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By Alameda County Environmental Health at 1:42 pm, Jan 09, 2014

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Project Manager  
Marketing Business Unit

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[bhunter@chevron.com](mailto:bhunter@chevron.com)

Ms. Karel Detterman  
Alameda County Environmental Health (ACEH)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: Former Tidewater Service Station 373378  
7600 MacArthur Boulevard  
Oakland, California

I have reviewed the attached report dated November 2013.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga Rovers & Associates, upon whose assistance and advice I have relied.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brett L. Hunter".

Brett Hunter  
Project Manager

Attachment: Work Plan for Site Investigation



**CONESTOGA-ROVERS  
& ASSOCIATES**

10969 Trade Center Drive, Suite 107  
Rancho Cordova, California 95670  
Telephone: (916) 889-8900 Fax: (916) 889-8999  
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**TRANSMITTAL**

DATE: 11/15/2013 REFERENCE NO.: 062164

PROJECT NAME: Former Tidewater Service Station,  
Oakland, CA

To: Ms. Karel Detterman  
Alameda County  
Environmental Health Department  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Please find enclosed:  Draft  Final  
 Originals  Other  
 Prints

Sent via:  Mail  Same Day Courier  
 Overnight Courier  Other Alameda FTP Upload, Case RO0003087

QUANTITY	DESCRIPTION
1	Work Plan for Site Assessment

As Requested  For Review and Comment  
 For Your Use  \_\_\_\_\_  
 \_\_\_\_\_

**COMMENTS:**  
We appreciate the opportunity to work with you on this project. If you have any questions on the attached report, please contact Mr. David Herzog at (916) 889-8902.

Copy to: Mr. Brett Hunter, Chevron (electronic copy)  
Mr. Ed Ralston, Phillips 66 (electronic copy)

Ms. Hong Gardner Trust  
632 Via Rialto Road, Oakland, CA 94619

Completed by: David Herzog  
[Please Print]

Signed: 

Filing: **Correspondence File**



## **WORK PLAN FOR SITE INVESTIGATION**

**FORMER TIDEWATER SERVICE STATION  
CHEVRON SITE 373378  
PHILLIPS 66 SITE 5677  
7600 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA  
ACEH CASE RO0003087**

**Prepared For:**

**Ms. Karel Detterman**

**Alameda County Environmental Health Department**

**Prepared by:  
Conestoga-Rovers  
& Associates**

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**NOVEMBER 15, 2013  
REF. NO. 062164 (1)**



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**FORMER TIDEWATER SERVICE STATION  
CHEVRON SITE 373378  
PHILLIPS 66 SITE 5677  
7600 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA  
ACEH CASE RO0003087**

Bridget M. Floyd

David W. Herzog, PG 7211



**Prepared by:  
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## **1.0 INTRODUCTION**

Conestoga-Rovers & Associates (CRA) is submitting this *Work Plan for Site Investigation* for the former Tidewater service station located at 7600 MacArthur Boulevard in Oakland, California, on behalf of Chevron Environmental Management Company (Chevron) and Phillips 66 Company (Phillips 66). In a letter dated November 21, 2012 (Appendix A), the Alameda County Environmental Health Department (ACEHD) requested a site conceptual model (SCM) and a data gap work plan to evaluate petroleum hydrocarbons in soil and groundwater related to previous site operations. Site background information, proposed work scope, and anticipated schedule are described below.

## **2.0 SITE BACKGROUND**

The following provides a description of the site and a summary of previous environmental work at the site.

### **2.1 SITE DESCRIPTION**

The site is located at 7600 MacArthur Boulevard in Oakland, California (Figure 1) and is currently a vacant lot. Based on information provided in the ACEHD letter, Phillips Petroleum Company owned the property from 1966 through 1973. The property included underground storage tanks (USTs) that were abandoned and filled with concrete in 1970. Since then, the site has had several owners but has not undergone any major development. In 2007, one 1,000-gallon UST, one 300-gallon UST, and two hydraulic lifts were removed from the site under the direction of the current owner, Ms. Hong Gardner. Approximate locations of the former service station building and USTs are shown on Figure 2. The site is bordered by private residences to the northeast and southeast. Commercial businesses are located southwest beyond MacArthur Boulevard and a vacant lot is located northwest across 76<sup>th</sup> Avenue. Additional site information is included in the SCM presented as Appendix B.

### **2.2 PREVIOUS ENVIRONMENTAL WORK**

During removal of the USTs in January 2007, soil samples P1, P2, and ST1 were collected beneath the former USTs. In September 2007, Golden Gate Tank Removal oversaw the advancement of soil borings B-1 through B-4 (Figure 2) to depths ranging from 9 to 13 fbg<sup>1</sup>. Soil boring and sample locations are shown on Figure 2, and analytical results are presented in Table 1. Total petroleum hydrocarbons as gasoline (TPHg) was detected in soil only from boring

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<sup>1</sup> Golden Gate Tank Removal, 2007, *Preliminary Site Characterization: Former Service Station 7600 MacArthur Boulevard Oakland, California*

B-4 at concentrations up to 500 milligrams per kilogram (mg/kg) beneath the former 300-gallon UST, but the chromatogram pattern was atypical for TPHg. TPH as diesel (TPHd) was detected in soil samples from P2, B-3, and B-4, but the chromatogram pattern did not resemble TPHd. TPH as motor oil (TPHmo) was detected in B-3 at concentrations up to 4,500 mg/kg, and total oil and grease (TOG) was detected in samples P1, P2, and ST1 collected beneath the USTs at concentrations between 55 to 300 mg/kg. No other hydrocarbon constituents analyzed were detected.

### **3.0 PROPOSED SCOPE OF WORK**

CRA proposes to advance seven soil borings across the site, three of which will be used to install groundwater monitoring wells, to evaluate petroleum hydrocarbons in soil and groundwater. Soil boring and groundwater monitoring well locations presented on Figure 2 were chosen based on previous analytical data collected during the 2007 site assessment and on the locations of the former service station features. In addition, CRA will review historical records to determine nearby contaminated sites, as well as to identify any nearby sensitive receptors. To complete the proposed scope of work, CRA will perform the following tasks.

#### **3.1 SITE HEALTH AND SAFETY PLAN**

CRA will prepare a site safety plan to inform site workers of known hazards and to provide health and safety guidance. The plan will be kept onsite at all times during field activities and signed by all site workers and visitors.

#### **3.2 PERMITS AND ACCESS AGREEMENTS**

CRA will obtain the necessary permits for the soil boring advancement and monitoring well installations. CRA will also ensure that valid access agreements are in place and that site owners have been notified of the proposed field schedule.

#### **3.3 UNDERGROUND UTILITY LOCATION**

CRA will notify Underground Service Alert (USA) at least 48 hours prior to field activities to clear the soil boring and monitoring well locations with public utility companies. A private utility locator will also be retained to further identify potential subsurface utilities and underground obstructions. Prior to drilling activities, the soil boring and monitoring well locations will be



cleared using air-knife assisted vacuum extraction and/or a hand auger to 8 fbg to confirm utility clearance. In addition, a private contractor will conduct a geophysical survey of the site using, at minimum, ground penetrating radar to identify buried obstructions and possible additional sources of hydrocarbons impact.

### **3.4 SOIL BORING AND SAMPLING**

Boreholes will be advanced at the approximate locations shown on Figure 2 using 8-inch diameter hollow-stem augers. Soil borings will be advanced to approximately 30 fbg. Soil samples will be collected at least every 5 feet from the borings to characterize subsurface soil using American Society for Testing and Materials (ASTM) standard D2488 by CRA staff, and samples will be retained for chemical analysis in accordance with CRA's standard field procedures for soil boring advancement and monitoring well installation presented as Appendix C. Soil samples will be screened for volatile organic compounds (VOCs) using a photoionization detector (PID), and the results will be recorded on soil boring logs along with descriptions of soil type. If groundwater is encountered in soil borings, a grab sample will be collected for chemical analysis. Borehole locations may be modified based on site and utility constraints as evaluated in the field.

Once samples are collected, each of the four boreholes not used to install a groundwater monitoring well will be backfilled to approximately 6 inches below grade with Portland Type I/II cement. The boreholes will then be filled with native materials to match existing grade.

### **3.5 MONITORING WELL INSTALLATION**

Groundwater monitoring wells will be constructed in general accordance with CRA's standard field procedures for soil boring advancement and monitoring well installation (Appendix C). Each monitoring well will be constructed of 2-inch diameter, Schedule 40 polyvinyl chloride (PVC) casing with 0.010-inch machine-slotted screen from approximately 20 to 30 fbg. Based on soil type and depth to water, the proposed screen intervals may be altered in the field to more accurately assess site conditions.

The filter pack will consist of #2/16 Monterey Sand placed in the annulus from the bottom of the boring to 1 foot above the screen interval. The remaining annulus will be sealed with 1 foot of bentonite above the filter pack and filled to approximately 1 fbg with Portland Type I/II cement. Each well will be completed with a traffic-rated well box and finished flush with existing grade.

### **3.6 SOIL AND GROUNDWATER SAMPLING**

Soil samples will be collected in 6-inch long stainless steel tubes using a split-spoon sampler at 5-foot intervals to the total depth of each boring. Additional soil samples may be collected based on PID readings and visual and olfactory evidence of petroleum hydrocarbons. Soil samples will be capped on both ends using Teflon sheeting and fitted with plastic caps. Groundwater, if encountered in soil borings, will be collected from the bottom of each boring using a clean, disposable bailer and transferred to laboratory-supplied containers. Soil and grab-groundwater samples will be labeled, stored on ice in a laboratory-supplied cooler, and submitted to a California-certified laboratory under chain-of-custody (COC) for chemical analysis.

Monitoring wells will be developed at least 72 hours after installation. Wells will be developed using a combination of surging and extraction of at least 10 well casing volumes as specified in CRA's standard field procedures for soil boring advancement and monitoring well installation in Appendix C. Following development, groundwater samples will be collected using a clean, disposable bailer and transferred to laboratory-supplied containers. Groundwater samples will be labeled, stored on ice in a laboratory-supplied cooler, and submitted to a California-certified laboratory under chain-of-custody (COC) for chemical analysis.

### **3.7 LABORATORY ANALYSIS**

Soil and groundwater samples collected for chemical analyses will be kept on ice and submitted under COC to a California-certified laboratory for analysis. Samples will be analyzed on a standard turnaround time for the following constituents:

- TPHd and TPHg by EPA Method 8015
- TOG by Method 1664A (HEM SGT) – former hydraulic hoist area only
- BTEX by EPA Method 8260
- Polynuclear aromatic hydrocarbons (PAHs) including naphthalene by EPA Method 8270
- Total lead (soil) by EPA Method 6010; dissolved lead (groundwater)

### **3.8 WELL ELEVATION SURVEY**

The top of casing elevation of newly installed wells will be surveyed by a California licensed land surveyor to mean sea level datum. The surveyor will use a nearby benchmark as a reference datum. Horizontal well coordinates will be measured in compliance with AB2886 (Geotracker), and uploaded to Geotracker.

### **3.9 INVESTIGATION-DERIVED WASTE**

Soil cuttings and any groundwater or rinsate water produced during field activities will be temporarily stored in Department of Transportation-approved 55-gallon drums onsite. Following review of laboratory analytical results, the soil and water will be transported to a Chevron-approved facility for disposal or recycling.

### **3.10 HISTORICAL RECORDS REVIEW**

CRA will obtain and review a site-specific Environmental Data Resources (EDR) report, including historical aerial photographs, topographic maps, Sanborn maps, and city directories for the site and surrounding area. Other available EDR records will be reviewed to determine past site and surrounding land uses and nearby potential receptors.

CRA will conduct a well search with the Department of Water Resources (DWR) to determine if any water supply wells are located within 2,000 feet of the site.

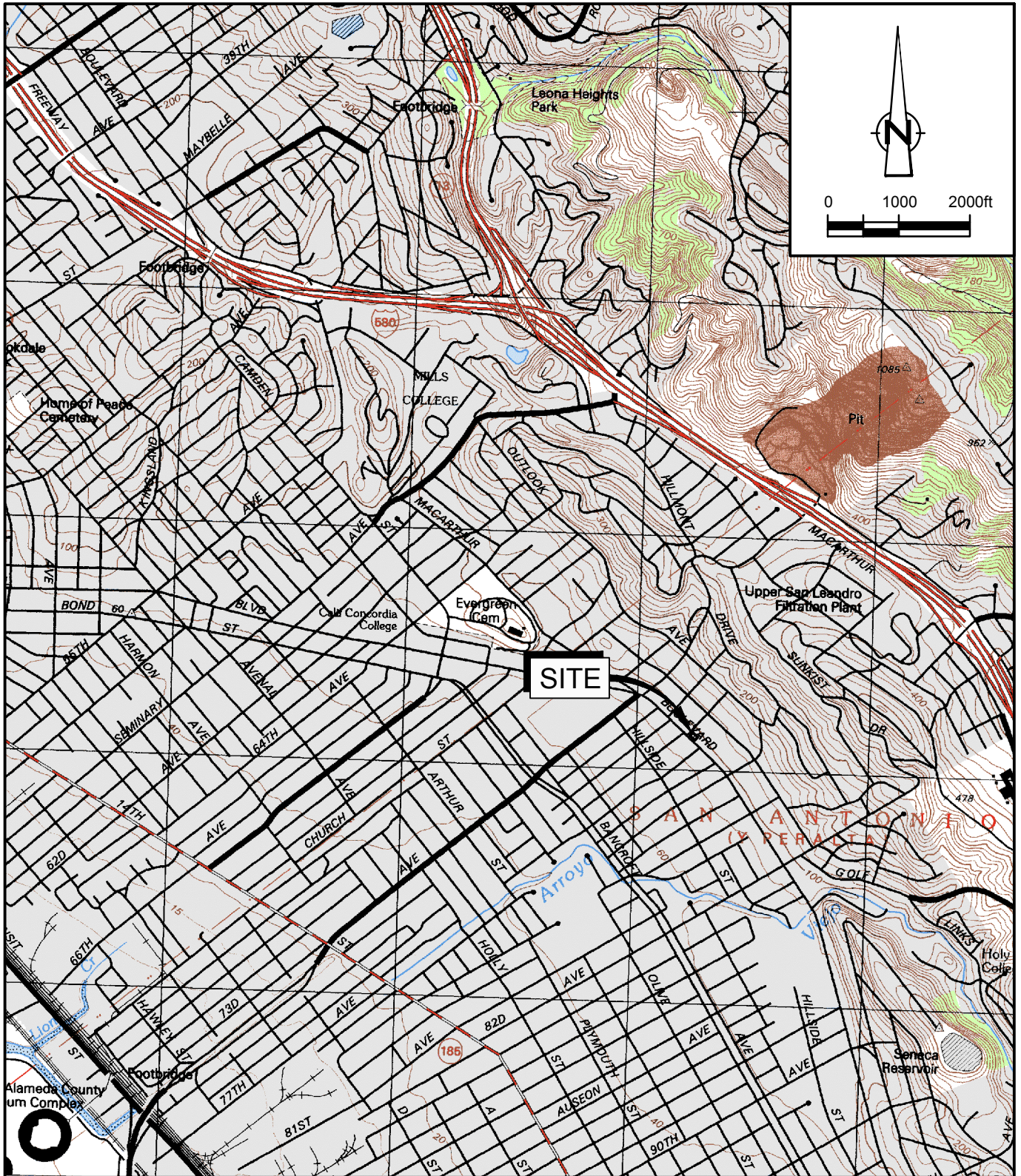
## **4.0 REPORTING**

A site investigation report will be prepared to present the findings of the site assessment and historical records review. The report will include the preparation of tables and figures necessary to communicate the key findings of the site assessment.

## **5.0 SCHEDULE**

CRA will begin scheduling the proposed work upon approval of this work plan by the ACEHD. CRA will submit a Site Investigation Report approximately 8 weeks following the receipt of all final analytical data.

## FIGURES

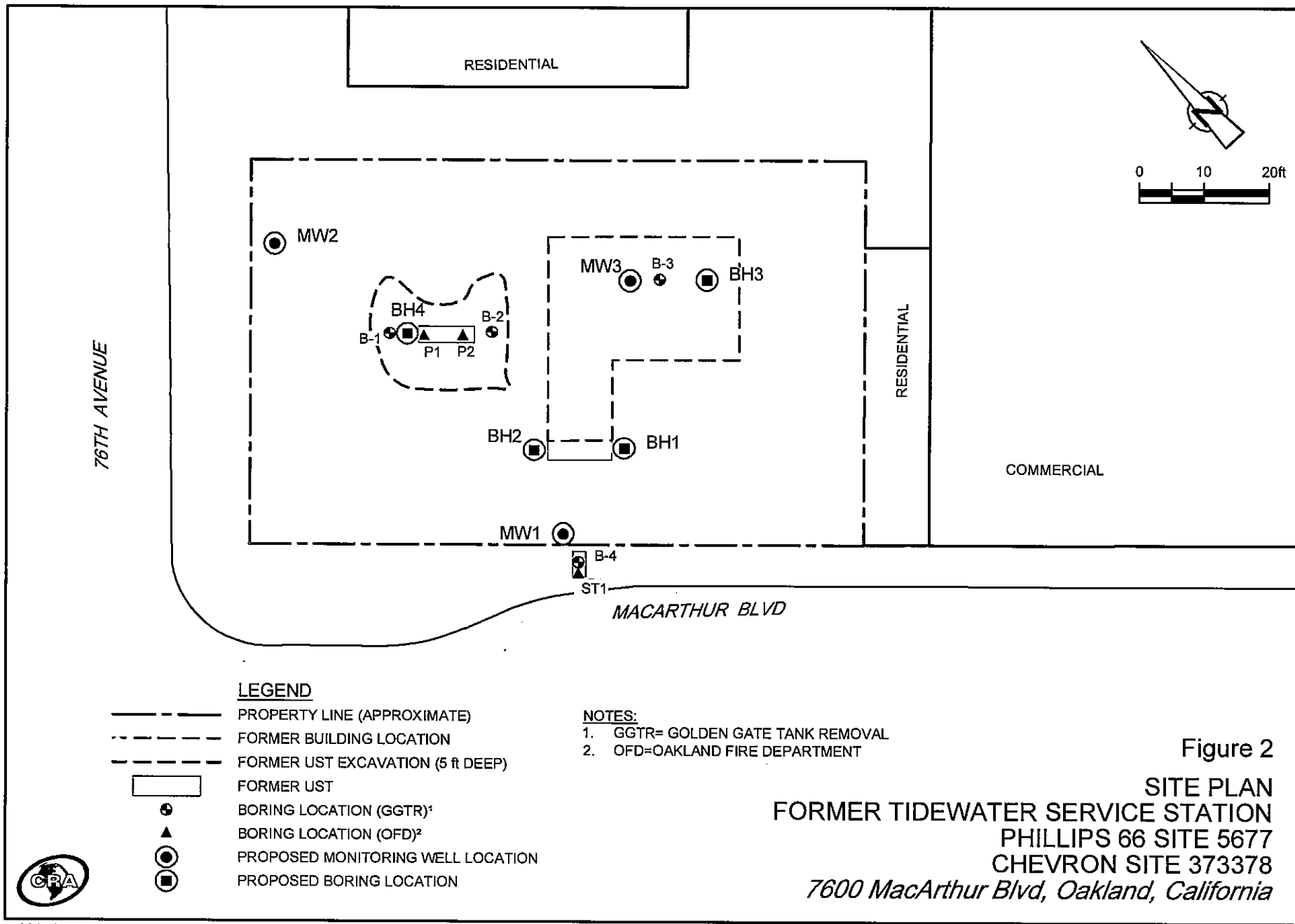


SOURCE: USGS QUADRANGLE MAP;  
OAKLAND EAST, CALIFORNIA. 1997

Figure 1

**SITE VICINITY MAP**  
**FORMER TIDEWATER SERVICE STATION**  
**PHILLIPS 66 SITE 56677**  
**CHEVRON SITE 373378**  
*7600 MacArthur Boulevard Oakland, CA*





TABLE

**TABLE 1  
 HISTORICAL SOIL ANALYTICAL RESULTS  
 FORMER TIDEWATER SERVICE STATION  
 PHILLIPS 66 SITE 5677/CHEVRON SITE 373378  
 7600 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA**

Sample Location	Date	Depth (fbg)	TPHmo	TPHd	TPHg	TOG	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	ETBE	TBA	DIPE	TAME	1,2-DCA	EDB	Cd	Cr	Pb	Ni	Zn
P1	01/17/07	NA <sup>1</sup>	--	<2	<0.1	85	<0.005	<0.005	<0.005	<0.015	<0.01	<0.005	<0.05	<0.005	<0.005	--	--	--	--	3.2	--	--
P2	01/17/07	NA <sup>1</sup>	--	2.4 <sup>3</sup>	<0.1	55	<0.005	<0.005	<0.005	<0.015	<0.01	<0.005	<0.05	<0.005	<0.005	--	--	--	--	2.9	--	--
ST1	01/17/07	NA <sup>1</sup>	--	<2	<0.1	300	<0.005	<0.005	<0.005	<0.015	<0.01	<0.005	<0.05	<0.005	<0.005	--	--	--	--	41	--	--
B-1	10/03/07	11	<20	<5	<0.1	--	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.04	<0.005	<0.005	<0.005	<0.005	<1	40	3.9	29	31
B-2	10/03/07	11	<20	<5	<0.1	--	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.04	<0.005	<0.005	<0.005	<0.005	<1	39	2.9	20	32
B-3	10/03/07	7	4,500	560 <sup>2</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-3	10/03/07	9	360	33 <sup>2</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-4	10/03/07	9	<20	<5	500 <sup>3</sup>	--	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<20	<2.5	<2.5	<2.5	<2.5	<1	34	10	21	36
B-4	10/03/07	11	<20	6.4 <sup>2</sup>	360 <sup>3</sup>	--	<1.2	<1.2	<1.2	<2.5	<1.2	<1.2	<10	<1.2	<1.2	<1.2	<1.2	<1	38	4.9	38	23

**Abbreviations & Notes**

Results reported in milligrams per kilogram (mg/kg)  
 fbg = Feet below grade  
 TPHmo = Total petroleum hydrocarbons as motor oil  
 TPHd = Total petroleum hydrocarbons as diesel  
 TPHg = Total petroleum hydrocarbons as gasoline  
 TOG = Total oil and grease  
 MTBE = Methyl tertiary butyl ether  
 ETBE = Ethyl tertiary butyl ether  
 TBA = Tertiary butyl alcohol  
 DIPE = Diisopropyl ether  
 TAME = Tertiary amyl methyl ether  
 1,2-DCA = 1,2-Dichloroethane  
 EDB = 1,2-Dibromoethane  
 Cd = Cadmium  
 Cr = Chromium  
 Pb = Lead  
 Ni = Nickel  
 Zn = Zinc  
 -- = Not analyzed  
 1 = Samples collected from base of UST pits, depth not reported  
 2 = Higher boiling hydrocarbon (C9-C16); no diesel pattern present  
 3 = Atypical pattern



APPENDIX A  
REGULATORY CORRESPONDENCE

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
ALEX BRISCOE, Director



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

November 21, 2012

Ms. Hong Gardner Trust  
632 Via Rialto Road  
Oakland, CA 94619-3126

Seyoum Kebede and Alem Mamo  
636 Longridge Road  
Oakland, CA 94610-2327

Mr. Patrick Little c/o Coast Capital Mortgage  
824 San Antonio Road  
Palo Alto, CA 94303-4617

Tanya Green and Falcon Enterprises  
11004 Estepa Drive  
Oakland, CA 94603

David Lyles  
1466 82<sup>nd</sup> Avenue  
Oakland, CA 94621

Rachelle Levingston  
ADDRESS UNKNOWN

Ed Ralston - Program Manager  
Phillips 66 Company  
76 Broadway  
Sacramento, CA 95818  
Sent via e-mail to: [Ed.C.Ralston@p66.com](mailto:Ed.C.Ralston@p66.com)

Anita Rockley, F.A. Bancalari  
Daisy and F. Tallarico  
ADDRESS UNKNOWN

Subject: Request Site Conceptual Model and Data Gap Work Plan for Fuel Leak Case No.  
RO0003087 and GeoTracker Global ID T10000003434, Hong Gardner Property, 7600 MacArthur  
Boulevard, Oakland, CA 94605-2944

Dear Ladies and Gentlemen:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the June 12, 2007 Underground Storage Tanks (USTs) Removal Work Plan by Golden Gate Tank Removal, Inc (GGTR), the August 22, 2007 *Work Plan - Preliminary Site Characterization Report* by GGTR, the October 19, 2007 *Preliminary Site Characterization* by Golden Gate Tank Removal, Inc., and Oakland Fire Department (OFD) correspondence from 2006-2008.

During a City of Oakland construction project two underground storage tanks (USTs) were discovered at the site. A tank removal permit application was submitted to the Oakland Fire Department (OFD) on November 30, 2006 however, the USTs and hydraulic lifts were removed in January 2007 without permitting, documentation, or oversight. OFD conducted an inspection soon after the UST removal, took soil samples and included a note that the USTs reportedly had been filled with concrete circa 1970. The OFD issued a violation requiring a site investigation which was subsequently conducted in October 2007. Four soil borings were hand-augured adjacent to the former locations of the USTs and lifts to depths ranging from 9 to 11 feet below grade; groundwater was not

encountered. Concentrations of up to 500 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons as gasoline (TPHG) and 4,500 mg/kg TPH as motor oil were documented in the soil samples. Buried piping was also found during pothole excavation in the vicinity of the backfilled UST pit and appears to remain in place.

This letter is a request for a Site Conceptual Model (SCM) and data gap work plan intended to collect data to identify and address data gaps. We request that you address the following technical comments and send us the technical reports requested below.

### **TECHNICAL COMMENTS**

1. **Geotracker Compliance:** As described in the attached Responsible Party(ies) Legal Requirements/Obligations, all technical reports must be submitted to both the ACEH ftp website and the State Water Resource Control Board (SWRCB) GeoTracker website. Therefore, please claim your site on GeoTracker and upload all past reports including those previously mentioned, communications, and future reports to the GeoTracker website. Pursuant to CCR Sections 2729 and 2729.1, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the Leaking Underground Fuel Tank (LUFT) program, must be transmitted electronically to the SWRCB Geotracker website via the Internet. **Compliance is required by the State.** Please see Attachment 1 for limited additional details, and the State's GeoTracker website for full details. ACEH requests notification of, and a list of, the documents uploaded to Geotracker. Please upload all submittals to GeoTracker as well as to ACEH's ftp website by the date specified below.
  
2. **Request for a Site Conceptual Model (SCM) and Data Gap Work Plan -** ACEH requests submittal of an initial SCM in combination with a data gap work plan in order to fill apparent data gaps. An SCM synthesizes all the analytical data and evaluates all potential exposure pathways and potential receptors that may exist at the site, including identifying or developing any appropriate site cleanup objectives and goals. At a minimum, the SCM should include the following:
  - Local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.) extent of contamination, direction and rate of groundwater flow, potential preferential pathways, and locations of receptors;
  - Geologic cross section maps that illustrate subsurface features, man-made conduits, and lateral and vertical extent of contamination;
  - Plots of chemical concentrations versus time (applicable in the future);
  - Plots of chemical concentrations versus distance from the source (applicable in the future);
  - Complete summary tables of chemical concentrations in different media (i.e. soil, groundwater, and soil vapor); and
  - Copies of well logs, boring logs, and well survey maps;
  - Discussion of likely contaminant fate and transport, and
  - Identification of any remaining data gaps including but not limited to contaminant migration along preferential pathways such the sanitary sewer / storm drain system, or other).

3. **Request for Preferential Pathway Study** – As a part of the SCM, ACEH requests that a Preferential Pathway Study be submitted.

The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of a non-aqueous phase liquid (NAPL) and/or a groundwater plume encountering preferential pathways and conduits that could spread contamination. For this site, this must include on-site utility laterals such as sewer, water supply, electrical, or other that may be located directly beneath the warehouse building north of the former UST location. We request that you perform a preferential pathway study that details the potential migration pathways and potential conduits (wells, utilities, utility laterals, pipelines, and etc.) for vertical and lateral migration that may be present in the vicinity of the site.

Please discuss results of the preferential pathway study (including the detailed well survey and utility survey requested below) and report your results in the report requested below. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

- a. **Utility Survey** - An evaluation of all utility lines, utility laterals, and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please reduce and synthesize available information and maps, and generate appropriate (vicinity and/or site specific) maps and cross-sections illustrating the location and depth of all utility lines and trenches within and near the site and plume areas(s) as part of your study.
- b. **Well Survey** - The preferential pathway study shall include a well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a ¼ mile radius of the subject site. Please use DWR as well as Alameda County Public Works Agency resources as the databases are sufficiently different to warrant a review of both. As part of your well survey, please perform a background study of the historical land uses of the site and properties in the vicinity of the site. Use the results of your background study to determine the existence of unrecorded/unknown (abandoned) wells, which can act as contaminant migration pathways at or from your site. Report the results of your preferential pathway study in the initial SCM requested below.
4. **Request for Piping Removal Work Plan** – Please include in the data gap work plan requested below a scope of work to remove the buried piping that was documented in the October 19, 2007 *Preliminary Site Characterization* by the date specified below.
5. **Lateral, Vertical, and Downgradient Extent** – Please investigate the lateral and vertical extent of soil contamination and determine if groundwater contamination is present beneath your site. This type of investigation, prepared by a qualified environmental consultant, typically involves drilling soil borings and the collection of soil and groundwater samples for analysis. Please submit a plan for this work in the initial SCM and data gap work plan by the date specified below.
6. **Plot Work Plan on Aerial Photo Areal Maps** - To help understand the site and vicinity, please also include in all future reports, including the initial SCM and data gap work plan an extended site map using an aerial photographic base map to depict both the site and immediate vicinity.

7. **Missing Data from Preliminary Site Characterization Report** – Boring logs for soil borings B-1 through B-4 and laboratory analytical sheets for all soil samples collected from B-1 through B-4 are missing from the October 19, 2007 *Preliminary Site Characterization Report* by Golden Gate Tank Removal, Inc. Please submit a complete version of the October 19, 2007 *Preliminary Site Characterization Report* by Golden Gate Tank Removal, Inc. by the date specified below.
8. **Request for information** - The ACEH case file for the subject site contains only the electronic files listed on our web site at <http://www.acgov.org/aceh/lop/ust.htm>. You are requested to submit copies of all other reports, data, correspondence, etc. related to environmental investigations for this property (including Phase I reports) not currently contained in our case file. It appears that a Phase I Report may have been prepared for the site because the October 19, 2007 Report includes "Property Photographs" from an undated report prepared by AEI Consultants for the site.

#### **UNDERGROUND STORAGE TANK CLEANUP FUND**

Please be aware that site investigation/site cleanup costs may be reimbursable from the California Underground Storage Tank Cleanup Fund (USTCF). The application and additional information is available at the State Water Resources Control Board's website at [http://www.waterboards.ca.gov/water\\_issues/programs/ustcf](http://www.waterboards.ca.gov/water_issues/programs/ustcf). Please be aware that reimbursement monies are contingent upon maintaining compliance with directives from ACEH. Additional information about the USTCF can be found below in the attachments to this letter.

#### **TECHNICAL REPORT REQUEST**

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

- **December 19, 2012** – Claim site in Geotracker, Report upload, and Geotracker Submittal Notification  
Files to be named: RO3087\_CORRES\_L\_yyyy-mm-dd
- **January 30, 2013** – SCM and Data Gap Work Plan  
File to be named: RO3087\_SCM\_WP\_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.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at [karel.detterman@acgov.org](mailto:karel.detterman@acgov.org) or call me at (510) 567-6708.

Ladies and Gentlemen  
November 21, 2012  
RO3087, Page 5

Sincerely,



Digitally signed by Karel Detterman  
DN: cn=Karel Detterman, o, ou,  
email=karel.detterman@acgov.org,  
c=US  
Date: 2012.11.21 11:33:23 -08'00'

Karel Detterman, PG  
Hazardous Materials Specialist

Enclosures: Responsible Party(ies) Legal Requirements/Obligations  
ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department (Sent via E-mail to: [lgriffin@oaklandnet.com](mailto:lgriffin@oaklandnet.com))  
Brent Wheeler, Golden Gate Environmental, Inc. (Sent via E-mail to: [b.wheeler@ggtr.com](mailto:b.wheeler@ggtr.com))  
Harry Murphy, Affiliated Brokers (Sent via e-mail to: [harry@affiliatedbrokers.com](mailto:harry@affiliatedbrokers.com))

Donna Drogos, ACEH (Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org))  
Karel Detterman, ACEH (Sent via E-mail to: [karel.detterman@acgov.org](mailto:karel.detterman@acgov.org))  
GeoTracker, Electronic Case File

## 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 [.loptoxic@acgov.org](mailto:.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 [://alcoftp1.acgov.org](http://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 [.loptoxic@acgov.org](mailto:.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.



APPENDIX B  
SITE CONCEPTUAL MODEL

**Table 4-1  
Site Conceptual Model**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	<p>As described by Golden Gate Tank Removal, Inc. (GGTR, 2007), the subsurface lithology of the site consists of sand and Quaternary alluvium with the possible presence of Mesozoic Franciscan units (chert, shale, greenstone, marine sandstone, etc.).</p> <p>Site investigations by GGTR indicated the following lithology:</p> <ul style="list-style-type: none"> <li>• 0-5 fbg: fine-grained, poorly sorted sand</li> <li>• 5-7 fbg: no data</li> <li>• 7-9 fbg: silty sand</li> <li>• 9-13 fbg: silty clay</li> </ul> <p>Groundwater depth is greater than 13 fbg; no groundwater encountered in boreholes to 13 fbg.</p>	1, 2	

**Table 4-1  
Site Conceptual Model (Continued)**

<b>CSM Element</b>	<b>CSM Sub-Element</b>	<b>Description</b>	<b>Data Gap Item #</b>	<b>Resolution</b>
Geology and Hydrogeology	Regional	<p>Lithology in the vicinity of the site consists of Quaternary alluvium and Franciscan Formation chert, shale, greenstone, and sandstone.</p> <p>Groundwater in the Oakland area typically flows along topography, which slopes down toward the San Francisco Bay to the west.</p> <p>The depth to water in monitoring wells at nearby Chevron station (7225 Bancroft Ave.) and BP station (7210 Bancroft Ave.) ranged from approximately 5 to 24 fbg. The shallow groundwater flow direction at the Chevron station was to the northwest.</p>		
Surface Water Bodies		Arroyo Viejo Creek is located approximately 0.4 mile southwest of the site. It flows into the Oakland Inner Harbor. San Francisco Bay is 2.3 miles to the southwest.		
Nearby Wells		Unknown	3	
Release Source and Volume		Suspected sources include one 1,000-gallon gasoline UST, one 300-gallon gasoline UST, and two hydraulic lifts. The USTs were abandoned and filled with concrete circa 1970. The USTs and hydraulic lifts were removed in January 2007. The volume of release is not known.	4	
LNAPL		Not observed onsite.		
Source Removal Activities		Two USTs and two hydraulic lifts were removed in January 2007. Fate of overexcavated soil is unknown based on available reports.		
Contaminants of Concern		<p>Contaminants of concern for the site include petroleum hydrocarbon constituents, primarily TPHg, TPHd, and TPHmo.</p> <p>The presence of these constituents is consistent with the site history as a gasoline service station.</p>		

**Table 4-1  
Site Conceptual Model (Continued)**

<b>CSM Element</b>	<b>CSM Sub-Element</b>	<b>Description</b>	<b>Data Gap Item #</b>	<b>Resolution</b>
Petroleum Hydrocarbons in Soil		The soil near the former location of the hydraulic lift contains TPHd and TPHmo range hydrocarbons and the soil near the former location of the 300-gallon UST contains TPHg range hydrocarbons.		
Petroleum Hydrocarbons in Groundwater		No groundwater samples have been collected. The presence of petroleum hydrocarbons in the soil indicates the possibility of hydrocarbons in groundwater.	1	
Risk Evaluation		<p>The site is a former gasoline service station and is currently vacant. There are no structures on the property except for foundations of former buildings. The owner hopes to develop the property for mixed commercial-residential use in the future, but there are currently no plans for development.</p> <p>Direct contact with impacted soil: Because the hydrocarbon-bearing soil is at 7-11 fbg, the exposure route for incidental ingestion, dermal contact, and dust inhalation is incomplete for residential and commercial/industrial use. The exposure pathway is partially complete for construction workers, depending on the scope of work.</p> <p>Leaching of contaminants from soil to groundwater: Unknown.</p> <p>Volatilization from soil and groundwater to air: Unknown, site is vacant and fenced; current risk is minimal. Pathway to be evaluated following delineation of hydrocarbons in soil and groundwater.</p>	1, 2	

**Table 5-1  
Data Gaps Summary and Proposed Investigation**

<b>Item</b>	<b>Data Gap Item #</b>	<b>Proposed Investigation</b>	<b>Rationale</b>	<b>Analyses</b>
1	No groundwater data has been collected -groundwater flow direction is unknown -presence of hydrocarbons in groundwater is not known	3 groundwater monitoring wells and 4 soil borings are proposed.	Evaluate the presence of hydrocarbons in groundwater and determine flow direction beneath site.	Groundwater: petroleum hydrocarbon constituents

**Table 5-1  
Data Gaps Summary and Proposed Investigation (Continued)**

<b>Item</b>	<b>Data Gap Item #</b>	<b>Proposed Investigation</b>	<b>Rationale</b>	<b>Analyses</b>
2	Soil data does not adequately characterize the contaminations. -Current data set is 6 years old and may not represent current conditions -Spatial resolution of soil data is poor. -Lithology is not adequately characterized.	7 monitoring wells or soil borings will be advanced to depth of approximately 30 fbg. -soil samples will be collected every 5 feet. -borings will be logged using USCS -grab groundwater samples will be collected.	Evaluate the presence of hydrocarbons in possible source area soil.	Soil: petroleum hydrocarbon constituents
3	Review water production well data	Review DWR records and obtain EDR report	Review available data to determine presence of nearby wells.	
4	Additional on- and offsite sources	Review historical aerial photos and Sanborn maps, conduct geophysical survey of the site.	Aerial photos and Sanborn maps will show historical structures and facilities and geophysical survey can identify subsurface anomalies for further investigation.	

APPENDIX C

STANDARD FIELD PROCEDURES FOR SOIL BORING ADVANCEMENT AND MONITORING WELL  
INSTALLATION

## **STANDARD FIELD PROCEDURES FOR SOIL BORING ADVANCEMENT AND MONITORING WELL INSTALLATION**

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### **DRILLING AND SAMPLING**

#### ***Objectives***

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

#### ***Soil Boring and Sampling***

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Prior to drilling, the first 8 ft of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

Soil samples are collected at least every five feet to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

#### ***Sample Analysis***

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed ice. Samples are transported under chain-of-custody to a State-certified analytical laboratory.

#### ***Field Screening***

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

#### ***Water Sampling***

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed



to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

## **MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING**

### ***Well Construction and Surveying***

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

### ***Well Development***

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

### ***Groundwater Sampling***

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

### ***Waste Handling and Disposal***

Soil and groundwater generated during drilling and sampling activities is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Representative samples are collected and composited and sent to the laboratory for analysis. Upon receipt of analytical results, the drums are transported to a licensed disposal facility.