ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

January 20, 2015

Mr. Andrew Cooper
State Water Resources Control Board
1001 I Street, 16th Floor
Sacramento, CA 95814
(Sent via E-mail to: USTClosuresComments@waterboards.ca.gov)

Subject: **Public Comment Letter – Chevron #9-1026; State Water Resources Control Board Notice of Opportunity for Public Comment; Proposed Underground Storage Tank Case Closure**; Fuel Leak Case No. RO0000500 (Global ID # T0600100334), Chevron #9-1026, 3701 Broadway, Oakland CA 94611

Dear Mr. Cooper:

Alameda County Environmental Health (ACEH) staff has received the State Water Resources Control Board (SWRCB) *Notice of Opportunity for Public Comment, Proposed Underground Storage Tank Case Closure* dated November 20, 2014, for the subject site. The purpose of the Notice is to inform interested parties of 1) the SWRCB's intent to recommend closure of the subject site to the California SWRCBs Executive Director, and 2) the sixty day public comment period on the Fund's *UST Case Closure Summary Report*, dated November 19, 2014. According to the Notice, written comments to the SWRCB on the Fund's Case Closure Summary must be received by 12:00 noon on January 26, 2015. This letter herein transmits ACEH's comments.

Please note that the *UST Case Closure Summary Report* lists ACEH's objections to closure that date from April 2014 and which do not reflect the collection of additional data in the intervening period of time. This letter transmits ACEH's objections to closure that reflect this additional data, as previously discussed in ACEH's directive letter dated October 3, 2014.

Requirements for Investigation and Cleanup of Unauthorized Releases from USTs

ACEH reviewed the SWRCB's *UST Case Closure Summary*, dated November 19, 2014, signed by Fund Manager Lisa Babcock, in conjunction with the case files for the above-referenced site. A complete record of the case files (i.e., regulatory directives and correspondence, reports, data submitted in electronic deliverable format, etc.) can be obtained through review of both the SWRCB's Geotracker database, and the ACEH website at http://www.acgov.org/aceh/index.htm.

ACEH's review was guided by the requirements for investigation and cleanup of unauthorized releases from underground storage tanks (USTs) contained in the following resolutions, policies, codes, and regulations:

- SWRCB's Low-Threat Underground Storage Tank Case Closure Policy (LTCP), adopted on May 1, 2012; and effective August 17, 2012;
- California Code of Regulations (CCR) Title 23, Article 5 and Article 11, Underground Storage Tank Regulations, as amended and effective July 1, 2011;
- California Health & Safety Code (HS&C) Sections 25280-15299.8, Underground Storage of Hazardous Substances, as amended on January 1, 2011;

- SWRCB Resolution 1992-0049, Policies and Procedures for the Cleanup and Abatement of Discharges under California Water Code Section 13304, as amended on April 21, 1994 and October 2, 1996;
- San Francisco Bay Regional Water Quality Control Board's (RWQCB) San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).

Application of Case Review Tools

ACEH's case closure evaluation was also guided by the application of the principles and strategies presented in the *Leaking Underground Fuel Tank Guidance Manual* (CA LUFT Manual), dated September 2012, developed by the SWRCB "…[t]o provide guidance for implementing the requirements established by the Case Closure Policy" and associated reference documents including but not limited to:

- *Technical Justification for Vapor Intrusion Media-Specific Criteria*, SWRCB dated March 21, 2012;
- *Technical Justification for Groundwater Media-Specific Criteria*, SWRCB dated April 24, 2012;
- *Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathways*, SWRCB dated March 15, 2012;
- *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Final* DTSC, dated October, 2011;
- *Active Soil Gas Investigations Advisory,* DTSC, dated April 2012.

ACEH also utilized other case review tools developed by the SWRCB to aid in determining compliance of the subject fuel leak site with LTCP criteria, including both the paper *Policy Checklist* (available at www.waterboards.ca.gov/ust/docs/checklist.pdf) and the electronic version of the *Policy Checklist* (available on the SWRCB's GeoTracker website at http://geotracker.waterboards.ca.gov). ACEH's evaluation of the subject site is presented below and in previously submitted documents posted to Geotracker and the ACEH ftp website.

Summary of ACEH's Review of the SWRCB's UST Case Closure Summary

ACEH does not agree with the SWRCB's *UST Case Closure Summary.* Specifically, ACEH remains concerned that the downgradient extent of the groundwater contaminant plume has not been defined and that the site fails multiple aspects of the groundwater media-specific criteria, and that the potential for vapor intrusion into residential structures, both upgradient as well as downgradient, exists at the site due to unevaluated sensitive receptors in the site vicinity. The following sections provide more details:

General Criteria a: The unauthorized release is located within the service area of a public water system.
The site meets this General Criteria.
General Criteria b: The unauthorized release consists only of petroleum.
The site meets this General Criteria.
General Criteria c: The unauthorized ("primary") release from the UST system has been stopped.
The site meets this General Criteria.
General Criteria d: Free product has been removed to the maximum extent practicable.
The site meets this General Criteria.
General Criteria e: A conceptual site model has been developed.
While a CSM has been developed for the site, the CSM does not account for the threat of vapor intrusion to onsite medical workers and individuals seeking medical care. Thus the site does not meet this General Criteria.

General Criteria f: Secondary source removal has been addressed. The secondary source is the petroleum-impacted soil, free product, or groundwater that acts as a long-term source releasing contamination to the surrounding area. Unless site conditions prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable.

The site meets this General Criteria.

General Criteria g: Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15.

The site meets this General Criteria.

General Criteria h: Nuisance as defined by Water Code section 13050 does not exist at the site.

The site meets this General Criteria.

Media-Specific Criteria 1. Groundwater: If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal (sic) extent, and meet all of the additional characteristics of one of the five classes of sites listed in the Policy. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

The *Case Closure Review Summary* Report (RSR) indicates that the SWRCB has determined the site meets Class 1 of the Groundwater Media-Specific Criteria. This category is a finding by the regulatory agency (the SWRCB) that the plume is less than 100 feet in length, there is no free product, and that existing water supply wells or surface water body is greater than 250 feet from the defined plume boundary.

This finding is based on an assumption in the RSR that no infrastructure is installed in the site vicinity that would intersect groundwater encountered at a depth of 12 to 18 feet below grade surface (bgs). Review of data recently submitted (October 3, 2014, *Conceptual Site Model Addendum and Closure Request*, Conestoga-Rovers & Associates, Inc.) indicates that the sanitary sewer for this area is installed to a depth of 20 feet bgs in MacArthur Boulevard approximately 40 feet directly downgradient of the site. This finding is also based on an assumption in the RSR that groundwater concentrations in wells downgradient of the site (wells E, F, and EA-1) are representative of near-site groundwater concentrations. ACEH notes that these wells are installed downgradient of the sanitary sewer that acts as an interceptor trench and groundwater concentrations in these wells is representative of groundwater downgradient of a trench capable of removing significant contaminant mass.

However, based on ACEH's review of recently submitted data ACEH has determined that the site likely meets groundwater media-specific criteria 1.5. Data presented in the referenced report indicate that any remaining Light Non-Aqueous Phase Liquids (LNAPL) in the site vicinity will likely be offsite beneath MacArthur Boulevard, and would likely encounter and intersect the sanitary sewer line that is installed in MacArthur Boulevard to a depth of approximately 20 feet bgs. Because groundwater was generally encountered at a depth of approximately 12 to 20 feet bgs onsite, this suggests that the LNAPL has been removed to the extent practicable, that any remaining LNAPL plume is offsite, and that the extent of the LNAPL plume is likely limited and upgradient of the sanitary sewer trench.

The depth and location of the sanitary sewer also suggests that the likely extent of the dissolved-phased groundwater plume is somewhat limited. Based on historic detections and the presence of 0.03 feet of LNAPL in well E, 0.04 feet of LNAPL in well F, and 0.08 feet in well EA-1 in September 1993, ACEH's interpretation is that in the past the LNAPL and the dissolved-phase plumes extended past the sanitary sewer line (each well is located downgradient of, and LNAPL thicknesses are expected to be influenced by, the presence of the sanitary sewer). Although the stratigraphic data from wells downgradient of the sanitary sewer line is very limited and constrained, the lack of detectable dissolved-phased contamination in wells E, F, and EA-1 for a number of years, suggests the current extent of the dissolved-phased plume is likely limited and captured by the sanitary sewer.

The inclusion of a sensitive receptor survey (wells and other sensitive receptors) in the October 2014 *Conceptual Site Model Addendum and Closure Request* indicates that there are no sensitive receptors or groundwater users within 1,000 feet of the site in the downgradient direction. The LTCP *Technical Justification Paper for Groundwater Media-Specific Criteria* indicates that maximum documented plume length for benzene is 554 feet, and for TPH the maximum length is 855 feet. The lack of sensitive receptors and sensitive groundwater users within 1,000 feet downgradient appears to provide a level of protection to the public and to users of groundwater.

The redevelopment of the subject site into an underground medical office building required the extraction of a significant volume of groundwater, and will likely have removed LNAPL and high dissolved-phased groundwater in proximity to the site. It is the expectation of ACEH that the volume of remaining LNAPL beneath MacArthur Boulevard that would enter the sanitary sewer system will be limited in the future due to the redevelopment dewatering.

Consequently, ACEH has determined that the site likely meets groundwater media-specific criteria 1.5.

Media-Specific Criteria 2. Petroleum Vapor Intrusion to Indoor Air: The low-threat vapor-intrusion criteria in the Policy apply to release sites and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the near future.

The *Case Closure Review Summary* Report (RSR) indicates that the SWRCB has determined the site meets Policy Criterion 2a by Scenario 3a. This requires a finding by the SWRCB that the maximum benzene concentration in groundwater is less than 100 micrograms per liter (µg/l), the minimum depth to groundwater is greater than 5 feet bgs, and that overlaying soil contains less than 100 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons (TPH). The SWRCB RSR also states that in addition, an impermeable barrier was installed beneath the medical building.

As noted above in the groundwater media-specific criteria, this finding is based on an incorrect assumption in the RSR that groundwater concentrations in wells downgradient of the site (wells E, F, and EA-1) are representative of near-site groundwater concentrations. ACEH again notes that these wells are installed downgradient of the sanitary sewer, acting as an interceptor trench, and groundwater concentrations in these wells is representative of groundwater downgradient of a trench capable of removing significant contaminant mass.

ACEH's review of the case files indicates that the site data collection and analysis fail to support the requisite characteristics of one of the four petroleum vapor intrusion to indoor air media specific scenarios. Specifically, while extensive excavation occurred at the subject site, substantial residual soil contamination remained beneath the medical offices at a depth at or greater than 15 feet bgs (with concentrations up to 8,600 milligrams per kilogram [mg/kg] Total Petroleum Hydrocarbons [TPH] as gasoline; 4,300 mg/kg TPH as diesel, 14,000 mg/kg Total Oil and Grease, 31 mg/kg benzene, and 100 mg/kg ethylbenzene). It is anticipated that oxygenation of the residual contamination occurred at the time of excavation; however, the effect of the oxygenation, and the thickness or vertical extent of the residual soil contamination beneath the medical offices at the site has not been evaluated, nor has the site been assessed for the potential of vapor intrusion to the subgrade medical offices, constructed to a depth of 15 feet bgs. Please note that due to the construction of the medical offices a full 15 feet below grade, the separation distance the LTCP relies on to provide a level of protection for vapor intrusion to indoor air has been completely removed and eliminated.

Additionally, while a waterproofing membrane is reported to have been installed beneath the medical offices, the Department of Toxic Substance Control (DTSC) does not regard a water barrier to be an impermeable vapor barrier. In order to remain consistent with the dynamic and ever changing vapor intrusion field, ACEH follows DTSC vapor intrusion guidance.

ACEH is of the opinion that it is prudent to collect additional data to confirm that vapor intrusion to indoor air is not a risk to the sub-grade medical office building. There appear to be a minimum of three ways to collect multiple lines of evidence to confirm this:

- The collection of grab groundwater samples, in order to determine residual groundwater concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, ethylbenzene, and naphthalene, may provide sufficient data to evaluate the potential for vapor intrusion to the sub-

grade medical office building.

- The collection of vapor samples, adjacent to, but not beneath, the subgrade medical office building, also provides a method to evaluate the potential for vapor intrusion to the sub-grade medical office building.
- Finally, the collection of soil samples in close proximity to excavation bottom confirmation samples, that documented up to 31 mg/kg benzene directly below the 15 foot deep sub-grade office building, provides another method to evaluate the extent of excavation removal, or the extent of contaminant degradation that may have occurred in the interim, and the potential for vapor intrusion to the sub-grade building.

Media-Specific Criteria 3. Direct Contact and Outdoor Air Exposure. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, inhalation of volatile soil emissions and inhalation of particulate emissions, and the 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

The site meets this Media-Specific Criteria.

Low-Threat Case Closure: If a case has been determined by the regulatory agency to meet the criteria in this policy, the regulatory agency shall notify responsible parties that they are eligible for case closure and that the following items, if applicable, shall be completed prior to the issuance of a uniform closure letter specified in Health and Safety Code section 25296.10:

a. **Notification Requirements:** Municipal and county water districts, water replenishment districts, special acts districts with groundwater management authority, agencies with authority to issue building permits for land affected by the petroleum release, and the owners and occupants of all parcels adjacent to the impacted property shall be notified of the proposed case closure and provided a 60 day period to comment.

Because of ACEHs remaining concern in regards to the potential for offsite vapor intrusion to the underground medical office building, ACEH requests verification that all potentially affected parties have been notified by the SWRCB during the notification of the potential closure of the case.

Conclusions

ACEH is not in agreement that the site can currently be closed under the LTCP. The site appears to fail Media-Specific Criteria for Vapor Intrusion to Indoor Air. To address these issues ACEH has previously requested a limited scope of investigation to evaluate soil vapor in proximity to the underground medical office building.

Thank you for providing ACEH with the opportunity to comment on the subject site. Should you have any questions regarding the responses above, please contact Mark Detterman at (510) 567-6876 or send him an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Dilan Roe, P.E.
LOP Program Manager

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

cc: Ms. Alexis Coulter, Chevron Environmental Management Corp, 6101 Bollinger Canyon Rd, San Ramon, CA 94583, (sent via electronic mail to: ACoulter@Chevron.com)

Mr. Gary Bankhead, Kaiser Foundation Hospitals, 100 San Leandro Blvd, San Leandro, CA 94577, (sent via electronic mail to: Gary.J.Bankhead@kp.org)

Heitzinger Associates, PO Box 1613, Pebble Beach, CA 93953

Lisa Babcock, State Water Resources Control Board, Division of Financial Assistance, 1001 I Street, Sacramento, CA 95814; (Sent via E-mail to: LBabcock@waterboards.ca.gov)

Robert Trommer, State Water Resources Control Board, Division of Financial Assistance, 1001 I Street, Sacramento, CA 95814; (Sent via E-mail to: RTrommer@waterboards.ca.gov)

Pat Cullen, State Water Resources Control Board, Division of Financial Assistance, 1001 I Street, Sacramento, CA 95814; (Sent via E-mail to: PCullen@waterboards.ca.gov)

Roger Hoffmore, State Water Resources Control Board, Division of Financial Assistance, 1001 I Street, Sacramento, CA 95814; (Sent via E-mail to: RHoffmore@waterboards.ca.gov)

N. Scott MacLeod, Conestoga-Rovers & Associates, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608; (sent via electronic mail to smacleod@craworld.com)

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

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Suite 3341, Oakland, CA 94612-2032 (sent via electronic mail to lgriffin@oaklandnet.com)

Cheryl Prowell, San Francisco Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612; (Sent via electronic mail to CProwell@waterboards.ca.gov)

Dilan Roe (Sent via electronic mail to dilan.roe@acgov.org)
Mark Detterman (Sent via electronic mail to mark.detterman@acgov.org)
Electronic File, GeoTracker