State Water Resources Control Board

REVIEW SUMMARY REPORT – ADDITIONAL WORK
PRELIMINARY REVIEW – SEPTEMBER 2016

Agency Information

Agency Name: San Francisco Bay Regional Water Quality Control Board (Regional Water Board)	Address: 1515 Clay Street, Suite 1400 Oakland, CA 94612
Agency Caseworker: Kevin Brown	Case No.: 07-0067

Case Information

Cleanup Fund (Fund) Claim No.: 5874	GeoTracker Global ID: T0601300063
Site Name: Chevron	Site Address: 2329 North Main Street Walnut Creek, CA 94596
Responsible Party 1:c/o Chevron Environmental Management Company Attn: Karl Bewley	Address: 6111 Bollinger Canyon Road Room 3604 San Ramon, CA 94583
Responsible Party 2: Star Holding Company Attn: Haleh and Azad Amir	Address: P.O. Box 5278 Concord, CA 94524
Fund Expenditures to Date: $430,462	Number of Years Case Open: 26
Fund Budget Category:	

To view all public documents for this case available on GeoTracker use the following URL:
http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0601300063

Summary

The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This case does not meet all of the required criteria of the Policy. Highlights of the case follow:

This case is an active commercial petroleum facility. An unknown number of USTs were used onsite and removed prior to 1983. In 1983, corrosion in the product lines was discovered and three gasoline USTs and product lines were removed; three new gasoline USTs were installed in a different location. An unauthorized release was reported in November 1989. One waste oil UST was removed in July 1994, and an undocumented volume of soil was excavated from the waste oil UST pit, reportedly until excavation soil samples indicated nondetectable petroleum hydrocarbon concentrations. The Regional Water Board granted case closure in April 1997. In September 2005, during property transfer activities, elevated petroleum hydrocarbon concentrations were reported in soil and groundwater samples, and the case was reopened by the Regional Water Board in September 2007.

No active remediation has been conducted at the Site. Since 1989, seven groundwater monitoring wells have been installed and monitored; one well has been paved over and one well has been

abandoned. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except in well MW-6 and the surrounding area.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no public water supply wells or surface water bodies within 1,000 feet of the projected plume boundary. No other water supply wells have been identified within 1,000 feet of the projected plume boundary in files reviewed. According to GeoTracker there are no nearby or impacted wells. The unauthorized release is located within the service area of a public water system, as defined in the Policy.

Rationale for Closure under the Policy

- General Criteria: The case meets seven of eight Policy general criteria. Secondary source has not been removed to the extent practicable.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 2. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the projected plume boundary. The dissolved concentration of benzene is less than 3,000 micrograms per liter (µg/L), and the dissolved concentration of methyl tertiary butyl ether (MTBE) is less than 1,000 µg/L.
- Vapor Intrusion to Indoor Air: The case does not meet Policy Criterion. Soil vapor data collected in 2014 indicated significantly elevated vapor concentrations in shallow soil in the same area where persistent elevated dissolved concentrations in groundwater have been reported. This appears to be the area where the pipeline corrosion occurred. The soil, soil vapor and groundwater data indicate that secondary source may be present in soil and contributing to the concentrations detected in groundwater.
- Direct Contact and Outdoor Air Exposure: The case does not meet Policy Criterion. Detected benzene and ethylbenzene concentrations in soil samples collected between ground surface and five feet below ground surface (bgs) in a limited area of the Site exceed Table 1 criteria for a commercial site.

Objections to Closure

According to the Low Threat Closure Checklist in GeoTracker, finalized on June 26, 2016, the Regional Water Board staff objects to UST case closure for the following reasons:

- Comment: The unauthorized primary release from the UST system has not been stopped. TPH-DRO concentrations in groundwater (approximately 11,000 µg/L on August 3, 2012, a post-silica gel cleanup concentration) suggests the presence of separate phase hydrocarbon (SPH) in and around MW-6. On February 23, 2015, the maximum detected concentrations of total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) in groundwater were 5,900 µg/L and 21,000 µg/l, respectively. TPHd and TPHg in this area of the site could be due to a leaking dispenser or product line.
  Response: State Water Board staff believe that the lack of measurable free product contraindicates the likelihood of an ongoing release, however, Regional Water Board staff may want to request the latest tank tightness testing results to confirm current tank system conditions. Although dissolved concentrations in well MW-6 remain elevated, dissolved concentrations in upgradient well MW-1 and downgradient well MW-5 show strong decreasing trends since 2012, indicating that the plume as a whole is decreasing in areal extent, which also contraindicates an ongoing release. The elevated dissolved of concentrations of both TPHd and TPHg in MW-6, the shallow affected soil reported in soil borings SB-6 and SV-1, and

the low oxygen percentages reported in the soil vapor samples for SV-1 indicate a localized area of affected shallow and deeper affected soil in contact with groundwater.

- Comment: Free product has not been removed to the maximum extent practicable.
  Response: Free product can exist in three conditions in the subsurface: residual or immobile, mobile and migrating. Free product becomes mobile when enough is present to overcome capillary forces and move. Migrating free product is mobile free product that is migrating because of a driving head. Although State Water Board staff acknowledge that immobile free product may be present in soil beneath the Site, the term 'free product" as used in the Policy is primarily equivalent to "migrating free product," which has not been observed at the Site.

- Comment: Conceptual site model is incomplete. Lateral extent of fuel hydrocarbon plume has not been defined to applicable WQOs as outlined in the LTCP. An unsuccessful effort was made to evaluate the off-site extent of groundwater contamination - hard bedrock was encountered in several boreholes, and the locations of utilities changed the locations of several borings. Isoconcentration maps submitted to date incorrectly show the lateral extent of the plume being small and centered on MW-6; again, plume has not been defined to applicable WQOs. Trend graphs show an overall increasing hydrocarbon trend in MW-6, so the stability of the plume is in question.
  Response: State Water Board staff recognize the efforts made and challenges in defining the downgradient extent of the plume. Although dissolved concentrations in well MW-6 remain elevated, dissolved concentrations in upgradient well MW-1 and downgradient well MW-5 show strong decreasing trends since 2012, indicating that the plume as a whole is decreasing in areal extent. This information can be used to project the approximate length of the plume, which is estimated at less than 250 feet. The CSM is an iterative thought process used to guide site investigation activities and identify additional data needed (if any) to draw reasonable conclusions regarding the source(s), pathways, and receptors; and to evaluate risk to human health, safety, and the environment. Because the CSM is iterative and site conditions continue to change over time, even after closure, this is not justification for additional assessment/remediation or prolonged monitoring if the existing data is sufficient to meet the objectives of the CSM. The Policy requires that a CSM be developed; it does not, however, require that a CSM be "complete." For this site there is sufficient site-specific information to evaluate the threat to human health, safety, and the environment, therefore a CSM that assesses the nature, extent, and mobility of the release and meets Policy criteria has been developed.

- Comment: Secondary source has not been removed to the extent practicable. FS/CAP not prepared. However, soil vapor extraction (SVE) pilot testing in 1994 was successful and determined to be an appropriate cleanup remedy. Secondary source removal is necessary to satisfy LTCP before case is closed.
  Response: State Water Board staff agree that secondary source has not been removed to the extent practicable. State Water Board staff reviewed the site history and analytical data. Although historic site maps showing the former locations of the USTs, dispensers, and soil sampling locations have discrepancies, the data indicate that the most significant point of release was the product lines and dispenser islands on the east side of the site, not the former USTs. These product lines were reported as corroded in 1983, when the USTs and dispensers were removed. Subsequent investigations in this area indicate affected soil as shallow as 2 feet bgs in boring SB-6, and this localized residual mass may be the cause of the elevated soil vapor concentrations and persistent elevated dissolved concentrations in well MW-6.

- Comment: The case does not meet Policy groundwater criteria.
  Response: The case meets Policy Criterion 1 by Class 2. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the projected plume boundary. The dissolved concentration of benzene is less than 3,000 micrograms per liter (µg/L), and the dissolved concentration of methyl tertiary butyl ether (MTBE) is less than 1,000 µg/L.

- Comment: The case does not meet Policy vapor criteria.
  Response: State Water Board staff agree. Although the site is an active fueling station, site specific soil vapor data collected in 2014 indicated significantly elevated vapor concentrations in shallow soil in the same area where persistent elevated dissolved concentrations in groundwater have been reported. The vapor and groundwater data indicate that secondary source may be present in shallow soil and contributing to the soil vapor concentrations reported.

- Comment: The case does not meet Policy direct contact criteria.
  Response: State Water Board staff agree. Detected benzene and ethylbenzene concentrations in soil samples collected between ground surface and five feet below ground surface (bgs) in a limited area of the Site exceed Table 1 criteria for a commercial site.

Recommendation

State Water Board staff recommend that the Regional Board direct the Responsible Party to:

- Characterize the petroleum hydrocarbons in groundwater and deeper soil prior to evaluation of any in-situ remedial options.
- Obtain a current vapor sample from SV-1.
- Perform assessment and focused remediation efforts to address the petroleum hydrocarbon concentrations in the shallow soil and vadose zone in the area encompassing SB-6, SB-12 and MW-6.
- Continue groundwater monitoring.

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