



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Sacramento County Environmental Health Department (County)	Address: 10590 Armstrong Avenue, Mather, CA 95655
Agency Caseworker: Sue Erikson	Case Number: F545/RO0001401

Case Information

USTCF Claim No.: 15093	Global ID: T0606701123
Site Name: Nickel Property	Site Address: 1744 36 th Street Sacramento, CA 95816
Responsible Party: Ed Rincon Towing	Address: 1762 Santa Ynez Way, Sacramento, CA 95816
USTCF Expenditures to Date: \$864,904	Number of Years Case Open: 13

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606701123

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 Site Information (Conceptual Site Model)**. Highlights of the case follow:

An unauthorized release was reported in July 1999 during the removal of one 500-gallon petroleum UST. Approximately 45 cubic yards of contaminated soil were over-excavated and removed from the site. Soil vapor extraction (SVE) and air sparging (AS) were conducted between December 2006 and July 2012, intermittently for a total of 29,721 hours and removed approximately 5,656 pounds of total petroleum hydrocarbons (TPHg). According to groundwater data, water quality objectives (WQO) have been achieved for all constituents except TPHg, benzene, ethylbenzene and xylenes.

The petroleum release is limited to the shallow soil and groundwater. No public supply well regulated by the California Department of Public Health (CDPH) or surface water bodies are located within 1,000 feet of the defined plume boundary. No other water supply wells were identified in files reviewed to lie within 1,000 feet of the defined plume boundary. Water is provided to water users near the Site by the City of Sacramento, Department of Public Works.

CHARLES R. HOPPIN, CHAIRMAN | THOMAS HOWARD, EXECUTIVE DIRECTOR

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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 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 declining. Corrective actions have been implemented and additional corrective actions are not necessary.

Rationale for Closure under the Policy

- General Criteria: This case meets all eight Policy general criteria.
- Groundwater: This case meets Policy Criterion 1 by Class 4. The plume that exceeds WQO is less than 1,000 feet in length. No free product is present. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The maximum dissolved benzene and MTBE concentrations are less than 1,000 µg/L.
- Vapor Intrusion to Indoor Air: This case meets Policy Criterion 2a by Scenario 3b. The maximum groundwater benzene concentration is less than 1,000 µg/L. The minimum depth to groundwater is greater than ten feet, overlain by soil which contains less than 100 mg/kg of TPHg.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Residential and Commercial/Industrial land use and the concentration limits for Utility Worker are satisfied. There are no 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

Objections to Closure and Responses

The County objects to UST case closure for this case because:

- Closure Summary has not been submitted by the Claimant's consultant.
RESPONSE: This document satisfies closure documentation.
- Residual groundwater impact of several petroleum constituents are above the WQO.
RESPONSE: The case meets the Policy criteria. In addition, Resolution No. 92-49 does not require that water quality objectives be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame. In addition, the concentrations reported in upgradient well MW-10 are believed to be from an off-site source.

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.

Fund Manager Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the site do not pose significant risks 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. Sacramento County has the regulatory responsibility to supervise the abandonment of monitoring wells.

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

2/25/13
Date

Prepared By: Kirk Larson

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 case 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 site? If so, was the corrective action performed consistent with any order?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <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?</p> <p>Does the unauthorized release consist only of petroleum?</p> <p>Has the unauthorized (“primary”) release from the UST system been stopped?</p> <p>Has free product been removed to the maximum extent practicable? 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><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 type="checkbox"/> No <input checked="" type="checkbox"/> NA</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.

<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 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?</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>If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4</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)? Note: All petroleum constituents are non-detect, naphthalene was not tested; but are likely also below detection limits.</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 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><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

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

Site Location/History

- The Site is located at 1744 36th Street in Sacramento.
- The Site contains three structures and is bounded by a paved parking area to the west, residences to the north, commercial across 36th Street to the east and R Street, light rail tracks and Stockton Boulevard to the south.
- Nineteen monitoring wells have been installed between 2000 and 2011 and monitored regularly.
- Site map showing the location of the former UST, well location, and groundwater elevation contours is provided at the end of this review summary report.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: July 1999.
- Status of Release: UST removed.
- Free-Phase Hydrocarbons: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/Removed/Active	Date
1	500	Gasoline	Removed	July 1999

Receptors

- GW Basin: Sacramento Valley – South American.
- Beneficial Uses: Municipal and Domestic Supply.
- Land Use Designation: None specified. Aerial photo shows site is commercial surrounded by mixed commercial/residential and light rail and the west bound exit to Stockton Boulevard from US-50 lie to the south.
- Public Water System: City of Sacramento, Department of Utilities, 1395 35th Avenue, Sacramento, CA 95822, 916-808-5454.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by CDPH within 1,000 feet of the defined plume boundary. No other water supply wells were identified in files reviewed to lie within 1,000 feet of the defined plume boundary.
- Distance to Nearest Surface Water: No surface water is identified within 1,000 feet of the defined plume boundary.

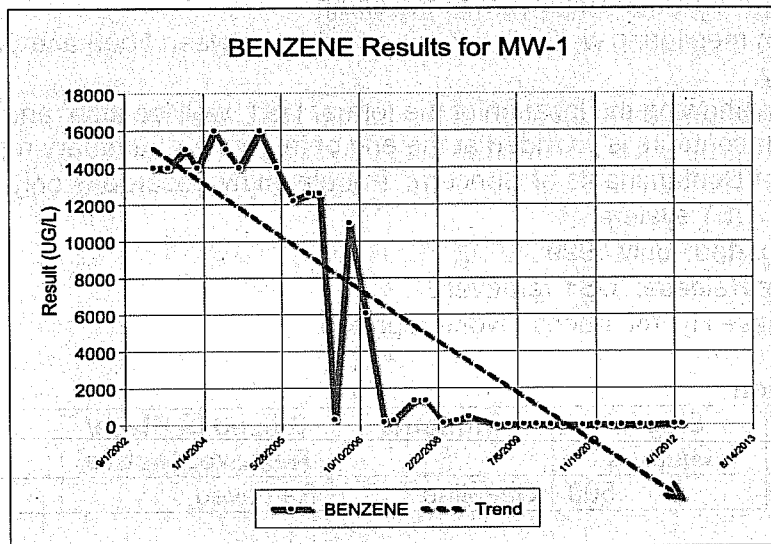
Geology/Hydrogeology

- Stratigraphy: The Site is underlain by inter-bedded and intermixed sand, silt and clay.
- Maximum Sample Depth: 45 feet below ground surface (bgs).
- Minimum Groundwater Depth: 20.45 feet bgs at monitoring well MW-14.
- Maximum Groundwater Depth: 37.80 feet bgs at monitoring well MW-17.
- Current Average Depth to Groundwater: 27 feet bgs.
- Saturated Zones(s) Studied: 20 to 40 feet bgs.
- Groundwater Flow Direction: West with an average gradient of 0.0015 foot/foot.

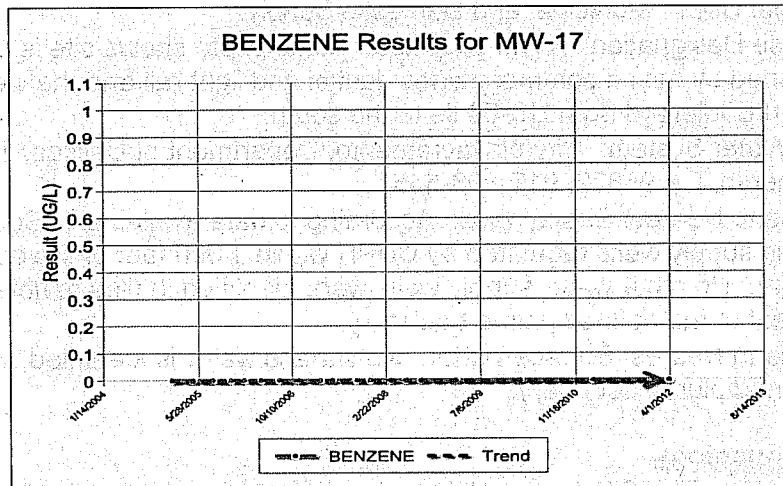
Groundwater Trends:

- There are over 12 years of groundwater monitoring data for this Site. Monitoring wells near the source area exceed WQO's but trends show decreasing concentrations. Benzene trends are shown below: Source Area (MW-1) and Downgradient (MW-17).

Source Area Well



Downgradient Well



Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (5/15/2012)
MW-1	Dec 00	22-37	26.97
MW-2	Dec 00	25-40	26.13
MW-3	Dec 00	25-40	27.00
MW-4	Dec 01	25-40	25.48
MW-5	Dec 01	25-40	26.22
MW-6	Dec 01	25-40	26.58
MW-7	Dec 01	25-40	26.33
MW-8	May 03	25-40	25.90
MW-9	May 03	25-40	25.58
MW-10	May 03	25-40	25.58
MW-11	May 03	25-40	26.53
MW-12	Nov 04	25-40	25.47
MW-13	Dec 04	25-40	27.00
MW-14	Dec 04	25-40	28.10
MW-15	Dec 04	20-40	28.75
MW-16	Dec 04	20-40	27.95
MW-17	Dec 04	20-40	27.77
MW-18	May 07	25-45	34.48
MW-1B	Feb 11	60-70	26.43

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Approximately 45 cubic yards of contaminated soil were over-excavated in 1999.
- In-Situ Soil/Groundwater Remediation: Soil vapor extraction (SVE) and air sparging (AS) were conducted between December 2006 and July 2012, intermittently for a total of 29,721 hours and removed approximately 5,656 pounds of TPH-g. In July 2012 the rate of TPHg removal was approximately 0.27 pounds per day.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 ft. bgs. (mg/kg/ Date)	Maximum 5-10 ft. bgs (mg/kg/ Date)
Benzene	<0.005 (2008)	<0.005 (2008)
Ethylbenzene	<0.005 (2008)	<0.005 (2008)
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)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	05/15/2012	1,900	55	<0.5	<0.5	<1	NA	NA
MW-2	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-3	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-4	05/15/2012	52.4	0.7	<0.5	<0.5	<1	NA	NA
MW-5	05/15/2012	8,170	103	<0.5	271	164	NA	NA
MW-6	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-7	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-8	03/26/2012	152	2.5	0.8	<0.5	<1	<0.5	<5
MW-9	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-10 ^a	05/15/2012	4,400	75	31.6	57.5	59.4	NA	NA
MW-11	05/15/2012	568	24.5	<0.5	<0.5	<1	NA	NA
MW-12	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-13	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-14	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-15	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-16	03/26/2012	462	7.9	2.1	<0.5	2.4	<0.5	28.8
MW-17	03/26/2012	<50	<0.5	<0.5	<0.5	1.3	<0.5	<5
MW-18	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	<5
MW-1B	03/26/2012	<50	<0.5	<0.5	<0.5	<1	<0.5	6.7
WQOs	-	5	0.15	42	29	17	5	1,200^b

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, Region 5 Basin Plan

^a: Note the concentrations of petroleum hydrocarbons reported in well MW-10 are believed to be from an off-site upgradient source and not related to an unauthorized release from the UST system at the subject site.

^b: California Department of Public Health, Response Level

Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <400 feet.
- Plume Stable or Degrading: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: This case meets Policy Criterion 1 by Class 4. The plume that exceeds WQO is less than 1,000 feet in length. No free product is present. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The maximum dissolved benzene and MTBE concentrations are less than 1,000 µg/L.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: This case meets Policy Criterion 2a by Scenario 3b. The maximum groundwater benzene concentration is less

than 1,000 µg/L and the minimum depth to groundwater is greater than ten feet, overlain by soil which contains less than 100 mg/kg of TPHg.

- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Table 1 for Residential/Commercial and the concentration limits for Utility Worker are satisfied. There are no 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted 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, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

