

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Sacramento County Environmental Management Department (County)	Address: 10590 Armstrong Avenue, Suite A, Mather, CA 95655
Agency Caseworker: Charley Langer	Case No.: A519

Case Information

USTCF Claim No.: 1471	Global ID: T0606700003
Site Name: Former Econo Self-Serve	Site Address: 2520 Northgate Blvd., Sacramento, CA 95833
Responsible Party (RP): Conoco Philips Co. Attn: Terry Grayson	Address: 76 Broadway Street, Sacramento, CA 95818
USTCF Expenditures to Date: \$735,222	Number of Years Case Open: 27

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606700003

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:

An unauthorized leak was reported in March 1985. Four USTs were removed and an unknown volume of impacted soil were removed and disposed offsite in 1986. Soil vapor extraction was conducted between December 1991 and January 2009, which removed approximately 48,593 pounds of total petroleum hydrocarbons as gasoline (TPHg). According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents in the source area and downgradient wells except TPHg, total petroleum hydrocarbons as diesel (TPHd), benzene, and methyl tert-butyl ether (MTBE). Concentrations reported in wells MW-5, MW-9 and MW-12 are believed to be associated with an off-site source (a former Shell Oil property).

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no water supply wells regulated by the California Department of Public Health or surface water bodies within 250 feet of the defined plume boundary. No other water supply wells have been identified within 250 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 and stable, and

concentrations are 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 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 4. An evaluation soil vapor completed by Secor in 2007 concluded "MTBE and naphthalene were reported as non-detectable, while benzene, toluene, ethylbenzene, and xylenes (BTEX) were reported at a maximum level of 18 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), 330 $\mu\text{g}/\text{m}^3$, 120 $\mu\text{g}/\text{m}^3$, and 810 $\mu\text{g}/\text{m}^3$, respectively. Based on a comparison of soil gas concentrations onsite versus the CHHSLs for Commercial/Industrial Land Use the site is recommended for closure". These data confirm that 16 years of remedial efforts have been effective.
- Direct Contact and Outdoor Air Exposure: Direct Contact Risk from Residual Petroleum Hydrocarbons: The 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 potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. After 16 years of remedial efforts and the removal of 48,593 pounds of petroleum hydrocarbon vapor there is little residual mass left in the soil. The Site is paved and accidental access to site soils is prevented. As a commercial property, any construction worker entering the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

Based on the Case Review page in GeoTracker, the County objects to UST case closure because:

- The Site may be part of a commingled plume.
RESPONSE: There is an upgradient plume resulting from of leaking USTs from the Shell #204-6678-1307(T0606700102). However, this Site meets all Policy criteria and does not pose a significant risk to human health.
- Water quality objectives have not been achieved.
RESPONSE: The Policy does not require requisite level of water quality be met at the time of closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame. The case meets all Policy criteria.

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.

Former Econo Self Serve
2520 Northgate Blvd., Sacramento
Claim No: 1471

August 2013

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

11/4/13

Date

Prepared by: Kirk Larson, P.G.

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>If so, was the corrective action performed consistent with any order?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Does the unauthorized release consist only of petroleum? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Has the unauthorized ("primary") release from the UST system been stopped? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Has free product been removed to the maximum extent practicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</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 secondary source been removed to the extent practicable?</p> <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 checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input 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 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 checked="" type="checkbox"/> 4</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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 located at 2520 Northgate Boulevard in Sacramento and is an auto service facility.
- The Site is bounded by residences across Northgate Boulevard to the west, an empty lot across Peralta Avenue to the north, a residence to the east, and a Shell service station to the south. The surrounding land use is mixed residential and commercial.
- Site maps showing the location of the former USTs, monitoring wells, groundwater level contours, and contaminant concentrations are provided at the end of this closure summary (Cardno ATC, 2013). Two upgradient UST sites are also shown on the site maps.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: March 1985.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1,2	10,000	Gasoline	Removed	October 1986
3	10,000	Diesel	Removed	October 1986
4	550	Waste Oil	Removed	July 1986
5 - 7	10,000	Gasoline	Active	-

Receptors

- GW Basin: Sacramento Valley – North American.
- Beneficial Uses: The Central Valley Regional Water Quality Control Board (Regional Water Board) Basin Plan lists municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
- Land Use Designation: Aerial photograph available on GeoTracker suggests mixed commercial and residential land use in the vicinity of the Site.
- 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 250 feet of the defined plume. No other water supply wells were identified within 250 feet of the defined plume in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the defined plume.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed sand, silt, and clay.
- Maximum Sample Depth: 30 feet below ground surface (bgs).
- Minimum Groundwater Depth: 16.74 feet bgs at monitoring well MW-21.
- Maximum Groundwater Depth: 34.32 feet bgs at monitoring well MW-9.
- Current Average Depth to Groundwater: Approximately 25 feet bgs.
- Saturated Zones(s) Studied: Approximately 20 - 47 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Variable, northwest at approximately 0.04 feet per foot (April 2013).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (04/16/13)
MW-4	November 1990	?-30	25.43
MW-5	November 1990	?-29	24.60
MW-6	October 1989	?-29	23.98
MW-7	October 1989	?-30	23.91
MW-8	October 1989	?-29	24.88
MW-9	October 1989	?-43	25.72
MW-10	October 1989	?-47	26.28
MW-11	October 1989	?-47	25.50
MW-12	October 1989	?-43	25.38
MW-15	October 1989	?-30	25.58
MW-18	October 1989	?-43	24.55

Remediation Summary

- Free Product: Historically, free product noted in MW-9 (up to 0.18 feet), none noted since 1992.
- Soil Excavation: An unknown volume of impacted soil was removed and disposed offsite in 1986.
- In-Situ Soil Remediation: Soil vapor extraction was conducted between December 1991 and January 2009, which removed approximately 48,593 pounds of TPHg.
- Groundwater Remediation: RW-1 was installed in June 1987 and aquifer testing was conducted. No groundwater remediation has been conducted.

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

Most Recent Concentrations of Petroleum Constituents in Groundwater

Sample	Sample Date	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-4	04/16/13	<50	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
MW-5 ^B	04/16/13	210	110	1.0	<0.5	<0.5	1.9	<0.5	<10
MW-6	04/16/13	<50	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
MW-7	04/16/13	<50	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
MW-8	04/16/13	<50	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
MW-9 ^B	04/16/13	<50	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
MW-10	04/16/13	270	61	88	0.69	9.7	8.6	7.9	13
MW-11	04/16/13	360	81	43	9.3	5.3	18	2.7	<10
MW-12 ^B	04/16/13	6,500	700	2,900	610	180	660	<25	<500
MW-15	04/16/13	110	<50	4.2	<0.5	<0.5	<1	2.1	<10
MW-18	04/16/13	930	110	5.0	<0.5	1.2	8.1	16	57
WQOs	-	5	50	.15	42	29	17	5	1,200^a

NA: Not Analyzed, Not Applicable or Data Not Available

µg/L: Micrograms per liter, parts per billion

<: Not detected at or above stated reporting limit

TPHg: Total petroleum hydrocarbons as gasoline

TPHd: Total petroleum hydrocarbons as diesel

MTBE: Methyl tert-butyl ether

TBA: Tert-butyl alcohol

WQOs: Water Quality Objectives, Regional Water Board Basin Plan

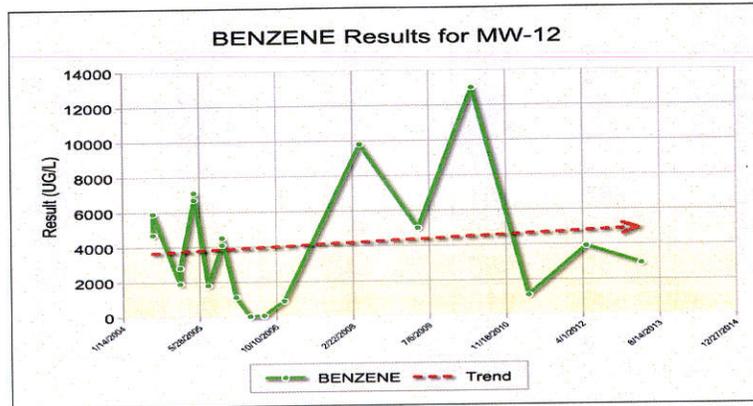
^a: California Department of Public Health, Response Level

^b: Wells MW-5, MW-9 and MW-12 are located upgradient on the upgradient property boundary or just on a former Shell Oil property with a reported petroleum hydrocarbon release. The concentrations reported in these wells are believed to be from the Shell release.

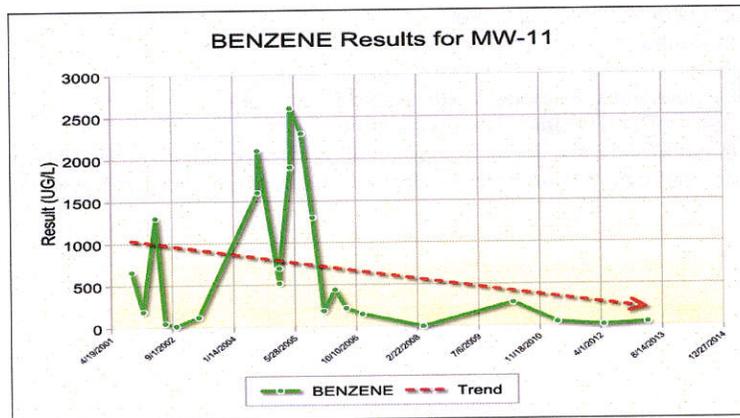
Groundwater Trends

There are more than 22 years of groundwater monitoring data for this Site. Benzene trends are shown below: Upgradient of Site (MW-12), Source area (MW-11), and Downgradient (MW-8). Monitoring well MW-12 is located approximately 20 feet south on an offsite adjacent separate UST release site.

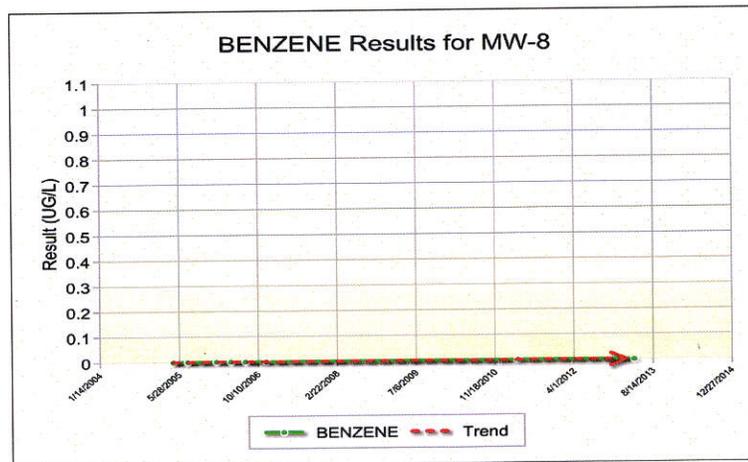
Upgradient Well (Offsite)



Source Area Well



Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: 13.69 pounds of TPHg dissolved in groundwater (Stantec, 2010).
- Soil/ Groundwater tested for methyl tert-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet long.
- Plume Stable or Degrading: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 4. An evaluation soil vapor completed by Secor, in 2007 concluded "MTBE and naphthalene were reported as non-detectable, while BTEX were reported at a maximum level of 18 $\mu\text{g}/\text{m}^3$, 330 $\mu\text{g}/\text{m}^3$, 120 $\mu\text{g}/\text{m}^3$, and 810 $\mu\text{g}/\text{m}^3$, respectively. Based on a comparison of soil gas concentrations onsite versus the CHHSLs for Commercial/Industrial Land Use the site is recommended for closure". These data confirm 16 years of remedial efforts have been effective.
- Direct Contact and Outdoor Air Exposure: Direct Contact Risk from Residual Petroleum Hydrocarbons: The 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 potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. After 16 years of remedial efforts and the removal of 48,593 pounds of petroleum hydrocarbon vapor there is little residual mass left in the soil. The Site is paved and accidental access to site soils is prevented. As a commercial property, any construction worker entering the Site will be prepared for exposure in their normal daily work.

