Catalina Espino Devine
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-3949
espino@chevron.com

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

Re: Chevron Service Station No. 90121
3026 Lakeshore Avenue
Oakland, CA

I have reviewed the attached report entitled *Work Plan Addendum for Additional Assessment*.

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.

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.

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

Sincerely,

Catalina Espino Devine
Project Manager

Attachment: Report

CONESTOGA-ROVERS
& ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
http://www.craworld.com

April 30, 2013 Reference No. 311973

Mr. Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502 6577

Re: Work Plan Addendum for Additional Assessment
Former Chevron Service Station 90121
3026 Lakeshore Avenue
Oakland, California
Fuel Leak Case No. RO0000284

Dear Mr. Mark Detterman:

Conestoga-Rovers & Associates (CRA) prepared this *Work Plan Addendum for Additional Assessment* as an addendum to CRA's *Sensitive Receptor and Preferential Pathway Survey, Response to Regulatory Comments, and Work Plan for Additional Assessment* dated May 15, 2011 on behalf of Chevron Environmental Management Company (Chevron) for the site referenced above (Figure 1). This work plan addendum was requested by Alameda County Environmental Health (ACEH) in their June 6, 2011 letter (Attachment A) and discussed during a meeting on November 1, 2012 with ACEH, Chevron, and CRA. The amended work plan proposes to evaluate sub-slab soil gas, crawl space air, indoor air, and outdoor (ambient) air which will be used to determine whether or not vapor intrusion maybe occurring. The site description and proposed scope of work are presented below.

SITE DESCRIPTION

Site Background

A retail service station was operated onsite by Chevron from 1933 to 2009. The site is currently a vacant lot and located on the southern corner of the intersection of Lakeshore Avenue and MacArthur Boulevard in Oakland, California (Figure 1). Surrounding property use includes residential, commercial, and recreational.

A review of Sanborn Maps and city records produced by EDR indicates that a service station and automobile repair shop was formerly located at 3000 Lakeshore Avenue, which is at the corner of Lakeshore Avenue and Beacon Street (Figure 2). The service station operated from approximately 1933 to 1957 when the service station was replaced by an office building.

Previous Environmental Work

The site has been an open environmental case since 1990 under ACEH jurisdiction (Fuel Leak Case Number RO0000284 and GeoTracker Global ID T0600100328). To date, 22 monitoring wells have been installed (13 of which have been destroyed) and 9 soil borings have been advanced. Remedial activities have consisted of at least five fueling facility upgrades, some of which included remedial excavation, and light non-aqueous phase liquid (LNAPL) recovery. A summary of previous environmental investigation and remediation is included in Attachment B.

Site Geology

The site is situated at the western edge of the Piedmont Hills and is approximately 7 feet above mean sea level (ft-amsl) with relatively flat topography. Sediments in the vicinity consist of Holocene-age estuarine deposits comprised of organic clay and silty clay (Bay Mud); overlying Holocene-age alluvial sand and silt; and Pleistocene-age interbedded clay, silt, sand, and gravel.[1] Sediments encountered at the site consist of clays interbedded with silt, silty sand, fine sand, and gravel layers to the total depth explored of 35 feet below grade (fbg).

Site Hydrology

The site is located in the Santa Clara Valley Groundwater Basin, East Bay Plain Sub Basin. Groundwater in this region has been designated for potential beneficial agricultural, municipal, and industrial uses.[2] The average historical groundwater elevation has ranged from approximately 2 to 14 fbg and flows predominantly to the southwest. The nearest surface water body is Lake Merritt, approximately 900 feet to the southwest.

PROPOSED SUBSURACE SOIL GAS AND ABIENT AIR INVESTIGATION

CRA proposes collecting sub-slab vapor, and indoor and outdoor air samples at 3014 Lakeshore Avenue (Figure 2). CRA will also collect air samples from the crawl space and indoor air at the property located at 3008 Lakeshore Avenue (Figure 2). To date, Chevron nor CRA has received any response from the property owner(s) at 3000 Lakeshore Avenue regarding the access agreement requests to conduct site investigation at their property. As discussed during the November 1, 2012 meeting, CRA will proceed without access to the property located at

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1 *California's Groundwater Bulletin 118;* The State of California Department of Water Resources Agency, February 27, 2004.

2 Table 2-2 *Existing and Potential Beneficial Uses in Groundwater in Identified Basins, Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basins;* California Regional Water Quality Control Board – San Francisco Bay Region, January 18, 2007.

3000 Lakeshore Avenue. Soil boring advancement and sampling collection methods will be conducted as outlined in CRA's *Sensitive Receptor and Preferential Pathway Survey, Response to Regulatory Comments, and Work Plan for Additional Assessment* dated May 15, 2011. The proposed subsurface soil gas and ambient air samples collection methods are presented in the scope of work below.

Site-Specific Health and Safety Plan

CRA 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

Alameda County Public Works Agency does not require a permit for the installation of sub-slab probes.

Underground Utility Location and Utility Clearance

CRA will contact Underground Service Alert to identify locations of underground utilities. A private utility locating company will be hired to confirm subsurface utility locations and locate unmarked utilities near the sub-slab vapor probe locations.

Sub-Slab Probe Installation and Construction

Three sub-slab probes will be installed at 3014 Lakeshore Avenue based on the Department of Toxic Substances Control (DTSC) California Environmental Protection Agency October, 2011 *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).* A rotary hammer drill will be used to create a 2-inch diameter and 1-inch deep "outer" hole that partially penetrates the concrete slab. A small portable vacuum cleaner will be used to remove cuttings from the hole. Removal of cuttings in this manner from the non-penetrated slab does not compromise soil vapor samples because there is a lack of pneumatic communication between sub-slab material and the vacuum cleaner.

A smaller diameter "inner" hole will then be created utilizing a rotary hammer drill to penetrate the remaining concrete slab and into the sub-slab material to a depth of approximately 6 inches below the concrete slab.

Sub-slab probes are constructed using stainless-steel tubing and stainless-steel compression fittings. Stainless-steel will be used to ensure that construction materials are not a source of volatile organic compounds. Once the thickness of the slab is known, stainless steel tubing will be cut to ensure that the probe tubing does not reach the bottom of the hole to avoid obstructing the probe with sub-slab material. Quick drying Portland cement slurry will be placed into the

annular space between the probe and "outer" hole. The probes will be completed flush with the slab surface and capped with a stainless steel plug to prevent interference with day-to-day use.

Sub-Slab Soil Gas Sampling

Soil gas samples will be collected no earlier than 24 hours after the sub-slab probes are installed. Soil gas samples will be collected in a 100 percent laboratory certified clean one-liter Summa™ canister connected directly to the sub-slab probe. A closed circuit sampling train will be created by attaching the sample Summa™ canister in series with the purge Summa™ canister via a steam-cleaned stainless-steal manifold. A flow rate of 167 milliliters per minute will be used to collect the sample.

A "shut-in" test will be performed prior to connecting the sampling equipment to the sub-slab vapor probe tubing. This test will be performed by sealing all openings to ambient air, opening the purge Summa™ canister to establish a vacuum inside the sampling train and waiting to ensure the vacuum remained stable over time. The "shut-in" test reduces the potential for ambient air to infiltrate into the sample.

After the "shut in" test is completed, tubing will be connected to the sub-slab probe from the sampling train and approximately three probe tubing volumes of stagnant air will be purged for a representative soil gas sample. After purging, the sample Summa™ canister valve will be opened. The Summa™ canister's vacuum will be used to draw soil vapor through the flow controller and into the sample canister until a negative pressure of approximately five-inches of mercury is observed on the vacuum gauge.

Leak testing will be performed during sampling by using laboratory grade helium to determine if ambient air was entering the Summa™ canisters during sampling. A shroud will be used to surround the sub-slab vapor sampling equipment and the connections between the sampling equipment and the sub-slab vapor probe tubing. A helium detector will be placed inside the shroud to quantify helium concentrations inside the shroud. An atmosphere of approximately 10 percent helium will be created and maintained for the sampling duration. All samples will be labeled, logged on a chain-of-custody, stored at ambient temperature, and shipped to a State of California certified laboratory.

Ambient Air Survey

CRA will collect three indoor air samples, one adjacent to each sub-slab probe location, and one outdoor ambient air sample at 3014 Lakeshore Avenue. In addition, one air sample from within the crawlspace beneath the building and one indoor air sample will be collected at 3008 Lakeshore Avenue. Approximately 48 hours prior to air sampling, a Building Survey and Building Chemical Screening form will be completed for each property as outlined in the DTSC guidance (2011). All samples will be collected from the breathing zone for approximately

24 hours. Air samples will be collected in a 100 percent laboratory certified clean six-liter Summa™ canister using flow meters set at flow rate that will allow the desired sample volume in approximately 24 hours. All samples will be labeled, logged on a chain-of-custody, stored at ambient temperature, and shipped to a State of California certified laboratory for analysis.

Soil Gas Chemical Analysis
All soil gas and air samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethyl benzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE) and naphthalene by EPA Method TO-15 (GC/MS)
- Air Phase Hydrocarbon (APH) Fractions (Sp) Aromatics C8-C12 Modified TO-15 GC/MS Full Scan
- APH Fractions (Sp) Aliphatics C5-C12 Modified TO-15 GC/MS Full Scan
- Oxygen (O_2), carbon dioxide (CO_2), methane (CH_4), nitrogen (N_2), and helium by ASTM D-1946 (GC/TCD)

DATA INTERPRETATION

Indoor air samples may measure BTEX and other petroleum hydrocarbon compounds within the concentration ranges commonly seen as background values measured at sites where no subsurface petroleum hydrocarbon contamination is present. There are many sources of background contamination inside buildings. Materials and substances commonly found in commercial and residential settings, such as paints, paint thinners, gasoline-powered machinery, building materials, cleaning products, dry cleaned clothing, and cigarette smoke, contain volatile organic compounds (VOCs) that may be detected by indoor air testing. Table A presents a summary of BTEX background concentrations based on the post-1990 studies evaluated in the U.S. Environmental Protection Agency (USEPA)'s *Background Indoor Air Concentration of Volatile Organic Compounds in North American Residences (1990-2005): A Compilation of Statistics of Assessing Vapor Intrusion*, June 2011.

TABLE A: RANGES OF BACKGROUND INDOOR AIR CONCENTRATIONS[1]								
Chemical of Concern	*Number of Studies*	*Number of Samples*	*Range % Detect*	*Total % Detects*	*RL Range (µg/m³)*	*Range of 50th % (µg/m³)*	*Range of 75th % (µg/m³)*	*Range of 90th % (µg/m³)*
Benzene	14	2,615	31-100	91.1	0.05 – 1.6	<RL – 4.7	1.9 – 7.0	5.2 - 15
Toluene	12	2,065	86-100	96.4	0.03 – 1.9	4.8 – 24	12 – 41	25 – 77
Ethylbenzene	10	1,484	26-100	85.7	0.01 – 2.2	1 – 3.7	2 – 5.6	4.8 – 13
Xylene, m/p-	10	1,920	52-100	92.9	0.4 – 2.2	1.5 – 14	4.6 – 21	12 – 56
Xylene, o-	12	2,004	31-100	89.0	0.11 – 2.2	1.1 – 3.6	2.4 – 6.2	5.5 – 16

RL = Reporting limit

µg/m³ =L = Micrograms per cubic meter

For example, the range of normal background concentrations for benzene spans the 1.9 to 15 µg/m³ range representing 10^{-5} to 10^{-4} incremental risk, based on a comparison to the California Human Health Screening Levels (CHHSLs) developed by California EPA of Environmental Health Hazard Assessment (OEHHA) as shown on Table B below .

[1] USEPA, *Table ES-1 Ranges of Summary Statistics for Background Indoor Air Concentrations of Common VOCs Measured in North American Residences between 1990 and 2005, Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences (1990-2005): A Compilation of Statistics Assessing Vapor Intrusion*, June 2011.

TABLE B: CALIFORNIA HUMAN HEALTH SCREENING LEVELS FOR INDOOR AIR AND SOIL GAS		
	[1]*Indoor Air Human Health Screening Levels (µg/m3)*	
Chemical	*Residential Land Use*	*Commercial/ Industrial Land Use Only*
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]
Reference: Appendix 1, OEHHA Target Indoor Air Concentrations and Soil-Gas Screening Numbers for Existing Buildings under Residential and Industrial/Commercial land uses.		
Notes: 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.		
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.		
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.		
2. Calculation of a screening number for the chemical outlined in OEHHA draft report, *California Human Health Screening Levels for Ethylbenzene* dated November 2009.		
3. Representative Screening Numbers for mixed xylenes. The representative value for mixed xylenes is based on the calculated lowest one amongst the three isomers.		

As a result, it is not possible to interpret whether vapor intrusion is occurring by simply comparing indoor air concentration against the most conservative screening values, since these values do not account for background concentrations. Instead, indoor concentrations must be compared to outdoor air, sub-slab and crawl space vapor concentrations to determine whether external or indoor sources are contributing to indoor air concentrations. A clear indication of active vapor intrusion would be a combination of indoor and outdoor air samples where indoor air contained significantly greater concentrations of petroleum hydrocarbon VOC's (e.g., BTEX) than outdoor air, and also contained significantly lower concentrations of petroleum hydrocarbon VOC's than crawl space air or sub-slab air.

At 3014 Lakeshore Avenue indoor air, outdoor air, and sub-slab concentrations will be evaluated per the above protocols. Criteria indicative of vapor intrusion should be:

1. Indoor air benzene concentrations significantly higher than outdoor ambient air.
2. Indoor air benzene concentrations significantly higher than the range of normal background (rather than the indoor air 10-6 standard values presented in OEHHA Table B above, which are within the lower range of normal background).
3. Sub-Slab benzene concentrations are 33 times greater than indoor air.

At 3008 Lakeshore Avenue indoor air, outdoor air, and crawlspace concentrations will be evaluated per the above protocols. Criteria indicative of vapor intrusion should be:

1. Indoor air benzene concentrations significantly higher than outdoor air.
2. Indoor air benzene concentrations significantly higher than the range of normal background (rather than the indoor air 10-6 standard values presented in OEHHA Table B above, which are within the lower range of normal background).
3. Crawl space benzene concentrations significantly higher than indoor air.

Any other combination of concentrations, and concentration ratios, will likely indicate either an indoor or outdoor background source rather than vapor intrusion to the building.

REPORTING

CRA will prepare a comprehensive report presenting the subsurface and vapor intrusion assessment as outlined above. CRA will also provide an updated SCM. The report, at a minimum, will contain:

- Descriptions of the installation and sampling methods
- Site assessment and sampling methodology

- Sub-Slab probe installation and sampling methodology
- Tabulated soil, groundwater, and vapor data
- Analytical reports and chain-of-custody forms
- Waste disposal information
- Summary of results
- A site conceptual model
- Conclusions and recommendations

SCHEDULE

Following approval, CRA will conduct the proposed work as soon as possible. CRA will notify ACEH of when the assessment will take place and if there are any delays.

CONESTOGA-ROVERS & ASSOCIATES

April 30, 2013 Reference No. 311973

Please contact Nathan Lee at (925) 849-1003 if you have any questions or require additional information.

Regards,

CONESTOGA-ROVERS & ASSOCIATES

Nathan Lee, PG 8486

OY/mws/17
Encl.

Figure 1 Vicinity Map
Figure 2 Site Plan with Proposed Vapor Investigation Locations

cc: Catalina Espino Devine, Chevron (*electronic copy*)
Diocese of Oakland
Michael E. Delehunt, Foley & Lardner LLP
William Spencer, FWS Highland LLC
Nissan & Carol M. Saidian Trustees

FIGURES

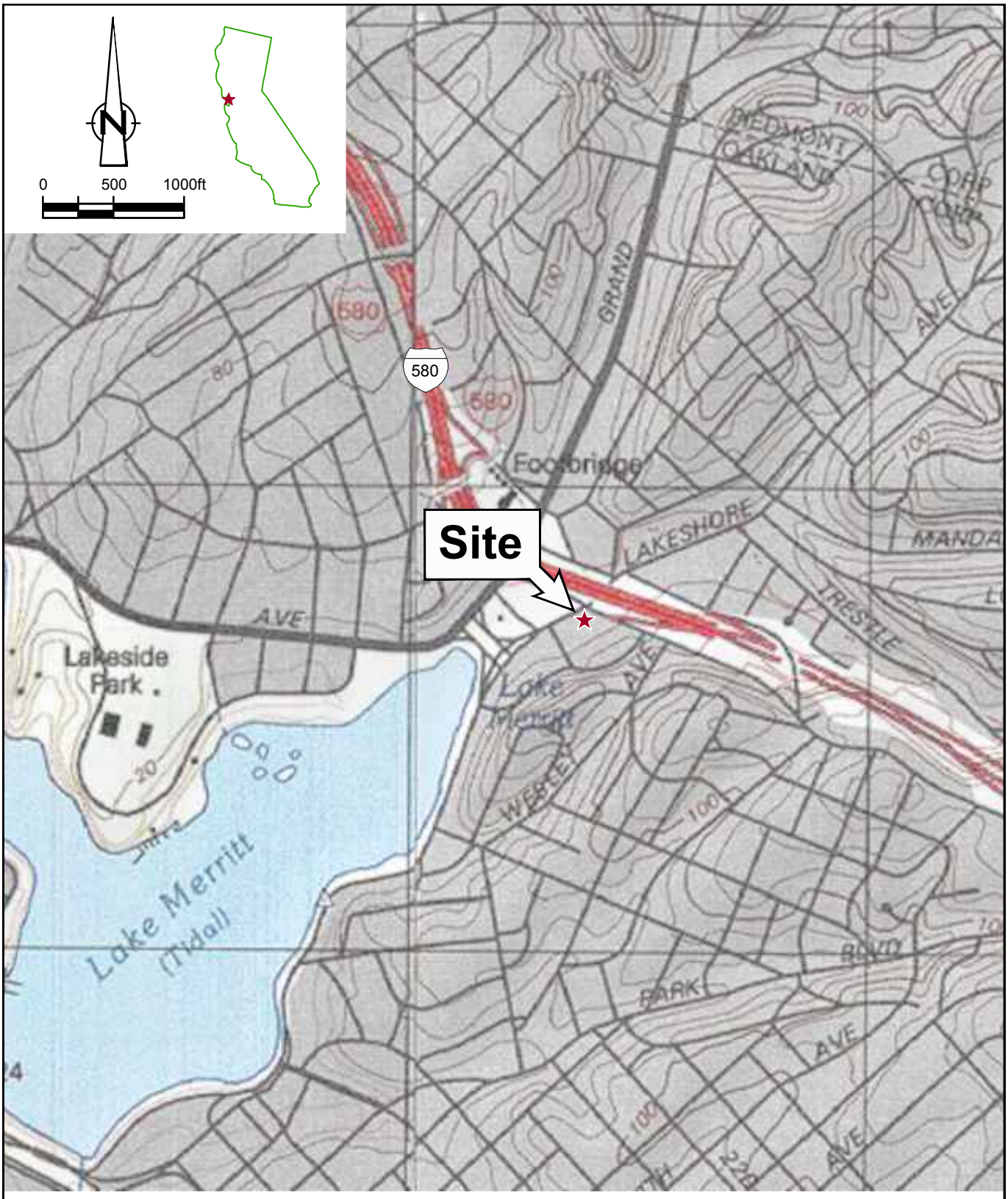
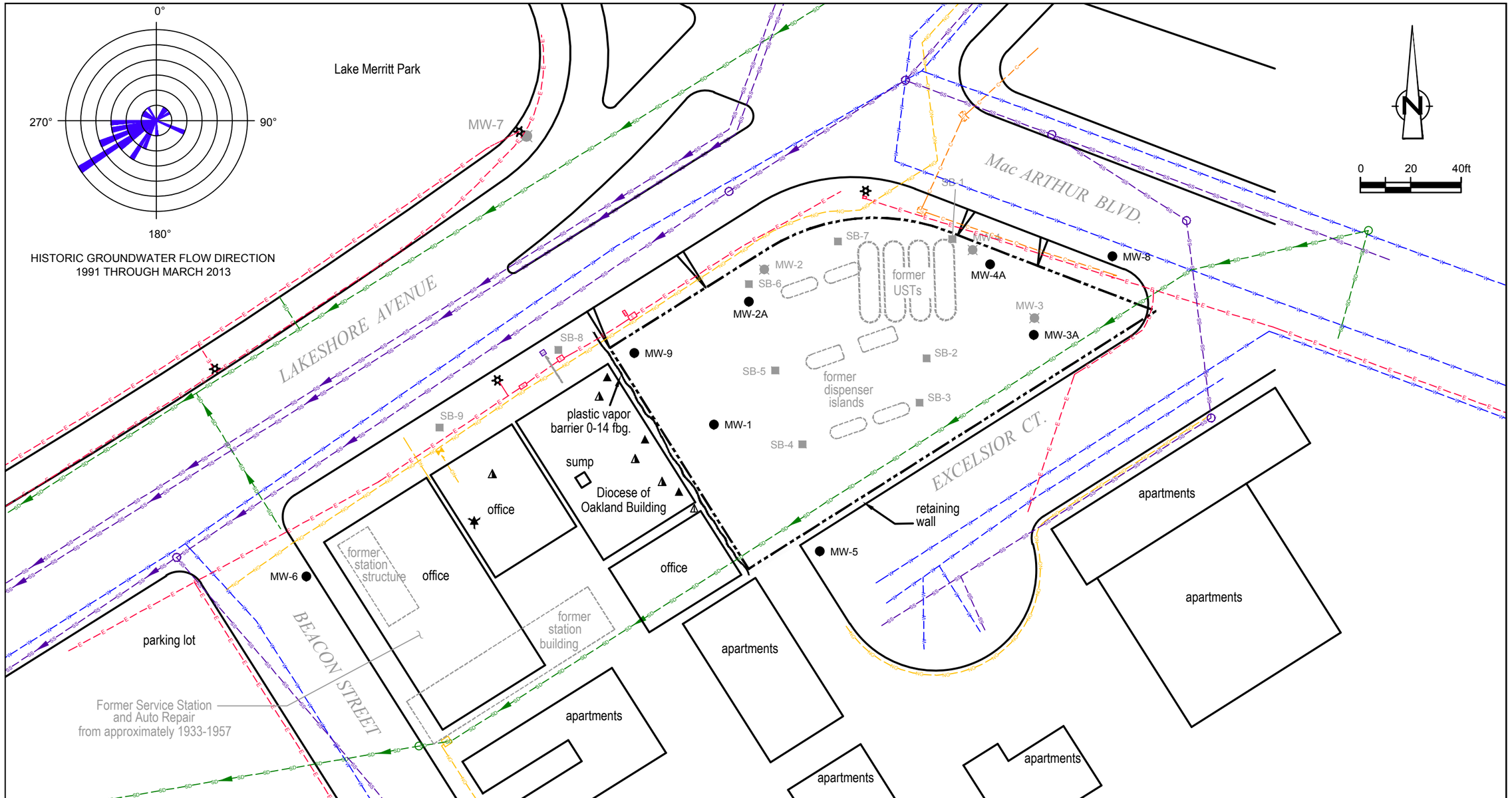


Figure 1

VICINITY MAP
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-95(017)GN-BR001 APR 19/2013



EXPLANATION

MW-1 ●	Monitoring well location
MW-2 ⊗	Destroyed monitoring well location
SB-1 ■	Soil boring location
▲	Proposed sub-slab vapor point location
✶	Proposed crawl space ambient air sample location
◮	Proposed indoor air sample location
◬	Proposed outdoor air sample location
W W W	Water line
SS SS SS	Sanitary Sewer line
E E E	Electrical line
C C C	Communications line
NG NG NG	Natural Gas line
SD SD SD	Storm Drain line

Figure 2

SITE PLAN WITH PROPOSED SOIL VAPOR INVESTIGATION LOCATIONS
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2013(017)GN-BR002 APR 19/2013

ATTACHMENT A

AGENCY LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

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

June 6, 2011

Mr. Dave Patton
Chevron Products Company
6011 Bollinger Canyon Road
San Ramon, CA 94583
(sent via electronic mail to drpatten@chevron.com)

Subject: Request for Work Plan Addendum; Fuel Leak Case No. RO0000284 and Geotracker Global ID T0600100328, Chevron #9-0121; 3026 Lakeshore Avenue, Oakland, CA 94610

Dear Mr. Patton:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Sensitive Receptor and Preferential Pathway Survey, Response to Regulatory Comments, and Work Plan for Additional Assessment* and the *First Semi-Annual 2011 Groundwater Monitoring and Sampling Report,* both dated May 15, 2011. Both reports were submitted on your behalf by Conestoga-Rovers & Associates (CRA). Thank you for their submittal. Based on ACEH 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. **Groundwater Rose Diagrams, Contaminant Plume Location, and Soil Bore Investigation** – Thank you for the addition of the rose diagrams to site groundwater monitoring reports. The diagram depicts a generalized southwestern flow direction over time at the site; however, ACEH must make an important distinction to clarify the presumed location of the downgradient groundwater plume. A review of gradient maps suggests two differing flow paths are present at the site and vicinity. Site specific data indicates that the southwestern flow direction is a local vicinity flow direction that does not account for the installation of a Visqueen plastic barrier (arguably reported as impermeable) in close proximity to the western property line of the site. If impermeable, groundwater will be forced towards the north to northwest, or to the south around the barrier. A review of groundwater flow which is limited to the onsite flow pattern (and thus excludes data from well MW-6) indicates a consistent north to northwest flow towards Lakeshore Avenue through time, and thus towards utility corridors located in the street, from the southern or southeastern property line. In this view ACEH believes groundwater elevation data from well MW-6 is more representative of offsite areas including beneath Lakeshore Avenue, once the influence of plastic barrier is passed by. The depth to groundwater in MW-6 in comparison to onsite wells also appears to reflect the effects of a somewhat intact plastic barrier. This view may again in part be supported by the recently requested addition of TPHmo analysis, wherein higher TPHmo concentrations appear to bypass the main portion of the site (for example see analytical data from well MW-1 and the Sump), and might selectively increase downgradient as seen in data from grab groundwater samples collected in soil bores SB-8 and SB-9 (it is understood these maybe biased high; however, the downgradient bore SB-9 contained significantly higher concentrations than SB-8). Additionally, in this view TPHmo concentrations detected in MW-6 would help define the lateral extent of the downgradient expression of this analyte. Consequently,

ACEH believes it warranted that additional effort to define a groundwater plume along Lakeshore Avenue, and to evaluate the utility conduits in Lakeshore Avenue as preferential pathways is appropriate. It is reasonable that a plume in this location could exploit the multiple sanitary sewer lines or the northern storm drain line which directly discharges to Lake Merritt. As a consequence, ACEH requests inclusion of an additional phase of investigation along Lakeshore Avenue and receipt of a revised bore location map (Figure 2) to document the location of additional soil bores prior to implementation of the installation of this proposed task at the site and vicinity. If wells are contemplated, please include well installation details / protocols in a work plan addendum.

2. **Vapor Intrusion Investigation** – Thank you for the vapor intrusion investigation work plan. It is understood that site access is currently being discussed and that probe placement is pending location scouting. ACEH is in general agreement with the proposed investigation, with the following notes and modifications requested:

    a. **DTSC Guidelines** – It is understood that the sub-slab probe installation procedure will follow the 2005 Region 8 EPA Guidelines. In addition please ensure the 2004 *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (including February 2005 revision) and the 2010 DTSC *Advisory – Active Soil Gas Investigation* are employed for the sub-slab probe installations. Because helium is proposed for use as a tracer, this is in addition requested to include use of a shroud to ensure retention of the tracer gas around the sampling train and a gloved entry in to the shroud to assist in that goal, consistent with these guidelines.

    b. **Indoor and Outdoor Sampling Protocols** – ACEH notes that both 8-hour breathing zone indoor and outdoor samples are proposed to be collected in the work plan; however, use of a "Household Products" review of consumer products that have the potential to impact indoor air contaminants was not proposed. This recommendation is contained in DTSC guidelines. Please incorporate use a "Household Products" inventory in the undertaking, and in the final report, consistent with DTSC guidelines. Please ensure that DTSC ambient air sampling protocols are used.

    c. **Risk Determination Factors** – DTSC guidelines also recommend a minimum of two indoor sampling events prior to generation of a final risk determination. Use of the default 100 fold attenuation factor (0.01) should be evaluated and justified, consistent with DTSC guidelines and trend.

    d. **Vapor Intrusion Work Plan Addendum** – If changes other than those noted above are proposed, please incorporate them into a work plan addendum; otherwise a minimum submittal of a site vicinity plan with sub-slab probe locations and locations of sub-slab utilities is appropriate.

3. **General Comments** – The location of utility laterals appears to be a work-in-progress; in particular the location of the sanitary sewer line from the former restrooms at the subject site does not appear to be located, and may affect onsite contaminant flows. Please attempt to locate site utility laterals that lead to utility mains.

TECHNICAL REPORT REQUEST

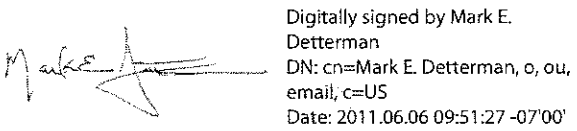
Please submit the following deliverables and technical reports to ACEH (Attention: Mark Detterman), according to the following schedule:

- **July 15, 2011** – Updated Figures (soil bore and sub-slab locations) / Work Plan Addendum
- **August 26, 2011** – Soil and Groundwater Investigation Report with Vapor Intrusion Study
- **September 16, 2011** – Updated SCM

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.

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,



Mark E. Detterman, P.G., C.E.G.
Senior Hazardous Materials Specialist

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

cc: Nathan Lee, Connestoga-Rovers & Associates, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608
(sent via electronic mail to nlee@craworld.com)

Donna Drogos (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman (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:** July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 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

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

Former Chevron Service Station 90121

3026 Lakeshore Avenue

Oakland, California

1967 Source Leak

In July 1967, a 2,000-gallon inventory loss was discovered. The steel underground storage tanks (USTs) were removed and replaced with new USTs double wrapped in asphalt. A 32-inch long gash was observed in one of the removed tanks. This information was reported in Pacific Environmental Group, Inc.'s (PEG) October 4, 1993 *Remedial Feasibility Study*.

Prior to 1981 Monitoring Well Installation

Six monitoring wells were installed between late the late 1970's and 1981 and used as recovery wells to recover light non aqueous-phase liquids (LNAPL). Installation dates and well construction logs were unavailable. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1980 Tank Replacement

A tank tightness test indicated that one of the USTs may have had a leak and was subsequently replaced with a fiberglass UST. An undocumented quantity of soil was removed from the site during UST replacement. A plastic impermeable barrier extending to approximately 14 to 16 feet below grade (fbg) was installed along the southwestern property line. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1981 Monitoring Well Installation

Four additional 8-inch diameter monitoring wells were installed in July 1981. In August 1981, a pump test was performed to determine groundwater draw down and production rates. Additional information is available in Groundwater Technology, Inc.'s (GTI) *Considerations on Retrieval of Product from Groundwater.* The report is not dated.

1984 Station Rebuild and UST Abandonment

In 1984, the station was torn down and completely rebuilt. During renovation two USTs, approximately 500 to 1,000 gallons, were discovered beneath the sidewalk. The USTs were abandoned in place by filling them with grout. Approximately 740 cubic yards of soil related to the site redevelopment were over-excavated and disposed of offsite. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1984 Basement Inspections

The building tenants at 3014 Lakeshore Avenue complained of petroleum odors in the building. No odor or sheen was noted in the basement. A letter was sent to the property owner by Chevron stating that Chevron had been monitoring the basement during the two previous years (1982 and 1983) and did not find any evidence of hydrocarbons. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1990 UST Repair

A hole created by repetitive tank volume gauging with a stick was discovered in the unleaded gasoline UST. The hole was repaired and the UST was put back in service. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1991 Monitoring Well Destruction

In March 1991 six monitoring wells were destroyed and in April 1991 two monitoring wells were destroyed. Additional information available in GTI's April 25, 1991 *Destruction of Five Groundwater Monitoring Wells and Three Groundwater Extraction Wells*.

1991 Monitoring Well Installation

On August 7 and 13, 1991 monitoring wells MW-1 through MW-4 were installed. Additional information is available in GTI's October 18, 1991 *Well Installation Report*.

1992 Monitoring Well Installation and Destruction

In June 1992, offsite monitoring wells MW-5 through MW-8 were installed and onsite well MW-1 was destroyed. Additional information is available in GTI's July 31, 1992 *Environmental Assessment Report*.

1993 Feasibility Study

In October 1993, PEG completed a remedial feasibility study and recommended natural attenuation as the cleanup method. Additional information is available in PEG's October 4, 1993 *Remedial Feasibility Study*.

1996 Product Piping and Dispenser Replacement

In September 1996, the product piping and dispensers were replaced. Soil samples were collected from beneath the dispensers and product piping at depths ranging from 2 to 3 fbg. Approximately 100 cubic yards of soil was removed and disposed of offsite. Additional information is available in Touchstone Development's November 1, 1996 *Product Piping Removal and Soil Sampling Report*.

1996 Well Destruction

In October 1996 one well was destroyed. Additional information is available in RRM Engineering Contracting Firm's October 2, 1996 *Well 1S/3W25R80 Abandonment Document Letter*.

1999 Well Installation

In April 1999, onsite monitoring well MW-9 was installed, and ¾-inch diameter wells MW-2 through MW-4 were destroyed and replaced with 2-inch diameter wells MW-2A through MW-4A. Additional information is available in Gettler-Ryan's May 26, 1999 *Monitoring Well Destruction and Installation Report*.

2001 Site Conceptual Model

In October 2001, Delta Environmental Consultants, Inc. (Delta) completed a site conceptual model and recommended further offsite, downgradient delineation of dissolved hydrocarbons by installing additional monitoring wells to the southwest. Additional information is available in Delta's October 15, 2001 *Site Conceptual Model*.

2006 Offsite Borings

In August 2006, Cambria Environmental Technology, Inc. (Cambria) supervised the advancement of offsite borings SB-8 and SB-9 as part of the ongoing site assessment. Boring SB-10 was not advanced due to refusal and boring SB-11 was not advanced due to its location on the opposite side of a newly installed culvert. Additional information is available in Cambria's October 20, 2006 *Additional Subsurface Investigation Report*.

2007 Offsite Sump Sampling

In May 2007, CRA collected a single grab-groundwater sample from the sump located downgradient in the Diocese of Oakland office building basement. CRA agreed with ACEH to add sump monitoring to the semi-annual groundwater monitoring and sampling schedule once an access agreement was in place to allow regularly scheduled sump sampling. Additional information is available in CRA's July 12, 2007 *Offsite Sampling Report*.

2010 Station Demolition and Fueling Facilities Removal

On August 10, 2010, CRA observed Musco Excavators, Inc. remove the USTs and associated fuel piping. CRA collected soil samples EX-1 through EX-6 beneath the former USTs at 9.5 fbg, P-1 through P-14 beneath the former product piping at 4 and 6 fbg, and soil stockpile samples SS-1 through SS-3. Groundwater sample GW-1 was collected from the UST excavation. Additional information is available in CRA's September 9, 2010 *Underground Storage Tank Removal and Soil Sampling Report*.