

State Water Resources Control Board

REVIEW SUMMARY REPORT – ADDITIONAL WORK SECOND REVIEW – SEPTEMBER 2016

Agency Information

Agency Name: Humboldt County Department of Health and Human Services (County)	Address: 100 H Street, Suite 100 Eureka, CA 95501
Agency Caseworker: Mark Verhey	Case No.: 12211

Case Information

Cleanup Fund (Fund) Claim No.: 11944	GeoTracker Global ID: T0602300156
Site Name: Bloxham's Shell	Site Address: 1401 G Street Arcata, CA 95521
Responsible Party: Dennis & Sandra Bloxham	Address: Private Residence
Fund Expenditures to Date: \$1,119,907	Number of Years Case Open: 26
Current Fund Budget Category: VM – Verification Monitoring	

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=T0602300156

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 December 1990 following the removal of a used oil tank in 1989. Three 8,000 gallon USTs (two gasoline, one diesel) were removed in 1996 and approximately 480 cubic yards of impacted soil were removed and disposed off-site. An unreported quantity of free product was removed from site monitoring wells between 1999 and 2001. Dual-phase extraction (DPE) pilot testing was conducted in July 2005, removing an estimated 23 pounds of petroleum hydrocarbons. A DPE system operated at the site from March 2008 through March 2010 and again from September 2011 through November 2011, removing a reported total of 1,958 pounds of vapor-phase petroleum hydrocarbons and 177,260 gallons of contaminated groundwater. The removal rate at shutdown in November 2011 was approximately 0.25 pound per day. Active remediation has not been conducted at the site for the past five years. Since 1996, 35 groundwater monitoring wells have been installed and regularly monitored. According to groundwater data, water quality objectives have not been achieved.

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 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 all eight Policy general criteria.
- **Groundwater Specific Criteria:** This case does not meet Policy Criterion for groundwater because the length of the plume exceeding water quality objectives is greater than 100 feet and the maximum concentration of benzene in groundwater is greater than 3,000 micrograms per liter ($\mu\text{g/L}$). The contaminant plume is also not fully defined to the east/northeast of monitoring well MW-12.
- **Vapor Intrusion to Indoor Air:** Onsite, 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. However, the groundwater plume exceeding water quality objectives extends offsite and the offsite plume does not meet Policy Criterion for vapor intrusion because the maximum benzene concentration offsite is greater than 1,000 $\mu\text{g/L}$ and the minimum depth to groundwater is less than 10 feet.
- **Direct Contact and Outdoor Air Exposure:** Onsite, this case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional evaluation of site-specific risk from potential exposure to residual soil contamination was completed by State Water Board staff. The results of the evaluation found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. Approximately 480 cubic yards of impacted soil were removed and disposed off-site during UST removal activities in 1996. DPE pilot testing in July 2005 removed an estimated 23 pounds of petroleum hydrocarbons and a DPE system operating periodically from March 2008 through November 2011 removed an additional 1,958 pounds of petroleum hydrocarbons. The removal rate at shutdown in November 2011 was approximately 0.25 pound per day indicating very little petroleum hydrocarbon mass remaining in shallow soil. Offsite, this case does not meet Policy Criterion for direct contact and outdoor air exposure due to the high dissolved concentrations of benzene and ethylbenzene in groundwater which is less than 10 feet below ground surface (bgs).

Outcome of Teleconference

In a teleconference between County staff and State Water Board staff on August 18, 2016, it was agreed that the County would direct the Responsible Party to perform the following to achieve Policy criteria in a timely, cost-effective manner:

- Perform targeted remediation of soil and groundwater in the area around monitoring well MW-6 to remove residual petroleum hydrocarbon mass and reduce dissolved volatile petroleum hydrocarbon concentrations offsite to the extent practicable.
- Advance one or two soil borings on the residential property located adjacent to the north side of the site (1465 G Street), where MW-6 is located, in order to:
 - Collect soil samples between 0 and 5 feet bgs and between 5 and 10 feet bgs to analyze for (at minimum) benzene, ethylbenzene, and naphthalene; and,

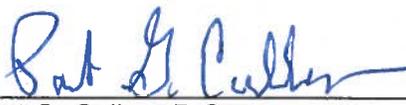
- Install at least one fixed soil vapor probe to a depth of 5 feet bgs from which soil gas samples can be collected prior to, during, and after remediation at MW-6. The soil gas samples should be analyzed for (at minimum) benzene, ethylbenzene, naphthalene, and oxygen content.
- Install a fixed soil vapor probe on the property located at 1460 G Street from which soil gas samples can be collected at least twice. The soil gas samples should be analyzed for (at minimum) benzene, ethylbenzene, naphthalene, and oxygen content.
- Install one monitoring well to the east/northeast of monitoring well MW-12. The well should be screened at a similar depth interval to MW-12.
- Continue semi-annual groundwater sampling and reporting, including sampling of new well MW-12 and downgradient wells MW-8 and MW-9 each event to monitor definition of the plume.

Upon completion of these tasks, the case will be reevaluated with respect to Policy closure criteria.

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

 9/12/16

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 9/12/16

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