UNDERGROUND STORAGE TANK (UST) CASE CLOSURE SUMMARY

Agency Information

Agency Name: San Mateo County, Environmental Health Services	Address: 2000 Alameda del las Pulgas San Mateo, CA 94403
Agency Caseworker: Deno Milano	Case No.: 110123

Case Information

UST Cleanup Fund (Fund) Claim No.: NA	Global ID: T0608101115
Site Name: Tosco #4178	Site Address: 615 East Third Avenue San Mateo, San Mateo County (Site)
Responsible Party: Phillips 66 Company Attention: Atir Chak Atir.Chak@contractor.p66.com	Address: 3900 Kilroy Airport Way, Suite 210 Long Beach, CA 90806
Fund Expenditures to Date: NA	Number of Years Case Open: 22

GeoTracker Case Record: http://geotracker.waterboards.ca.gov/?gid=T0608101115

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 a former 76 service station that operated as early as 1978 until October 1998, when it was demolished. There were two generations of dispensers and USTs consisting of two gasoline tanks ranging in size from 5000 gallons (gal) to 10,000 gal. There was a waste oil tank that was not replaced with the second-generation USTs. The release was discovered when the second-generation USTs were removed prior to redevelopment. The Site is now occupied by a commercial/retail structure.

The second-generation USTs, dispensers and fuel lines were excavated and removed from the Site between October and November 1998. Confirmation soil sampling showed low to no benzene and ethylbenzene in soil. About 200 cubic yards (cy) of pea gravel and soil were used to backfill the excavations. About 225 cy of contaminated soil was taken off Site for disposal. A 5-day dual-phase (DPE) pilot test was performed using the monitoring well (MW-3) that had the highest historical concentrations of benzene, methyl tert-butyl ether (MTBE) and total petroleum hydrocarbons (TPH) as gasoline. A total of 689 pounds of petroleum hydrocarbons were recovered and 34,000 gal of groundwater were extracted during the DPE pilot test.

An assessment of the Groundwater Media-Specific Criteria was conducted. Site groundwater conditions typically meet the criterion in Policy, Class 4. The only exception was one event in one well (MW-10) in the last 13 years. Petroleum concentrations in MW-10 have decreased significantly since monitoring began in 2001 due to natural attenuation, and excursions above Policy thresholds are due to fluctuating groundwater levels. The closest public supply well is approximately 4,700 feet from the plume. Two private supply wells were identified within 1,000 feet of the plume. One of the private wells is no longer used. The second private supply well was sampled several times and petroleum constituents were not detected. The groundwater plume is stable, significantly shorter than the length in Class 4 and is not likely to affect surface water or drinking water supplies.

Groundwater flow is easterly-southeasterly toward an apartment complex with a subterranean garage containing dewatering sumps, causing the petroleum plumes from the Site to migrate under the footprint of the apartment complex. When the groundwater level rises and is shallow enough to be intercepted by the garage sumps, the contaminated groundwater is diluted with infiltration from the surface. The garage sumps were sampled during the 2016 and 2017 wet seasons. The sump water sampling revealed that TPH was not detected or was present at levels below water quality objectives. Volatile petroleum constituents were not detected in the sump water samples. It is unlikely the sump water will be impacted above water quality objectives in the future.

A risk assessment was conducted for the vapor intrusion pathway using data from 23 direct measurement, soil vapor samples collected in November 2000. Eleven of those samples exceeded the one-in-a-million cancer risk for a residential scenario. The results indicated the site should not be developed for residential use, but that commercial construction should not be precluded. The site was subsequently developed for commercial use. Two soil vapor probes were installed inside the commercial building in 2018 and 2019. The results of separate soil vapor sampling events were complicated by quality assurance/quality control issues.

An analysis of the vapor intrusion risk for the current commercial use was conducted using soil and groundwater data because of the quality assurance/quality control issues with the direct soil vapor measurements. Site conditions typically meet Policy, Criteria 2 (a), Scenario 3. As noted above, the benzene concentrations in one well,

MW-10, occasionally exceed Policy criteria when groundwater elevations drop. However, as previously noted there has only been one excursion above Policy thresholds since 2007. Additionally, the bioattenuation zone at the Site is thicker than ten feet as identified in Policy, Scenario 3, which provides additional distance for attenuation of petroleum vapors. One sample, P14, had a TPH concentration of 140 milligrams per kilogram (mg/kg), which is slightly higher than the Policy level of 100 mg/kg. The TPH concentration was non-detect in three out of the four sidewall soil samples and was at an acceptable level in the sample collected at the base of the excavation of the former source. The TPH concentration in soil near P14 is expected to have attenuated since confirmation sampling in the excavations was conducted in 1998. Historic data from a grab groundwater sample collected at location B4 exceeded the criteria in Policy, Scenario 3, but data collected from the monitoring well network is more representative of current Site conditions.

Remaining petroleum constituents are limited, stable, and decreasing. 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 (b). A Site–specific risk assessment for the vapor intrusion pathway was conducted under the policy and demonstrates that human health is protected to the satisfaction of the regulatory agency.
- 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.

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.

12/9/2020

Reviewed By: _____ _____
Matthew Cohen, PG No. 9077 Date
Senior Engineering Geologist