# UNDERGROUND STORAGE TANK (UST) CASE CLOSURE SUMMARY

## Agency Information

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| Agency Name:<br>Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) | Address:<br>320 West 4th Street, Suite 200<br>Los Angeles, CA 90013 |
| Agency Caseworker: Ahmad J. Lamaa | Case No.: I-04296 |

## Case Information

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| UST Cleanup Fund (Fund) Claim No.: 4620 | Global ID: T0603702973 |
| Site Name:<br>Shell #204-4115-0405 | Site Address:<br>4905 Bellflower Boulevard<br>Lakewood, CA 90712 (Site) |
| Responsible Party:<br>Equilon Enterprises, LLC dba Shell Oil Products US<br>Attention: Andrea Wing | Address:<br>20945 South Wilmington Avenue<br>Carson, CA 90621 |
| Fund Expenditures to Date: $1,490,000 | Number of Years Case Open: 30 |

**URL:** http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603702973

## Summary

**This case has been proposed for closure by the State Water Resources Control Board at the request of the Los Angeles Regional Water Quality Control Board, which concurs with closure.**

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. This case meets all of the required criteria of the Policy.

The Site is a former gasoline service station scheduled for redevelopment. The earliest documented release at the Site is a 1983 product line failure in which an estimated 1,000 gallons of gasoline was released. Three USTs were removed and replaced with three 10,000-gallon USTs later in 1983. Following a site assessment, an unauthorized release was reported in May 1988. Soil vapor extraction (SVE) testing was conducted at the Site in December 1988 and again in December 1999. A dual-phase extraction (DPE) system operated at the Site from April 2002 until July 2004, when the SVE portion of the system was shut down; the quantity of hydrocarbons extracted is not documented in the file. The DPE continued to operate until at least April 2005. In May 2005, a 550-gallon waste-oil UST and approximately 32 tons of petroleum-impacted soil were removed from the Site. In September and October 2008, three 10,000-gallon gasoline USTs and approximately 289 tons of petroleum impacted soil were removed from the Site. An in-situ chemical oxidation (ISCO) pilot test was

conducted at the Site in July 2010. Full scale ISCO events were conducted in October and November 2010, and May and June of 2011. During the 2011 event, approximately 800-gallons of impacted water was extracted and disposed of. In August 2017, a mobile DPE event was conducted at the Site; 26.7 pounds of vapor-phase hydrocarbons and 1,647 gallons of impacted groundwater were extracted during the event. Benzene, toluene, ethylbenzene, xylenes, and MTBE above water quality objectives (WQOs) remain in groundwater at the Site.

The plume length exceeding WQOs is less than 250 feet in length, decreasing in aerial extent, and there are no supply wells or surface water bodies within 1,000 feet of the projected plume boundary. Free product has historically been limited to the vicinity of monitoring well B-17 and was last reported in B-17 in 1997. Free product was reported in onsite monitoring well MW-3 following ISCO injection activities in 2014, but was not reported subsequent to the August 2017 mobile DPE event. Residual soil impacts in excess of Policy criteria for petroleum vapor intrusion to indoor air are centered in the former tank hold on the southeast portion of the Site. Under the current plan for redevelopment, the southeast portion of the Site is to remain paved parking, while the current station building is to be demolished and replaced by a new commercial structure located along the north, or alternatively, the west parcel boundary, allowing for a 30-foot bioattenuation zone between the new structure and the bulk of the residual soil impacts. 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 (a), Scenario 2**. There is a bioattenuation zone that provides a separation of at least 30 feet both laterally and vertically between the Light Non-Aqueous Phase Liquid in soil and the foundation of existing or potential buildings. Concentrations of total petroleum hydrocarbons as gasoline and diesel combined in soil are less than 100 milligrams per kilogram throughout the entire depth of the bioattenuation zone.
- 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 limited 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.

**Recommendation for Closure**

The corrective action performed at this Site ensures the protection of human health, safety, 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.

Matthew Cohen, PG No. 9077
Senior Engineering Geologist


1/11/19
Date