

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WQ 2013-0030-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:<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:

**Arron Rambach**

**California Department of Transportation Dorris Station**

**State Highway 97, Post Mile 49.8, Dorris, California**

**Fund Claim No. not applicable**

**North Coast Regional Water Quality Control Board, Case No. 1TSI006**

**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

---

<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:

**Arron Rambach**

**California Department of Transportation Dorris Station**

**State Highway 97, Post Mile 49.8, Dorris, California**

**Fund Claim No. not applicable**

**North Coast Regional Water Quality Control Board, Case No. 1TSI006**

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.

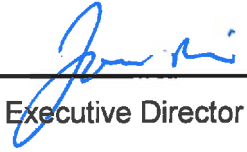
C. Within 30 days of receipt of proper documentation from the Petitioner that requirements in subparagraphs (1) and (2) of Paragraph (A) are complete, the regulatory agency that is responsible for oversight of the UST case identified in Section II of this Order shall notify the State Water Board that 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. 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, Site Address, Petitioner, Address, USTCF Expenditures to Date, Number of Years Case Open

URL: http://geotracker.waterboards.ca.gov/profile\_report.asp?global\_id=T0609300005

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 when the former underground storage tanks (UST) and fuel pump were removed from the Site in August 1987. During the 1987 UST removal, approximately 60 cubic yards of impacted soil were excavated and disposed. Free product existed in one monitoring well (MW) from 1998 to 2001. A potential receptor survey identified two domestic (DOM) wells located within 2,000 feet of the site. The Gamboa Residence DOM well is located approximately 400 feet to the south-southwest (cross-gradient), and the Mayes DOM well is located greater than 1,000 feet to the southeast (down-gradient). Both DOM wells were sampled in May 2000 for petroleum constituents and volatile organic compounds (VOCs) and sample results were reported as non-detect. Soil Vapor Extraction (SVE) and Air-Sparge (AS) systems were operated from March 2003 to April 2005 and again from January to August 2008. The SVE system operations were terminated in 2008 with Regional Water Quality Control Board (Regional Water Board) concurrence. The contamination plume is stable to decreasing since termination of the SVE system in 2008.

CHARLES R. HOPPIN, CHAIRMAN | THOMAS HOWARD, EXECUTIVE DIRECTOR

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



CDOT Dorris Station  
State Highway 97, Post Mile 49.8, Dorris

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

#### **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.
- Petroleum Vapor Intrusion to Indoor Air – Site meets **CRITERIA (2) a, Scenario 3**. Benzene in groundwater is less than (<) 100 micrograms per liter ( $\mu\text{g/L}$ ); total petroleum hydrocarbons (TPH) is <100 milligrams per kilogram (mg/kg) in soil at depths less than 5 feet.
- 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**

Regional Water Board staff objected to UST case closure because:

1. Natural attenuation has not been established.  
**RESPONSE:** Post remediation groundwater data show decreasing trends in petroleum hydrocarbon concentrations. Additionally, cross- and down-gradient monitoring wells that historically had groundwater detections, no longer have detections in groundwater. Both of these conditions demonstrate that natural attenuation is occurring.
2. WQOs will not be reached in 5 to 100 years; existing data do not adequately project when WQOs will be achieved.  
**RESPONSE:** Groundwater monitoring analytical data indicate that residual concentrations of total petroleum hydrocarbons as gasoline (TPHg) and benzene exist above WQOs. However, post remediation groundwater data indicate decreasing petroleum hydrocarbon trends in groundwater.

CDOT Dorris Station  
State Highway 97, Post Mile 49.8, Dorris

3. An updated sensitive receptor survey is required.

**RESPONSE:** An updated sensitive receptor survey was provided in the Second Quarter – 2011 Groundwater Monitoring Report, dated September 2011. The Regional Water Board letter dated, October 4, 2011, acknowledged receipt of the updated sensitive receptor survey and did not dispute the information provided.

**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: Steve McMasters  
Steve McMasters, PG No. 8054  
Engineering Geologist

3/28/2013  
Date

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

3/28/2013  
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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 type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" 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 checked="" 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><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 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>

CDOT Dorris Station  
State Highway 97, Post Mile 49.8, Dorris

## ATTACHMENT 2: SUMMARY OF BASIC INFORMATION (Conceptual Site Model)

### Site Location/ History

- The Site is located approximately one-quarter mile south of the Town of Dorris along Highway 97. The Site is used by CDOT as a maintenance yard with storage buildings.
- The Site is bounded by Highway 97 and agricultural land to the east, commercial to the west, Siskiyou County Road Department to the north, and California Agriculture Inspection Station to the south.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system
- Discovery Date: 1987
- Release Type: Petroleum<sup>2</sup>
- Free Product: From 1998 to 2001, MW-3 contained free product, but not after 2001.

**Table A. USTs:**

Tank No.	Size	Contents	Status	Date
1	1,000 gallon	Gasoline	Removed	1987
2	550 gallon	Diesel	Removed	1987

### Receptors

- Groundwater Basin: Butte Valley (1-3)
- Groundwater Beneficial Uses: Municipal and domestic supply (MUN); agricultural supply (AGR); hydropower generation (POW); water contact recreation (REC1); non-contact water recreation (REC2); commercial and sport fishing (COMM); warm fresh water habitat (WARM); cold fresh water habitat (COLD); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); industrial service supply (IND); industrial process supply (PRO); and aquaculture (AQUA).
- Designated Land Use: General commercial (GC)
- Public Water System: City of Dorris
- Distance to Nearest Surface Waters: Wastewater treatment ponds are located approximately 1,000 feet to the northwest; unnamed man-made ponds and irrigation ditch located approximately 1 mile to the south and west of the site.
- Distance to Nearest Supply Wells: DOM wells are located approximately 400 feet to the south-southwest and approximately 1,600 feet to the southeast.

### Geology/ Hydrogeology

- Average Groundwater Depth: ~22 feet bgs
- Minimum Groundwater Depth: ~21 feet bgs
- Groundwater Flow Direction: Southeast
- Geology: Site overlies alluvial deposits of clay, silt, and silty-sand with minor amounts of sand and gravel units.
- Hydrogeology: Groundwater beneath the site is unconfined.

<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 & Saf. Code, § 25299.2.)

**Corrective Actions**

- Two USTs and fuel pump were removed from facility in 1987.
- During the 1987 UST system removal, approximately 60 cubic yards of impacted soil were removed and disposed.
- SVE and AS remediation systems were operated at the site from 2003 to 2005 and from January to August 2008.
- The remediation systems were terminated to evaluate rebound and was removed from the site in 2011 with Regional Water Board concurrence.

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

Constituent	Maximum 0-5 feet bgs (mg/kg)	Maximum 5-10 feet bgs (mg/kg)
Benzene	<0.005	<0.005
Ethylbenzene	<0.005	0.049
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)**

Well ID	DTW	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1*	23.20	--	--	--	--	--	--	--
MW-2*	23.07	--	--	--	--	--	--	--
MW-3	23.75	<b>60</b>	<b>200</b>	<b>1.1</b>	<0.5	0.63	<1.0	<0.5
MW-4	23.39	<50	<50	<0.5	<0.5	<0.5	<1.0	--
MW-5	22.64	<50	<50	<0.5	<0.5	<0.5	<1.0	--
MW-6	23.11	<b>60</b>	<b>60</b>	<0.5	<0.5	<0.5	<1.0	--
MW-7*	23.32	--	--	--	--	--	--	--
MW-8	23.35	<b>640</b>	<b>560</b>	<b>2.9</b>	<0.5	<b>11</b>	<b>1.3</b>	<0.5
MW-9	23.65	<50	<50	<0.5	<0.5	<0.5	<1.0	--
MW-10	24.02	<50	<50	<0.5	<0.5	<0.5	<1.0	--
MW-11	22.80	<50	<50	<0.5	<0.5	<0.5	<1.0	--
<b>WQOs</b>		<b>50</b>	<b>50</b>	<b>1</b>	<b>42</b>	<b>3.2</b>	<b>17</b>	<b>5</b>

**Notes:**

\*Analysis discontinued per Regional Water Board request  
**bold** indicates that sample result exceeds WQOs

DTW – depth to water

TPHg – Total petroleum hydrocarbons as gasoline

TPHd – Total petroleum hydrocarbons as diesel

MTBE- Methyl tert-butyl ether

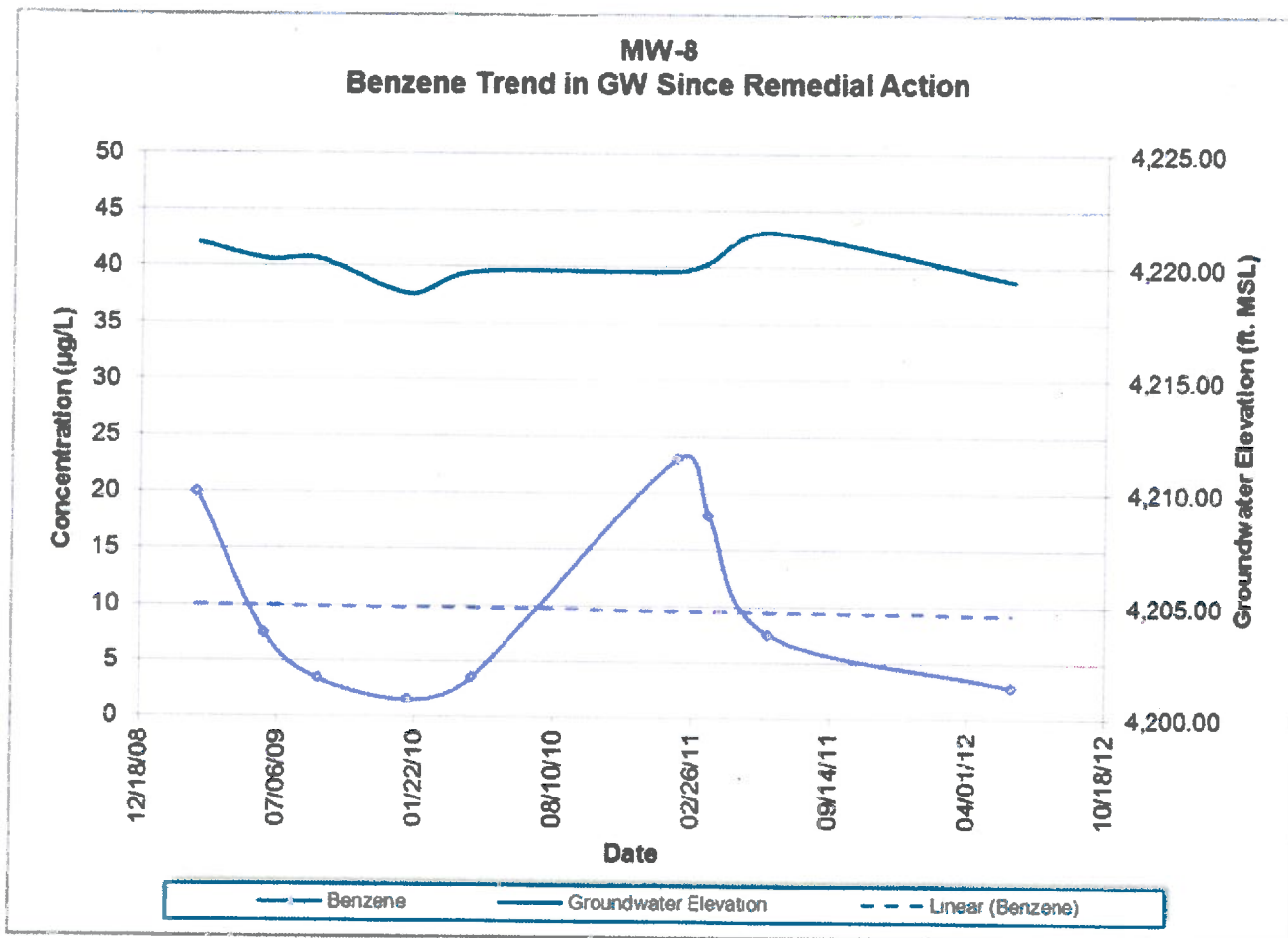
µg/L – micrograms per liter

< – indicates result is below the laboratory reporting limit

-- – constituent not analyzed

**Groundwater Trends:**

Reported concentrations of benzene at the Site have demonstrated stable or decreasing trends over time since remediation was ceased.



**Evaluation of Risk Criteria**

- Maximum Petroleum Constituent Plume Length above WQOs: The groundwater plume is approximately 160 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 – Petroleum constituents most likely to pose a threat for vapor intrusion were removed during soil excavation and over-excavation. Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective of human health.
- Residual Petroleum Constituents Pose a Nuisance<sup>3</sup> at the Site: No

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

CDOT Dorris Station  
State Highway 97, Post Mile 49.8, Dorris

- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No. Site-specific conditions satisfy all of the applicable characteristics and criteria for petroleum vapor intrusion to indoor-air under class a. scenario 3.
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No – 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.

**DWQP-0182**  
 Benzene in Groundwater  
 (µg/L)  
 June 2012  
 CDOT Dorris Station

