

State Water Resources Control Board

REVIEW SUMMARY REPORT – ADDITIONAL WORK FIFTH REVIEW – AUGUST 2016

Agency Information

Agency Name: Solano County Environmental Health Division (County)	Address: 675 Texas Street, Suite 5500 Fairfield, CA 94533
Agency Caseworker: Misty C. Kaltreider	Case No.: 20023

Case Information

Cleanup Fund (Fund) Claim No.: 16080	GeoTracker Global ID: T0609500242
Site Name: Bay Area Diablo Petroleum	Site Address: 116 West Channel Road Benicia, CA 94510
Responsible Party: Dennis O'Keefe Golden Gate Petroleum	Address: 1340 Arnold Drive, Suite 231 Martinez, CA 94553
Fund Expenditures to Date: \$309,368	Number of Years Case Open: 24
Fund Budget Category: CAP/REM – Corrective Action Plan/Remediation	

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=T0609500242

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. An unauthorized release was reported in February 1992 following the removal of three USTs (one gasoline, one diesel, one waste oil). A surface spill of an unknown volume of diesel fuel was also reported to have occurred in 1995. There is no record of contaminated soil being excavated either during the UST removal in 1991 or after the diesel spill in 1995. As of June 2016, an estimated total of 3.21 gallons of free product had been removed from monitoring wells using passive skimmers (2005 to 2008) or by hand-bailing. Other than free product removal, active remediation has not been conducted at the site. Since 1992, sixteen groundwater monitoring wells have been installed and regularly monitored. According to groundwater data, water quality objectives for the petroleum hydrocarbon constituents of concern presented in the Policy have all been achieved; however, free product is present in at least one monitoring well onsite and elevated dissolved concentrations of total petroleum hydrocarbons as diesel (TPHd) extend offsite.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no public water supply wells within 1,000 feet of the plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Channel Creek is less than 250 feet east (downgradient to crossgradient) of the monitoring well (MW-11) that currently contains measurable free product. 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 impacted groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting.

Rationale for Closure under the Policy

- **General Criteria:** The case meets six of the eight Policy general criteria. Secondary source has not been removed to the extent practicable and free product has not been removed to the maximum extent practicable.
- **Groundwater Specific Criteria:** The case does not meet the Policy Criterion for groundwater, because free product is present and there is a surface water body located within 250 feet of the free product plume.
- **Indoor Vapor Risk from Residual Petroleum Hydrocarbons:** 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.
- **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

Based on the LTCP Checklist in GeoTracker, which was last updated on June 8, 2016, County staff objects to UST case closure because:

- **Comment:** The case does not meet the Policy Groundwater Media-Specific criterion.
Response: State Water Board staff agree. Measurable free product remains present in one monitoring well, as of the June 2016 groundwater monitoring event, and a surface water body is located less than 250 feet east (downgradient to crossgradient) of the free product plume.

Recommendation

State Water Board staff concurs with the scope of work approved by the County in their letter dated January 4, 2016 and with the current groundwater monitoring program, but recommend County staff direct the following additions:

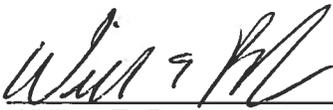
- Soil samples collected from ground surface to 10 feet below ground surface should be additionally analyzed for naphthalene;
- Collect a sample of the remaining free product and submit to a forensic laboratory for a fingerprint analysis to verify it is diesel fuel; and,

- Perform laboratory analysis of groundwater samples for TPHd both with and without silica gel analysis in order to determine whether there are non-polar metabolites contributing to the dissolved TPHd concentrations being reported.

In a letter dated June 8, 2016, the County requested the responsible party to increase free product removal efforts based on increasing thicknesses of free product being measured in site monitoring wells. However, during the most recent groundwater monitoring event (June 2016), measurable free product was observed in only one monitoring well. The responsible party's consultant proposed that aggressive free product removal may not be warranted based on the apparent reduction of free product. State Water Board staff recommend that the County rescind their directive to perform aggressive free product removal until such time that the free product plume is better defined or is present in more than one monitoring well.

Once the extent of free product is fully defined, State Water Board staff recommend that County staff direct the responsible party to evaluate the alternatives and select the most appropriate to remove free product to the maximum extent practicable. In State Water Board staff's opinion, removal of free product would also satisfy the criteria for removal of secondary source to the extent practicable. Therefore, once free product has been removed to the maximum extent practicable, there should be no further impediments to closure, and the County should consider the case for closure at that time with respect to Policy criteria.

The recommended Fund budget category for this claim is: SWI – Soil and Groundwater Investigation.



William E. Brasher, P.E.
Water Resource Control Engineer
Technical Review Unit
(916) 341-5476

8/16/16
Date



Pat G. Cullen, P.G.
Senior Engineering Geologist
Chief, Technical Review Unit
(916) 341-5684

8/16/16
Date