

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2013-0068-UST

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

BY THE EXECUTIVE DIRECTOR:¹

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.² 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:

Edward Schiller

Yosemite Lakes Trading Post

29580 Yosemite Springs Parkway, Coarsegold, Madera County

Fund Claim No. 14449

Central Valley Regional Water Quality Control Board, Case No. 5T20000200

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

¹ 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.

² 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:

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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

Agency Name: Central Valley Regional Water Quality Control Board	Address: 1685 E Street Fresno, CA 93706
Agency Caseworker: Mr. Jeffrey Hannel	Case No.: 5T20000200

Case Information

USTCF Claim No.: 14449	Global ID: T0603900194
Site Name: Yosemite Lakes Trading Post	Site Address: 29580 Yosemite Springs Parkway Coarsegold, Madera County (Site)
Petitioner: Edward Schiller	Address: P.O. Box 337 Central City, IA 52214
USTCF Expenditures to Date: \$1,430,641	Number of Years Case Open: 13

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603900194

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 unauthorized release was discovered in March of 1999, following the removal and replacement of the three Underground Storage Tanks (USTs), associated piping, and pump island. During the removal activities, residual petroleum constituents were identified beneath the dispenser island and one of the USTs. Subsequent Site characterization indicated petroleum constituents in the soil and limited shallow perched water. It was later discovered that methyl tert-butyl ether (MTBE) and tert-butyl alcohol (TBA) had impacted the deep groundwater aquifer. The Site has remained operational as an active fueling facility.

A soil vapor extraction system (SVE), groundwater remediation system, and a limited pumping program were implemented. The SVE system effectively removed petroleum constituents from the soil and perched water. The groundwater remediation system and the limited pumping program have reduced deep onsite MTBE concentrations to near the primary maximum contaminant level (MCL). Normal drinking water production has removed residual petroleum constituents from the aquifer and will continue to remove the remaining residual petroleum constituents.

The release has affected the production aquifer used by the Yosemite Springs Park Utility Company (YSPUC). MTBE was detected in YSPUC wells above MCLs and as a result the Central Valley Regional Water Quality Control Board (Regional Water Board) requested production to be discontinued in four of the YSPUC wells. A California Department of Public Health (CDPH) funded MTBE treatment plant was installed to treat MTBE impacted drinking water from two of the YSPUC wells. It has been 7 years since the installation of the MTBE treatment plant and MTBE has not been detected in the influent water samples above the primary MCL since the installation of the treatment plant. Nearly 450 million gallons of water have been produced and delivered to customers from the impacted wells since the installation of the treatment plant in 2005. CDPH has indicated it will accept an application from YSPUC to discontinue the use of the MTBE treatment plant because the influent concentrations of MTBE have been below the secondary MCL since 2008.

The remaining petroleum constituents are limited, stable, and declining. Remedial actions have been implemented and the only effective remediation option available is to remove residual contamination through aquifer production. 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 Regional Water Board concurred with the responsible party's recommendation for closure. However, the YSPUC has expressed objections to closure of this case.

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 5.** Based on an analysis of Site specific conditions that 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 (WQOs) will be achieved within a reasonable time frame. Lab data was provided by YSPUC for the two previously impacted production wells. MTBE was not detected above WQOs in 148 samples collected since 2008. The extensive analytical data indicates that the corrective actions have significantly reduced the plume and the production wells are no longer threatened.
- **Petroleum Vapor Intrusion to Indoor Air – Site meets the ACTIVE FUELING FACILITY** exception for vapor intrusion to indoor air, 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) a.** Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1. The estimated naphthalene concentrations in soil 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

The Regional Water Board staff does not object to UST case closure. However, YSPUC staff objected to UST case closure because:

1. In 2003, MTBE was detected in wells 11A and 18A above the MCL.
RESPONSE: This was nearly 10 years ago and MTBE concentrations have been significantly reduced by active remediation and natural attenuation. These wells are not currently in use and

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they have unaddressed coliform contamination issues due their shallow sanitary seals and proximity to private septic disposal systems.

2. YSPUC is unable to rehabilitate some of the wells within the well field due to the presence of the MTBE plume.

RESPONSE: The Regional Water Board, in a letter dated August 17 2012, stated that, pending approval from the CDPH, the wells in question could be placed back in service. CDPH has indicated it does not object to placing the wells in question back in service.

3. Recent results from the previously unaffected well 47A indicated 2 ppb (parts per billion) TBA.

RESPONSE: This data has not been provided to State Water Board, however there is no MCL for TBA, the TBA action level is 12 ppb, and taste and odor threshold for TBA is 290,000 ppb.

4. Wells 37A and 40A continue to contain MTBE and TBA.

RESPONSE: MTBE concentrations have been below secondary MCL since 2008 and YSPUC has extracted over 266 million gallons from the affected wells since that time. MTBE concentrations have been less than 1 ppb for over a year.

Data provided by YSPUC indicates that, TBA has only been detected in approximately 2% of influent water samples collected since 2005 and has not been detected in influent samples since 2010.

5. Groundwater treatment was discontinued due to system breakage not scientific findings.

RESPONSE: At the time of equipment breakage continued groundwater remediation had become cost prohibitive and technically ineffective.

6. The extent of the plume not defined.

RESPONSE: Plume definition in a fractured rock aquifer is difficult due to random preferential pathways created by the fracturing. The installation of additional wells in excess of 200 feet deep would not reduce/remove any significant residual petroleum and would be extremely expensive. Given the low concentrations proximal to the source and hydrological nature of fractured rock, this would not be an effective use of resources.

7. The TBA detection limit used is too high and TBA is consistently detected in the YSPUC's system.

RESPONSE: According to data provided by YSPUC, TBA has been detected in YSPUC wells on 4 separate occasions and hasn't been detected above the action level since 2009.

8. The responsibility for cleanup is left to the YSPUC "the victim".

RESPONSE: MTBE concentrations in YSPUC wells have been below primary and secondary MCLs since 2003 and 2008 respectively and CDPH provided YSPUC with a \$3,000,000 granular activated carbon (GAC) treatment facility. MTBE treatment is no longer required or necessary. Continued production from the aquifer will reduce/remove any remaining residual petroleum constituents from the aquifer and is technically the only effective form of continued treatment and the most economical.

9. YSPUC has a requirement in their plant to reduce MTBE in the water they deliver to zero.

RESPONSE: Laboratory methods are not available to achieve such a requirement and the secondary MCL is 5 ppb. This is a requirement of the CDPH treatment plant operation plan. However, the treatment plant is unnecessary since the MTBE concentrations have been below the secondary MCL for several years. YSPUC can request to discontinue the treatment plant operation plan.

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10. The bailers used by BSK for sampling were not the correct type and samples may be blended (not representative).

RESPONSE: The Regional Water Board and YSPUC's consultants sampled the monitoring wells. MTBE concentrations in these samples were lower than those from samples obtained by the consultant, BSK.

11. Reports do not address the effects of precipitation or pumping rate changes on MTBE fate and transport.

RESPONSE: Comparison of analytical data from influent samples collected at the YSPUC treatment plant to precipitation and pumping data does not indicate a correlation between MTBE concentrations and precipitation or pumping rates. MTBE concentrations have consistently been decreasing in the YSPUC wells since MTBE was first identified.

12. A consultant that is hired by the RP has a conflict of interest.

RESPONSE: State Water Board staff has independently and thoroughly reviewed all data as part of the petition process and has determined that case closure is appropriate.

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: *Matthew Cohen*
Matthew Cohen
Engineering Geologist

5/10/2013
Date

Reviewed By: *George Lockwood*
George Lockwood, PE-No. 59556
Senior Water Resource Control Engineer

5/10/2013
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.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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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><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>

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

<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>Does nuisance as defined by Water Code, section 13050 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><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 INFORMATION (Conceptual Site Model)

Site Location/ History

- Location: The Site is located at the Yosemite Springs Parkway and Long Hollow Drive in Coarsegold. The Site is an active fueling facility.
- Surrounding Land Usage: The Site is bounded by commercial and rural residential properties.
- Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system.
- Discovery Date: 1999.
- Release Type: Petroleum².
- Investigation: Sixteen monitoring wells have been installed.
- Free Product: Not identified since 2002.

Table A. USTs:

Tank No.	Size	Contents	Status	Date
1	3,600 gallon	Gasoline	Removed	3/17/1999
2	1,900 gallon	Gasoline	Removed	3/17/1999
3	1,700 gallon	Gasoline	Removed	3/17/1999

Receptors

- Groundwater Basin: Tributary to San Joaquin Valley.
- Groundwater Beneficial Uses: Municipal (MUN), Agricultural Supply (AGR), Industrial Supply (IND), and Industrial Process Supply (PRO).
- Designated Land Use: Commercial, Rural, Median District.
- Public Water System: Yosemite Springs Park Utility Company.
- Distance to Nearest Surface Waters: Unnamed ephemeral stream approximately 200 feet southwest.
- Distance to Nearest Supply Wells: Yosemite Springs Park Utility Company Well 37A is located approximately 500 feet south of the site.

Geology/ Hydrogeology

- Average Groundwater Depth: ~72 feet bgs.
- Minimum Groundwater Depth: ~2 feet bgs.
- Groundwater Flow Direction: Southwesterly.
- Geology: Sandy alluvium over weathered granitic rock that grades into fresh/fractured granitic rock.
- Hydrogeology: Groundwater is contained in and controlled by a network of preferential fractures within the granitic bedrock and is influenced by extraction from the nearby production and remediation wells.

² "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)

Corrective Actions

- 1999 March – Removal of three USTs and adjacent soil.
- 2000 January – Soil vapor extraction pilot test.
- 2001 April through 2004 March – Soil vapor extraction.
- 2001 June through 2006 October – Groundwater extraction and treatment.
- 2002 August through 2008 May– limited groundwater extraction and treatment.
- 2005 through present – Municipal well head pump and treatment of the fractured rock aquifer..

Table B. Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs (mg/kg)	Maximum 5-10 feet bgs (mg/kg)
Benzene	0.1 (March 1999)	12 (October 2000)
Ethylbenzene	0.064 (March 1999)	20 (October 2000)
Naphthalene	Not Analyzed	Not Analyzed
PAHs*	Not Analyzed	Not Analyzed

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

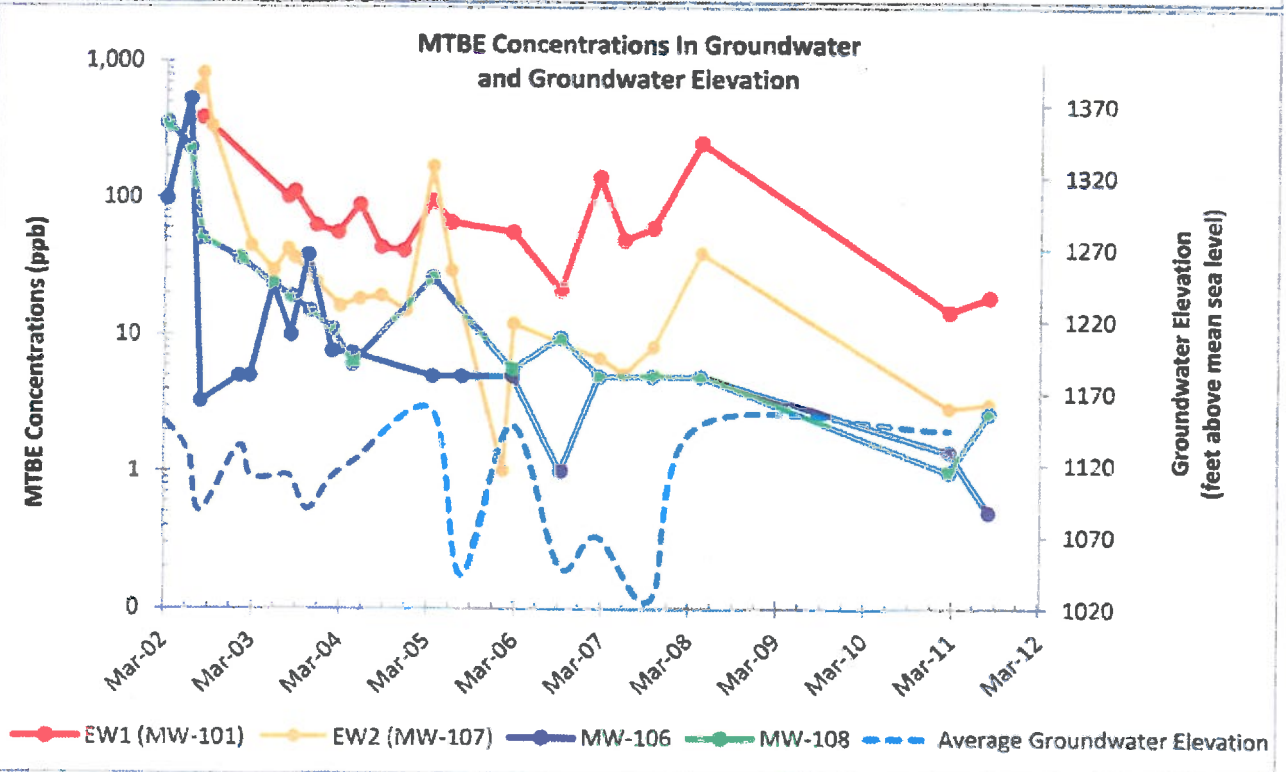
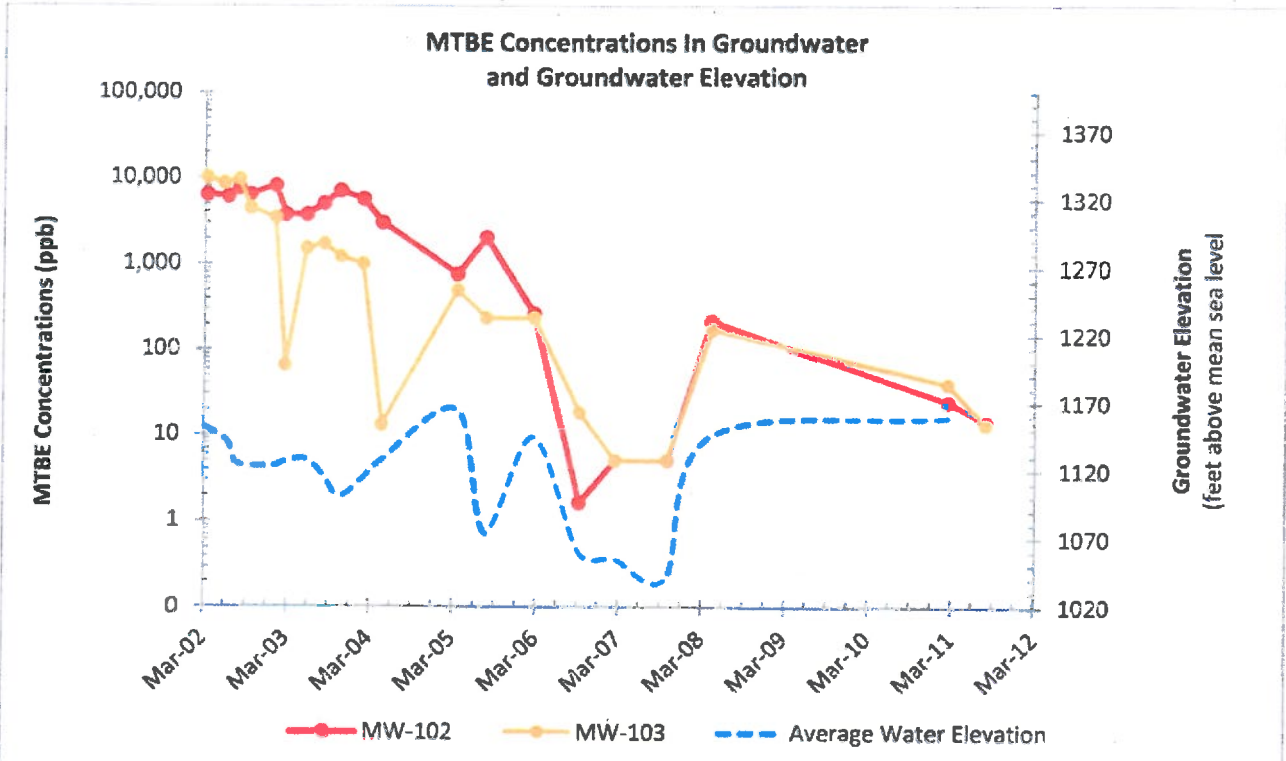
Table C. Concentrations of Petroleum Constituents in Groundwater (June 2012)

Sample	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TBA (ppb)
EW1 (101)	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	19	<50
EW2 (107)	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	3.1	<50
MW-102	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	14	<50
MW-103	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	13	<50
MW-104	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	<0.5	<50
MW-105	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	1.9	<50
MW-106	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	<0.5	<50
MW-108	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	2.7	<50
MW-109	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	2.7	<50
MW-110	8/23/11	<50	<0.3	<0.3	<0.3	<0.3	<5	<50
WQOs	-	50	1	150	300	1750	5	12*

WQOs - Water Quality Objectives

* California Notification Level

Groundwater Trends:



Evaluation of Risk Criteria

- Maximum Petroleum Constituent Plume Length above WQOs: : MTBE plume is approximately 175 feet in length.
- Petroleum Constituent Plume Determined Stable or Decreasing: Yes
- Soil/Groundwater Sampled for MTBE: Yes, see Table C 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 exception for active petroleum fueling facility. Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective of human health.
- Residual Petroleum Constituents Pose a Nuisance³ at the Site: No
- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No. The shallow soil contamination has been remediated by soil vapor extraction
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No – Site meets Criteria (3) a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1. 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. Benzene concentrations from the Site are below the naphthalene thresholds in Table 1 of the Policy. Therefore, 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.

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

Yosemite Lakes Trading Post
29580 Yosemite Springs Parkway, Coarsegold, Madera County

Water Well Map
DWQP-0114
Yosemite Lakes Trading Post
29580 Yosemite Springs Parkway,
Coarsegold, California 93614

