
State Water Resources Control Board

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT

**UNDERGROUND STORAGE TANK CLEANUP FUND (FUND), CASE CLOSURE
RECOMMENDATION, PURSUANT TO HEALTH AND SAFETY CODE SECTION 25299.39.2:
CLAIM NUMBER: 13541; SITE ADDRESS:
THRIFTY OIL #383; 18520 BROOKHURST STREET, FOUNTAIN VALLEY, CA 92708**

NOTICE IS HEREBY GIVEN THAT the State Water Resources Control Board (State Water Board) will accept comments on the proposed underground storage tank (UST) case closure for Orange County Environmental Health Care Agency case number 87UT050, 18520 Brookhurst Street, Fountain Valley, Orange County. The State Water Board will be considering this UST case closure summary at a future board meeting. The meeting will be noticed separately.

Health & Safety Code section 25299.39.2 subdivision (a)(1) requires that the Fund Manager notify UST owners or operators who have a Letter of Commitment (LOC) that has been in active status for five or more years and to review the case history of these sites on an annual basis unless otherwise notified by the UST owner or operator. In addition, Health & Safety Code section 25299.39.2 further states that the Fund Manager, with approval of the UST owner or operator, may recommend regulatory case closure to the State Water Board. This process is called the “5-Year Review.” The State Water Board may close or require the closure of any UST case.

Having obtained the owner/operator’s approval, and pursuant to Health & Safety Code section 25299.39.2 subdivision (a)(1), the Fund Manager recommends closure of the UST. Enclosed is a copy of the UST Case Closure Summary for the UST case. The case closure summary contains information about the UST case and forms the basis for the UST Cleanup Fund Manager’s recommendation to the State Water Board for UST case closure. A copy of the Case Closure Summary has been provided to the owner/operator, environmental consultant of record, the local agency that has been overseeing corrective action, the local water purveyor, and the water district specified by Health & Safety Code section 25299.39.2 subdivision (a)(1).

New requirements specified in Health & Safety Code section 25299.39.2 subdivision (a)(2) require that the State Water Board limit reimbursement of any correction action costs incurred after the date of this letter to \$10,000 per year, excepting special circumstances.

SUBMISSION OF WRITTEN COMMENTS

Written comments on the case closure summary to the State Water Board **must be received by 12:00 Noon on November 5, 2012**. After the deadline, staff will not accept additional written comments unless the State Water Board determines that such comments should be accepted. Please provide the following information in the subject line: **“Comment Letter – Thrifty Oil #383 Case Closure Summary.”** Comments must be addressed to:


Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100
(tel) 916-341-5600
(fax) 916-341-5620
(email) commentletters@waterboards.ca.gov

Hand and special deliveries should also be addressed to Ms. Townsend at the address above. Couriers delivering comments must check in with lobby security and have them contact Ms. Townsend at (916) 341-5600.

Please direct questions about this notice to Bob Trommer, UST Cleanup Fund, at (916) 341-5684 (btrommer@waterboards.ca.gov) or Nathan Jacobsen, Staff Counsel at (916) 341-5181 (njacobsen@waterboards.ca.gov).

September 4, 2012

Date



Jeanine Townsend
Clerk to the Board



State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Agency: Orange County Environmental Health Department (County)	Address: 1241 East Dyer Road, Suite 120, Santa Ana, CA
Agency Caseworker: Tamara Escobedo	Case No.: 87UT050

Case Information

USTCF Claim No.: 13541	Global ID: T0605900650
Site Name: Thrifty Oil #383	Site Address: 18520 Brookhurst Street Fountain Valley, CA
Responsible Party: Thrifty Oil Company Attn: Barry Berkett	Address: 13116 Imperial Hwy, Santa Fe Springs, CA
USTCF Expenditures to Date: \$984,716	Number of Years Case Open: 25

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605900650

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Low-Threat Policy. This case meets all of the required criteria of the Low-Threat Policy. A summary evaluation of compliance with the Low-Threat 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**. Highlights of the Conceptual Site Model of the case follow:

This is currently an active gas station. A leak was identified in 1987 during an UST system replacement. Dual phase extraction/ soil vapor extraction was conducted from January 2001 to September 2007 and removed approximately 59,744 pounds of total petroleum hydrocarbons (TPHg) and 599,100 gallons of contaminated groundwater. From April 2009 to February 2010 approximately 600 pounds of ozone has been injected into groundwater through eight ozone injection points, to accelerate TBA degradation. The City of Fountain Valley Water Division provides drinking water in the area. To date, nearly \$1 million in corrective action costs have been reimbursed by the Fund.

The petroleum release is limited to the shallow soil and groundwater. The affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. 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 constituents are limited, stable and declining. Remedial actions have been implemented and further remediation would be ineffective and expensive. Additional assessment/monitoring will not likely change the conceptual model. Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment. The corrective action performed is protective of human health, safety, and the environment.

Rationale for Closure under the Low-Threat Policy

- General Criteria – The case meets all eight Low-Threat Policy General Criteria.
- Groundwater – The case meets Groundwater-Specific Criterion 1.
- Vapor Intrusion to Indoor Air– Soil vapor evaluation is not required because site is an active commercial petroleum fueling facility.
- Direct Contact and Outdoor Air Exposure – This case meets Policy Criterion 3.B. 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.

Objections to Closure

The County objects to case closure because the TBA concentration in monitoring well MW-3 increased to 7,300 ug/L during post-remedial monitoring and the contaminant plume was neither stable nor shrinking.

Response to Objections to Closure

The groundwater monitoring data demonstrate that the TBA plume is defined: less than 100 feet in length and decreasing in size and concentration. The monitoring data also demonstrate the plume is not migrating to deeper groundwater, and will not likely impact deeper groundwater.

The affected shallow groundwater is seaward of the saltwater intrusion barrier. According to the City of Fountain Valley Water Department, the shallow groundwater and groundwater in general in this area, is not used as a source of public water supply, and it is not likely to be used as a source of public water supply in the foreseeable future.

Additionally according to the Orange County Water District, there is no groundwater production within three miles of the site because groundwater in the area is severely degraded by seawater intrusion. (GeoHydrologic Consultants, Inc., 2008)

The Site has exhausted cost-effective means of remediating the residual TBA plume, and the residual hydrocarbon plume poses low risk to human health, safety and the environment.

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 Low-Threat Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification. The County has the regulatory responsibility to supervise the abandonment of monitoring wells.



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



Date

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

The site 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 site 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?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>If so, was the corrective action performed consistent with any order? There was an order issued for this site. The corrective action performed in the past is consistent with that order. Since this case meets applicable case-closure requirements, further corrective action under the order that is not necessary, unless the activity is necessary for case closure.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>General Criteria 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? (City of Fountain Valley Water Department)</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</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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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>of the release been developed?</p> <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><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>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>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 SITE INFORMATION (Conceptual Site Model)

Site Location/ History

- The Site is an active service station operated by ARCO BP until May 2012 and is now operated by Tesoro Refining and Marketing. It is located at the southeast corner of Brookhurst Street and Ellis Avenue, in Fountain Valley, CA. The area surround the Site is mixed residential and commercial. The northeastern corner of the same intersection is occupied by another gas station, currently owned and operated by ARCO Products Company.
- An unauthorized release was reported in March 1987, during the UST system removal.
- Nineteen monitoring wells have been installed on and off the site and monitored regularly.
- Site map showing the locations of the current and former USTs, monitoring wells, and groundwater level contours, is provided at the end of this summary.

Pollutant Source

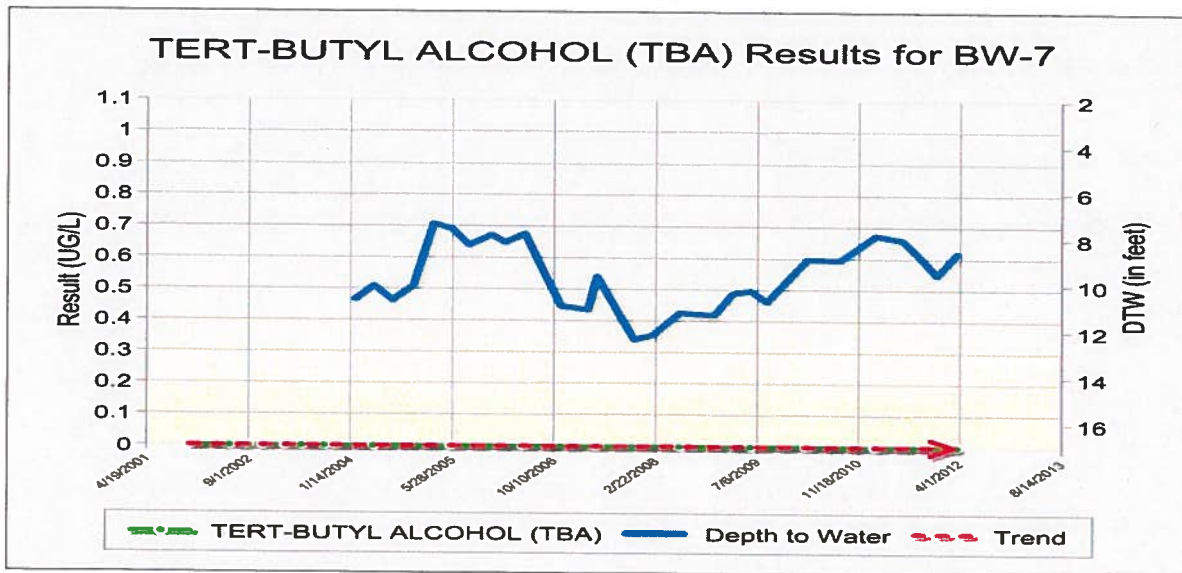
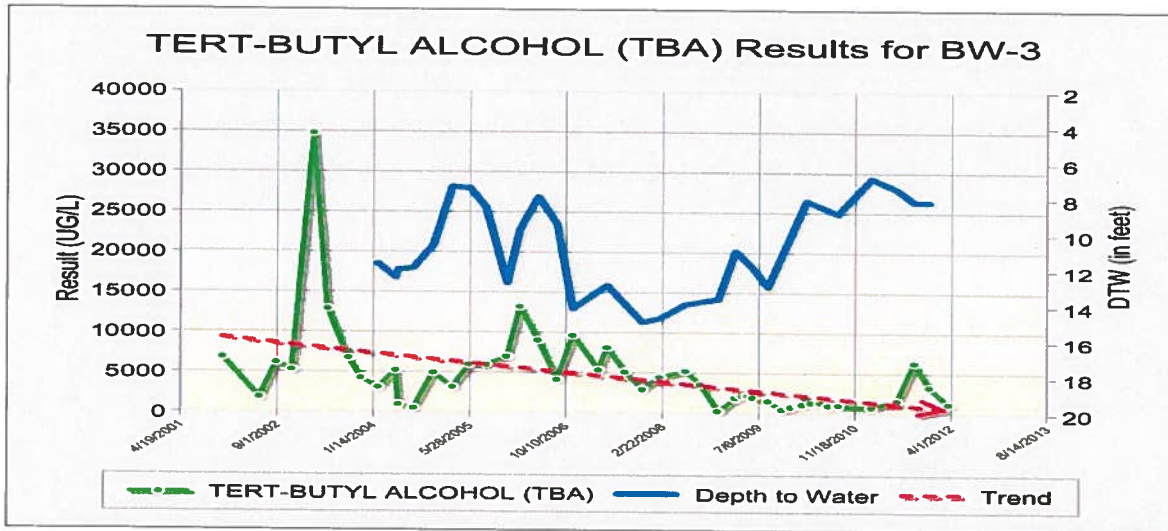
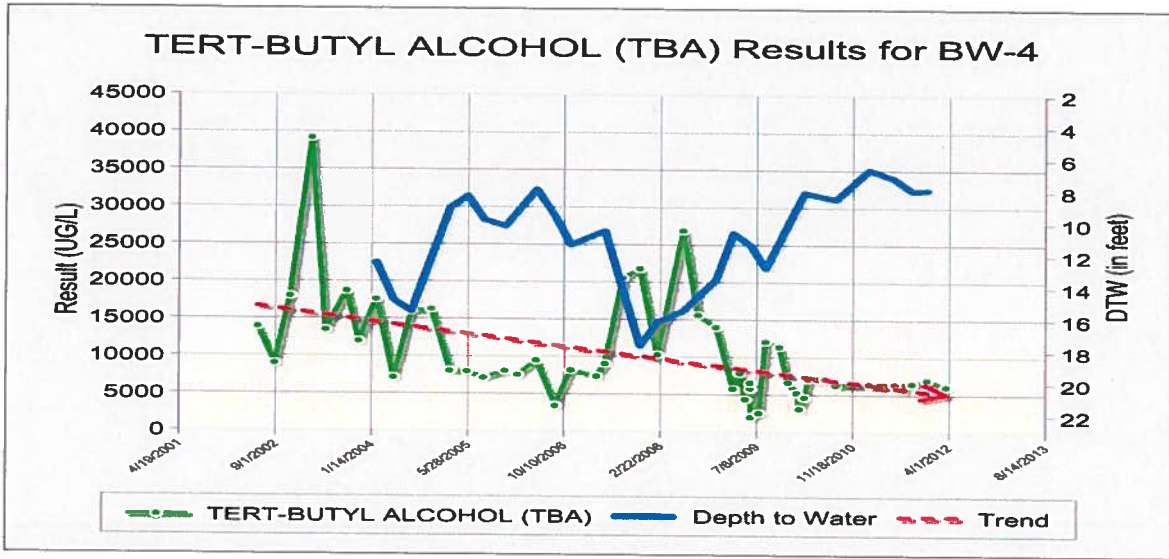
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source; Date reported; and Status of Release: UST system; 4 March 1987; USTs replaced.
- Free Phase Hydrocarbons: Historically.

Geology/ Hydrogeology

- Stratigraphy: The Site is underlain by silty clay, silt with occasional lenses of sand, and silty sand. An organic-rich silty clay lens was encountered in some soil borings at a depth of 15 feet below ground surface (bgs).
- Maximum Sample Depth: 67 feet bgs.
- Minimum Groundwater Depth: 3.20 feet bgs at monitoring well BW-1.
- Maximum Groundwater Depth: 34.35 feet bgs at monitoring well DW-1.
- Current Average Depth to Groundwater: 8 feet bgs.
- Appropriate Screen Interval: Yes for the shallow zone wells, but several deep zone wells' screens are submerged.
- Saturated Zones(s) Studied: 5 to 67 feet bgs.
- Groundwater Flow Direction: Predominately to the west and southwest in the shallow zone, with a gradient of 0.008 foot/foot, and to the east in the deeper zone, with a gradient of 0.011 foot/foot.

Groundwater Trends:

- There are more than 17 years of groundwater monitoring data for this site. The graphs below show TBA concentration trends in source zone well BW-4, and the downgradient on-site well BW-3. The further downgradient off-site well BW-7 has consistently shown TBA concentrations below detection limits since November 1995.



Receptors

- GW Basin: Coastal Plain of Orange County.
- Beneficial Uses: Municipal and domestic supply.
- Land Use Designation: Commercial.
- Public Water System: City of Fountain Valley Water Division (City of Fountain Valley UWMP, May 2011).
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no DPH water supply wells within ½ mile of the site. Two non-CDPH production wells were identified by the claimant's consultant within ½ mile of the site. According to the Orange County Water District, one well (Fountain Valley Cal FV) was located over 500 feet north (up-gradient) of the site, and the other well (Fountain Valley GKAW-FV) was located over 1,000 feet west (cross-gradient) of the site. Both wells were identified as agriculture wells. (GeoHydrologic Consultants, Inc., 2008).
- Distance to Nearest Surface Water: The nearest surface water feature is more than ½ mile from the Site.

Risk Criteria

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes, see table below.
- Plume Length, Extent, and Mobility: Less than 100 feet, defined, Groundwater TBA plume extends off the site, however the plume is stable and defined. Down-gradient wells BW-7 and BW-8, which are located 90 and 50 feet from the site, respectively, have consistently shown non-detectable for TBA.
- Contaminated Zone(s) Used for Drinking Water: No.
- Risk from Residual Petroleum Hydrocarbons: Soil vapor assessments are not necessary at active gas stations. The Site is paved and accidental access to site soils is prevented. In addition, the soil concentrations are below the thresholds in Table 1 of the Low-Threat Policy. However, there are no results in GeoTracker for naphthalene. The amount of naphthalene in gasoline is very low – generally on the order of 0.25 percent (Potter and Simmons, 1998). The amount of benzene, however, is on the order of 3 percent (ten times greater). Since the concentrations of benzene at this Site are lower than the Table 1 naphthalene threshold concentration, it is highly unlikely that naphthalene concentrations in soil at the Site, if any, exceed that threshold. As an active gas station, any construction worker working at the Site or adjacent to the Site will be prepared for exposure in their normal daily work.

Remediation Summary (Secondary Source Removal)

- Free Product: During the UST replacement in May 1987, free product and waste oil were observed in the UST excavation. A free product recovery system was installed. Since 1997 only sporadic free product was observed. A total of 3,559 gallons of free product had been recovered. No free product has been observed since November 2002.
- Soil Excavation: During the 1987 UST replacement, TPH affected soil was removed, aerated, and disposed off-site. Another 200 tons of soil was excavated and removed from the site during a system upgrade in February 2003.
- In-Situ Soil Remediation: From January 2001 to September 2007, a soil vapor extraction system, as part of a dual phase extraction (DPE) system, operated at the site.
- Groundwater Remediation: From June 2001 to September 2007, the DPE system operated at the site. Approximately 59,744 pounds of hydrocarbons and 599,100

gallons of groundwater were removed. From April 2009 to February 2010, 600 pounds of ozone had been injected into groundwater through eight ozone injection points, to accelerate TBA degradation.

- Oxygen Concentrations in Soil Vapor: Due peroxide injection oxygen concentrations are not valid.

Supporting Site Data

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	12,000	Gasoline	Removed	May 1987
2	10,000	Gasoline	Removed	May 1987
3	8,000	Gasoline	Removed	May 1987
4	280	Waste Oil	Removed	May 1987
5	12,000	Gasoline	Active	Not applicable
6	12,000	Gasoline	Active	Not applicable
7	12,000	Gasoline	Active	Not applicable

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (3/15/12)
BW-1	November 1995	5-30	6.34
BW-2	November 1995	5-30	7.72
BW-3	November 1995	5-30	7.87
BW-4	November 1995	5-30	7.71
BW-5	November 1995	5-30	7.83
BW-6	November 1995	4-19	7.94
BW-7	November 1995	4-19	8.58
BW-8	November 1995	4-19	8.67
MW-A	November 1995	7.5-12.5	8.12
MW-B	November 1995	6.5-11.5	8.43
HVE-1	August 2000	5-30	7.53
HVE-2	August 2000	5-30	7.83
DW-1	July 2001	56.5-61.5	7.31
DW-2	July 2001	59-64	4.69
DW-3	July 2001	61.5-66.5	4.73
T-1	August 1995	4-19	8.17
T-2	August 1995	7-17	7.93
T-3	August 1995	7-17	8.95
T-4	August 1995	5-15	7.11

Petroleum Hydrocarbon Constituent Concentration

Contaminant	Soil (mg/kg)		Water (µg/L)		WQOs (µg/L)
	Maximum 0-5 ft bgs ^a	Maximum 5-10 ft bgs ^a	Maximum ^b	Latest (3/15/12)	
TPHg	<0.03	2,060	54,900	125	NL
Benzene	<0.00032	0.253	4,130	<5	1
Toluene	<0.00038	3.89	1,300	<25	150
Ethylbenzene	<0.00032	22.7	3,480	<25	300
Xylenes	<0.00032	210	13,900	<25	1,750
MTBE	<0.00032	0.66	1,800	9.4	5
TBA	<0.005	3.78	39,200	6,100	1,200 ^c
Naphthalene	NA	NA	NA	NA	170 ^d

NA: Not Analyzed, Not Applicable or Data Not Available

NL: Not listed

mg/kg: milligrams per kilogram, parts per million

ug/L: micrograms per liter, parts per billion

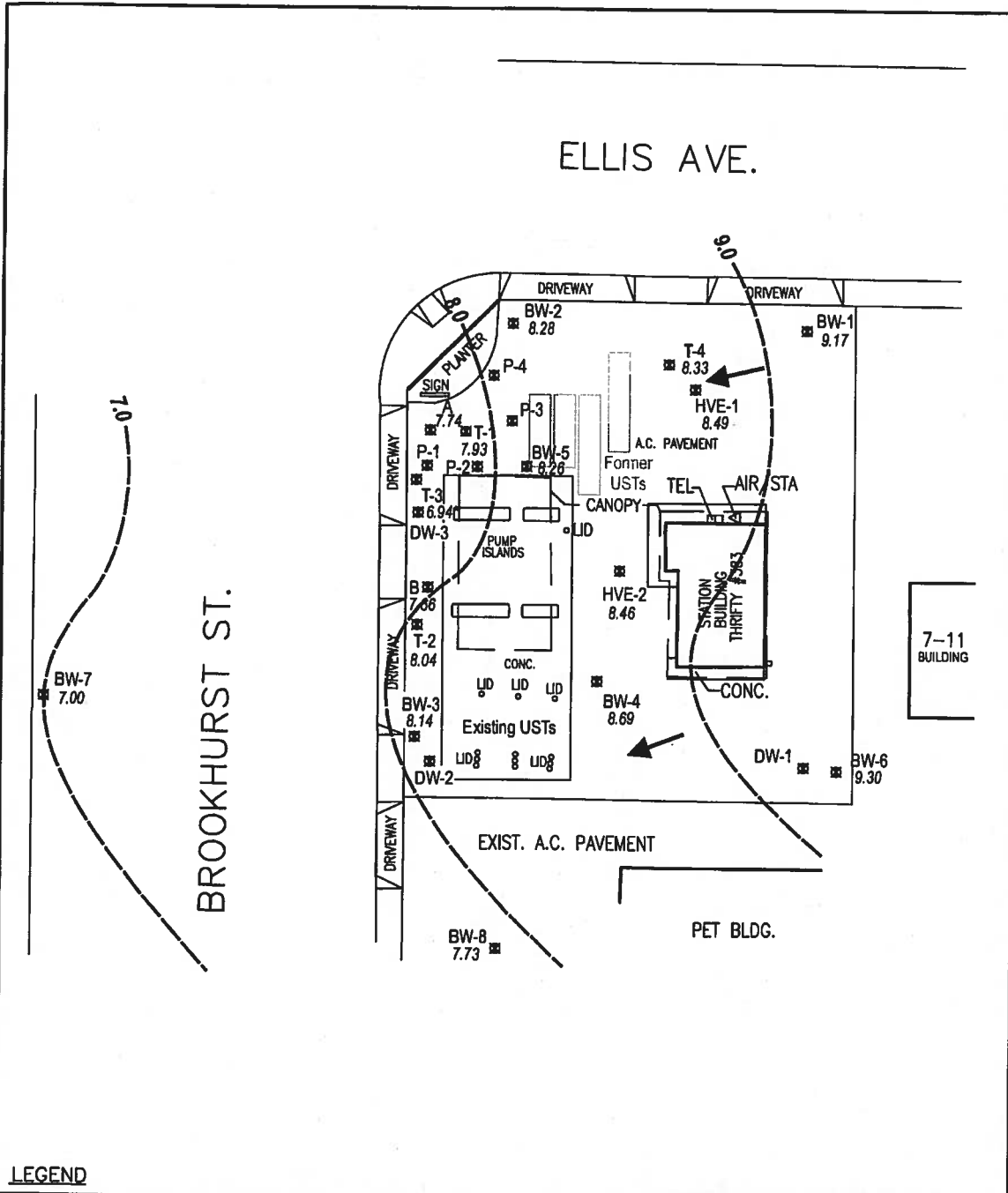
WQOs: Water Quality Objectives, Region 8 Basin Plan

^a According to Reports, soil

^b According to GeoTracker, wells

^c California Department of Public Health Response Level

^d California Department of Public Health Action Level



LEGEND

<p> GROUNDWATER MONITORING WELL LOCATION 8.38 ELEVATION OF WATER TABLE (FEET ABOVE MSL) GROUNDWATER ELEVATION CONTOUR APPROXIMATE GROUNDWATER FLOW DIRECTION ANOMALOUS DATA; NOT CONTOURED </p>	<p> 0' 40' Approximate Scale in Feet </p>	<p> GROUNDWATER ELEVATION CONTOURS ON SHALLOW ZONE Thrifty Service Station No. 383 18520 Brookhurst St., Fountain Valley, California THRIFTY OIL CO. 13116 Imperial Highway Santa Fe Springs, CA 90670 </p>	<p> Date of Sampling: 3/15/2012 FIGURE 2A </p>
---	--	---	---