

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Santa Ana Regional Water Quality Control Board (Regional Water Board)	Address: 3737 Main Street, Suite 500 Riverside, CA 92501
Agency Caseworker: Nancy Olson-Martin	Case No.: 083003774T

Case Information

USTCF Claim No.: 16599	GeoTracker Global ID: T0605999167
Site Name: Nunez Auto Repair	Site Address: 219 East 1 st Street Santa Ana, CA 92701
Responsible Party: Chloe M. Staton Trust Attn: John E. Staton	Address: PO Box 134 Cambridge, MN 55008
USTCF Expenditures to Date: \$1,184,619	Number of Years Case Open: 12

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605999167

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 an active auto service facility. An unauthorized release was reported in August 2000. Soil vapor extraction was conducted between July 2007 and December 2013 which reportedly has removed approximately 258,964 pounds of total petroleum hydrocarbons as gasoline (TPHg). The extraction rate is currently approximately 0.2 pounds of TPHg per hour. Since 2002, ten groundwater monitoring wells have been installed and monitored regularly. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents.

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 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 Santa Ana. 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 3a. The maximum benzene concentration in groundwater is less than 100 micrograms per liter ($\mu\text{g/L}$). The minimum depth to groundwater is greater than 5 feet, overlain by soil containing less than 100 milligrams per kilogram (mg/kg) of TPH.
- 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 potential exposure to residual soil contamination was completed by Fund staff. The results of the assessment found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. Therefore, the pathway is incomplete. As a former active petroleum fueling facility and an active auto service facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

The Regional Water Board, by September 17, 2013 letter, opposes closure because:

- Residual hydrocarbons remain beneath 35 feet.
RESPONSE: The case meets all Policy criteria required for closure.
- Water supply wells lie within 600 feet of the Site.
RESPONSE: There are no wells within 250 feet of the Site. The case meets all Policy criteria required for closure.

Determination

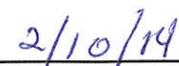
Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

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. Orange County has the regulatory responsibility to supervise the abandonment of monitoring wells.



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



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?</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?</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><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.
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 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 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 checked="" type="checkbox"/> 3 <input 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

- This case is an auto maintenance facility and is bounded by a parking lot to the west and north, businesses across Spurgeon Street to the east, and a business across East First Street to the south. The surrounding land use is commercial.
- Eight monitoring wells have been installed and monitored regularly since 2002.
- A Site map showing the location of the former USTs, monitoring wells, and groundwater level contours is provided at the end of this summary (Applied Environmental Technology, 2013).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: August 2000.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1-3	1,000	Gasoline	Removed	February 1984
4	4,000	Gasoline	Removed	February 1984
5	10,000	Gasoline	Removed	February 1984
6,7	1,000	Gasoline	Removed	May 1986
8	500	Waste Oil	Removed	May 1986

Receptors

- GW Basin: Coastal Plain of Orange County.
- Beneficial Uses: Regional Water Board Basin Plan lists agricultural, municipal, industrial service and process supply.
- Land Use Designation: Aerial photograph available on GeoTracker indicates mixed residential and commercial land use in the vicinity of the Site.
- Public Water System: City of Santa Ana.
- Water District: Metropolitan Water District of Southern California
- 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 boundary. No other water supply wells were identified within 250 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed gravel, sand, silt, and clay.
- Maximum Sample Depth: 80 feet below ground surface (bgs).
- Minimum Groundwater Depth: 52.82 feet bgs at monitoring well MW-6.
- Maximum Groundwater Depth: 94.79 feet bgs at monitoring well MW-5.
- Current Average Depth to Groundwater: Approximately 58 feet bgs.
- Saturated Zones(s) Studied: Approximately 53-81 feet bgs.

- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Variable, predominantly to the north.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (03/04/13)
MW-1	March 2002	50-75	58.09
MW-2	March 2002	50-73	58.05
MW-3	March 2002	50-74	57.93
MW-4	September 2003	50-74	58.31
MW-5	December 2004	50-75	58.81
MW-6	December 2004	50-75	57.80
MW-7	December 2004	60-80	57.95
MW-8	December 2004	60-81	No Access

Remediation Summary

- Free Product: No free product was documented in GeoTracker.
- Soil Excavation: Unknown.
- In-Situ Soil Remediation: Soil vapor extraction was conducted between July 2007 and December 2013 which has reportedly removed approximately 258,964 pounds of TPHg. The extraction rate is currently approximately 0.2 pounds of TPHg per hour.
- Groundwater Remediation: No groundwater remediation has been conducted.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg (date) sample name]	Maximum 5-10 feet bgs [mg/kg (date) sample name]
Benzene	<0.002 (07/02/13)	<0.002 (07/02/13)
Ethylbenzene	0.00236 (07/02/13) VB-4-5	0.002 (07/02/13) VB-7-10
Naphthalene	<0.01 (07/02/13)	0.0196 (07/02/13) VB-7-10
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	03/04/13	<50	<1	<1	<1	3.39	<2	<10
MW-2	03/04/13	79	<1	<1	2.54	1.67	<2	<10
MW-3	03/04/13	86.5	<1	4.62	3.36	14.5	<2	<10
MW-4	03/04/13	<50	<1	<1	<1	6.85	<2	<10
MW-5	03/04/13	<50	<1	<1	<1	3.44	<2	<10
MW-6	03/22/12	<50	<1	<1	<1	<2	<2	<10
MW-7	03/22/12	<50	<1	<1	<1	<2	<2	<10
MW-8	05/24/11	<50	<1	<1	<1	<2	<2	<10
WQOs	-	--	1	150	300	1,750	5^a	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

MTBE: Methyl tert-butyl ether

TBA: Tert-butyl alcohol

WQOs: Water Quality Objectives, Regional Water Board Basin Plan

--: Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg

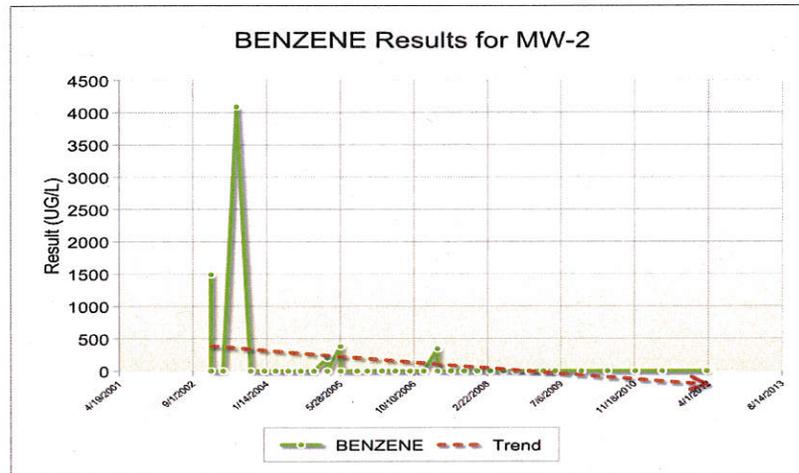
^a: Secondary maximum contaminant level (MCL)

^b: California Department of Public Health, Response Level

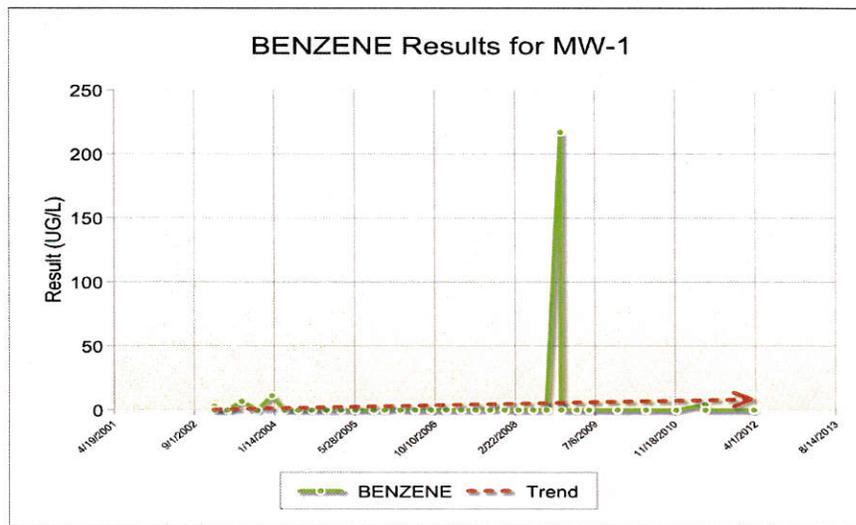
Groundwater Trends

- Since 2002, ten groundwater monitoring wells have been installed and monitored regularly. Benzene trends are shown below: Source Area (MW-2) and Downgradient (MW-1).

Source Area 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.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet.
- 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 1. The 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.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 2a by Scenario 3a. The maximum benzene concentration in groundwater is less than 100 µg/L. The minimum depth to groundwater is greater than 5 feet, overlain by soil containing less than 100 mg/kg of TPH.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: 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 potential exposure to residual soil contamination was completed by Fund staff. The results of the assessment found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. Therefore, the pathway is incomplete. As a former active petroleum fueling facility and an active auto service facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

