

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
**ORDER WQ 2013-0066-UST**

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**In the Matter of Underground Storage Tank Case Closure**  
**Pursuant to Health and Safety Code Section 25296.40 and the Low-Threat**  
**Underground Storage Tank Case Closure Policy**

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**BY THE EXECUTIVE DIRECTOR:<sup>1</sup>**

By this order, the Executive Director directs closure of the underground storage tank (UST) case at the site listed below, pursuant to subdivision (a) of section 25296.40 of the Health and Safety Code.<sup>2</sup> The name of the petitioner, the site name, the site address, the Underground Storage Tank Cleanup Fund (Fund) claim number if applicable, the lead agency, and case number are as follows:

**Bud Ruschhaupt**

**California-Fresno Oil Company**

**2585 East South Avenue, Fresno, Fresno County**

**Fund Claim No. 18700**

**Central Valley Regional Water Quality Control Board, Case No. 5T10000676**

**I. STATUTORY AND PROCEDURAL BACKGROUND**

Upon receipt of a petition from a UST owner, operator, or other responsible party, section 25296.40 authorizes the State Water Resources Control Board (State Water Board) to close or require closure of a UST case where an unauthorized release has occurred, if the State Water Board determines that corrective action at the site is in compliance with all of the requirements of subdivisions (a) and (b) of section 25296.10. The State Water Board, or in certain cases the State Water Board Executive Director, may close a case or require the closure

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<sup>1</sup> State Water Board Resolution No. 2012-0061 delegates to the Executive Director the authority to close or require the closure of any UST case if the case meets the criteria found in the State Water Board's Low-Threat Underground Storage Tank Case Closure Policy adopted by State Water Board Resolution No. 2012-0016.

<sup>2</sup> Unless otherwise noted, all references are to the California Health and Safety Code.

of a UST case. Closure of a UST case is appropriate where the corrective action ensures the protection of human health, safety, and the environment and where the corrective action is consistent with: 1) Chapter 6.7 of division 20 of the Health and Safety Code and implementing regulations; 2) Any applicable waste discharge requirements or other orders issued pursuant to division 7 of the Water Code; 3) All applicable state policies for water quality control; and 4) All applicable water quality control plans.

State Water Board staff has completed a review of the UST case identified above, and recommends that this case be closed. The recommendation is based upon the facts and circumstances of this particular UST case. A UST Case Closure Summary has been prepared for the case identified above and the bases for determining compliance with the Water Quality Control Policy for Low-Threat Underground Storage Tank Case Closures (Low-Threat Closure Policy or Policy) are explained in the Case Closure Summary.

### **Low-Threat Closure Policy**

In State Water Board Resolution No. 2012-0016, the State Water Board adopted the Low-Threat Closure Policy. The Policy became effective on August 17, 2012. The Policy establishes consistent statewide case closure criteria for certain low-threat petroleum UST sites. In the absence of unique attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria in the Low-Threat Closure Policy pose a low-threat to human health, safety, and the environment and are appropriate for closure under Health and Safety Code section 25296.10. The Policy provides that if a regulatory agency determines that a case meets the general and media-specific criteria of the Policy, then the regulatory agency shall notify responsible parties and other specified interested persons that the case is eligible for case closure. Unless the regulatory agency revises its determination based on comments received on the proposed case closure, the Policy provides that the agency shall issue a uniform closure letter as specified in Health and Safety Code section 25296.10. The uniform closure letter may only be issued after the expiration of the 60-day comment period, proper destruction or maintenance of monitoring wells or borings, and removal of waste associated with investigation and remediation of the site.

Health and Safety Code section 25299.57, subdivision (l)(1) provides that claims for reimbursement of corrective action costs that are received by the Fund more than 365 days after the date of a uniform closure letter or a letter of commitment, whichever occurs later, shall not be reimbursed unless specified conditions are satisfied.

## II. FINDINGS

Based upon the UST Case Closure Summary prepared for the case attached hereto, the State Water Board finds that corrective action taken to address the unauthorized release of petroleum at the UST release site identified as:

**Bud Ruschhaupt**

**California-Fresno Oil Company**

**2585 East South Avenue, Fresno, Fresno County**

**Fund Claim No. 18700**

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ensures protection of human health, safety, and the environment and is consistent with Chapter 6.7 of division 20 of the Health and Safety Code, and implementing regulations, the Low-Threat Closure Policy and other water quality control policies and applicable water quality control plans.

Pursuant to the Low-Threat Closure Policy, notification has been provided to all entities that are required to receive notice of the proposed case closure, a 60-day comment period has been provided to notified parties, and any comments received have been considered by the State Water Board in determining that the case should be closed.

The UST case identified above may be the subject of orders issued by the Regional Water Quality Control Water Board (Regional Water Board) pursuant to division 7 of the Water Code. Any orders that have been issued by the Regional Water Board pursuant to division 7 of the Water Code, or directives issued by a Local Oversight Program (LOP) agency for this case should be rescinded to the extent they are inconsistent with this Order.

## III. ORDER

**IT IS THEREFORE ORDERED** that:

- A. The UST case identified in Section II of this Order, meeting the general and media-specific criteria established in the Low-Threat Closure Policy, be closed in accordance with the following conditions and after the following actions are complete. Prior to the issuance of a uniform closure letter, the Petitioner is ordered to:

1. Properly destroy monitoring wells and borings unless the owner of real property on which the well or boring is located certifies that the wells or borings will be maintained in accordance with local or state requirements;

2. Properly remove from the site and manage all waste piles, drums, debris, and other investigation and remediation derived materials in accordance with local or state requirements; and

3. Within six months of the date of this Order, submit documentation to the regulatory agency overseeing the UST case identified in Section II of this Order that the tasks in subparagraphs (1) and (2) have been completed.

B. The tasks in subparagraphs (1) and (2) of Paragraph (A) are ordered pursuant to Health and Safety Code section 25296.10 and failure to comply with these requirements may result in the imposition of civil penalties pursuant to Health and Safety Code section 25299, subdivision (d)(1). Penalties may be imposed administratively by the State Water Board or Regional Water Board.

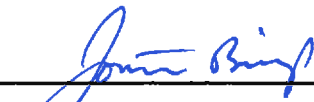
C. Within 30 days of receipt of proper documentation from the Petitioner that requirements in subparagraphs (1) and (2) of Paragraph (A) are complete, the regulatory agency that is responsible for oversight of the UST case identified in Section II of this Order shall notify the State Water Board that the tasks have been satisfactorily completed.

D. Within 30 days of notification from the regulatory agency that the tasks are complete pursuant to Paragraph (C), the Deputy Director of the Division of Water Quality shall issue a uniform closure letter consistent with Health and Safety Code section 25296.10, subdivision (g) and upload the uniform closure letter and UST Case Closure Summary to GeoTracker.

E. As specified in Health and Safety Code section 25299.39.2, subdivision (a) (2), corrective action costs incurred after a recommendation of closure shall be limited to \$10,000 per year unless the State Water Board or its delegated representative agrees that corrective action in excess of that amount is necessary to meet closure requirements, or additional corrective actions are necessary pursuant to section 25296.10, subdivision (a) and (b). Pursuant to section 25299.57, subdivision (l) (1), and

except in specified circumstances, all claims for reimbursement of corrective action costs must be received by the Fund within 365 days of issuance of the uniform closure letter in order for the costs to be considered.

- F. Any Regional Water Board or LOP agency directive or order that directs corrective action or other action inconsistent with case closure for the UST case identified in Section II is rescinded, but only to the extent the Regional Water Board order or LOP agency directive is inconsistent with this Order.

  
\_\_\_\_\_  
Executive Director

  
\_\_\_\_\_

Date



State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Table with 2 columns: Agency Name, Address, Agency Caseworker, Case No.

Case Information

Table with 2 columns: USTCF Claim No., Global ID, Site Name, Address, Petitioner, Address, USTCF Expenditures to Date, Number of Years Case Open

URL: http://qeotracker.waterboards.ca.gov/profile\_report.asp?global\_id=T0601900655

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (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 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. Highlights of the Conceptual Site Model of the Case are as follows:

The release at the Site was discovered during a dispenser and piping upgrade in March 1990. Five underground storage tanks (USTs) were removed in May 1998. There is currently an operating truck stop and automobile fueling facility on-Site. Soil sampling conducted between 1990 and 2008 indicated elevated levels of petroleum constituents in soil located beneath the former USTs and dispenser islands. Grab groundwater samples collected in 2008 indicated methyl tertiary-butyl ether (MTBE) concentrations were slightly above Water Quality Objectives (WQOs), while concentrations for benzene, toluene, ethylbenzene, and xylenes are below WQOs.

The petroleum release is limited to soil and groundwater to a depth of approximately 100 feet below ground surface (bgs). The nearest surface bodies are the stormwater retention basins located approximately 2,400 feet southwest and 3,900 feet northeast of the Site. The nearest public supply wells regulated by the California Department of Public Health are located approximately 2,000 feet north and 4,000 feet south of the Site. Public water is supplied by the City of Fresno. The affected

California-Fresno Oil Co.  
585 East South Avenue, Fresno

groundwater is not currently being used as a source of drinking water or any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or any other beneficial use in the foreseeable future. Public supply wells are usually constructed with competent sanitary seals. Production intervals are in deeper protected aquifers. Remaining petroleum constituents are limited, stable, and declining. Corrective actions have been implemented and additional corrective actions are not necessary. Additional assessment/monitoring will not likely change the conceptual model. Remaining petroleum constituents do not pose significant risk to human health, safety, or the environment.

#### Rationale for Closure under the Policy

- General Criteria – Site **MEETS ALL EIGHT GENERAL CRITERIA** under the Policy.
- Groundwater Media-Specific Criteria – Site meets the criterion in **CLASS 2**. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 3,000 micrograms per liter ( $\mu\text{g/L}$ ), and the dissolved concentration of MTBE is less than 1,000  $\mu\text{g/L}$ .
- Petroleum Vapor Intrusion to Indoor Air – Site meets the **EXCEPTION**. The Site operates as an active commercial fueling facility and has no release characteristics that can be reasonably believed to pose an unacceptable health risk.
- Direct Contact and Outdoor Air Exposure – Site meets **CRITERIA (3) b**. A site-specific risk assessment from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting the human health.

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. The contaminated soil is covered by the service station with slab-on grade concrete. Therefore, dermal exposure and outdoor air exposure is highly unlikely unless future construction results in soil excavation. If this is the case, appropriately trained personnel should conduct the work and a community health and safety plan should be prepared.

#### Objections to Closure

Regional Water Board staff objected to UST case closure because:

1. The extent of the release in soil and groundwater, and impacts to offsite properties must be defined.

**RESPONSE:** Residual concentrations of total petroleum hydrocarbons as diesel (TPHd) and MTBE are the primary constituents of concern in soil between approximately 5 and 60 feet beneath former USTs and facility piping. Soil data indicates that residual petroleum constituents are laterally delineated. Source area borings B-102 and B-107 indicate that elevated concentrations of petroleum hydrocarbons are present. However, borings advanced outside of the source area reported low to non-detectable concentrations of petroleum hydrocarbons. Residual petroleum constituents are vertically delineated in soil to a depth of 90 feet bgs.

Grab groundwater samples collected during 2008 indicate that groundwater contamination is delineated by B-106 to the west and by B-105 to the north. Groundwater concentrations at both locations are below WQOs.

2. The mass of petroleum hydrocarbons in soil and groundwater must be calculated.  
**RESPONSE:** The soil and groundwater data collected at the Site are adequate to determine that the Site meets the Policy criteria.
3. An assessment of the threat to groundwater posed by the remaining petroleum hydrocarbons in soil must be performed.  
**RESPONSE:** Soil and grab groundwater data collected at the Site supports a conceptual site model which indicates that residual petroleum constituents present a low threat to human health, safety and the environment.
4. It must be demonstrated that the groundwater plume is stable and decreasing.  
**RESPONSE:** With the exception of MTBE, grab groundwater samples collected in 2008 indicated that all petroleum hydrocarbons were below WQOs. MTBE in groundwater is non-detect in B-105 and B-106. However, concentrations of MTBE in source area borings B-102 and B-107 were slightly above the WQOs.

The source of the release was removed in 1998 and secondary source areas indicate that residual petroleum hydrocarbons in soil are unlikely to increase the size and strength of the plume. Site conditions indicate that the plume is stable and will continue to decrease in length.

5. The presence of smear zone below a depth of 65 feet indicates that at least historically, floating product was present beneath the Site. Groundwater monitoring wells are necessary to assess the presence of floating product.  
**RESPONSE:** Free product was not reported in any of the four groundwater grab samples collected beneath the Site. Field screening data reported on soil boring logs do not indicate the presence of free product or sheen in the unsaturated/vadose zone.
6. A sensitive receptor survey must be performed.  
**RESPONSE:** The nearest surface bodies are the stormwater retention basins located approximately 2,400 feet southwest and 3,900 feet northeast of the Site. According to the information available on GeoTracker, the distance to the nearest supply wells are approximately 2,000 feet north and 4,000 feet south of the Site.
7. The practicality of remediating the site must be assessed.  
**RESPONSE:** Corrective actions have been implemented and additional corrective actions are not necessary.



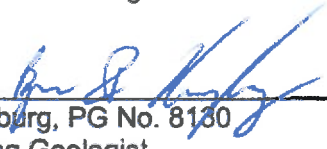
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585 East South Avenue, Fresno

**Recommendation for Closure**

The corrective action performed at this Site ensures the protection of human health, safety, the environment and is consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations, applicable state policies for water quality control and the applicable water quality control plan, and case closure is recommended.

Prepared By:   
Charlow Arzadon  
Water Resource Control Engineer

5/1/2013  
Date

Reviewed By:   
Benjamin Heningburg, PG No. 8130  
Senior Engineering Geologist

5/1/2013  
Date

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

The Site complies with 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.<sup>1</sup>**

<p><b>Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations?</b> 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><b>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this Site?</b></p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>If so, was the corrective action performed consistent with any order?</b></p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><b><u>General Criteria</u></b> General criteria that must be satisfied by all candidate sites:</p> <p><b>Is the unauthorized release located within the service area of a public water system?</b></p> <p><b>Does the unauthorized release consist only of petroleum?</b></p> <p><b>Has the unauthorized ("primary") release from the UST system been stopped?</b></p> <p><b>Has free product been removed to the maximum extent practicable?</b></p> <p><b>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</b></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>

<sup>1</sup> Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.

<p><b>Has secondary source been removed to the extent practicable?</b></p> <p><b>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code, Section 25296.15?</b></p> <p><b>Does nuisance as defined by Water Code, section 13050 exist at the Site?</b></p> <p><b>Are there unique Site attributes or Site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</b></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><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b><u>Media-Specific Criteria</u></b>        Candidate sites must satisfy all three of these media-specific criteria:</p> <p><b>1. Groundwater:</b>        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><b>Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?</b></p> <p><b>Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?</b>        If YES, check applicable class: <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p><b>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?</b></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><b>2. Petroleum Vapor Intrusion to Indoor Air:</b>        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><b>Is the Site an active commercial petroleum fueling facility?</b>        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><b>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?</b>        If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p><b>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?</b></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 type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

<p><b>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?</b></p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><b>3. Direct Contact and Outdoor Air Exposure:</b>          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><b>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)?</b></p> <p><b>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?</b></p> <p><b>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?</b></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 INFORMATION (Conceptual Site Model)**

**Site Location/History**

- The Site is located at the intersection of East South Avenue and East Garret Avenue in Fresno. The Site is an operating petroleum fueling facility.
- The Site is bounded by commercial properties. A closed UST site is located to the southwest.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system
- Discovery Date: 1998
- Release Type: Petroleum<sup>2</sup>
- Free Product: None reported

**Table A: USTs**

Tank No.	Size	Contents	Status	Date
1	20,000-gallon	Diesel	Removed	1998
2	20,000-gallon	Diesel	Removed	1998
3	20,000-gallon	Gasoline	Removed	1998
4	20,000-gallon	Gasoline	Removed	1998
5	20,000-gallon	Gasoline	Removed	1998
6	20,000-gallon	Diesel	Installed	1998
7	20,000-gallon	Diesel	Installed	1998
8	15,000-gallon	Gasoline	Installed	1998
9	3,000-gallon	Gasoline	Installed	1998

**Receptors**

- Groundwater Basin: San Joaquin Valley
- Groundwater Beneficial Uses: Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PROC).
- Designated Land Use: General Commercial (GC)
- Public Water System: City of Fresno
- Distance to Nearest Supply Wells: Supply well is greater than 1,000 feet southwest
- Distance to Nearest Surface Waters: Retention basin is located greater than 1,000 feet west

**Geology/Hydrogeology**

- Average Groundwater Depth: approximately 86 feet
- Minimum Groundwater Depth: approximately 85 feet
- Groundwater Flow Direction: South-southwesterly
- Geology The Site is generally underlain by silty sand and very dense sand is encountered below approximately 71 feet bgs.
- Hydrology: The San Joaquin Valley basin is an area of substantial groundwater withdrawal and recharge due to municipal, industrial, and agricultural use. The nearest surface bodies are stormwater retention basins located approximately 2,400 feet southwest and 3,900 feet northeast of

<sup>2</sup> "Petroleum" means crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means at 60 degrees Fahrenheit and 14.7 pounds per square inch absolute. (Health & Safety Code, § 25299.2)

the Site. Depth-to-groundwater at grab groundwater sample locations indicates a flat gradient with a slight dip to the southwest.

**Corrective Actions**

- Soil assessments in 1990 and 1997.
- Five USTs were removed and tank excavation samples were collected in 1998.
- Soil and groundwater assessments in 2008.

**Table B: Concentrations of Petroleum Constituents in Soil**

Constituent	Maximum 0-5 ft. bgs (mg/kg)	Maximum 5-10 ft. bgs (mg/kg)
Benzene	<0.02	300
Ethylbenzene	<0.02	230
Naphthalene	Not Analyzed	Not Analyzed
PAHs*	Not Analyzed	Not Analyzed

\*Poly-aromatic hydrocarbons as benzo(a)pyrene toxicity equivalent

**Table C: Concentrations of Petroleum Constituents in Soil**

Sample	Sample Date	TPHd (mg/kg)	TPHg (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)
DI-1-6.0'	3/2/1990	26,000	560	18	1.2
DI-1-9.0'	3/6/1990	NA	<0.6	<0.02	<0.02
DI-6-8.0'	3/2/1990	NA	8,400	300	230
B-5-8.0'	4/4/1997	NA	11,000	1.7	220
B-5-12.0'	4/4/1997	NA	45	<0.02	0.34
B-5-16.0'	4/4/1997	NA	5,300	3.6	65
B-5-22.0'	4/4/1997	NA	<1.0	<0.005	0.006
B-15-12.0'	4/4/1997	2,100	230	<0.01	0.1
B-15-16.0'	4/4/1997	22,000	NA	NA	NA
B-15-20.0'	4/4/1997	14,000	NA	NA	NA
B-15-24.0'	4/4/1997	1,400	NA	NA	NA
B-16-16.0'	4/4/1997	NA	<1.0	<0.005	<0.005
B-16-20.0'	4/4/1997	1.3	<1.0	<0.005	<0.005
B-16-24.0'	4/4/1997	3.5	<1.0	NA	NA
B-17-12.0'	4/4/1997	1.8	NA	NA	NA
B-17-16.0'	4/4/1997	1.8	NA	NA	NA
B-17-20.0'	4/4/1997	2.0	NA	NA	NA
B-18-10.0'	4/4/1997	1.6	<1.0	<0.005	<0.005
6 @17'	5/29/1998	3.0	NA	NA	NA
7 @19'	5/29/1998	25,000	NA	NA	NA
B-101-15'	9/9/2008	5.3	NA	NA	NA
B-101-35'	9/9/2008	<2.0	NA	NA	NA
B-102-25'	9/9/2008	14,000	110	<0.005	0.99
B-102-60'	9/9/2008	3,200	130	<0.005	1.2
B-102-65'	9/9/2008	9,600	92	0.35	0.82
B-102-75'	9/9/2008	1,200	10	0.015	0.15
B-102-80'	9/9/2008	200	2.8	<0.010	<0.010
B-102-85'	9/9/2008	<2.0	<1.0	<0.005	<0.005

Continued on next page

**Table C: Concentrations of Petroleum Constituents in Soil (Cont.)**

Sample	Sample Date	TPHd (mg/kg)	TPHg (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)
B-103-15'	9/9/2008	6,700	6.6	<0.025	0.069
B-103-60'	9/9/2008	<2.0	<1.0	<0.005	<0.005
B-105-70'	9/9/2008	3,300	18	0.024	0.035
B-105-80'	9/9/2008	20	<1.0	<0.005	0.005
B-105-85'	9/9/2008	2.8	<1.0	<0.005	<0.005
B-106-70'	9/9/2008	4,000	<100	<0.5	<0.5
B-106-85'	9/9/2008	<2.0	<1.0	<0.005	<0.005
B-106-90'	9/9/2008	<2.0	<1.0	<0.005	<0.005
B-107-40'	9/9/2008	9,200	230	0.59	2.1
B-107-85'	9/9/2008	240	<1.0	<0.005	<0.005
B-107-90'	9/9/2008	96	1.0	<0.005	0.005

**Table D: Concentrations of Petroleum Constituents of Concern in Groundwater**

Sample	Sample Date	TPHg (ppb)	TPHd (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)
B-102	12/9/08	<50	300	<0.3	0.86	0.33	<0.3	<b>8.6</b>
B-105	12/9/08	<50	67	<0.3	<2.8	<0.3	1.2	<5
B-106	12/9/08	<50	<50	<0.3	<2.5	<0.3	<0.3	<5
B-107	12/9/08	<50	<50	<0.3	<1.0	<0.3	<0.3	<b>7.1</b>
<b>WQOs</b>	-	-	-	<b>1.0</b>	<b>150</b>	<b>300</b>	<b>1,750</b>	<b>5.0</b>

WQOs - Water Quality Objectives

**Bold** = above WQOs

ppb = parts per billion

TPHg = Total Petroleum Hydrocarbons quantified as gasoline

TPHd = Total Petroleum Hydrocarbons quantified as diesel

MTBE = methyl tert-Butyl ether

< = less than the indicated reporting limit

### Evaluation of Risk Criteria

- Maximum Petroleum Constituent Plume Length above WQOs: MTBE groundwater plume is ~150 feet in length.
- Petroleum Constituent Plume Determined Stable or Decreasing: Yes.
- Soil/Groundwater Sampled for MTBE: Yes, see Table D above.
- Residual Petroleum Constituents Pose Significant Risk to the Environment: No.
- Residual Petroleum Constituents Pose Significant Vapor Intrusion Risk to Human Health: No. Site meets the exception for vapor intrusion to indoor air. The Site is an active commercial petroleum fueling facility and has no release characteristics that can be reasonably believed to pose an unacceptable health risk.
- Residual Petroleum Constituents Pose a Nuisance<sup>3</sup> at the Site: No.
- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No.

<sup>3</sup> Nuisance as defined in California Water Code, section 13050, subdivision (m).

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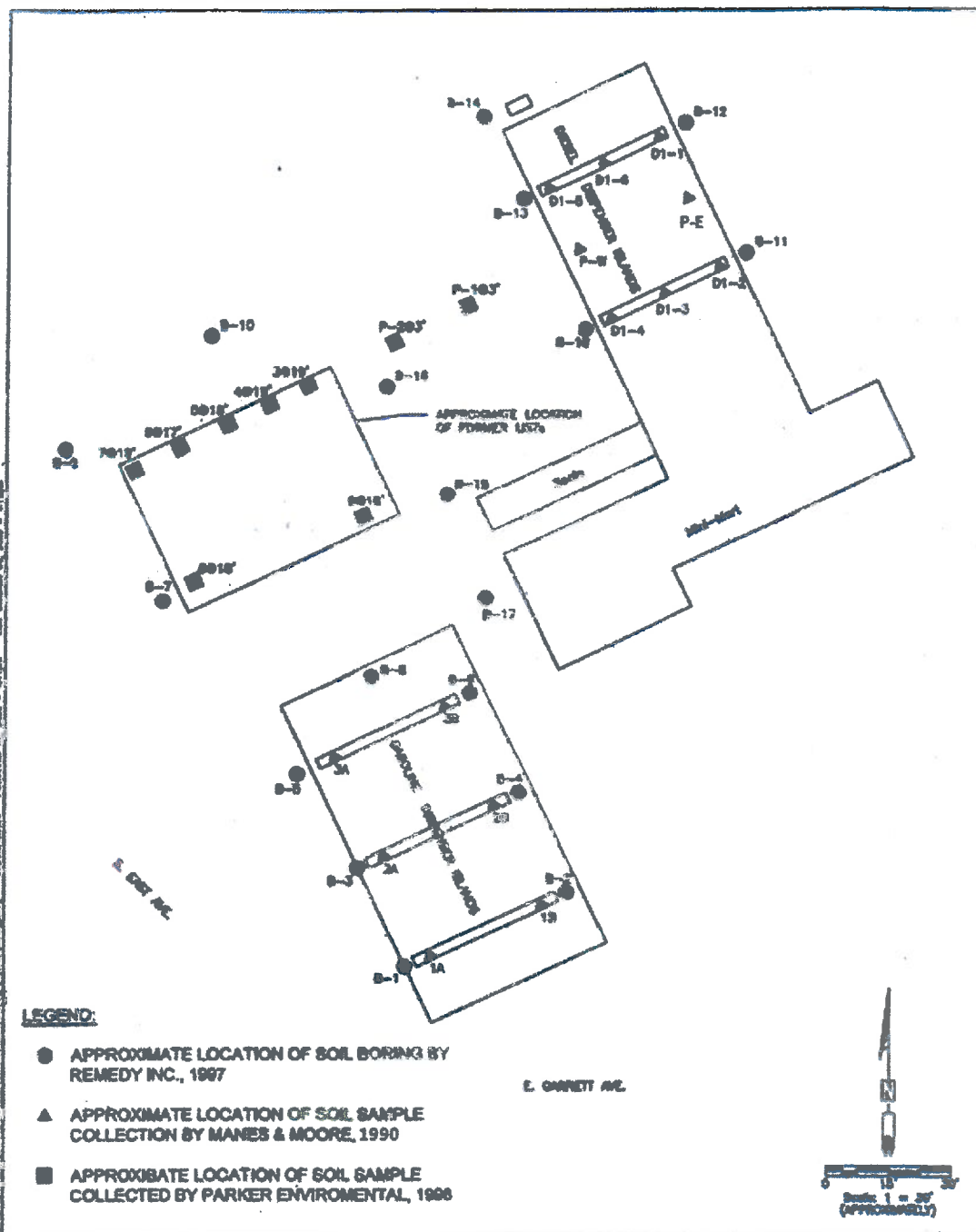
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No. A site-specific risk assessment from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting the human health.

During 1990, benzene and ethylbenzene concentrations at location DI-6-8.0 were above soil screening levels in Table 1 of the Policy. This shallow soil sample was collected directly beneath a dispenser.

The contaminated soil is covered by the service station with slab-on grade concrete. Therefore, dermal exposure and outdoor air exposure is highly unlikely unless future construction results in soil excavation. If this is the case, appropriately trained personnel should conduct the work and a community health and safety plan should be prepared.

There are no soil samples 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% benzene and 0.25% naphthalene. Therefore, benzene concentrations can be directly substituted for naphthalene concentrations with a safety factor of eight. The estimated naphthalene concentration in soil is slightly above soil screening levels for Commercial/Industrial and Utility Workers in Table 1 of the Policy.





**PREVIOUS SOIL SAMPLING LOCATIONS**

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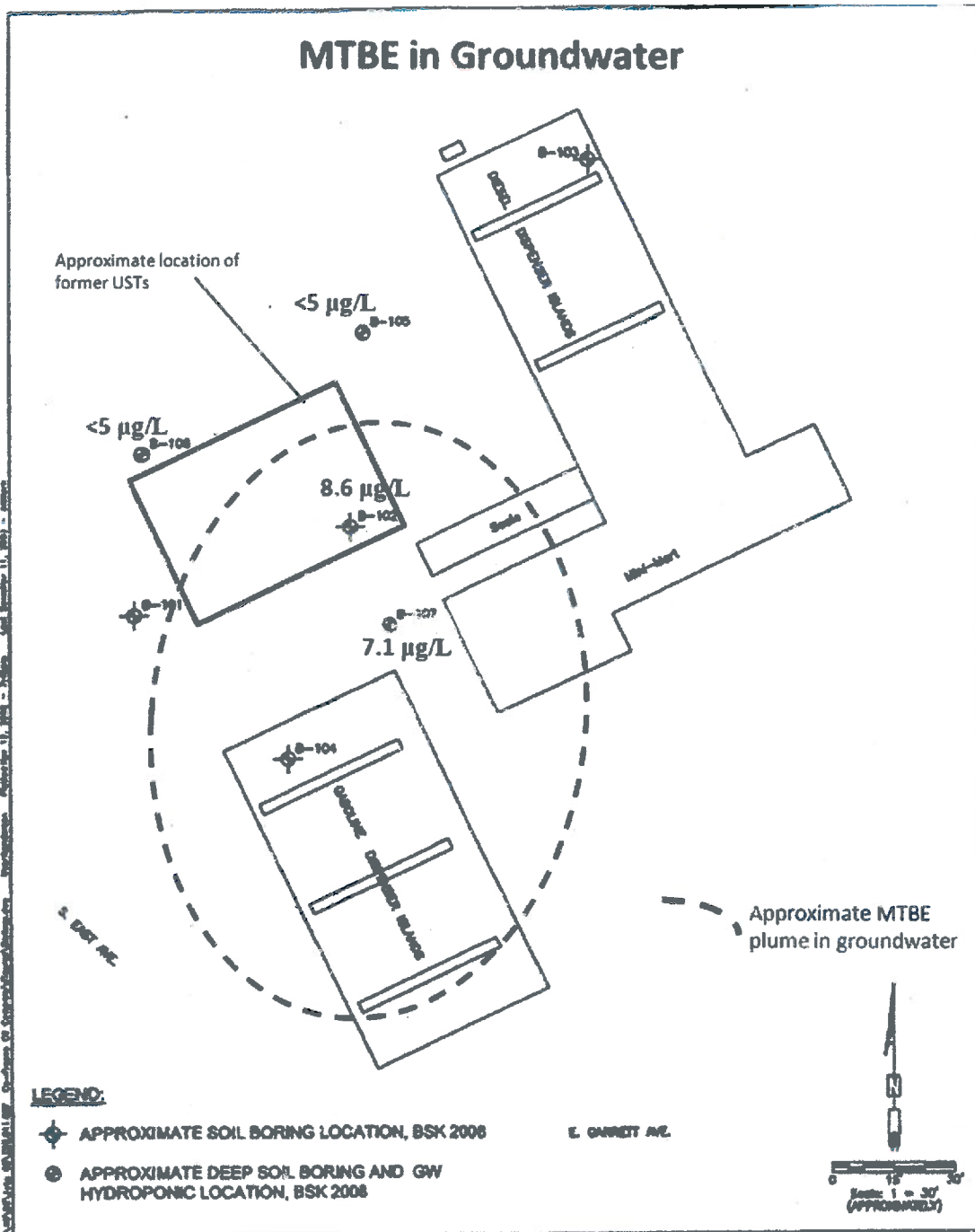
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FIGURE 2

Modified by SWRCB



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**BORING LOCATION MAP**

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FIGURE 3

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