixed, calibrated equipment as well as the canister-assigned vacuum gauges. Upon receipt, the initial vacuum of each canister will be measured and recorded by Stantec using laboratory-supplied vacuum gauges. Laboratory and field vacuum measurements will be compared to determine if vacuum loss has occurred during shipment.

Stantec will procure the following equipment and supplies for the sampling event:

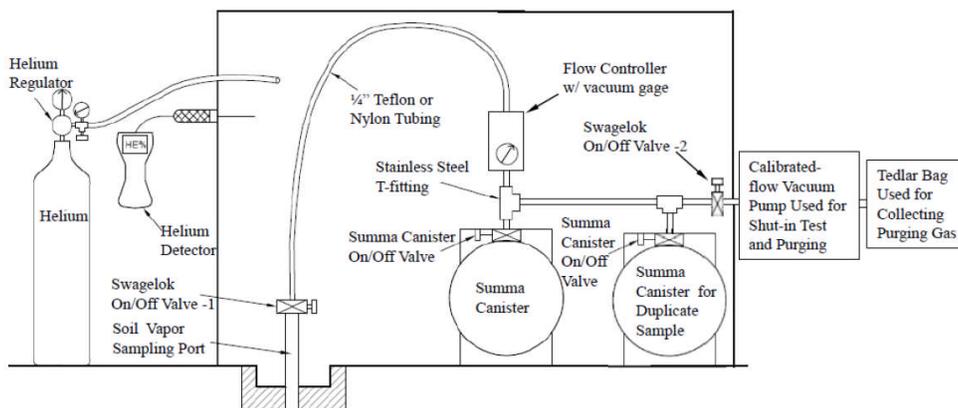
- Two-way ¼-inch Swagelok® valves;
- ¼-inch outer diameter (OD) Teflon® tubing (Nylon tubing marketed under the NylaFlow® name is also acceptable; however, Tygon®, rubber, and polyethylene tubing will be avoided);
- Tubing cutter;
- End caps for tubing;
- ¼-inch Swagelok® connectors and fittings (hose clamps and other types of connectors will be avoided as they may not provide an air-tight seal);
- Helium gas and helium detector/monitor;
- Proper hand tools to secure connections and fittings; and
- Low-flow air sampling pump.

### 3.3.2.2 Connecting Soil Vapor Sampling Equipment

The sampling equipment will be assembled similar to the layout shown on Figure 8 in **Appendix B** (below) and connected to the soil vapor probe to be sampled. The soil vapor sampling systems will be purged prior to sample collection. Purging details are provided in Section 3.3.2.4.

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**Figure 8.** Soil vapor sampling train using two Summa canisters for a sample and a duplicate sample (Adapted from ENSR)

### 3.3.2.3 Leak Testing

Leakage of atmospheric air into the sampling equipment during sample collection can compromise sample integrity and dilute measured soil vapor petroleum hydrocarbon concentrations, possibly to the point that the concentration is below the method detection limit (i.e., a false negative). Contaminants in ambient air can also enter the sampling system and be detected in the sample from a non-contaminated sampling probe (i.e., a false positive). Air leakage can occur at the land surface into the probe and, more likely, through loose fittings in the above ground sampling equipment.

To avoid leaks, the connections, fittings, and other parts associated with the sampling equipment will be checked to verify that they are tightly fit. The soil vapor purging and sampling rate will also be kept low (175 mL/min).

To test for leaks, two methods will be used. The first method involves performing a qualitative vacuum test (shut-in test) on the above ground sampling equipment. This test will be performed by closing all of the sampling valves and applying a vacuum of approximately 100 inches water column [in W.C.] on the sampling equipment. If constant vacuum is maintained for at least 1 minute, the sampling equipment will pass the vacuum test. Results of the vacuum leak test will be recorded on the soil vapor sample collection data log provided in **Appendix C**.

The second method involves using a tracer gas to test for ambient air leakage into the sampling system. Chevron ETC (2013) recommends the use of helium as a tracer gas where practical to do so, primarily based on accessibility. Helium also has low toxicity, does not disrupt analytical measurements, is generally not found at fuel contaminated sites, and has a high purity.

A sampling enclosure (shroud) will be constructed to facilitate leak testing during soil vapor sample collection. The sampling enclosure may be constructed with acrylic sheets, plastic bins, or plastic sheets covering a polyvinyl chloride (PVC) frame. Regardless of the materials used to construct the enclosure, it will be large enough to cover sampling equipment from the tubing at

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the probe to the sample Summa™ canister. Pressure in the enclosure must remain at atmospheric pressure to ensure normal sampling conditions exist. The sampling enclosure will be filled and maintained to at least 10% laboratory-grade helium, and a helium detector (e.g., Mark Products Model 1200 or equivalent) will be used to measure the percentage of helium in the enclosure during sample collection. The 10% helium concentration is at least 10 times higher than the typical laboratory reporting limit (LRL; 0.15%) achieved for ASTM Method D-1946.

Small amounts of sample train leakage may not invalidate sample results. A leakage of as much as 10% may allow back calculation of an adjusted soil vapor concentration (Cal EPA, 2012).

### 3.3.2.4 Purging

After the sampling equipment passes the vacuum test, the probe will be purged to remove internal air from the sample train (tubing and vapor implant only). Three internal volumes will be purged from each sampling location. Note that the purge volumes calculated in **Table 1** are based on the anticipated lengths of the below- and above ground sampling equipment. Purge volumes should be recalculated if final lengths are different than anticipated. Because each purge volume is anticipated to be less than 200 mL, purging will be performed at each location using a dedicated 6-L purge canister. An approximate 1-inch of mercury (in Hg) drop in vacuum pressure corresponds to an approximate purge volume of 200 mL. Alternatively, due to the low volume of purge air, a 60 cubic centimeter gas-tight syringe may be used to remove purge air. The flow rate during purging will be approximately equivalent to the flow rate during sampling, which is set by the flow controller provided by the laboratory. Purge data for each probe will be recorded on the log provided in **Appendix C**. Each location will be sampled immediately following purging, as described in the following section.

### 3.3.2.5 Collecting Soil Vapor Samples

With the leak test enclosure still in place, collection of soil vapor from a particular vapor probe will begin within 10 minutes of purging. Each sample will be collected in a 1-L Summa™ canister at an approximate flow rate of no more than 175 mL/min. After the Summa™ canister valve is opened and the canister begins to fill, the pressure gauge on the flow controller will be observed to verify that the vacuum in the canister is decreasing over time. If the flow controller is working correctly, it will take approximately 10 minutes for the vacuum to decrease to 5 in Hg; however, the actual sampling duration may be slightly more or less than 10 minutes. The Summa™ canister valve will be closed and sampling will cease when a vacuum of 5 in Hg is obtained.

A duplicate sample will be collected from one of the soil vapor probes concurrent with the primary sample using a separate Summa™ canister and flow valve and a laboratory-supplied sampling tee. Stantec will attempt to collect all of the planned samples on the same day.

Sample collection and tracer gas monitoring data for each probe will be recorded on the soil vapor sample collection data log provided in **Appendix C**.

## WORK PLAN ADDENDUM

Former Chevron-branded Service Station 92029, 890 West MacArthur Boulevard, Oakland, California  
June 11, 2014

### US EPA Method TO-17 Sample Collection

As requested by ACEH, Stantec will collect collocated soil vapor samples in sorbent tubes to be analyzed using US EPA Method TO-17 methodologies with naphthalene as the sole analyte to evaluate compared to the concentrations of naphthalene analyzed by US EPA Method TO-15.

Prior to sample collection, each soil vapor probe will be field-screened using a PID. This information will be used to evaluate the possible range of concentrations including sample duration and volume adjustments to avoid sorbent tube breakthrough and to alert the laboratory of possible concentrations which may cause detector saturation.

Prior to sample collection, the Swagelok® nut, cap, and ferrule are removed from the outlet side of the sorbent tube, and the sorbent tubes are inserted into the tube holder on the sample pump. Two sorbent tubes will be assembled in line in order to assess if there is any breakthrough of naphthalene during sample collection. A "set up tube" will be used to calibrate the desired flow rate for sampling (e.g., 50 mL/min).

Samples will be collected by inserting the sorbent tubes in the holders, then attaching and starting the pump. When the desired sample volume is collected (i.e., one-liter [1,000 cubic centimeters]) the sorbent tube will be removed and capped.

As soil vapor samples and their locations are contingent on results of the soil and groundwater analysis, the number of samples and locations, if necessary, will be determined at a later date. Based on DTSC guidance, only 5% to 10% of soil vapor sample locations analyzed by US EPA Method TO-15 will also be analyzed by US EPA Method TO-17.

### **3.3.2.6 Soil Vapor Sample Storage and Transport**

Soil vapor samples will be properly labeled and placed within secure packaging received from Air Toxics. Soil vapor samples will not be chilled since contaminants may condense in the canisters at low temperatures. Soil vapor samples will be shipped via Federal Express (FedEx) next-day air. Samples will be transported under chain-of-custody protocol (including noting the final canister vacuums and serial numbers of the canisters). Air Toxics will be notified of the expected arrival time of the samples. Pre-field planning will prevent sample shipments from arriving at the laboratory during weekends.

### **3.3.3 Laboratory Analyses**

Soil vapor samples will be submitted to Air Toxics for the following analyses:

- TPH-GRO, BTEX compounds, and naphthalene by US EPA Method TO-15; and
- Fixed gases (carbon dioxide, oxygen, methane, and helium) by ASTM Method D-1946.  
Note: Since the laboratory normally uses helium as a carrier gas, helium analysis must be specified on the chain-of-custody.

Select soil vapor samples will also be analyzed for naphthalene by US EPA Method TO-17.

## **WORK PLAN ADDENDUM**

Former Chevron-branded Service Station 92029, 890 West MacArthur Boulevard, Oakland, California  
June 11, 2014

### **3.3.4 Data Verification**

Upon receipt of final laboratory reports, Stantec will perform data verification, which will include:

- Verifying that batch quality control (QC) samples were analyzed at the proper frequency and that results were within specifications;
- Verifying that holding times were met and that reporting units and quantitation limits are correct;
- Evaluating whether corrective action (reanalysis of QC or project samples) is needed and, if so, is performed and documented;
- Verifying that the project and QC sample results were properly reported and flagged; and
- Preparing batch narratives that adequately identify and discuss any problems encountered.

### **3.4 SENSITIVE RECEPTOR AND WATER SUPPLY WELL SURVEYS**

If soil and groundwater data exceed LTCP criteria, a neighborhood sensitive receptor survey may be conducted to locate any potential sensitive receptors down-gradient of the Site. The survey will include locating any basements or underground structures that may encounter groundwater and require dewatering and potential sensitive populations. Sensitive populations are people who would potentially be more susceptible to risks resulting from exposure to Site-related hydrocarbons such as school-age children, medically-compromised people, and the elderly.

In addition, an updated water supply well survey will be conducted which utilizes data from California Department of Water Resources (DWR) and Alameda County Public Works (ACPW) water well records.

### **3.5 WASTE MANAGEMENT**

Investigation-derived waste (e.g., soil cuttings, decontamination water, etc.) generated during the proposed field activities will be placed in Department of Transportation-approved 55-gallon drums. Composite soil samples will be collected from the drums and submitted to Lancaster for waste characterization purposes. The drums will be properly labeled and stored on Site pending receipt of analytical results and profile evaluation by CRA. CRA will arrange removal and disposal of all waste.

## **WORK PLAN ADDENDUM**

Former Chevron-branded Service Station 92029, 890 West MacArthur Boulevard, Oakland, California  
June 11, 2014

### **4.0 Report Preparation**

Data gathered during the additional investigation activities proposed herein will be documented in an additional investigation report. The report will include a summary of field activities; tabulated analytical data; a Site location map; an updated Site plan showing final locations; soil boring logs with geologic descriptions; certified laboratory analysis reports and chain-of-custody documentation; a discussion of the findings based on the new data; and conclusions and recommendations, as appropriate.

Results from the additional investigation will be used to address identified data gaps and to evaluate whether the case complies with the media-specific criteria of the LTCP. If all data gaps have been sufficiently addressed and no further assessment is necessary, the report will also include relevant sections of the Site conceptual model updated based on new data. If the case is determined to comply with LTCP criteria, the report will also include a low-threat closure request. If all data gaps have been sufficiently addressed, but conditions do not meet LTCP criteria, residual contamination on Site may be addressed under a SMP during redevelopment activities, as discussed during the May 8, 2014 project meeting, and a sensitive receptor survey may be conducted to evaluate potential receptors in areas where LTCP criteria are not met.

## **WORK PLAN ADDENDUM**

Former Chevron-branded Service Station 92029, 890 West MacArthur Boulevard, Oakland, California  
June 11, 2014

### **5.0 Schedule of Activities**

Stantec will begin planning and scheduling the proposed investigation activities following approval of this work plan addendum by ACEH. Stantec anticipates completing the pre-field planning, health and safety plan, and access agreement and ROW encroachment permit acquisition over a span of approximately three months. Following pre-field activities, Stantec anticipates completing the soil and groundwater investigation over a span of approximately two weeks. Should it be necessary, the soil vapor investigation will be completed over a span of approximately one week. Laboratory analysis reports will be obtained approximately 2 to 4 weeks following submission of the samples to the laboratory. Stantec will submit the additional investigation report to ACEH approximately 45 days following the receipt of all final certified laboratory analysis reports.

## WORK PLAN ADDENDUM

Former Chevron-branded Service Station 92029, 890 West MacArthur Boulevard, Oakland, California  
June 11, 2014

### 6.0 References

API, 2004. *Collecting and Interpreting Soil Gas Samples from the Vadose Zone: A Practical Strategy for Assessing the Subsurface-Vapor-to-Indoor-Air Mitigation Pathway at Petroleum Hydrocarbon Sites, Final Draft.*

ASTM, 2001. *Standard Guide for Soil Gas Monitoring in the Vadose Zone, D-5314-92.*

Cal EPA (Department of Toxic Substances Control), 2005. *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air.* February 7.

Cal EPA (Department of Toxic Substances Control and Los Angeles Regional Water Quality Control Board), 2012. *Advisory – Active Soil Gas Investigation.* Jointly issued by the Regional Water Quality Control Board, Los Angeles Region and the Department of Toxic Substances Control.

Chevron ETC, 2013. *Soil Vapor Sampling Technical Toolkit - Version 1.8.* March 20.

CRA, 2011. *Additional Investigation Report.* March 31.

Stantec, 2013a. *Site Conceptual Model and Data Gap Work Plan.* August 16.

Stantec, 2013b. *Fourth Quarter 2013 Semi-Annual Groundwater Monitoring Report.* December 18.

SWRCB, 2012. *Low Threat Underground Storage Tank Case Closure Policy, Effective August 17.*

US EPA, 2002. *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance).*

## **TABLES**

**Table 1**  
**Purge Volumes, Durations, and Associated Vacuum Drops**  
 Former Chevron-branded Service Station 92029  
 890 West MacArthur Boulevard  
 Oakland, California

Part	ID (in)	ID (ft)	Length (ft)	Volume (ft <sup>3</sup> )	Volume (L)	Volume (mL)	3 Volumes (mL)	Target Vacuum Drop (in Hg)
<b>Soil Vapor Probes</b>								
Probe Tubing	0.180	0.0150	4.75	8.39E-04	2.38E-02	23.8	71.3	--
Manifold Tubing	0.180	0.0150	3	5.30E-04	1.50E-02	15.0	45.0	--
Total:							116.3	1
<b>Purge duration at 175 mL/min = 0.7 minutes.</b>								

**Notes:**

1/4-inch Teflon® tubing (outside diameter = 0.25 inches; inside diameter = 0.180 inches)

Lengths of tubing are approximate; it may be necessary to re-calculate purge duration if different lengths are used.

**Abbreviations:**

ft = feet

ft<sup>3</sup> = cubic feet

ID = inside diameter

in = inch

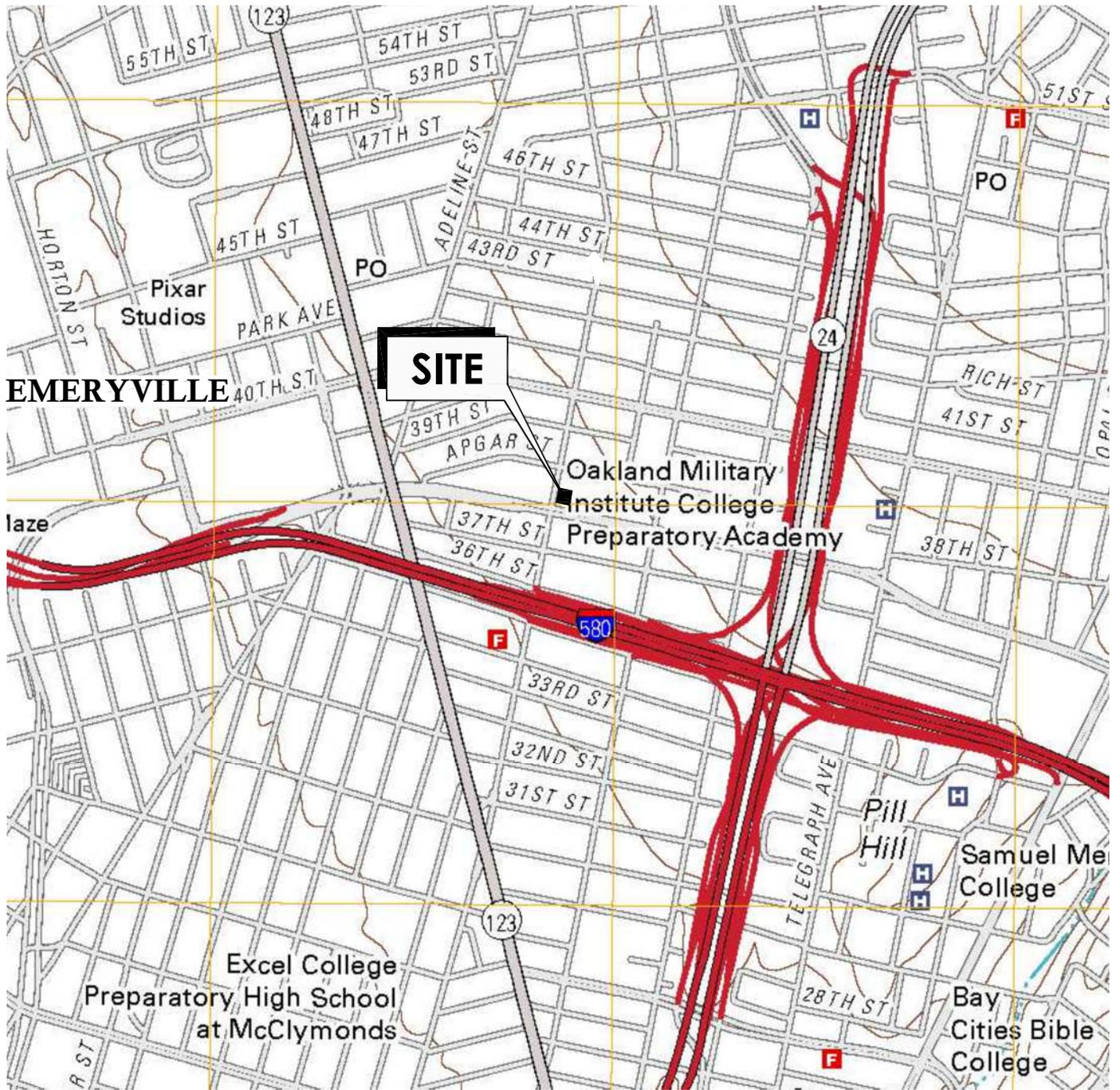
in Hg = inches of mercury

L = liter

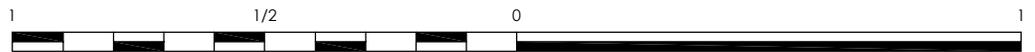
mL = milliliter

mL/min = milliliters per minute

## FIGURES



CALIFORNIA



SCALE IN MILES



SCALE IN FEET

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; OAKLAND WEST, CALIFORNIA; 2012



15575 Los Gatos Blvd, Building C  
Los Gatos, CA 95032

Phone: (408) 356-6124 Fax: (408) 356-6138

FOR:  
FORMER CHEVRON-BRANDED  
SERVICE STATION 92029  
890 WEST MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE:

1

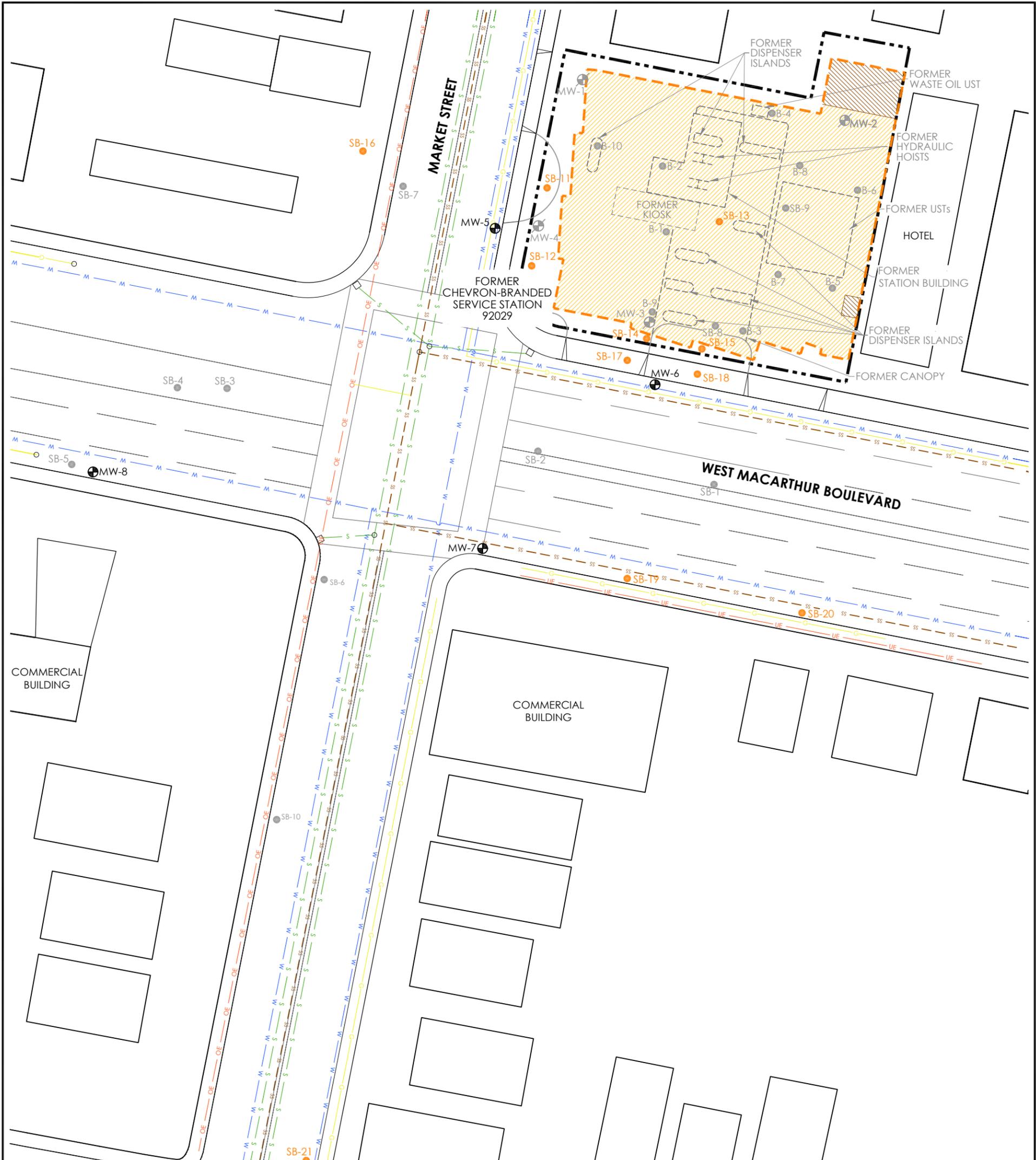
JOB NUMBER:  
211602398

DRAWN BY:  
JRO

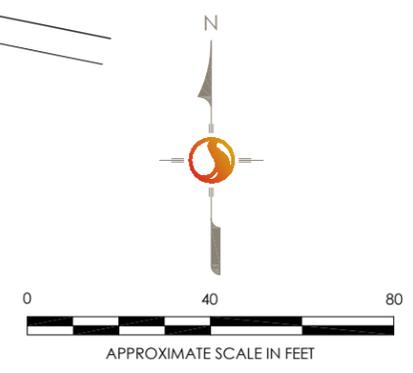
CHECKED BY:  
EEO/MRK

APPROVED BY:  
TLF

DATE:  
11/22/13



- LEGEND**
- APPROXIMATE SITE BOUNDARY
  - UST UNDERGROUND STORAGE TANK
  - ⊕ GROUNDWATER MONITORING WELL
  - ⊖ ABANDONED/DESTROYED GROUNDWATER MONITORING WELL
  - SOIL BORING
  - PROPOSED SOIL BORING
  - - - PROPOSED BUILDING FOOTPRINT
  - ▨ DENOTES PROPOSED FOUNDATION AT MAXIMUM DEPTH OF 4.0 FEET BELOW GROUND SURFACE
  - ▩ DENOTES PROPOSED FOUNDATION AT MAXIMUM DEPTH OF 12.0 FEET BELOW GROUND SURFACE
  - G GAS LINE
  - SS SANITARY SEWER LINE
  - S STORM DRAIN LINE
  - OE OVERHEAD ELECTRICAL LINE
  - UE UNDERGROUND ELECTRICAL LINE
  - W WATER LINE



No warranty is made by Stantec, Inc. as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any reproduction may result in a loss of scale and or information.

**NOTE**  
FORMER SITE FEATURES ARE IN APPROXIMATE LOCATIONS

 15575 Los Gatos Blvd, Building C Los Gatos, CA 95032 Phone: (408) 356-6124 Fax: (408) 356-6138	FOR: FORMER CHEVRON-BRANDED SERVICE STATION 92029 890 WEST MACARTHUR BOULEVARD OAKLAND, CALIFORNIA		SITE PLAN SHOWING PROPOSED SOIL BORING LOCATIONS		FIGURE: 2
	JOB NUMBER: 211602398	DRAWN BY: NMB	CHECKED BY: EEO	APPROVED BY: TLF	DATE: 05/15/14

**APPENDIX A**  
**ACEH Correspondence**



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

December 18, 2013

Mr. Carryl MacLeod  
Chevron Environmental Management Co.  
6101 Bollinger Canyon Road  
San Ramon, CA 94583  
(sent via electronic mail to:  
[CMacleod@chevron.com](mailto:CMacleod@chevron.com))

WestMac LLC  
1842 21<sup>st</sup> Avenue  
San Francisco, CA 94122  
(sent via electronic mail to:  
[gathconstruc@aol.com](mailto:gathconstruc@aol.com))  
and [sokaneconst@hotmail.com](mailto:sokaneconst@hotmail.com))

Mr. Buyandalai Itgel  
787 Marlesta Road  
Pinole, CA 94564  
(sent via electronic mail to:  
[teamspirit74@yahoo.com](mailto:teamspirit74@yahoo.com))

Subject: Work Plan Addendum Request; Fuel Leak Case No. RO00002438; Chevron #9-2029 (Global ID #T0600173887), 890 MacArthur Blvd, Oakland, CA 94608

Dear Ms. MacLeod, WestMac LLC, and Mr. Itgel:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Second Quarter 2013 Semi-Annual Groundwater Monitoring Report*, dated July 12, 2013, and the *Site Conceptual Model and Data Gap Work Plan*, dated August 16, 2013. Both reports were generated by Stantec Consulting Services, Inc (Stantec). In these reports, your consultant identifies several data gaps at the site, including offsite lateral delineation of the groundwater dissolved-phase plume and an offsite vapor intrusion evaluation. In an analysis of site development plans, which have not been provided to ACEH, Stantec concludes that sufficient protection would be present to eliminate an onsite vapor intrusion concern with the incorporation of minor modifications to the proposed subsurface ventilation system. Stantec also indicates that ACEH may not consider the lateral extent of the soil plume to be defined.

ACEH has evaluated the data and recommendations presented in the above-mentioned reports, in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). The *Site Conceptual Model and Data Gap Work Plan* was submitted in an effort to narrow the focus of future work at the site, fill remaining LTCP data gaps, and determine if the site could obtain closure under the LTCP. Conversely, if the data indicate that further data, investigation, or remedial actions are appropriate, the site could proceed expeditiously to that objective.

Based on ACEH staff review of the case file, we request that you address the following technical comments in a work plan addendum and send us the documents requested below.

Prior to the implementation of the final scope of work, ACEH would like to invite you to meeting to discuss an efficient strategy for collecting data at the site in an effort to progress the site towards closure and redevelopment as residential property. ACEH requests notification of suitable dates and times for the meeting. Items to be discussed at the meeting are addressed in the Technical Comments below. Subsequent to the meeting, please submit a work plan addendum as requested below (submittal dates can be modified based on the needs of the site).

### **TECHNICAL COMMENTS**

- 1. Site Redevelopment** – The previous letter from ACEH (dated May 21, 2013) requested that copies of plans for the redevelopment of the site be forwarded to ACEH. ACEH has not received any redevelopment plans to date, and the submittal is overdue. As noted in Technical Comment 1 of the previous ACEH letter, there appears to be sufficient residual sources beneath the site to be of potential concern to a residential redevelopment (this includes but is not limited to offsite areas beneath the public right-of-way).

The referenced data gap work plan indicates that the foundation for the planned residential redevelopment ranges between 4 and 10 feet below grade surface (bgs), and will eliminate the potential for a minimum 5-foot bioattenuation zone beneath the site or building. The type of future construction, including use areas, subgrade structures, foundation type, and/or other potential exposure points are of critical importance with respect to managing residual contamination at the site and vapor intrusion to indoor air. Therefore, ACEH again requests the proposed final site redevelopment plans be submitted. Please be aware that draft plans are not sufficient in which to determine the risk of vapor intrusion at a site.

- 2. Vapor Intrusion to Indoor Air** – ACEH requests the installation of semi-permanent vapor points at the depth of the proposed building(s) foundations (which are requested to be documented), including portions reported to be up to 10 feet in depth, and at the foundation perimeter, to evaluate the onsite risk for vapor intrusion to the future residential building(s). ACEH recommends collection of groundwater samples within the footprint of the proposed building(s) for use in a risk assessment, if necessary.

A review of the data for well MW-6, immediately offsite and downgradient of the southern property line, indicates persistent fluctuating concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, and ethylbenzene. In May 2010 and in November 2012 similar concentrations of TPHg were detected in the well (5,200 micrograms per liter ( $\mu\text{g/l}$ ) and 6,400  $\mu\text{g/l}$ , respectively); however, during that time interval concentrations of TPHg have fluctuated between  $<50 \mu\text{g/l}$  to 13,000  $\mu\text{g/l}$ . Similar benzene concentrations were also detected in May 2010 and November 2012 (110 and 290  $\mu\text{g/l}$ , respectively); however, in that time interval benzene concentrations ranged between 0.6 and 1,100  $\mu\text{g/l}$ . Ethylbenzene is also similar. These data indicate a residual source either onsite or immediately offsite beneath the public right-of-way with the potential for vapor intrusion to the planned residential redevelopment.

In order to determine the most expeditious and most appropriate method to obtain these data, ACEH has requested a meeting in order to refine the approach, collect appropriate data, and progress the site towards closure.

- 3. Vicinity Water Supply Wells**– An Environmental Data Resources, Inc (EDR) report is cited to have found only one water supply well between  $\frac{1}{4}$ - and  $\frac{1}{2}$ -mile from the site. Additionally, the Geotracker GAMA Database of wells was cited as not identifying any wells of concern for the site. The EDR report was not included in the data gap work plan, nor is ACEH is aware of the data sources utilized by EDR in their well survey. Consequently, ACEH requests a water well survey that utilizes both Department of Water Resources (DWR) and Alameda County Public Works Agency (ACPWA) water well records. These two well data sources are sufficiently different to warrant review of both datasets. If it can be demonstrated that the EDR well survey utilized both datasets, then the additional effort is not warranted. Please locate any wells found with  $\frac{1}{2}$  -mile of the site on a figure in a final report.
- 4. Other Sensitive Receptors** – To evaluate the potential for vapor intrusion to offsite downgradient properties, ACEH requests a neighborhood survey to locate any potential sensitive receptors downgradient of the site. This should include basements or other underground structures, and sensitive populations. Please present a strategy in the addendum to address these items.
- 5. Proposed Soil Bores** – Three soil bores were proposed in the data gap work plan in order to delineate offsite dissolved-phase groundwater and soil to the southeast and to the west. ACEH is in agreement that the data is warranted in light of the presence of potential utility conduits identified to be in the groundwater-bearing zone and the potential for vapor intrusion into indoor air at offsite commercial and residential buildings. The proposed bore locations currently are insufficient to adequately define these plumes and assess risk to building occupants. Consequently, ACEH has requested a meeting in order to refine bore locations, collect appropriate data, and progress the site towards closure.
- 6. Groundwater Analytical Suite** – Tetrachlorethene (PCE) was detected in the groundwater sample collected immediately adjacent to the former waste oil UST (B-4; 4.3 micrograms per liter). In order to eliminate the waste oil UST as a potential source for a larger groundwater plume, and for that potential plume to have migrated offsite, ACEH requests, at a minimum, a one-time sampling of site wells for chlorinated volatile organic compounds.

### **TECHNICAL REPORT REQUEST**

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with Attachment 1 and the following specified file naming convention and schedule:

- **January 10, 2014** – Site Redevelopment Plans  
File to be named: RO2438\_CORRES\_L\_yyyy-mm-dd
- **February 28, 2014** – Work Plan Addendum  
File to be named: RO2438\_WP\_ADEND\_R\_yyyy-mm-dd
- **January 31, 2013** – Semi-Annual Groundwater Monitoring Report  
File to be named: RO2438\_GWM\_R\_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>. If your email address does not appear on the cover page of this notification, ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

If you have any questions, please call me at (510) 567-6876 or send me an electronic mail message at [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org).

Sincerely,



Digitally signed by Mark Detterman  
DN: cn=Mark Detterman, o, ou,  
email=mark.detterman@acgov.org, c=US  
Date: 2013.12.18 10:50:19 -08'00'

Mark E. Detterman, PG, CEG  
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations and Electronic Report Upload (ftp) Instructions

cc: Travis Flora, Stantec Consulting Services, Inc, 15575 Los Gatos Blvd, Bldg C, Los Gatos, CA 95032  
(sent via electronic mail to: [Travis.Flora@Stantec.com](mailto:Travis.Flora@Stantec.com))

Dan McGue, Paragon Real Estate Group, 1400 Van Ness Avenue, San Francisco, CA 94109  
(sent via electronic mail to: [DanMcGue@paragon.re.com](mailto:DanMcGue@paragon.re.com))

Dilan Roe (sent via electronic mail to [dilan.roe@acgov.org](mailto:dilan.roe@acgov.org))  
Mark Detterman (sent via electronic mail to [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org))  
Electronic File, GeoTracker

# Attachment 1

## Responsible Party(ies) Legal Requirements/Obligations

### REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements: ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)).

### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)</b>	<b>REVISION DATE:</b> July 25, 2012
	<b>ISSUE DATE:</b> July 5, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single Portable Document Format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

## Flora, Travis

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**From:** Detterman, Mark, Env. Health <Mark.Detterman@acgov.org>  
**Sent:** Monday, March 03, 2014 9:20 AM  
**To:** Flora, Travis; MacLeod, Carryl G  
**Cc:** Fischer, Alexis N; Roe, Dilan, Env. Health; Alex Buyan  
**Subject:** RE: Meeting Follow-up: RO2438 / Chevron 92029; 890 W MacArthur Blvd., Oakland, CA

Carryl and Travis,

Please use this email to document ACEH concurrence with the requested extension of April 30, 2014, due to the planned stakeholder meeting set for March 6, 2014 at 1pm. I'll modify Geotracker shortly.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** Flora, Travis [<mailto:Travis.Flora@stantec.com>]  
**Sent:** Monday, February 03, 2014 5:18 PM  
**To:** Detterman, Mark, Env. Health  
**Cc:** MacLeod, Carryl G; Fischer, Alexis N; Roe, Dilan, Env. Health; Alex Buyan  
**Subject:** Meeting Follow-up: RO2438 / Chevron 92029; 890 W MacArthur Blvd., Oakland, CA

Hi Mark,

The attached letter was uploaded to GeoTracker and the ACEH FTP site today. Please let us know if any of the proposed meeting dates work for you.

Proposed Dates:

- March 6, 2014
- March 10, 2014
- March 11, 2014

Regards,

**Travis L. Flora**

Associate Project Manager  
Stantec  
15575 Los Gatos Boulevard, Building C Los Gatos CA 95032-2569  
Phone: (408) 827-3876  
Cell: (408) 458-6320  
[Travis.Flora@stantec.com](mailto:Travis.Flora@stantec.com)



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## Flora, Travis

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**From:** Detterman, Mark, Env. Health <Mark.Detterman@acgov.org>  
**Sent:** Monday, April 07, 2014 12:15 PM  
**To:** Flora, Travis  
**Cc:** MacLeod, Carryl G; Roe, Dilan, Env. Health  
**Subject:** FW: 890 W. MacArthur, Oakland - Extension  
**Attachments:** RO0002438\_CORRES\_2014-04-04.pdf

Travis,

Please use this email to document ACEH concurrence with the May 30<sup>th</sup> extension for the submittal of the work plan addendum. I've changed Geotracker to reflect this.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

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**From:** Flora, Travis [<mailto:Travis.Flora@stantec.com>]  
**Sent:** Friday, April 04, 2014 3:24 PM  
**To:** Detterman, Mark, Env. Health  
**Subject:** 890 W. MacArthur, Oakland

Hi Mark,

The attached correspondence was uploaded to GeoTracker and the County FTP.

Regards,

**Travis L. Flora**  
Associate Project Manager  
Stantec  
15575 Los Gatos Boulevard, Building C Los Gatos CA 95032-2569  
Phone: (408) 827-3876  
Cell: (408) 458-6320  
[Travis.Flora@stantec.com](mailto:Travis.Flora@stantec.com)



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**From:** Detterman, Mark, Env. Health [<mailto:Mark.Detterman@acgov.org>]  
**Sent:** Wednesday, May 14, 2014 4:09 PM  
**To:** MacLeod, Carryl G  
**Cc:** Alexis N. Fischer ([afischer@chevron.com](mailto:afischer@chevron.com)); Flora, Travis; Roe, Dilan, Env. Health  
**Subject:** RO2438; Chevron #9-2029; Meeting Followup, Summary, and WP Addendum Extension

Carryl and Alexis,

Thank you meeting with ACEH and the property owner's representative, Alex Buyan, on May 8, 2014.

Based on the discussions in the meeting, ACEH understands that the property owner has approval from the Oakland planning department to proceed with the development; however, lacks funding until Chevron and ACEH can identify appropriate actions at the site based on the development plans. Towards that end, Chevron and ACEH discussed several options for the site in order to quickly obtain additional onsite data that could enable ACEH to issue a letter allowing redevelopment to proceed under a "Site Management Plan" (SMP) approach to contamination. This would manage site contamination required to be removed for, or encountered during, redevelopment. This is expected to allow funding to be made available for the owner. Chevron and ACEH have previously discussed the collection of offsite data in order to fill all data gaps identified under the Low-Threat Closure Policy. The collection of this data was not a principal focus of this meeting, but will also be included in the requested work plan addendum.

In regards to the collection of onsite data, items included in the discussions were:

- The addition of four soil bores, two onsite, and two immediately offsite along the southern boundary of the property to investigate the extent of soil contamination remaining onsite and offsite, and the potential affect it may have on the underground portion of the redevelopment. The potential for removal of the soil is expected to be managed under an SMP, including offsite, as sidewalks are required to be demolished and replaced for the redevelopment, and an excavation would be reasonable at that time.
- A potential secondary step to install vapor wells at these locations depending on the analytical concentrations found in the previous step. As discussed, the alternative of soil removal under an SMP may negate the need for this step provided the extent is sufficiently defined.
- The evaluation of a similar approach along the western margin of the site due to shallow soil contamination over 100 mg/kg that remains onsite and immediately offsite (MW-4 and MW-5).
- Sensitive receptors (Technical Comment 4 of the December 18, 2013 directive letter) were briefly discussed and clarified must include basements or other subsurface structures that may encounter groundwater and require dewatering (vapor or TPH discharge concerns).
- The limited sampling of wells MW-5 and MW-6 for chlorinated solvents (in particular PCE; per Technical Comment 6) due to detections in soil near the former waste oil UST were discussed. Future steps would be evaluated thereafter (no further sampling, or a potential expansion of the sampling network).
- One item that was not discussed, but appears to help expedite the ability of ACEH to issue a development letter to the property owner, is the collection of a groundwater sample within the footprint of the proposed structure. As discussed in the first paragraph of Technical Comment 2, because there are no longer any wells onsite, the data is expected to assist a potential risk assessment should it be necessary, and will allow an understanding of remaining onsite groundwater contamination, if any, and the need for any vapor wells further into the site.

As discussed in the meeting, because of the multiple attempts, and delays encountered, in setting up this meeting, ACEH will extend the delivery date for the work plan addendum to June 13, 2014. ACEH will endeavor to review the report by early July. You should be apprised that the end of our fiscal year is June

30, and many additional year-end state required tasks must be completed by that date. However, that just means I'll be extra busy in early July!  
Should you have questions, please let me know.

*Mark Detterman*  
*Senior Hazardous Materials Specialist, PG, CEG*  
*Alameda County Environmental Health*  
*1131 Harbor Bay Parkway*  
*Alameda, CA 94502*  
*Direct: 510.567.6876*  
*Fax: 510.337.9335*  
*Email: [mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)*

*PDF copies of case files can be downloaded at:*

*<http://www.acgov.org/aceh/lop/ust.htm>*

**APPENDIX B**  
**Soil Vapor Sampling Technical Toolkit**  
**(Chevron ETC, Version 1.8)**

**[Note: Due to copyright protection, Stantec will not attach the Chevron ETC Toolkit, Version 1.8, to this work plan. With permission from Chevron, the toolkit will be sent privately to ACEH for reference.]**

**APPENDIX C**  
**Soil Vapor Sample Collection Data Log**

## Soil Vapor Sample Collection Data Log



Project: Former Chevron-branded Service Station 92029  
 Address: 890 West MacArthur Boulevard, Oakland, California  
 Date:  
 Field Personnel:  
 Weather:  
 Surface Soil Conditions:  
 Outdoor Environment Conditions:

<b>Preliminary Data</b>	Sample ID:						
	Canister Serial No.:						
	Flow Controller Serial No.:						
	Sample Depth (ft):						
	Probe Tubing Length (ft):						
	Manifold Tubing Length (ft):						
	Calculated Purge Volume (mL):						
	Calculated Purge Duration (min):						
<b>Vacuum Leak Testing</b>	Start Time:						
	Initial Vacuum (in Hg):						
	End Time:						
	Final Vacuum (in Hg):						
	Duration of Leak Test (min):						
	Pass/Fail:						
<b>Purging</b>	Start Time:						
	End Time:						
	Purge Duration (min):						
	Start Vacuum:						
	End Vacuum:						
	Total Vacuum Drop:						
<b>Sample Collection and Tracer Gas Monitoring</b>	Initial Canister Vacuum (in Hg):						
	Start Time:						
	Helium @ Start (%):						
	Helium @ 5 min (%):						
	Helium @ 10 min (%):						
	Helium @ 15 min (%):						
	Helium @ 20 min (%):						
	Helium @ 25 min (%):						
	Helium @ 30 min (%):						
	Helium @ 35 min (%):						
	Helium @ 40 min (%):						
	Helium @ 45 min (%):						
	Helium @ 50 min (%):						
	Helium @ 55 min (%):						
	Helium @ 60 min (%):						
	End Time:						
Final Canister Vacuum (in Hg):							

<b>Comments</b>	
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