UNDERGROUND STORAGE TANK (UST) CASE CLOSURE SUMMARY

Agency Information

Agency Name: Los Angeles Regional Water Quality Control Board (Los Angeles Water Board)	Address: 320 West 4th Street, Suite 200 Los Angeles, CA 90013
Agency Caseworker: Mr. Daniel Pirotton	Case No.: 900200098

Case Information

UST Cleanup Fund (Fund) Claim No.: 7195	Global ID: T0603700636
Site Name: Tosco – 76 Station #3472	Site Address: 3501 West 3rd Street Los Angeles, CA 90020 (Site)
Petitioner: Chevron Environmental Management Company Attention: Ms. Nicole Arceneaux Representatives of Petitioner: Rogers Joseph O'Donnell, PC Attention: Messrs. Robert C. Goodman and Nicholas T. Niiro	Address: 6101 Bollinger Canyon Road San Ramon, CA 94583 Address: 311 California Street, 10th Floor San Francisco, CA 94104
Fund Expenditures to Date: $0	Number of Years Case Open: 25

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603700636

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

The Site is an active fueling facility. The release at the Site was discovered during the Site assessment in 1991, when soil sampling activities were conducted in conjunction of a failed leak test. Free product recovery has been performed at the Site since 1992. A total of 1.19 gallons of free product was removed from the Site using a vacuum truck. Free product has not been reported since 2004. In March 1999, product dispenser and associated product piping upgrades were conducted at the Site. A total of 274 tons of impacted soils was excavated and transported off-site for disposal at that time. The two gasoline USTs were leak tested on multiple occasions, and both USTs passed each test. In 2002, a soil vapor extraction (SVE) pilot test was conducted and removed 29 pounds of petroleum constituents. In January and February 2004, a total of eight, eight-hour dual phase extraction (DPE) events occurred at the Site. The DPE system removed 341 pounds of vapor-phase petroleum

constituents and 1,550 gallons of impacted groundwater. In February 2007, one 280-gallon waste-oil UST and 4.3 tons of impacted soil were removed from the Site. From September 2008 to June 2012, the SVE system operated and removed 32,837 pounds of petroleum constituents from the Site. From August 2009 to June 2012, an air injection (AI) system was operated at the Site. The AI/SVE system was shut down in 2012 as a result of the confirmation soil and groundwater rebound evaluation results.

The most recent groundwater sampling results in April 2016 indicate that total petroleum hydrocarbons as gasoline, benzene, methyl tertiary-butyl ether (MTBE), and tertiary-butyl alcohol (TBA) were detected at the maximum concentration of 1,300 micrograms per liter (µg/L), 38 µg/L, 250 µg/L, and 26,000 µg/L, respectively.

The public water supply for the Site is provided by the Los Angeles Department of Water and Power. The petroleum release is limited to the soil and shallow groundwater. The contaminant plume that exceeds water quality objectives (WQOs) is estimated to be less than 400 feet in length. Risk drivers benzene and MTBE are less than the Policy criteria. Historical groundwater data indicate that the groundwater plume is decreasing over time.

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. There are no existing water supply wells or surface water bodies located within a half-mile radius of the Site. The Site is low threat and therefore, the case should be closed.

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 4**. The contaminant plume that exceeds WQOs is less than 1,000 feet in length. There is no free product. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 1,000 µg/L, and the dissolved concentration of MTBE is less than 1,000 µg/L.
- Petroleum Vapor Intrusion to Indoor Air – Site meets the **EXCEPTION** for vapor intrusion to indoor air. Exposure to petroleum vapors associated with historical fuel system releases are 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 – 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.

Objections to Closure

Los Angeles Water Board staff objects to UST case closure because:

1. TBA is currently detected in multiple wells at significant concentrations above the Notification Level. The elevated TBA concentrations continue to be reported in wells GW-1, GW-2, and GW-4.

   RESPONSE: Groundwater concentration trends have been either stable or decreasing for all petroleum constituents in all monitoring wells, except for an increasing trend for TBA in monitoring

wells GW-2 and GW-4. Natural attenuation appears to be established in all wells, including monitoring wells GW-2 and GW-4 as evidenced by a decrease in MTBE concentrations in these wells. TBA is a degradation by-product of MTBE; therefore, an increase in TBA concentrations is attributed to the MTBE biodegradation. Concentrations of TBA are expected to decrease as natural attenuation continues to degrade residual petroleum constituents.

Since TBA is commonly a product of MTBE biodegradation processes catalyzed by microorganisms in the environment, the concentration of TBA in groundwater is not always a good indicator of source reduction. Based on scientific studies of the natural attenuation of TBA, the median attenuation rate for TBA is similar to the rates for MTBE and benzene and that TBA is not likely to pose a significant threat to the groundwater. Microbial growth on TBA removes TBA from the environment by converting TBA to the innocuous products carbon dioxide and water.

2. A considerable mass of TBA still exists in the groundwater beneath and downgradient from the Site.

   RESPONSE: TBA has not been detected in the farthest off-site downgradient monitoring well GW-10 since January 2012. Monitoring well GW-10 is located approximately 600 feet south from the Site boundary. Before the off-site downgradient monitoring well GW-13 was abandoned in 2010, groundwater monitoring results indicated that TBA was never detected in this well. Monitoring well GW-13 is located approximately 280 feet south from the Site boundary.

   Groundwater concentration trends have been either stable or decreasing for TBA in all monitoring wells, except for wells GW-2 and GW-4. Natural attenuation appears to be established in wells GW-2 and GW-4 as evidenced by a decrease in MTBE, total petroleum hydrocarbons as gasoline (TPH-g), and benzene concentrations. Concentrations of TBA are expected to decrease as natural attenuation continues to degrade residual petroleum constituents. Petroleum constituents, including TBA, in groundwater will continue to degrade through processes of adsorption, dispersion, dilution, volatilization, and biological degradation.

3. The TBA trend is increasing in wells GW-2, GW-4, and GW-8. The plume is not stable or decreasing in areal extent.

   RESPONSE: Based on historical analytical data, the groundwater plume is decreasing in areal extent over time. Groundwater concentration trends have been either stable or decreasing for MTBE and TBA in all wells, except for an increasing trend for TBA in wells GW-2 and GW-4. Natural attenuation appears to be established in all wells, including wells GW-2, GW-4, and GW-8 as evidenced by a decrease in MTBE, TPH-g, and benzene concentrations. Concentrations of TBA are expected to decrease as natural attenuation continues to degrade residual petroleum constituents.

4. Additional groundwater remediation is required to achieve WQOs in a reasonable time frame.

   RESPONSE: Remediation activities, including soil excavation, DPE, and SVE/AI, were conducted at the Site from 1999 to 2012. The groundwater plume is decreasing in areal extent. Remaining petroleum constituents do not pose significant risk to human health, safety, or the environment. Site conditions meet closure requirements specified in the Policy. Additional groundwater remediation is not necessary.

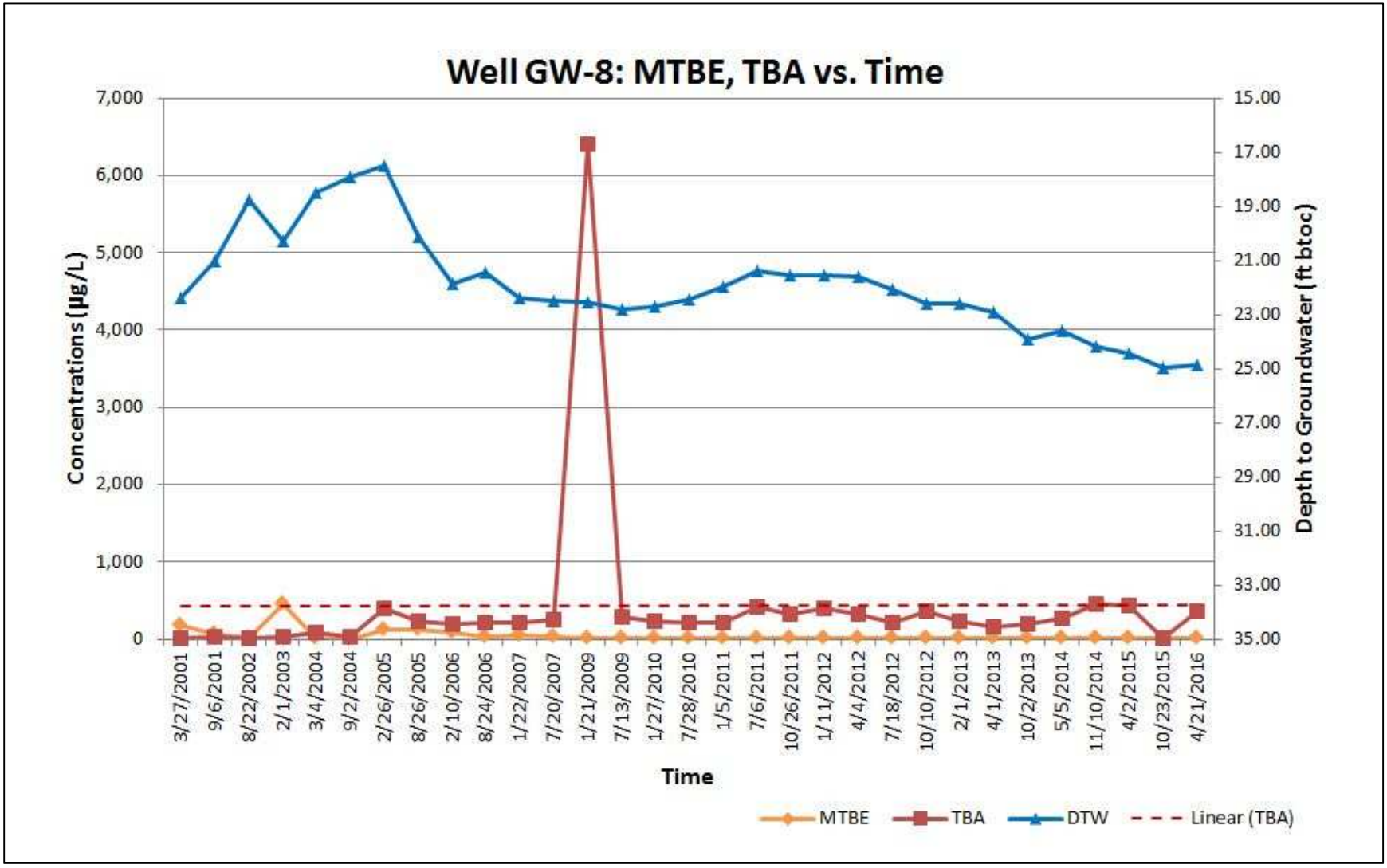
Recommendation for Closure

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 the Health and Safety Code, implementing regulations, applicable state policies for water quality control and applicable water quality control plans. Case closure is recommended.

Prepared By: Trinh Pham _____ 12/20/2016
Trinh Pham — Date
Water Resource Control Engineer

Reviewed By: _____ 12/20/2016
George Lockwood, PE No. 59556 — Date
Senior Water Resource Control Engineer


WEST 3RD STREET
NEW HAMPSHIRE AVENUE
VERMONT AVENUE
STRIP MALL
REMEDIATION SYSTEM
FORMER WASTE OIL TANK
UNDERGROUND PARKING LOT
STRIP MALL ABOVE
AVENUE BAR
PARKING
VONS GROCERY STORE
RALPH'S GROCERY STORE
STRIP MALL WITH SECOND FLOOR APARTMENTS
PAWN SHOP
BARBER SHOP
DENTIST OFFICE
PARKING LOT
APARTMENT COMPLEX
McDONALD'S
GW-1
GW-2
GW-3
GW-4
GW-5
GW-6
GW-7
GW-8
GW-9
GW-10
GW-11
GW-12
GW-13
GW-14
GW-15
GW-16
12
120
1,200
12,000
Groundwater Flow Direction
TBA Isoconcentration Contour for April 2016
TBA Isoconcentration Contour for August 2006
Approximate Scale
0
60
120


Well GW-8: MTBE, TBA vs. Time
Concentrations (µg/L)
Depth to Groundwater (ft btoc)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
15.00
17.00
19.00
21.00
23.00
25.00
27.00
29.00
31.00
33.00
35.00
3/27/2001
9/6/2001
8/22/2002
2/1/2003
3/4/2004
9/2/2004
2/26/2005
8/26/2005
2/10/2006
8/24/2006
1/22/2007
7/20/2007
1/21/2009
7/13/2009
1/27/2010
7/28/2010
1/5/2011
7/6/2011
10/26/2011
1/11/2012
4/4/2012
7/18/2012
10/10/2012
2/1/2013
4/1/2013
10/2/2013
5/5/2014
11/10/2014
4/2/2015
10/23/2015
4/21/2016
Time
MTBE
TBA
DTW
Linear (TBA)