



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

February 19, 2014

Laurent Meillier
San Francisco Bay Regional Water Quality Control Board
1515 Clay St. Suite 1400
Oakland, CA 94612

REVIEW SUMMARY REPORT – CLOSURE (PRELIMINARY REVIEW) FOR CLAIM NUMBER 4986; SHELL STATION, 5489 THORTON ROAD, NEWARK, CA:

The UST Cleanup Fund (Fund) has completed our Review Summary Report of San Francisco Bay Region California Regional Water Quality Control Board (Regional Water Board) Case No. 01-1373.

The Review Summary Report process, authorized in Health and Safety Code (HSC) section 25299.39.2, provides that if the Fund Manager determines the case warrants closure then a copy of a review summary report will be provided to the regulatory agency for comment. Once the Fund Manager determines that the case warrants closure, the regulatory agency is precluded from issuing a corrective action directive or enforcing an existing directive, with limited exceptions as specified in HSC 25299.39.2, subdivision (a)(4). A copy of HSC 25299.39.2 can be found at leginfo.ca.gov.

The enclosed draft review summary report which determines that closure is appropriate, "Draft Review Summary Report–Closure," is being provided to you as a courtesy draft for a 45-day review period before it is signed by the Fund Manager.

In the event your agency does not concur with the determination in the Draft Review Summary Report–Closure, you have an opportunity within the next 45 days to provide compelling information: (1) that would show the case does not meet closure criteria [UST Low Threat Closure Policy or the decisional framework for closure under Resolution 92-49] or (2) that a statutory exception exists and there should not be a stay of regulatory directives.

After reviewing your comments, the Fund Manager may either change the recommendation or, lacking compelling reasons described above and in the HSC, sign the "Review Summary Report–Closure" and send copies to you and applicable claimants after 45 days from the date of this letter. Once the Fund Manager signs the "Review Summary Report–Closure," the regulatory agency is precluded from issuing a corrective action directive or enforcing an existing directive, unless an exception applies.

In the event that your agency concurs with the determination, your agency may submit a letter or e-mail to the Cleanup Fund Manager, within 45-days of the date of this letter, stating that your agency will public notice the case for closure within 3 months and, pending public comments, order closure activities within 6 months of the date of this letter.

Lacking such a commitment from your agency, the Fund Manager will recommend case closure to the State Water Board and public notice the draft proposed closure order. If the State Water Board determines that case closure is appropriate, it will order case closure for the site and issue the uniform closure letter after closure activities have been completed.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

Note that the Draft Review Summary Report–Closure is based on information currently in the GeoTracker database, in the Cleanup Fund’s case files, and any other sources of information that were readily available to Cleanup Fund staff at the time the review was conducted.

Responses regarding this case may be provided by e-mail, letter, or a copy of correspondence to the Responsible Party. Please identify the case by Cleanup Fund claim number and direct your response to:

Kirk Larson
(916) 341-5663
(ktlarson@waterboards.ca.gov)
Underground Storage Tank Cleanup Fund
State Water Resources Control Board
P.O. Box 944212
Sacramento, CA 94244-2120

Sincerely,



Robert Trommer
Senior Engineering Geologist
Chief, Technical Review Unit
Underground Storage Tank Cleanup Fund

Enc. Preliminary Review Summary Report–Closure for Claim Number 4986
cc: Cherie McClaulou, Regional Water Board, Oakland
Mr. Steven Inn, Alameda County Water District, 43885 Grimmer Blvd., Fremont, CA 94539
Thomas Berkins, Alameda County Water District, Fremont

State Water Resources Control Board

DRAFT
REVIEW SUMMARY REPORT - CLOSURE
PRELIMINARY REVIEW - FEBRUARY 2014

Agency Information

Agency Name: San Francisco Regional Water Quality Control Board (Regional Water Board)	Address: 1515 Clay Street, Suite 1400 Oakland, CA 94612
Agency Caseworker: Cherie McCaulou	Case No: 01-1373

Agency Name: Alameda County Water District (ACWD)	Address: 43885 South Grimmer Blvd Fremont, CA 94538
Agency Caseworker: Thomas Berkins	Case No: TT0101

Case Information

USTCF Claim No.: 4986	Global ID: T0600101268
Site Name: Shell Station	Site Address: 5489 Thornton Avenue Newark, CA 94560
Responsible Party: Equilon Enterprises LLC, Assignee C/O: Shell Oil Products US, Attn: Jeff Whitworth	Address: 20945 S. Wilmington Ave. Carson, CA 90810
USTCF Expenditures to Date: \$0	Number of Years Case Open: 25

URL: https://geotracker.waterboards.ca.gov/regulators/screens/menu.asp?global_id=T0600101268

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:

The Site is an active commercial petroleum fueling facility. One waste oil UST was removed in February 1986. Approximately 1,500 cubic yards of contaminated soil was excavated to a depth of 19 feet below ground surface (bgs) in 1990 during the removal of three gasoline USTs. Dual phase extraction was conducted between June 2000 and November 2002, which removed 25,935 gallons of contaminated groundwater and 1.35 pounds of methyl tertiary-butyl ether (MTBE). Additional dual phase extraction was conducted in 2004 which removed less than 2 pounds of total petroleum hydrocarbons as gasoline (TPHg) per event. Since 1988, 16 monitoring wells have been installed and three wells have been abandoned. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except MTBE.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are two inactive public supply wells regulated by the California Department of Public Health 934 feet north (upgradient) of the defined plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. There are no surface water bodies within 1,000 feet of the defined plume boundary. Water is provided to water users near the Site by the Alameda County Water District. 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 5. There are two supply wells regulated by the California Department of Public Health within 1,000 feet northwest (upgradient) of the defined plume boundary. Otherwise, the case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 micrograms per liter ($\mu\text{g/L}$). The regulatory agency determines, based on an analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.
- **Vapor Intrusion to Indoor Air:** The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility and the release characteristics do not pose an unacceptable health risk.
- **Direct Contact and Outdoor Air Exposure:** This case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Table 1 for Commercial/Industrial sites and the concentration limits for a Utility Worker are not exceeded. 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 used as a surrogate 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

According to the Path to Closure page in GeoTracker, the ACWD opposes closure because:

- Conceptual site model is inadequate.
RESPONSE: Adequate data is available in GeoTracker to prepare a conceptual site model consistent with the Policy.
- The case does not meet Policy groundwater criteria.
RESPONSE: The case meets Policy Criterion 1 by Class 5.

Determination

The Fund Manager has notified the tank owners or operators and reviewed the case history of their tank case. The Fund Manager determines that closure of the tank case is appropriate based upon that review. The Fund Manager has prepared this review summary report summarizing the reasons for this determination, provided the Review Summary Report to the applicable regional board and local agency, as appropriate, with an opportunity for comment on the Review Summary Report.

Pursuant to Health and Safety Code as of the date of the signature of the Fund Manager below, the regional board or local agency shall not issue a corrective action directive or enforce an existing corrective action directive for the tank case until the board issues a decision on the closure of the tank case, unless one of the following applies:

- (A) The regional board or local agency demonstrates to the satisfaction of the manager that there is an imminent threat to human health, safety, or the environment.
- (B) The regional board or local agency demonstrates to the satisfaction of the manager that other site-specific needs warrant additional directives during the period that the board is considering case closure.
- (C) After considering responses to the review summary report and other relevant information, the manager determines that case closure is not appropriate.
- (D) The regional board or local agency closes the tank case but the directives are necessary to carry out case-closure activities.



Walter Bahm, P.E. 2/25/14 Date
Water Resources Control Engineer
Technical Review Unit
(916) 341-5847



Robert Trommer, C.H.G. 2/12/14 Date
Senior Engineering Geologist
Chief, Technical Review Unit
(916) 341-5684

Blank

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

Date

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? Note: low levels of chlorinated hydrocarbons found in select groundwater samples.</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><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>

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 a conceptual site model that assesses the nature, extent, and mobility 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 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? If YES, check applicable class: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" 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>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><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 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 CASE INFORMATION (Conceptual Site Model)

Site Location/History

- The Site is an active commercial petroleum fueling facility located on the northwest corner of Cedar Boulevard and Thornton Avenue. The property occupies the southeast corner of a shopping mall parking lot.
- Site map showing the location of the former and currently USTs, monitoring wells and groundwater level contours is provided at the end of this review summary (Conestoga-Rovers & Associates, 2013)
- Nature of Contaminants of Concern: Petroleum hydrocarbons.
- Source: UST system.
- Date reported: February 1986
- Status of Release: USTs and piping removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	550	Waste Oil	Removed	August 1986
2	8,000	Gasoline	Removed	July 1990
3	10,000	Gasoline	Removed	July 1990
4	12,000	Gasoline	Removed	July 1990
5-7	10,000	Gasoline	Active	-

Receptors

- GW Basin: Santa Clara Valley – Niles Cone.
- Beneficial Uses: Regional Water Board Basin Plan lists agricultural, municipal, industrial service and process supply.
- Land Use Designation: Commercial.
- Public Water System: Alameda County Water District.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are two inactive public supply wells regulated by the California Department of Public Health 934 feet north (upgradient) of the defined plume boundary. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain predominantly by clays and silts with some lenses of course-grained soils.
- Maximum Sample Depth: 32 feet bgs.
- Minimum Groundwater Depth: 11.90 feet bgs at monitoring well S-3.
- Maximum Groundwater Depth: 44.20 feet bgs at monitoring well S-10.
- Current Average Depth to Groundwater: Approximately 20 feet bgs.
- Saturated Zones(s) Studied: Approximately 12 – 75 feet bgs.
- Groundwater Flow Direction: Southeast at a gradient of 0.06 (July 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (07/20/12)
S-1	February 1989	Abandoned	-
S-2	February 1989	7-27	15.53
S-3	February 1989	25-42	NM
S-4	February 1989	20-35	NM
S-5	February 1989	20-35	NM
S-6	July 1989	20-35	19.49
S-7	June 1989	20-35	NM
S-8	January 1995	20-35	15.18
S-9	January 2002	25-35	16.88
S-10	March 2002	55-75	20.07
S-11	March 2002	43-58	NM
S-12	March 2004	43-58	NM
S-13	October 2006	43-58	NM
S-14	October 2010	27-54	19.07
S-15	October 2010	30-45	21.02
S-16	October 2010	48-58	21.31

NM – not measured

Remedial Action

- Free Product: None reported in GeoTracker.
- Soil Excavation: Approximately 1,500 cubic yards of contaminated soil was excavated to a depth of 19 feet bgs in 1990 during the removal of three gasoline USTs.
- In-Situ Soil/Groundwater Remediation: Dual phase extraction was conducted between June 2000 and November 2002, which removed 25,935 gallons of contaminated groundwater and 1.35 pounds of MTBE. Batch dual phase extraction was conducted in 2004, which removed less than 2 pounds of TPHg per event.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs ¹ [mg/kg (date) name-depth]	Maximum 5-10 feet bgs [mg/kg (date) name-depth]
Benzene	<0.0050 (05/05/04)	<0.0050 (01/30/89) S-4-6.5'
Ethylbenzene	<0.0050 (05/05/04)	<0.0050 (01/30/89) S-4-6.5'
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

¹ Dispenser piping samples collected in May 2004

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)
S-2	07/20/12	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-3	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-5	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-6	01/16/12	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-7	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-8	07/20/12	180	<0.5	<0.5	<0.5	<1	210	<10
S-9	07/20/12	64	<0.5	<0.5	<0.5	<1	59	<10
S-10	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-11	05/01/13	130	<0.5	<0.5	<0.5	<1	110	<10
S-12	08/09/12	<50	<0.5	<0.5	<0.5	<1	42	56
S-13	10/04/07	<50	<0.5	<1	<1	<2	<1	NA
S-14	07/20/12	51	<0.5	<0.5	<0.5	<1	<0.5	NA
S-15	05/01/13	100	<0.5	<0.5	<0.5	<1	69	<10
S-16	07/20/12	<50	<0.5	<0.5	<0.5	<1	<0.5	NA
S-18	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-19	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<10
S-20	05/01/13	<50	<0.5	<0.5	<0.5	<1	<0.5	<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

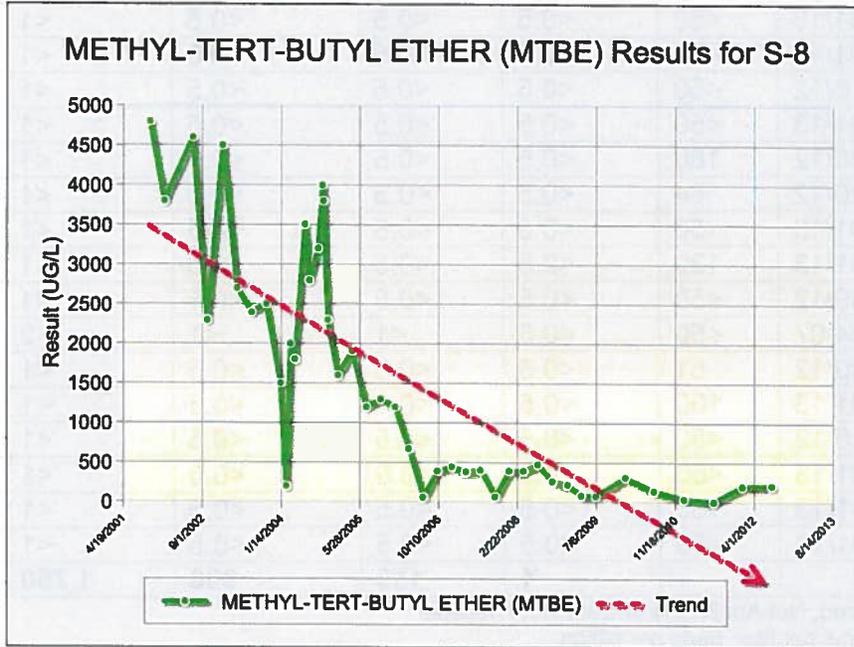
^a: Secondary maximum contaminant level (MCL)

^b: California Department of Public Health, Response Level

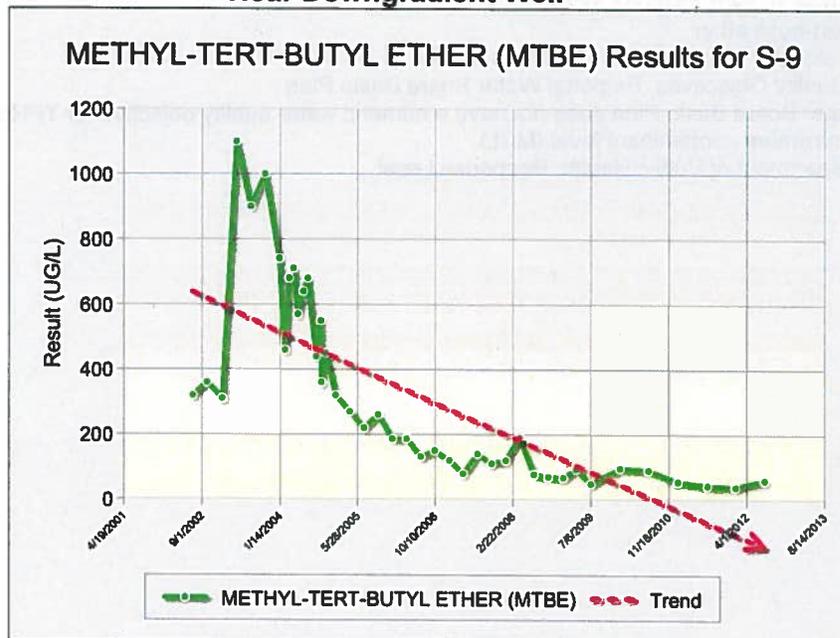
Groundwater Trends

- Groundwater has been monitored since 1989. MTBE trends are shown below: Source Area (S-8), Near Downgradient (S-9), and Far Downgradient (S-14).

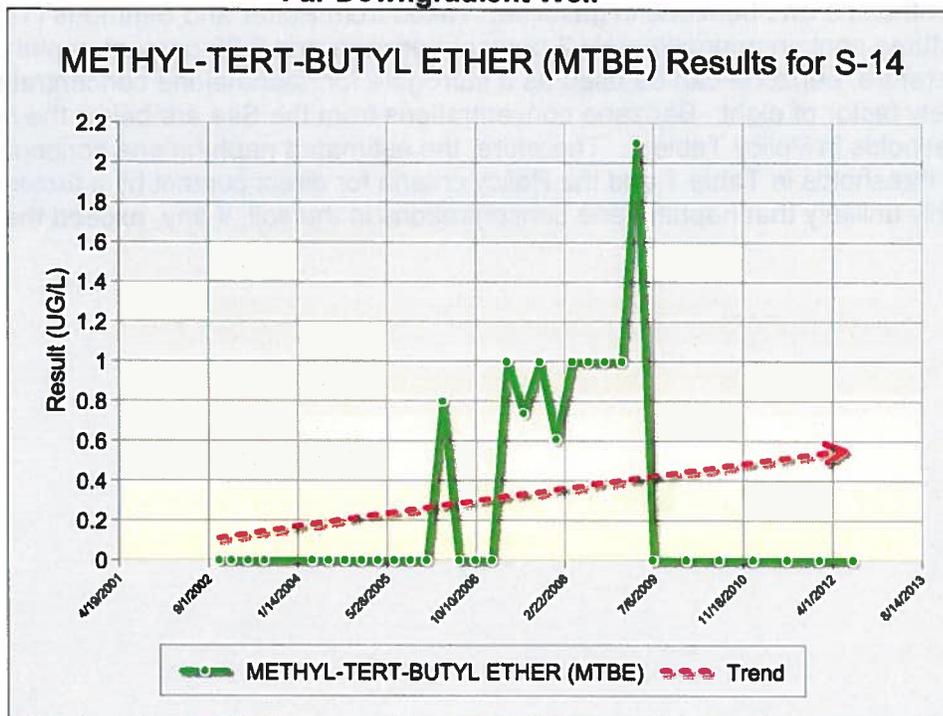
Source Area Well



Near Downgradient Well



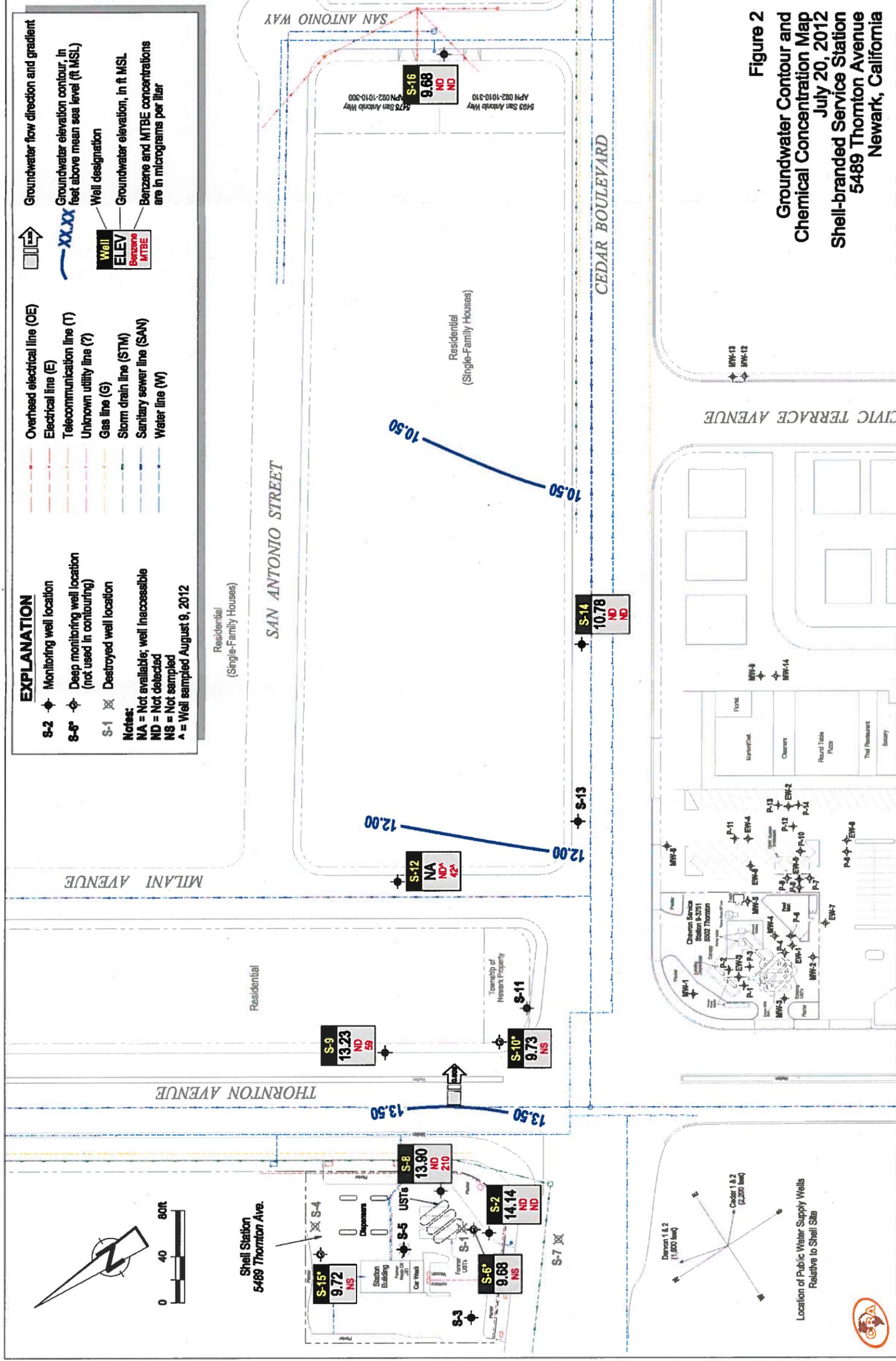
Far Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <1,000 feet.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: Yes.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 5. There are two supply wells regulated by the California Department of Public Health within 1,000 feet northwest (upgradient) of the defined plume boundary. Otherwise, the case meets Policy Criterion 1 by Class 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 µg/L. The regulatory agency determines, based on an analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.
- Vapor Intrusion to Indoor Air: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility and the release characteristics do not pose an unacceptable health risk.
- Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Table 1 for Commercial/Industrial sites and the concentration limits for a Utility Worker are not exceeded. 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 used as a surrogate 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.



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