UNDERGROUND STORAGE TANK (UST) CASE CLOSURE SUMMARY

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board (Central Valley Water Board),	Address: 1685 E Street Fresno, CA 93706-2007
Agency Caseworker: Khalid Durrani	Case No.: 5T10000115

Case Information

UST Cleanup Fund (Fund) Claim No.: 686	Global ID: T0601900113
Site Name: Washington Elementary School	Site Physical Address: 1599 5th Street Mendota, CA 93640 (Site) Fresno County
Petitioner: Mendota Unified School District Attention: Jose Alcaide and Paul Lopez jalcaide@mendotaschools.org plopez@mendotaschools.org	Address: 115 McCabe Avenue Mendota, CA 93640
Fund Expenditures to Date: $1,047,252	Number of Years Case Open: 32

GeoTracker Case Record: http://geotracker.waterboards.ca.gov/?gid=T0601900113

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy because they pose a low threat to human health, safety, and the environment. The Site meets all of the required criteria of the Policy and therefore, is subject to closure.

The Site is an elementary school in the Mendota Unified School District (USD) that formerly contained a school bus yard and maintenance facility in the southeastern portion of the property. The release was discovered in July 1988 when three fuel tanks, consisting of two 1000-gallon (gal) tanks (gasoline and diesel), and a 5000-gal diesel tank were excavated and removed from the Site. Free product was found in one

monitoring well adjacent to the 5000-gal diesel tank during two events in 2000 and 2005. In July 2006, about 750 cubic yards of contaminated soil was removed from two excavations that extended to groundwater. The record contains conflicting reports about the volume sent for disposal at a hazardous waste landfill. Ozone injection and soil vapor extraction pilot testing were conducted between 2012 and 2013. Full-scale remediation using these technologies was conducted in 2018 where 240 pounds (lbs) of ozone were injected and 328 lbs of total petroleum hydrocarbons (TPH) were removed from the subsurface. Remediation was discontinued due to diminishing returns.

The remedial activities caused the petroleum plume to segregate from the on-Site source areas. During the most recent monitoring event (Second Quarter 2019), the segregated portion of the plume had a benzene concentration in one monitoring well, MW-17, that was greater than the 1000 microgram per liter (µg/L) threshold for Class 4 of the Groundwater Media-Specific Criteria in the Policy. Methyl tert-butyl ether has generally not been present in groundwater samples.

The benzene and TPH concentrations in MW-17 decreased since well installation in 2014. Natural attenuation will continue to occur downgradient from MW-17 causing the extent of the plume to diminish. There are no public supply wells, surface water bodies, or other known groundwater receptors within 1000 feet of the Site that would be a potential exposure pathway for impacted groundwater. Remaining petroleum constituents are limited, stable, and decreasing.

Site conditions meet Policy vapor intrusion Criteria 2 (a), Scenario 4. Additional evaluation of the vapor intrusion pathway was conducted, including direct measurements of indoor and crawl space air quality to demonstrate that students and staff at the school were protected. A risk assessment demonstrated the remaining impacts would not present a public health risk. Department of Toxics Substance Control staff concurred with the conclusions presented in the risk assessment.

Additional assessment would be unnecessary and will not likely change the conceptual model. Any remaining petroleum constituents do not pose significant risk to human health, safety, or the environment under current conditions.

Rationale for Closure Under the Policy

- General Criteria – Site **MEETS ALL EIGHT GENERAL CRITERIA** under the Policy.
- Groundwater Media-Specific Criteria – Site meets the criteria in **Class 5**. The regulatory agency determines, based on an analysis of Site-specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health, safety, and to the environment and water quality objectives will be achieved within a reasonable time frame.
- Petroleum Vapor Intrusion to Indoor Air – Site meets **Criteria 2 (a), Scenario 4**. The concentrations of benzene, ethylbenzene, and naphthalene in soil gas are

less than the Policy limits as it applies to the bioattenuation zone, land use, and existing or planned future building structures at the Site.

- Direct Contact and Outdoor Air Exposure – Site meets **Criteria 3 (a)**. Maximum concentrations of petroleum constituents in soil from confirmation soil samples are less than or equal to those listed in Table 1 of the Policy.

  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% benzene and 0.25% naphthalene. Therefore, benzene concentrations 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 Table 1 of the Policy. Therefore, estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact with a safety factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

Objections to Closure

Central Valley Water Board, staff objects to UST case closure because:

1. The downgradient benzene concentration in MW-17 does not meet the Groundwater Media-Specific threshold in the Policy.

   Response: The most recent monitoring data (Second Quarter 2019) indicate the benzene concentration in MW-17 is above the Policy threshold for plumes that are longer than 250 feet but less than 1000 feet in length. The pilot testing and full-scale remediation, beginning in 2012, contributed to the reduction of the benzene concentrations in downgradient monitoring wells, except in MW-17. The benzene concentration in five other wells were below 100 µg/L during Second Quarter 2019. The elevated benzene concentration in MW-17 is believed to be an artifact in the segregated portion of the plume that migrated off-Site prior to implementation of the full-scale remedial activities.

   Benzene concentrations in MW-17 decreased more than 50 percent in five years. There are no completed exposure pathways for contaminated groundwater. The maximum concentration of benzene in MW-17 is expected to naturally attenuate to water quality objectives within a reasonable period of time, consistent with State Water Board, Resolution No. 92-49. Installation of more monitoring wells downgradient of MW-17 will not significantly change the conceptual site model.

Recommendation for Closure

The corrective action performed at this Site ensures the protection of human health, safety, and the environment. The corrective action performed at this Site is consistent with chapter 6.7 of division 20 of the Health and Safety Code, implementing regulations,

applicable state policies for water quality control and applicable water quality control plans. Case closure is recommended.

Reviewed By: _____ 11/10/2020
Matthew Cohen, PG No. 9077 Date
Senior Engineering Geologist