



State Water Resources Control Board

REVIEW SUMMARY REPORT – ADDITIONAL WORK
PRELIMINARY REVIEW – MAY 2016

Agency Information

Table with 2 columns: Agency Name, Address, Agency Caseworker, Case No.

Case Information

Table with 2 columns: USTCF Claim No., Site Name, Responsible Party, USTCF Expenditures to Date, GeoTracker Global ID, Site Address, Address, Number of Years Case Open

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=T0603743956

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 a former commercial petroleum fueling facility associated with a car wash business. The car wash business remains in operation. Two gasoline USTs, associated dispensers, and product piping were removed in May 2003. There is no record in GeoTracker of contaminated soil being excavated at the time the underground facilities were removed. An unauthorized release was reported in January 2007. In March to April 2010 and May to June 2011, dual phase extraction (DPE) was performed at the Site. A total of approximately 89 pounds of petroleum hydrocarbon mass and 19,683 gallons of contaminated groundwater were removed during these periods of DPE operation. In April 2013, groundwater extraction was performed and removed 597 gallons of contaminated groundwater. In-situ chemical oxidation (ISCO) was conducted in June 2014 and October 2014, during which time a total of 7,208 pounds of sodium persulfate was injected into groundwater. Active remediation has not been performed at the site since October 2014. Since 2008, eight groundwater monitoring wells have been installed and regularly monitored. According to groundwater data, water quality objectives have been achieved or nearly achieved, except for benzene in monitoring well MW-4.

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 defined plume boundary. No other water supply wells have been identified within 1,000 feet of

the defined plume boundary in files reviewed. The unauthorized release is located within the service area of a public water system, as defined in the Policy. The affected shallow groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected shallow groundwater will be used as a source of drinking water in the foreseeable future. Other designated beneficial uses of the affected shallow groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited and stable.

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 does not meet this Policy criterion, because the concentration of benzene in monitoring well MW-4 exceeds 3,000 micrograms per liter ($\mu\text{g/L}$).
- **Vapor Intrusion to Indoor Air:** The case meets Policy Criterion 2b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional evaluation of site-specific risk from potential exposure to petroleum constituents was performed by State Water Board staff. The evaluation found that there is no significant risk of petroleum vapors adversely affecting human health. The onsite building is a car wash facility open on both ends which would prevent the accumulation of soil vapors in the building. The entire site is paved and the interior of the car wash building has a cement or concrete floor. In addition, as a car wash there would be adequate air exchange provided by the building's ventilation system required to control vehicle exhaust generated during car wash activities.
- **Direct Contact and Outdoor Air-Exposure:** The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded. There are no soil sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be used as a surrogate for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

Objections to Closure and Responses

According to their directive letter to the Responsible Party (RP), dated April 28, 2016, Regional Water Board staff object to UST case closure because:

- **Comment:** Secondary source has not been removed to the extent practicable.
Response: State Water Board staff agree. In the Policy, "secondary source" is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. There is no record of contaminated soil being excavated when the USTs and other underground facilities were removed. Source mass has been removed or destroyed by active remediation (DPE, groundwater extraction, and ISCO), but the Policy further states that additional removal or remedial actions may be required if the groundwater plume does not meet the definition of a low threat as described in the Policy. As stated elsewhere in this document, this case does not meet the Policy groundwater criterion; therefore, removal of additional source mass appears warranted.

- Comment: The case does not meet the Policy groundwater media-specific criterion.
Response: State Water Board staff agree. The concentration of benzene in monitoring well MW-4 has stabilized, but dissolved concentrations remain above 3,000 µg/L. Otherwise, the case would meet 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 defined plume boundary, and the dissolved concentration of methyl tertiary butyl ether (MTBE) is less than 1,000 µg/L.
- Comment: The case does not meet the Policy vapor intrusion to indoor air media-specific criterion.
Response: As stated above, the case meets Policy Criterion 2b. The onsite building is a car wash facility open on both ends, preventing the accumulation of soil vapors in the building. The entire site is paved and the interior of the car wash building has a cement or concrete floor. In addition, as a car wash there would adequate air exchange provided by the building's ventilation system required to control vehicle exhaust generated during car wash activities. Given these conditions, the exposure pathway for vapor intrusion to indoor air is incomplete

Recommendation

State Water Board staff concur with the Regional Water Board directive dated April 28, 2016 to prepare a Remedial Action Plan proposing implementation of focused remediation in the area of monitoring well MW-4 in order to reduce residual mass in soil such that the dissolved benzene concentration is decreased and remains below 3,000 µg/L after remediation. State Water Board staff have the following comments and recommendations regarding potential resumed use of DPE as a method for removing petroleum hydrocarbon mass in the vicinity of MW-4:

- Based on vapor headspace data collected during the installation of MW-4, it appears there may be residual petroleum mass beneath the completion depth of the well that would not be accessible for removal by DPE; and,
- The duration of the previous DPE events may not have been long enough to fully dewater the recoverable residual petroleum mass in the vicinity of MW-4 to be removed by DPE.

Therefore, if necessary, State Water Board staff recommend the Regional Water Board direct the RP to evaluate these possible enhancements to DPE operation at the location of MW-4:

- Drill out MW-4 and install a deeper well that would allow groundwater to be drawn down below the vertical extent of residual petroleum mass; and,
- Complete the well deep enough to allow for the use of a submersible pump, which could be operated full-time (24 hour operation) to maintain dewatering beneath the vertical extent of the residual petroleum mass.

Upon completion of this scope, State Water Board staff recommend Regional Water Board staff reevaluate the case for closure.

Santa Palm Car Wash
8787 Santa Monica Boulevard, West Hollywood
Claim No: 18883

May 2016

The recommended Fund budget category for this claim is: CAP/REM – Corrective Action
Plan/Remediation



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