

State Water Resources Control Board

REVIEW SUMMARY REPORT – ADDITIONAL WORK PRELIMINARY REVIEW – APRIL 2016

Agency Information

Agency Name: Orange County Health Care Agency (County)	Address: 1241 East Dyer Road, Suite 120 Santa Ana, CA 92705
Agency Caseworker: Shyamala Sundaram	Case No.: 99UT054

Case Information

Cleanup Fund (Fund) Claim No.: 15927	GeoTracker Global ID: T0605911852
Site Name: Chevron #9-0422	Site Address: 14501 Red Hill Avenue Tustin, CA 92780
Responsible Party: Daryl Pessler Chevron Environmental Management Company	Address: 145 South State College Boulevard, Suite 400 Brea, CA 92821
Fund Expenditures to Date: \$0	Number of Years Case Open: 16

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=T0605911852

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 fueling facility and automotive repair facility. In 1983, three gasoline USTs were removed and replaced. There is no record of contaminated soil being excavated at the time the gasoline USTs were removed. In 1997, one waste oil UST was removed along with approximately 25 cubic yards of petroleum hydrocarbon-contaminated soil. An unauthorized release was reported in September 1999. In June 2005, three gasoline USTs, dispenser islands, and associated piping were removed and replaced. There is no record of contaminated soil being excavated during the 2005 UST removal activities. Two-phase extraction (TPE), removing soil vapor and groundwater concurrently, was conducted between February 2006 and May 2011. In addition, a dual-phase extraction (DPE) pilot test was performed for five days in May 2014. Combined, TPE and DPE removed approximately 6,103 pounds of vapor-phase hydrocarbons. Groundwater extraction (GWE) has continued since the extraction of soil vapor was curtailed in May 2011. As of September 2015, approximately 1,895,364 gallons of contaminated groundwater had been extracted. Since 1999, thirty-two groundwater monitoring wells have been installed and regularly monitored. Two monitoring wells have been destroyed. According to groundwater data, water quality objectives (WQOs) have not been achieved.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, the nearest public water supply well (T-WALN-77) is approximately 120 feet southeast (crossgradient to downgradient) of the Site. This public water supply well has been sampled 62 times for petroleum hydrocarbon constituents since at least 1989 and no petroleum hydrocarbon constituents have been detected. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. There are no surface water bodies within 1,000 feet of the defined plume boundary. 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.

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 the Policy Criterion for groundwater. Although data from the most recent groundwater monitoring event (February 2016) indicates the case would meet Class 2 if not for the active production well, the data represents only a portion of the site conditions. Due to decreasing groundwater elevations, key monitoring points (including wells MW-7, MW-8, and MW-11) have gone dry. Prior to going dry, dissolved concentrations in these wells were displaying increasing trends. Therefore, the current maximum benzene and methyl tertiary butyl ether concentrations within the source area are undetermined.
- **Vapor Intrusion to Indoor Air:** This active fueling facility meets the Active Commercial Petroleum Fueling Facility Exception. Exposure to petroleum vapors associated with historical fuel system releases is comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. The off-site properties associated with the case meet the Policy Criterion 2a by Scenario 3b. The maximum benzene concentration in groundwater off-site is less than 1,000 micrograms per liter ($\mu\text{g/L}$). The minimum depth to groundwater is greater than 10 feet, overlain by soil containing less than 100 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH).
- **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.

Closure and Responses

The County objects to UST case closure (October 2, 2015 letter) because:

- **Comment:** The case does not meet groundwater media-specific criteria due to elevated benzene groundwater concentrations in the source area, groundwater plume length, and proximity to City of Tustin's active large system production well located approximately 120 feet southeast of the Site.
Response: State Water Board staff agree. The case does not meet groundwater media-specific criteria as indicated in the *Rationale for Closure under the Policy* section above.
- **Comment:** The secondary source has not been removed to the extent practicable. Current site maximum TPHg and benzene groundwater concentrations are in the vicinity of the dispenser island area. Additionally, lowering the water table was not achieved at the site by the two phase extraction system to expose the smear zone for extraction.
Response: State Water Board staff agree. There is no record of contaminated soil being excavated during UST removal activities, with the exception of the waste oil UST removal in

1997. Petroleum hydrocarbons in the vadose zone should have been removed with DPE and TPE; however, secondary source that reached groundwater does not appear to have been removed to the extent practicable. Elevated concentrations of petroleum constituents in groundwater are present beneath the dispensers; notably benzene concentrations that exceeded 1,000 µg/L in monitoring wells MW-7, MW-8, and MW-11 before those wells went dry. These concentrations are potentially indicative of residual light non-aqueous phase liquid (LNAPL) below the water table in the area of these wells. Soil data collected during the installation of these wells, as well as during advancement of other soil borings in proximity to these wells, indicates an LNAPL smear zone in the interval between 35 and 40 feet below ground surface (bgs), which was apparently inadequately dewatered during TPE and DPE operation

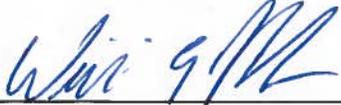
Additionally, according to the LTCP Checklist, dated July 2, 2015, the County objects to closure because:

- **Comment:** A conceptual site model (CSM) that assesses the nature, extent, and mobility of the release has not been developed.
Response: 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 has been developed. The goal of a CSM is to provide sufficient site-specific information to evaluate the threat to human health, safety, and the environment. The supporting data and analysis used to develop the CSM are not required to be contained in a single report. The information may be contained in multiple reports submitted to the regulatory agency over a period of time.

Recommendation

State Water Board staff recommends the County direct the Responsible Party to perform the following:

- Shut down or modify the current GWE system, as it does not appear to be effectively removing secondary source required to make the groundwater plume meet the definition of low threat as described in the Policy.
- Perform secondary source removal targeting the smear zone between approximately 35 and 40 feet bgs in the vicinity of groundwater monitoring wells MW-7, MW-8, and MW-11. The GWE system may be modified and/or enhanced to effectively implement this recommendation.
- Evaluate the groundwater monitoring program to reduce the number of wells being sampled each monitoring event and reduce the frequency of monitoring and sampling. The proposal to modify the monitoring program should include recommendation to destroy (and replace, if necessary) any wells that have gone dry and are no longer providing data to evaluate site conditions.

 4/12/16

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