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May 23, 2013

Mr. Pete Mizera  
State Water Resources Control Board  
1001 I Street, 16<sup>th</sup> Floor  
Sacramento, CA 95814  
(Sent via E-mail to: [USTClosuresComments@waterboards.ca.gov](mailto:USTClosuresComments@waterboards.ca.gov))

Subject: **Comment Letter – Chevron #21-1283 / Express Auto Case Closure Summary**, Notice of Opportunity for Public Comment; Underground Storage Tank Cleanup Fund Case Closure Recommendation; Claim Number 10630; Fuel Leak Case No. RO00001056 and GeoTracker Global ID T0600101108, Chevron #21-1283, 3810 Broadway, Oakland, CA 94611

Dear Mr. Mizera:

Alameda County Environmental Health (ACEH) staff has received the Underground Storage Tank Cleanup Fund's (USTCF's or Fund's) *Notice of Opportunity for Public Comment* dated March 26, 2013, for the subject site. The purpose of the Notice is to inform interested parties of 1) the USTCF's intent to recommend closure of the subject site to the California State Water Resources Control Board's (SWRCBs) Executive Director, and 2) the sixty day public comment period on the Fund's *UST Case Closure Summary Report (Case Closure Summary)*, dated March 22, 2013. According to the Notice, written comments to the SWRCB on the Fund's Case Closure Summary must be received by 12:00 noon on May 27, 2013. This letter herein transmits ACEH's comments.

#### **Requirements for Investigation and Cleanup of Unauthorized Releases from USTs**

ACEH reviewed the USTCF's *UST Case Closure Review Summary Report*, dated March 22, 2013, prepared by Roger Hoffmore, and signed by Lisa Babcock, (including *Attachment 1: Compliance with State Water Board Policies and State Law* (i.e., the SWRCB's Low-Threat UST Case Closure Policy Paper Check List), and *Attachment 2: Summary of Basic Site Information (Conceptual Site Model)*) 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;
- *Evaluating LNAPL Remedial Technologies for Achieving Project Goals, Interstate Technology Regulatory Council*

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](http://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>). Additionally, ACEH staff utilizes a *Data Gap Identification Tool* (DGIT) to facilitate consistent application of the LTCP by ACEH staff, assist in identification of impediments to closure, and document our decision making process as transparently as possible for interested parties.

ACEH's evaluation of the subject site is presented below.

### Summary of ACEH's Review of the USTCF's UST Case Closure Summary

The results of ACEH's case closure review, indicates the USTCF's closure recommendation under the LTCP to be lacking an appropriate technical basis. ACEH does not agree with the USTCF's technical analysis presented in the *UST Case Closure Summary Report*, dated March 22, 2013. ACEH's review indicates that the Conceptual Site Model (CSM) is deficient and that the site is uncharacterized in a number of elements, including the delineation of the downgradient extent of the plume and the extent of practicable secondary source removal. Conclusions to the contrary do not appear to be supported by data. Additional deficiencies are discussed below. Our concerns include but are not limited to potential impacts to the new Kaiser-Permanente Hospital and the hospital-associated parking structure located across Broadway directly downgradient and largely constructed below grade to a depth of 15 and 30 feet, respectively. Details of our analysis are provided in the narrative section.

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| <b>General Criteria a: The unauthorized release is located within the service area of a public water system.</b> |
| The site meets this General Criteria.  |
| <b>General Criteria b: The unauthorized release consists only of petroleum.</b>                                  |
| The site meets this General Criteria.  |
| <b>General Criteria c: The unauthorized ("primary") release from the UST system has been stopped.</b>            |
| 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.**

The site does not meet this General Criteria.

A CSM that is deficient in adequately assessing the vertical and lateral extent of the soil and groundwater plume has been generated. The vertical and offsite extent of these plumes remains undefined at the downgradient edge of the property. A residual hydrocarbon mass remains in soil predominately on the west to south edge of the former UST complex and is not defined downgradient of the property line. Elevated residual petroleum contamination is documented at soil samples EX-1, B-4, S-4, and DP-6. This is supported by the recent collection of elevated groundwater concentrations from DP-6 and older data from former well MW-3.

The lateral extent of soil contamination at the downgradient edge of the parcel is undefined (DP-6). Additionally, the grab groundwater sample collected from DP-6 at 20 - 25 ft below grade surface (bgs) contains 5,000 ug/l benzene, at a location in close proximity to former well MW-3. Bore DP-6 utilized a 5 foot long screen and multiple purges (in June 2012) and produced groundwater concentrations that are comparable to former well MW-3 that also contained a short well screen. The data from DP-6 and MW-3 remain consistent with each other. Wells MW-9 and MW-10 have also consistently contained relatively low (or very low) concentrations in comparison to MW-3 or DP-6. ACEH has been specifically concerned that either the groundwater plume is migrating off site between wells MW-9 and MW-10 these wells (as confirmed by the DP-6 groundwater sample) or that the exceptionally long well screens of these two wells (25 feet) have been providing non-representative groundwater concentrations at the downgradient edge of the property. The 2012 SWRCB LUFT Manual states that long well screens allow significant dilution of groundwater concentrations. Additionally, the long-screened wells at the site cross-connect two water-bearing zones. This has been ignored in the CSM, is relevant to delineation of a groundwater plume, and has essentially not been represented in site cross-sections.

Please be aware that the downgradient extent of the groundwater plume and the continued migration of that dissolved-phase plume are of particular importance at the subject site. Immediately downgradient (110 feet, kitty-corner across Broadway) of the site is the new Kaiser-Permanente (KP) hospital that extends 15 feet below surface grade, and the associated underground garage that extends 30 feet below surface grade (and into groundwater; onsite depth to water has varied between 13.75 to 33.52 feet bgs.) Patients that drive and use the facility can be expected to include health-compromised subpopulations (infants, elderly, terminally ill patients) that are expected to be more sensitive to vapor intrusion. Additionally, immediately north of, and on parts of the KP property, is a surface water body (creek), that varies between culverted and open. It lays approximately 300 feet downgradient from site releases.

**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.**

Overexcavation of secondary source(s) in the two tank pits and dispenser islands has been conducted to the extent practicable; however, elevated residual petroleum contamination is documented at soil samples EX-1, B-4, S-4, and DP-6, and as noted in General Criteria e above.

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

Soil and groundwater has been tested for MTBE. The site meets this General Criteria.

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

The "recently" constructed Kaiser - Permanente hospital garage is located directly across Broadway and downgradient from the subject site at an approximate distance of 110 feet from the release. The underground parking structure extends to a depth of 30 feet bgs, extending into the water-bearing zone. The downgradient extent of groundwater contamination has not been determined as discussed previously above; consequently the extent of impact to the structure or indoor air in the garage has not been established. Sensitive patient populations are likely to exist and utilize the structure.

**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.

Residual hydrocarbon mass remains in soil predominately on the west to south edge of the former UST complex. The grab groundwater sample collected from DP-6 at 20 - 25 ft below grade surface (bgs) contains 5,000 ug/l benzene, at a location in close proximity to former well MW-3. Bore DP-6 utilized a 5 foot long screen and multiple purges (in June 2012) and produced groundwater concentrations that are comparable to former well MW-3 that also contained a short well screen. The data from DP-6 and MW-3 remain consistent with each other. Wells MW-9 and MW-10 have also consistently contained relatively low (or very low) concentrations in comparison to MW-3 or DP-6. ACEH has been specifically concerned that either the groundwater plume is migrating off site between wells MW-9 and MW-10 these wells (as confirmed by the DP-6 groundwater sample) or that the exceptionally long well screens of these two wells (25 feet) have been providing non-representative groundwater concentrations at the downgradient edge of the property. The 2012 SWRCB LUFT Manual states that long well screens allow significant dilution of groundwater concentrations. Additionally, the long-screened wells at the site cross-connect two water-bearing zones. This has been ignored in the CSM, is relevant to delineation of a groundwater plume, and has essentially not been represented in site cross-sections.

As a consequence of a combination of the exceptionally long screen lengths and the location of DP-6 between monitoring wells, the downgradient extent is undefined.

The recent Site Conceptual Model and Request for Closure generated by ARCADIS (March 29, 2013) conducted a linear regression analysis of groundwater concentrations for a number of wells. The analysis is flawed due to the effect of the exceptionally long well screens and well locations, and ignores the 5,000 ug/l benzene concentration collected from DP-6 and the earlier elevated concentration data generated from well MW-3 (both with shorter well screens). By all appearances the dissolved phase plume appears to leave the site between wells MW-9 and MW-10, flowing directly towards the K-P hospital and parking structure.

The USTCF states that the Groundwater-Specific Criteria is met by Class 2 which requires a finding that the plume has been delineated to <250 ft in length, has no free product, the nearest surface water body is >1,000 ft, and benzene and MTBE concentrations are <3,000 and <1,000 ug/l, respectively. ACEH finds that the plume length has not been delineated and that the closest water body is approximately 300 feet from the release, and therefore does not meet this Criteria Class 2.

**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 site is an active gasoline service station; however, very few soil samples have been collected within the top 5 feet at the site. Conversely, the release sources were associated with the USTs (including the former waste oil UST) and dispensers and these structures have been removed and soil overexcavated such that limited petroleum contamination is anticipated to be present in shallow areas distant from the release sources. ACEH judges that onsite concerns have been addressed.

Alternatively, the groundwater flow path, and the undefined downgradient plume extent, indicates a potential impact to the downgradient K-P parcel and the associated underground hospital and parking structure by vapor concentrations derived from groundwater. The structures extend 15 and 30 feet bgs, respectively, and are constructed within groundwater bearing zones. Without further data, the USTCF analysis is potentially unprotective to hospital employees and customers.

**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. While very limited soil samples have been collected within the top 5 feet at the site, the release sources were associated with the USTs (including the former waste oil UST) and dispensers and these structures have been removed and soil overexcavated such that limited petroleum contamination is anticipated to be present in shallow areas distant from the release sources.

**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.
- b. **Monitoring Well Destruction:** All wells and borings installed for the purpose of investigating, remediating, or monitoring the unauthorized release shall be properly destroyed prior to case closure unless a property owner certifies that they will keep and maintain the wells or borings in accordance with applicable local or state requirements.
- c. **Waste Removal:** All waste piles, drums, debris and other investigation or remediation derived materials shall be removed from the site and property managed in accordance with regulatory agency requirements.

ACEH has not been made aware of the extent of public notification that has been conducted for the site by the USTCF.

## Conclusions

ACEH is in disagreement that the site can currently be closed under the selected LTCP Criteria and would recommend additional downgradient delineation of the groundwater plume at a minimum as this would also address the potential for vapor intrusion to the Kaiser-Permanente buildings.

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](mailto:mark.detterman@acgov.org).

Sincerely,

Dilan Roe, P.E.  
Supervising Hazardous Materials Specialist

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

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Electronic File, GeoTracker