

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Sacramento County Environmental Health (County)	Address: 10590 Armstrong Avenue, Mather, CA 95655
Agency Caseworker: David Von Aspern	Case No.: D590

Case Information

USTCF Claim No.: 14794	GeoTracker Global ID: T0606701097
Site Name: Yellow Cab Company	Site Address: 900 Richards Blvd., Sacramento, CA 95814
Responsible Party: Fred Pleines Revocable Trust	Address: 900 Richards Blvd., Sacramento, CA 95814
USTCF Expenditures to Date: \$733,403	Number of Years Case Open: 14

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606701097

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 meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Case Information (Conceptual Site Model)**. Highlights of the case follow:

This case is for an active commercial petroleum fueling facility. In 1998, an unknown amount of soil was excavated and removed during UST removal and upgrade activities, and one UST was also installed. An unauthorized release was reported in June 1999. Following the leak detection a soil and groundwater investigation was conducted and dual phase extraction (DPE) was initiated. From September 2006 through September 2011, the DPE system removed approximately 15,847 pounds of total petroleum hydrocarbons as gasoline (TPHg), 193.6 pounds of benzene and 17.9 pounds of methyl tert-butyl ether (MTBE). Groundwater data indicated that water quality objectives have been achieved or nearly achieved for all petroleum hydrocarbon constituents except for benzene in monitoring well MW2 and TPHg and MTBE in monitoring wells MW1, MW2 and MW7.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no supply wells regulated by the California Department of Public Health 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. Water is provided to water users near the Site by the City of Sacramento. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected 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. Remaining petroleum hydrocarbon constituents are limited, stable and concentrations decreasing. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose a significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- **General Criteria:** The case meets all eight Policy general criteria.
Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 µg/L.
- **Vapor Intrusion to Indoor Air:** The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility and release characteristics cannot be reasonably believed to pose an unacceptable health risk.
- **Direct Contact and Outdoor Air Exposure:** This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health. Extensive soil and groundwater remediation had removed more than 15,000 pounds of petroleum hydrocarbons from the Site. The Site is paved and accidental access to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

In an email dated April 3, 2013, the County requested additional Site characterization to define the extent of contamination vertically and horizontally.

RESPONSE: Based on the historical groundwater flow directions and the past soil and groundwater assessment results, the Site has been adequately characterized both vertically and horizontally. The DPE system removed over 15,000 pounds of petroleum hydrocarbons from the Site. The groundwater plume is stable or decreasing. The case meets the Policy criteria and additional corrective actions are not necessary.

Determination

Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification as required by the Policy. Sacramento County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

Lisa Babcock, P.G. 3939, C.E.G. 1235

9/22/13

Date

Prepared by: Abdul Karim Yusufzai

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The case complies with the State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the Site do not pose significant risk to human health, safety, or the environment.

The case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.¹

<p>Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST site closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><u>General Criteria</u> General criteria that must be satisfied by all candidate sites:</p>	
<p>Is the unauthorized release located within the service area of a public water system?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Does the unauthorized release consist only of petroleum?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Has the unauthorized (“primary”) release from the UST system been stopped?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Has free product been removed to the maximum extent practicable?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Has secondary source been removed to the extent practicable?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

¹ Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

<p>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?</p> <p>Nuisance as defined by Water Code section 13050 does not exist at the Site?</p> <p>Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><u>Media-Specific Criteria</u> Candidate sites must satisfy all three of these media-specific criteria:</p> <p>1. Groundwater: To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:</p> <p>Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?</p> <p>Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?</p> <p>If YES, check applicable class: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.</p> <p>Is the Site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.</p> <p>a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

<p>b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>3. Direct Contact and Outdoor Air Exposure: The Site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).</p> <p>a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?</p> <p>b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

ATTACHMENT 2: SUMMARY OF BASIC CASE INFORMATION (Conceptual Site Model)

Site Location/History

- The Site is an active commercial fueling facility and located at 900 Richards Boulevard in Sacramento, California.
- The Site is bounded by commercial business in all directions.
- Site maps showing the locations of the former USTs, monitoring wells, groundwater level contours, TPHg, benzene and MTBE concentrations are provided at the end of this closure review summary (Doulos Environmental, Inc., 2013).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: June 1999.
- Status of Release: USTs replaced.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/Removed/Active	Date
1,2	12,000	Gasoline	Removed	Aug 98
3	2,000	Motor Oil	Removed	Aug 98
4	2,000	Waste Oil	Removed	Aug 98
5	12,000	Gasoline	Active	-

Receptors

- GW Basin: Sacramento Valley – South American.
- Beneficial Uses: Municipal and Domestic Supply
- Land Use Designation: The land use is commercial and industrial.
- Public Water System: City of Sacramento.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health within 1,000 feet of the defined plume boundary. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: Soils consist of silty sand, silt, and sandy clay. A higher permeability fine-grained loose sand is generally present from 15 feet to the total explored depth of 27 feet below ground surface (bgs).
- Maximum Sample Depth: 25 feet bgs.
- Minimum Groundwater Depth: 4.33 feet bgs at monitoring well MW-4.
- Maximum Groundwater Depth: 19.59 feet bgs at monitoring well MW-5.
- Current Average Depth to Groundwater: Approximately 14 feet bgs.
- Saturated Zones(s) Studied: Approximately 15 to 25 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Generally to the southwest (March 2013).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (3/25/2013)
MW-1	June 2000	10-25	14.12
MW-2	June 2000	10-25	13.92
MW-3	June 2000	10-25	14.13
MW-4	June 2000	10-25	13.24
MW-5	June 2001	10-25	15.74
MW-6	June 2001	10-25	14.05
MW-7	March 2002	10-25	13.05
MW-8	June 2004	10-25	13.81

Remediation Summary

- Free Product: None reported.
- Soil Excavation: Unknown.
- Soil/Groundwater Remediation: Dual phase extraction was initiated in September 2006. The system was comprised of eight wells (VE-1 through VE-8), a thermal oxidizer to treat extracted soil vapors, and a granular activated carbon system to treat extracted groundwater. Through September 2011, the system removed approximately 15,847 pounds of TPHg, 193.6 pounds of benzene, 17.9 pounds of MTBE, and approximately 1,020,702 gallons of groundwater.

Most Recent Concentrations of Petroleum Constituents in Soil*

Constituent	Maximum 0-5 feet bgs [mg/kg and (date)]	Maximum 5-10 feet bgs [mg/kg and (date)]
Benzene	NA	NA
Ethylbenzene	NA	NA
Naphthalene	NA	NA
PAHs	NA	NA

NA: Not Analyzed, Not Applicable or Data Not Available

mg/kg: Milligrams per kilogram, parts per million

<: Not detected at or above stated reporting limit

PAHs: Polycyclic aromatic hydrocarbons

*Extensive soil and groundwater remediation had removed more than 15,000 pounds of petroleum hydrocarbons from the Site.

Most Recent Concentrations of Petroleum Constituents in Groundwater

Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	3/25/2013	76	<0.5	<0.5	<0.5	<0.5	51	6.9
MW-2	3/25/2013	2,600	410	15	7	28	320	120
MW-3	3/25/2013	91	<0.5	<0.5	<0.5	<0.5	0.74	<0.5
MW-4	3/25/2013	<50	<0.5	<0.5	<0.5	<0.5	11	<0.5
MW-5	3/25/2013	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-6	3/25/2013	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-7	3/25/2013	71	<0.5	<0.5	<0.5	<0.5	150	23
MW-8	3/25/2013	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WQOs		5	0.15	42	29	17	5^a	1,200^b

µg/L: Micrograms per liter, parts per billion

<: Not detected at or above stated reporting limit

TPHg: Total petroleum hydrocarbons as gasoline

MTBE: Methyl tert-butyl ether

TBA: Tert-butyl alcohol

WQOs: Water Quality Objectives, Central Valley Regional Water Quality Control Board, Region 5 (Regional Water Board) Basin Plan

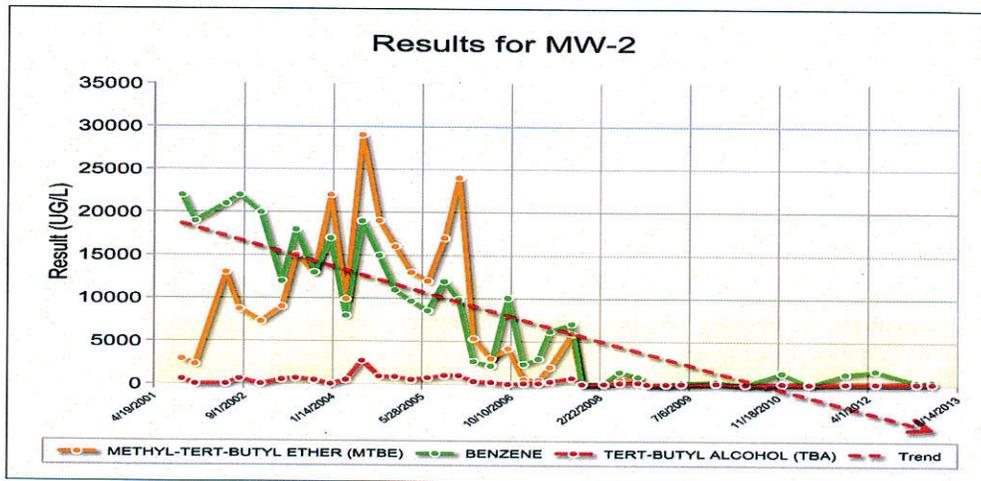
^a: Secondary maximum contaminant level (MCL)

^b: California Department of Public Health, Response Level

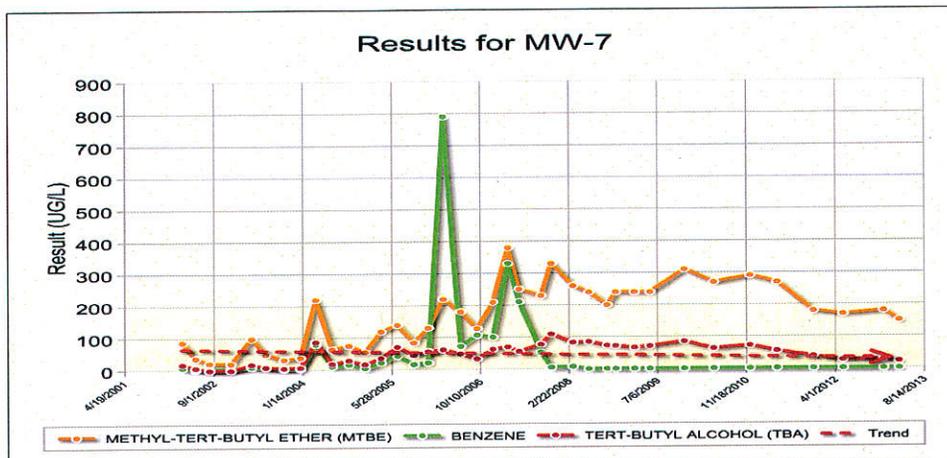
Groundwater Trends

- Since June of 2000, eight groundwater monitoring wells have been installed and regularly monitored. Benzene, MTBE and TBA trends of select wells are shown below:

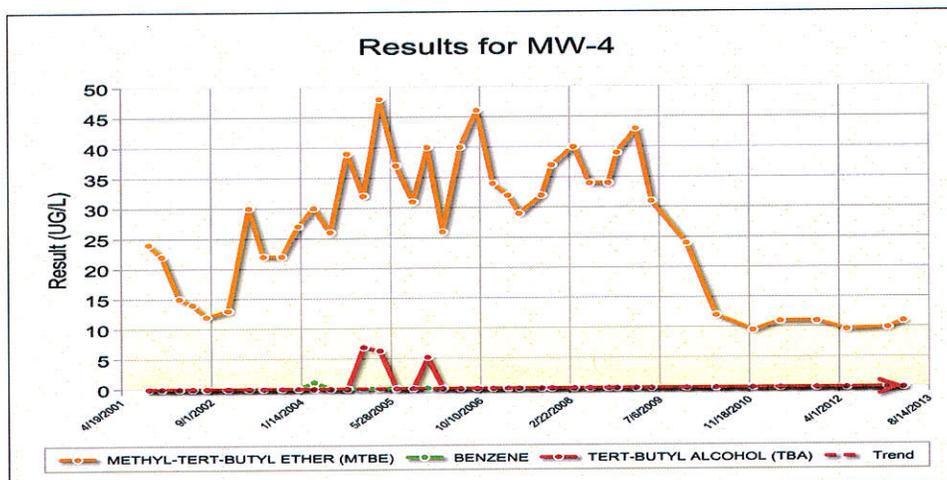
Source Area Well



Downgradient Well



Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <1,000 feet long.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 µg/L.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.

- **Direct Contact and Outdoor Air Exposure:** This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health. Extensive soil and groundwater remediation had removed more than 15,000 pounds of petroleum hydrocarbons from the Site. The Site is paved and accidental access to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

