

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: North Coast Regional Water Quality Control Board, Region 1 (Regional Water Board)	Address: 5550 Skyline Boulevard, Suite A Santa Rosa, CA 95403
Agency Caseworker: Robert Dickerson	Case No.: 1TMC289

Case Information

USTCF Claim No.: 8706	Global ID: T0604500243
Site Name: Rebanda Trucking	Site Address: 4000 North State Street, Ukiah, CA 95482
Responsible Party: Joe DeAnda Living Trust Attn: Ms. Sarah DeAnda	Address: (Private Address)
USTCF Expenditures to Date: \$376,337	Number of Years Case Open: 18

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0604500243

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:

An unauthorized leak was reported in May 1994 following the removal of three USTs. In August 1995, one 12,000-gallon diesel, one 550-gallon motor oil, and one 550-gallon waste oil UST were excavated and removed from the Site. Approximately 20 cubic yards of impacted soil were removed and disposed offsite. No additional remediation has been conducted. Since 2004, eleven monitoring wells have been installed and irregularly monitored. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents.

The petroleum release is limited to the soil and shallow groundwater. No public supply well regulated by the California Department of Public Health or surface water body is located within 250 feet of the defined plume boundary. York Creek is greater than 250 feet south (downgradient), and the Russian River is 440 feet east (crossgradient) of the defined plume boundary. No other water supply wells were identified within 250 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by the City of Ukiah Utilities Department. 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, stable and concentrations declining.

Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose 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 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary. York Creek is greater than 250 feet south (downgradient) and the Russian River is 440 feet east (crossgradient) of the defined plume boundary.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 3a. The maximum benzene groundwater concentration is less than 100 ug/L. The minimum depth to groundwater is greater than 5 feet, overlain by soil that contains less than 100 mg/kg of TPHg.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial land use 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 directly substituted 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.

Objection to Closure and Response

The Regional Water Board objects to UST case closure because total petroleum hydrocarbons as diesel (TPHd) have been reported in soil at this property up to 9,600 mg/kg (SP-1 at 11 feet below the ground surface on November 8, 2010).

RESPONSE: The case meets all Policy criteria including source and secondary source removal as well as the media specific criteria for groundwater, indoor vapor, and direct contact.

Determination

Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Rebanda Transportation, Inc.
4000 North State Street, Ukiah
Claim No: 8706

May 2013

Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification as required by the Policy. Mendocino County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

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

5/3/13

Date

Prepared by: Annette Poteracke, P.G.

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?</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?</p> <p>If YES, check applicable class: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.</p> <p>Is the site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.</p> <p>a. Do site-specific conditions at the release site satisfy all of the</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>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 checked="" type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p>b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>3. Direct Contact and Outdoor Air Exposure: The site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).</p> <p>a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?</p> <p>b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?</p>	<p><input 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 a commercial property and is bounded by agricultural fields across Highway 101 to the west, an industrial property to the north, York Creek and residences to the south, and residences across North State Street to the east. The Russian River lies across State Street, approximately 440 feet east (crossgradient) of the Site.
- A site map showing the location of the former USTs, monitoring wells, and groundwater level contours is provided at the end of this closure review summary (Black Point Environmental, 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: May 1994.
- Status of Release: USTs removed.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	12,000	Diesel	Removed	August 1995
2	550	Motor Oil	Removed	August 1995
3	550	Waste Oil	Removed	August 1995

Receptors

- GW Basin: Ukiah Valley.
- Beneficial Uses: Agricultural, Industrial Service and Process, Municipal, and Domestic Supply.
- Land Use Designation: Commercial.
- Public Water System: City of Ukiah Utilities Department.
- Distance to Nearest Supply Well: There are no public supply wells regulated by the California Department of Public Health within 250 feet of the defined plume boundary. No other water supply wells were identified within 250 feet of the defined plume boundary in files reviewed.
- Distance to Nearest Surface Water: York Creek is greater than 250 feet south (downgradient) and the Russian River is 440 feet east (crossgradient) of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by sandy gravel and silty/sandy clay which overlay stiff clay.
- Maximum Sample Depth: 26 feet below ground surface (bgs).
- Minimum Groundwater Depth: 10.16 feet bgs at monitoring well MW-1.
- Maximum Groundwater Depth: 17.39 feet bgs at monitoring well MW-3.
- Current Average Depth to Groundwater: Approximately 12 feet bgs.
- Saturated Zones(s) Studied: Approximately 10-25 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Southeast with an average gradient of 0.01 feet/foot.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (04/02/2012)
MW-1	January 2000	10 – 25	NA
MW-2	January 2000	10 – 25	11.52
MW-3	January 2000	10 – 25	11.20
MW-4	January 2000	10 – 25	11.04
MW-5	January 2000	10 – 25	11.99
MW-6	January 2000	10 – 25	11.80
MW-7	February 2005	10 – 25	11.40
MW-8	February 2005	10 – 25	12.40
MW-9	February 2005	10 – 20	11.63
MW-10	July 2008	7 – 22	11.73
MW-11	July 2008	10 – 20	11.31

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Approximately 20 cubic yards of impacted soil were removed and disposed offsite.
- In-Situ Soil Remediation: None reported.
- Groundwater Remediation: Biosparging pilot test, conducted between August and December 2011, was determined to be ineffective.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg and (date)]	Maximum 5-10 feet bgs [mg/kg and (date)]
Benzene	<0.005 (12/08/05)	<0.005 (12/08/05)
Ethylbenzene	<0.005 (12/08/05)	<0.005 (12/08/05)
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

Most Recent Concentrations of Petroleum Constituents in Groundwater

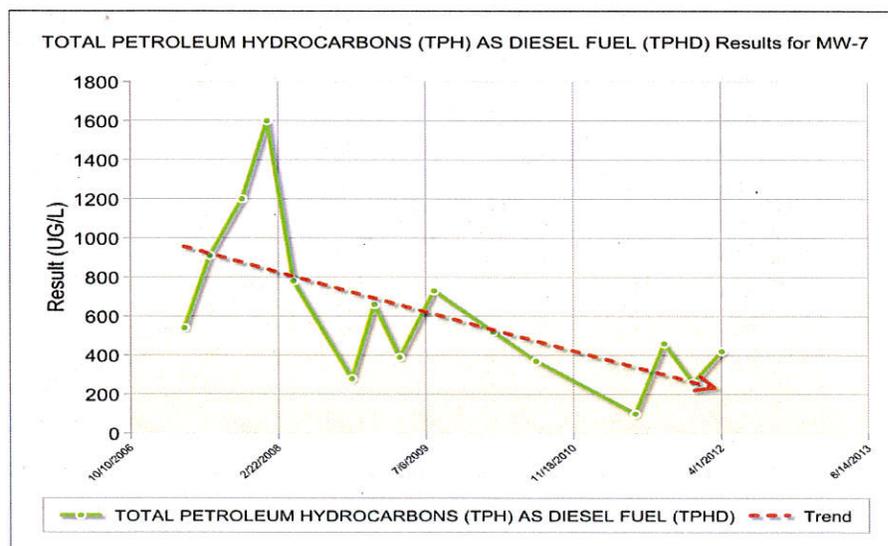
Sample	Sample Date	TPHd* (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	10/08/04	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	01/26/06	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	10/08/04	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-4	04/02/12	180	NA	NA	NA	NA	NA	NA
MW-5	10/23/07	<50	NA	NA	NA	NA	NA	NA
MW-6	10/08/04	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-7	04/02/12	420	NA	NA	NA	NA	NA	NA
MW-8	04/02/12	130	NA	NA	NA	NA	NA	NA
MW-9	04/02/12	<50	NA	NA	NA	NA	NA	NA
MW-10	04/02/12	67	NA	NA	NA	NA	NA	NA
MW-11	04/02/12	<50	NA	NA	NA	NA	NA	NA
WQOs	-	--	1	150	680	1,750	5	1,200^a

*Diesel Laboratory Results are with Selica Gel Wash
 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
 TPHd: Total petroleum hydrocarbons as diesel
 MTBE: Methyl tert-butyl ether
 TBA: Tert-butyl alcohol
 WQOs: Water Quality Objectives, Regional Water Board Basin Plan
 --: Regional Water Board Basin Plan has no numeric WQO for TPHd
^a: California Department of Public Health, Response Level

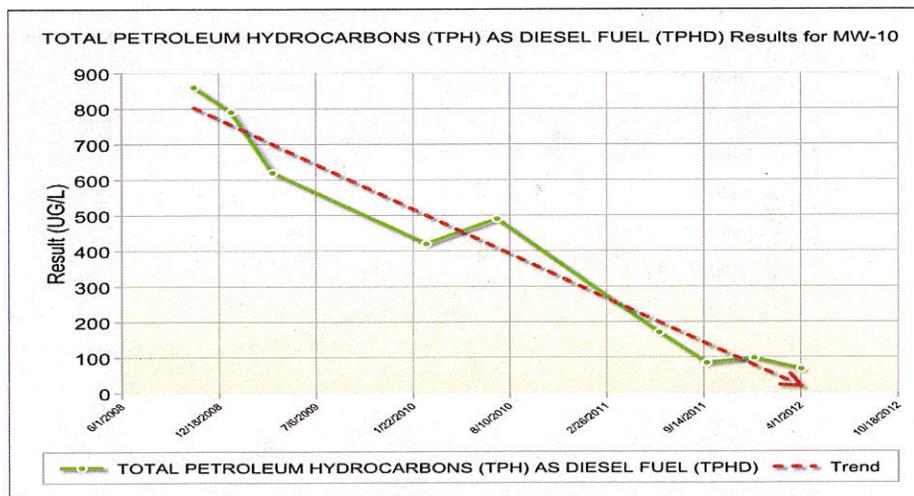
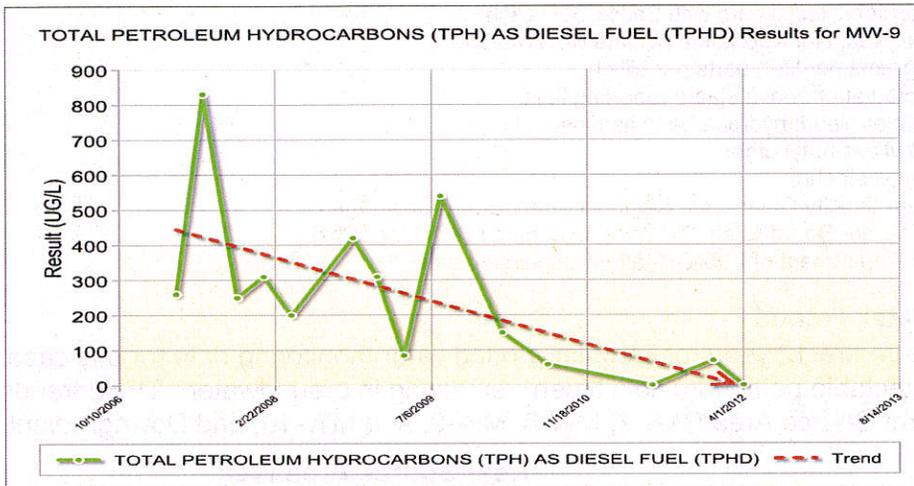
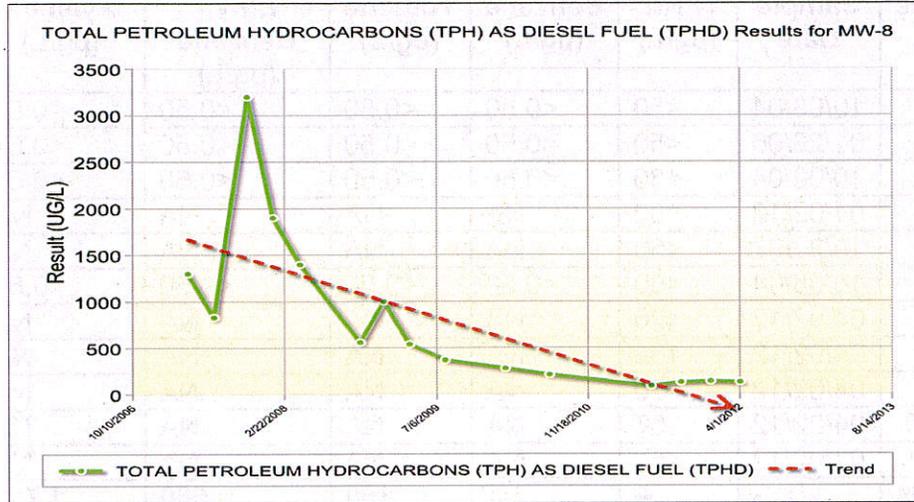
Groundwater Trends

- There are 12 years of irregular groundwater monitoring data for this case. TPHd is the only detectable petroleum constituent remaining in groundwater. TPHd trends are shown below: Near Source Area (MW-7, MW-8, MW-9, and MW-10) and Downgradient (MW-5).

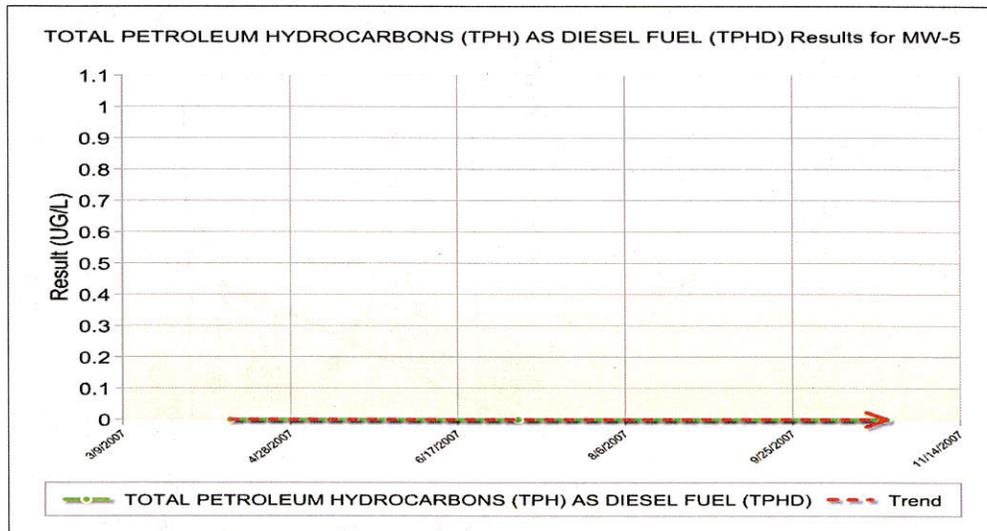
Near Source Area Well



Near Source Area Wells



Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet long.
- Plume Stable or Degrading: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary. York Creek is greater than 250 feet south (downgradient) and the Russian River is 440 feet east (crossgradient) of the defined plume boundary.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 2a by Scenario 3a. The maximum benzene groundwater concentration is less than 100 ug/L. The minimum depth to groundwater is greater than 5 feet, overlain by soil that contains less than 100 mg/kg of TPHg.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial land use 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 directly substituted 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.

