



Dave Patten
Project Manager
Marketing Business Unit

**Chevron Environmental
Management Company**
6001 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 842-7877
drpatten@chevron.com

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

RECEIVED

By Alameda County Environmental Health 10:56 am, Aug 01, 201

Re: Chevron Service Station No. 90076
4265 Foothill Boulevard
Oakland, CA

I have read and acknowledged the content, recommendations and/or conclusions contained in the attached *Soil Vapor Intrusion Assessment Work Plan* submitted on my behalf to Alameda County Department of Public Health's (ACEDH) FTP server and the State Water Resource Control Board's GeoTracker website.

This report was prepared by GHD Services Inc., upon whose assistance and advice I have relied. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

Sincerely,

A handwritten signature in black ink, appearing to be "D. Patten".

Dave Patten
Project Manager

Attachment: *Soil Vapor Intrusion Assessment Work Plan*



July 25, 2017

Reference No. 311977

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

**Re: Soil Vapor Intrusion Assessment Work Plan
Chevron Service Station 90076
4265 Foothill Boulevard
Oakland, California
ACDEH Case No. RO0000427**

Dear Mr. Detterman:

GHD is submitting this *Soil Vapor Intrusion Assessment Work Plan* for the site referenced above (Figures 1 and 2) on behalf of Chevron Environmental Management Company (CEMC). As outlined in Alameda County Department of Environmental Health's (ACDEH) letter dated November 28, 2016 (Attachment A), this work plan has been prepared to further assess potential vapor intrusion risk to residential buildings northwest and southwest of the site (4237 Foothill Boulevard, 1723 High Street, and 1715 High Street) relative to the presence and depth of basements/crawl spaces at these properties. The due date for submittal of this work plan was extended from February 17, 2017 to July 31, 2017 to attempt to obtain construction details, including depths, of basements and/or crawl spaces at the three properties.

1. 1723 High Street

Soil vapor probes VP-1 through VP-3 were installed in 2005 and VP-4 was installed in 2015 at approximately 5.5 feet below grade (fbg) along the southwestern property boundary to assess potential vapor intrusion to the adjacent residence (1723 High Street) due to dissolved hydrocarbon concentrations detected in groundwater monitoring well C-4. No benzene, ethylbenzene or naphthalene were detected in soil vapor samples collected from VP-1, VP-3 and VP-4 in February 2015; VP-2 could not be sampled due to water in the sample tubing. Previous sampling of VP-2 in August 2012 indicated no benzene, ethylbenzene or naphthalene above laboratory detection limits. However, according to the State Water Resources Control Board Low-Threat Closure Policy (LTCP) criteria for Vapor Intrusion to Indoor Air, direct soil vapor samples must be collected 5 feet below the base of the structure. The property resident at 1723 High Street recently indicated a basement with a depth of 2 fbg exists at the residence; therefore, the probe would have to be installed at least 7 fbg. Groundwater in well C-4 was recently measured as shallow as 7.79 fbg, but has historically been as deep as 30 fbg.¹ GHD proposes installing a soil vapor probe at approximately 7 fbg.

¹ GHD's May 5, 2017 *First Quarter 2017 Groundwater Monitoring and Sampling Report*.



2. 4237 Foothill Boulevard

In 2015, soil vapor probes VP-5 and VP-6 were installed at approximately 5.5 fbg along the northwestern property boundary to assess potential vapor intrusion to the adjacent apartment building (4237 Foothill Boulevard). Probe VP-5 contained benzene concentrations exceeding the LTCP residential soil gas criteria and the San Francisco Regional Water Quality Control Board's February 2016 residential soil vapor intrusion Environmental Screening Level (ESL). Therefore, to assess ambient air conditions in the crawl space beneath the apartment building, GHD proposes collecting ambient air crawl space samples and an ambient outdoor air sample.

3. 1715 High Street

No response to the basement survey was received from the downgradient property at 1715 High Street. In the last 10 years, the highest benzene concentrations detected in groundwater from well C-6, located adjacent to the property, was 2 micrograms per liter ($\mu\text{g/L}$); no ethylbenzene was detected. The shallowest recorded depth to groundwater in well C-6 was 17.78 fbg; therefore, groundwater has unlikely ever intercepted any potential basement (typically constructed no deeper than 8 fbg) beneath the apartment building. Consequently, potential risk of vapor intrusion to the basement of the apartment building (if one exists) is unlikely.

A groundwater direction rose diagram and locations of wells, soil vapor probes, basements, crawlspace, and proposed sampling locations are illustrated in Figure 2. Presented below is the work plan for vapor probe installation and sampling, and crawl space and outdoor ambient air sampling.

4. Work Plan

To evaluate the potential for hydrocarbon vapor migration from the subsurface to indoor air, GHD proposes: 1) installing one soil vapor probe at approximately 7 fbg (5 feet below the floor of the basement at 1723 High Street), and sampling the probe; and 2) collecting air samples from the crawl space beneath the apartment building (4237 Foothill Boulevard) and collecting an associated outdoor ambient air sample (Figure 2).

Site-Specific Health and Safety Plan

GHD will prepare a site-specific health and safety plan to protect site workers. The plan will be reviewed and signed by all site workers and visitors. The plan will be kept onsite during all field work.



Permits

An Alameda County Public Works Agency (ACPWA) permit will be obtained for the installation of the soil vapor probe. ACPWA does not require a permit for crawl space or outdoor air samples. GHD and CEMC will work with the property owner to secure an access agreement to conduct the proposed work.

Underground Utility Location and Utility Clearance

GHD will contact Underground Services Alert (USA) to notify utility companies to mark their utilities at the site no less than 48 hours prior to the start of field activities. GHD will hire a licensed geophysicist to conduct a survey of the proposed boring location area to confirm the locations of underground utilities.

Soil Boring and Vapor Probe Installation

If groundwater in well C-4 is measured deeper than 8 fbg, one soil boring will be advanced to approximately 7 fbg using a hand auger. If groundwater is measured shallower than 8 fbg, a vapor probe will not be installed. GHD will collect soil samples at approximately 3 and 7 fbg by driving steel tubes into disturbed sediments removed by the hand auger bucket. Soils will be logged using the ASTM D2488-06 Unified Soil Classification System. Soil samples will be screened with a photo ionization detector (PID) and all PID measurements will be recorded on a boring log. All samples will be sealed, labeled, logged on a chain-of-custody, placed on ice, and transported to a Chevron and California State-approved laboratory for analysis. The soil vapor probe will be constructed of a permeable stainless steel filter with a ¼-inch push-to-connect fitting to ¼-inch Teflon tubing. The probe will be placed at approximately 7 fbg and surrounded by a 12-inch sand pack. Above the sand pack, 12-inches of dry granulated bentonite will be topped with at least 12-inches of hydrated granular bentonite. The soil vapor probe will be finished at the surface using a well vault. Standard Field Procedures for Soil Vapor Probe Installation and Sampling are presented as Attachment B.

Soil Vapor Sampling Protocol

Vapor samples will be collected from existing probes VP-5 and VP-6 and from newly installed VP-7 at least 48 hours after the placement of the probe using 1-liter Summa™ canisters in a manifold system, connected to the sampling tubing at each vapor point. Using the same flow rate as is used during sampling, approximately three purge volumes will be purged from the sampling tubing before sampling begins. While sampling, the vacuum of the Summa™ canister will be used to draw the soil vapor through the flow controller until a negative pressure of approximately 5-inches of Hg is observed on the vacuum gauge. In accordance with the Department of Toxic Substances Control (DTSC) *Advisor-Active Soil Gas Investigations* guidance document, leak testing using laboratory grade helium and a shroud will be performed during sampling. After sampling, the Summa™ canisters will be packaged and sent to Eurofins Air Toxics laboratory under chain-of-custody for analysis.

Chemical Analysis

Select soil samples will be analyzed for the following by Eurofins Lancaster Laboratory:



- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015M
- Benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), and naphthalene by EPA Method 8260B

Soil vapor samples will be analyzed for the following by Eurofins Air Toxics:

- TPHg, BTEX, MTBE, and naphthalene by EPA Method TO-15 SIM (GC/MS)
- Naphthalene by EPA Method TO-17
- Oxygen, carbon dioxide, methane, and helium by ASTM D-1946 (GC/TCD)

Waste Disposal

All waste generated will be placed in Department of Transportation (DOT) approved drums, labeled appropriately, and temporarily stored onsite. The waste will be transported by licensed waste haulers to a Chevron and State of California-approved disposal facility following receipt of the analytical profile.

Ambient Air Sampling

GHD will collect one to two air samples from within the crawl space beneath the apartment building at 4237 Foothill Boulevard, and one outdoor ambient air sample nearby. The crawl space air samples will be collected by inserting Teflon® tubing through the crawl space vents. The sampling tube will be placed approximately half way between the ground surface and top of the crawl space. The exact locations of the ambient air samples will be determined during a site meeting with the property owners/residents. All air samples will be collected using 100 percent lab-certified 6-liter Summa™ canisters connected to flow controllers set to 11.5 milliliters per minute. While sampling, the vacuum of the Summa™ canister will be used to draw air through the flow controller until a negative pressure of approximately 5 inches of mercury is observed on the Summa™ canister vacuum gauge. Indoor and outdoor air samples will be collected in the breathing zone. After sampling, the Summa™ canisters will be packaged and sent to the Eurofins Air Toxics laboratory under chain-of-custody for analysis.

Air Chemical Analysis

- TPHg, BTEX, MTBE, and naphthalene by EPA Method TO-15 SIM (GC/MS)
- Oxygen, carbon dioxide, methane, and nitrogen by ASTM D-1946 (GC/TCD)

Ambient Air Data Interpretation

According to the DTSC October 2011 *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*, air within a crawl space can be sampled as a method to evaluate vapor intrusion. Crawl space air should be less affected than indoor air by lifestyle choices of the building's occupants, such as household product use and smoking and therefore should be easier to interpret than indoor air sampling results. To use contaminant concentrations in crawl space air for evaluating vapor intrusion, an attenuation factor of 1.0 should be used, which is consistent with USEPA



guidance (USEPA, 2002a). Thus, for evaluation purposes, the contaminant concentration in indoor air is assumed to be equal to the concentration in crawl space air.

Table 1.1 lists the Office of Environmental Health Hazard Assessment (OEHHA) hazard quotient concentration values of 1 and excess cancer risk concentrations of 10^{-6} .

Table 1.1 **California Human Health Screening Levels For Indoor Air and Soil Gas**

Chemical	Indoor Air Human Health Screening Levels ($\mu\text{g}/\text{m}^3$)	
	Residential Land Use	Commercial/Industrial Land Use
Benzene	8.40 E-02	1.41 E-01
Carbon Tetrachloride	5.79 E-02	9.73 E-02
1,2-Dichloroethane	1.16 E-01	1.95 E-01
cis-1,2-Dichloroethylene	3.65 E+01	5.11 E+01
trans-1,2-Dichloroethylene	7.30 E+01	1.02 E+02
Ethylbenzene	0.97 E+00 ²	1.60 E+00 ²
Mercury, elemental	9.40 E-02	1.31 E-01
Methyl tertiary-Butyl Ether	9.35 E+00	1.57 E+01
Naphthalene	7.20 E-02	1.20 E-01
Tetrachloroethylene	4.12 E-01	6.93 E-01
Tetraethyl Lead	3.65 E-04	5.11 E-04
Toluene	3.13 E+02	4.38 E+02
1,1,1-Trichloroethane	2.29 E+03	3.21 E+03
Trichloroethylene	1.22 E+00	2.04 E+00
Vinyl Chloride	3.11 E-02	5.24 E-02
m-Xylene	7.30 E+02 ³	1.02 E+03 ³
o-Xylene	7.30 E+02 ³	1.02 E+03 ³
p-Xylene	7.30 E+02 ³	1.02 E+03 ³
<p><u>Reference</u> Appendix 1, OEHHA Target Indoor Air Concentrations and Soil-Gas Screening Numbers for Existing Buildings under Residential and Industrial/Commercial land uses.</p>		



Table 1.1 California Human Health Screening Levels For Indoor Air and Soil Gas

Chemical	Indoor Air Human Health Screening Levels ($\mu\text{g}/\text{m}^3$)	
	Residential Land Use	Commercial/Industrial Land Use
<p><u>Notes</u></p> <p>1. "Residential Land Use" screening levels generally considered adequate for other sensitive uses (e.g., day-care centers, hospitals, etc.). Commercial/industrial properties should be evaluated using both residential and commercial/industrial CHHSLs. A deed restriction that prohibits use of the property for sensitive purposes may be required at sites that are evaluated and/or remediated under a commercial/industrial land use scenario only. Calculation of cumulative risk may be required at sites where multiple contaminants with similar health effects are present.</p> <p>Carcinogens: CHHSLs based on target cancer risk of 10⁻⁶. Cal/EPA cancer slope factors used when available. Noncarcinogens: CHHSLs based on target hazard quotient of 1.0.</p> <p>Soil Gas: Screening levels based on soil gas data collected <1.5 meters (five feet) below a building foundation or the ground surface. Intended for evaluation of potential vapor intrusion into buildings and subsequent impacts to indoor-air. Soil gas data should be collected and evaluated at all sites with significant areas of VOC-impacted soil. Screening levels also apply to sites that overlie plumes of VOC-impacted groundwater.</p> <p>2. Calculation of a screening number for the chemical outlined in OEHHA draft report, <i>California Human Health Screening Levels for Ethylbenzene</i> dated November 2009.</p> <p>3. Representative Screening Numbers for mixed xylenes. The representative value for mixed xylenes is based on the calculated lowest one amongst the three isomers.</p>		

To interpret whether vapor intrusion is occurring, crawl space air concentrations must be compared to both outdoor air concentrations and soil vapor concentrations from adjacent vapor probes to determine whether external or subsurface are contributing to crawl space air concentrations. An indication of active vapor intrusion would be a where crawl space air contained significantly greater concentrations of petroleum hydrocarbon VOCs (e.g., BTEX) than outdoor air, and also contained significantly lower concentrations of petroleum hydrocarbon VOCs than vapor probe soil vapor samples.

Outdoor air and crawl space concentrations will be evaluated per the above protocols. Criteria indicative of vapor intrusion should be:

1. Crawl space benzene concentrations significantly higher than indoor air.

Any other combination of concentrations, and concentration ratios, will likely indicate either a crawl space or outdoor background source rather than vapor intrusion into the crawl space.

This information is gathered from the DTSC's October 2011 *Vapor Intrusion Guidance*.

Reporting

GHD will prepare a comprehensive report presenting the soil vapor assessment results. The report, at a minimum, will contain:

- Boring logs
- Sampling methodology



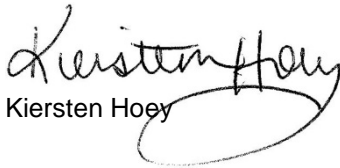
- Tabulated soil, and vapor data
- Summary of results
- Analytical data comparison
- Analytical reports and chain-of-custody forms
- Conclusions and recommendations

5. Schedule

Following approval, GHD will obtain access from the property owner to conduct the assessment and will work with the property owner to establish a date and time to collect the proposed crawl space ambient air samples. GHD will notify ACEH of when the assessment will take place.

Sincerely,

GHD


Kiersten Hoey

KH/cw/30


Greg Barclay PG 6260

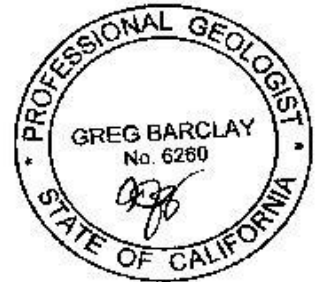


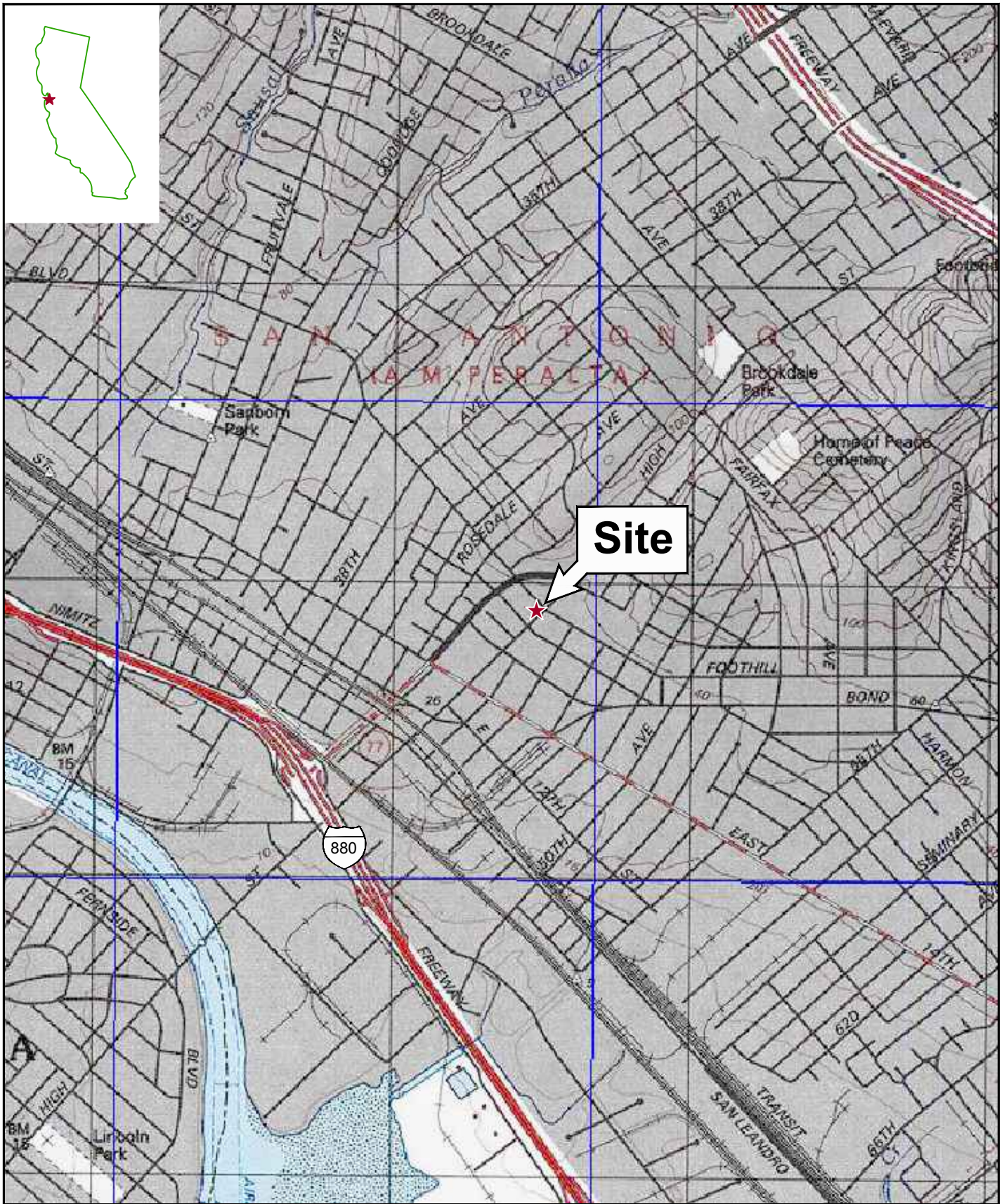
Figure 1 Vicinity Map
Figure 2 Site Plan

Attachment A Regulatory Letter

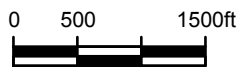
Attachment B GHD's Standard Operating Procedure for Soil Vapor Probe Installation and Sampling

cc: Mr. Dave Patten, Chevron (*electronic copy*)
Loi Van Le and Josephine N. Le, Property Owners

Figures



SOURCE: TOPO! MAPS



CHEVRON SERVICE STATION 90076
 4265 FOOTHILL BOULEVARD
 OAKLAND, CALIFORNIA

311977-2017.1

Jul 18, 2017

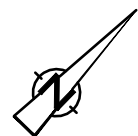
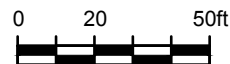
VICINITY MAP

Figure 1



LEGEND

- ▲ PROPOSED SOIL VAPOR PROBE LOCATION
- ▲ PROPOSED OUTDOOR AIR SAMPLE LOCATION
- ◻ PROPOSED CRAWL SPACE AIR SAMPLE LOCATION
- ▲ SOIL VAPOR PROBE LOCATION
- MONITORING WELL LOCATION
- ⊠ SOIL SAMPLE LOCATION
- ◻ SOIL BORING LOCATION (GHD 2016)
- SOIL BORING LOCATION (CRA 2015)
- SOIL BORING LOCATION
- ⊗ DESTROYED WELL LOCATION
- FORMER BP MONITORING WELL LOCATION
- ⊕ FORMER SHELL MONITORING WELL LOCATION



SOURCE: MORROW SURVEYING .DWG DRAWING DATED MARCH, 2015 FOR CRA. SURVEYED DATE 2/25/15. COORDINATES BASED ON CA STATE PLANE ZONE 3. COORDINATES FROM GPS OBSERVATIONS USING CSDS VIRTUAL SURVEY NETWORK. COORDINATE DATUM IS NAD 83.
NOTE: BASEMENT PRESENCE BASED ON FIELD OBSERVATIONS



CHEVRON SERVICE STATION 90076
4265 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

SITE PLAN

311977-2017.1
Jul 18, 2017

Figure 2

Attachment A Regulatory Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

REBECCA GEBHART, Interim Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
LOCAL OVERSIGHT PROGRAM (LOP)
For Hazardous Materials Releases
1131 HARBOR BAY PARKWAY, SUITE 250
ALAMEDA, CA 94502
(510) 567-6700
FAX (510) 337-9335

November 28, 2016

Mr. Mark Horne
Chevron Environmental Management Co.
6101 Bollinger Canyon Rd.
San Ramon, CA 94583
(Sent via electronic mail to: markhorne@chevron.com)

Loi & Josephine Le
Loi V Le et al.
4265 Foothill Blvd.
Oakland, CA 94601

Subject: Offsite Well Access and Data Gap Work Plan; Fuel Leak Case No. RO0000427 and GeoTracker Global ID T0600100339, Chevron #9-0076, 4265 Foothill Blvd, Oakland, CA 94601

Dear Mr. Horne and Mr. and Ms. Le:

Alameda County Department of Environmental Health (ACDEH) staff has reviewed the case file for the above referenced site including the *Response to Regulatory Letter*, dated October 3, 2016. The response was prepared and submitted on your behalf by GHD Services, Inc (GHD). Thank you for submitting the response.

Based on ACDEH staff review of the case file, we request that you address the following technical comments and send us the reports described below.

TECHNICAL COMMENTS

- 1. Offsite Well Access for Groundwater Monitoring** – Based on the number of attempts to contact the property owner where two downgradient offsite monitoring wells are located, it appears appropriate for ACDEH to become involved in contacting the property owner and notifying them of the financial liability they may incur if access is continued to be denied. Please forward contact information for the owners and other appropriate parties to ACDEH by the date identified below.
- 2. LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air** – ACDEH is in agreement that the depth of basements at the three downgradient properties is important in establishing the depth of installation for vapor wells within the context of the Low Threat Closure Policy (LTCP). Please inform ACDEH on the status of efforts to contact the owners of the properties by the date identified below. If ACDEH can provide assistance in communicating the importance of the work to the property owners, please provide ACDEH with the names and addresses of the property owners. If sufficient progress is not made, it may be appropriate to proceed with a vapor investigation based on standard basement depths. Otherwise, please submit a work plan addressing comments contained in the previous directive letter, by the date identified below.

TECHNICAL REPORT REQUEST

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

- **December 13, 2016** – Offsite Groundwater Well Access Contact Information
Please email your case worker.
- **January 13, 2017** – Status of Communication with Properties With Basements
File to be named RO427_CORRES_R_yyyy-mm-dd
- **February 17, 2017** – Data Gap Work Plan
File to be named RO427_WP_R_yyyy-mm-dd

Mr. Horne and Mr. and Ms. Le
RO0000427
November 28, 2016, Page 2

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, ACDEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,



Digitally signed by Mark Detterman
DN: cn=Mark Detterman, o=ACEH, ou=ACEH,
email=mark.detterman@acgov.org, c=US
Date: 2016.11.28 14:05:52 -08'00'

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

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

cc: Kiersten Hoey, GHD, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608
(Sent via electronic mail to: Kiersten.Hoey@ghd.com)

Brandon Wilken, GHD, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608
(Sent via electronic mail to: Brandon.Wilken@ghd.com)

Dilan Roe, ACDEH, (Sent via electronic mail to: dilan.roe@acgov.org)
Paresh Khatri, ACDEH; (Sent via electronic mail to: paresh.khatri@acgov.org)
Mark Detterman, ACDEH, (Sent via electronic mail to: mark.detterman@acgov.org)
Electronic File; GeoTracker

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

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.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (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, 6835, 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, later 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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: May 15, 2014
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) 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
 - 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 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.

Attachment B
GHD's Standard Operating Procedure
for Soil Vapor Probe Installation and Sampling

Attachment B STANDARD FIELD PROCEDURES FOR SOIL VAPOR PROBE INSTALLATION AND SAMPLING

This document presents GHD Services, Inc.'s (GHD's) standard field procedures for soil vapor probe installation and sampling. These procedures are designed to comply with Federal, State, and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil vapor samples are collected and analyzed to assess whether vapor-phase subsurface contaminants pose a threat to human health or the environment.

Shallow Soil Vapor Probe Installation

The shallow soil vapor probe method for soil vapor sampling utilizes a hand auger or drill rig to advance a boring for the installation of a soil vapor sampling probe. Soil vapor probes facilitate the collection of in-situ vapor samples. Once the boring is advanced to the final depth, #2/12 filter pack is poured through a tremie pipe to fill the bottom 6 inches of the boring. A permeable, stainless-steel probe tip is connected to ¼-inch outside diameter Teflon tubing via a push-to-connect fitting. The probe tip is then placed approximately 6 inches from the bottom of the boring and covered by 6 inches of #2/16 filter sand. A 12 inch layer of dry granular bentonite is placed on top of the filter pack. Pre-hydrated granular bentonite is then poured to fill the borehole. The tube is labeled, capped, and placed within a traditional well box finished flush to grade. Soil vapor samples will be collected no sooner than 48 hours after installation of the soil vapor probe to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased.

Purging

At least three purge volumes of vapor are removed from the soil vapor probe prior to sampling. The purge volume is defined as the amount of air within the probe and tubing. Purging is performed using the vacuum of a dedicated Summa canister, a flow regulator set to the same flow rate used for sampling, and vacuum gauges. Immediately after purging, soil vapor samples will be collected using the appropriate size Summa canister with attached flow regulator and sediment filter.

Sampling Soil Vapor Probes

Samples collected using a SUMMA™ canister will have the SUMMA™ canister connected to the sampling tube of each vapor probe. Prior to collecting soil vapor samples, the initial vacuum of the canisters is measured and recorded on the chain-of-custody. The vacuum of the SUMMA™ canister is used to draw the soil vapor through the flow controller until a negative pressure of approximately 5 inches of mercury is observed on the vacuum gauge and recorded on the chain-of-custody. The flow controllers should be set to 100-200 milliliters per minute. Field duplicates should be collected for every day of sampling and/or for every 10 samples collected.

In accordance with the Department of Toxic Substances Control (DTSC) *Advisory – Active Soil Gas Investigation* guidance document, dated April 2012, leak testing is necessary during sampling. Helium is recommended, although shaving cream is acceptable. Helium is pumped into a shroud that contains the entire sampling apparatus and the soil vapor probe well vault. A helium meter is used to quantify the percentage helium in the shroud during sampling.

Samples collected for TO-17 analysis will be collected using a TO-17 Sorbent Tubes connected to the sampling tube of each vapor probe. A 60 cc syringe will be used to draw the sample into the sorbent tubes. Field duplicates should be collected for each day of sampling and/or for every 10 samples collected.

A leak test will be performed prior to connecting the sampling equipment to the vapor tubing. The test is performed by inserting the sorbent tube into the tube holder on the syringe assembly, turning the valve into the 'off' position, pulling the plunger of the syringe. If the plunger does not move or immediately returns to the starting position, the system is leak tight and is ready for sampling.

Vapor Sample Storage, Handling, and Transport

Samples are stored and transported under chain-of-custody to a state-certified analytic laboratory. Samples should never be cooled due to the possibility of condensation within the canister.

Soil Vapor Probe Destruction

The soil vapor probes will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.