

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board (Regional Water Board)	Address: 11020 Sun Center Drive #200 Rancho Cordova, CA 95670
Agency Caseworker: Glenn Meeks	Case No.: 030039

Case Information

USTCF Claim No.: 12315	Global ID: T0600500033
Site Name: Amador Building Products	Site Address: 10961 HWY 49, Martell, CA 95654
Responsible Party: Amador Building Products	Address: P.O. Box 128, Cedarville, CA 96104
USTCF Expenditures to Date: \$189,646	Number of Years Case Open: 18

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0600500033

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 a 5.5 acre active lumber yard (Meeks Lumber) and hardware store, located in Martell on Highway 49. An unauthorized release was reported in April 1995 following the removal of a 500-gallon UST. Approximately 1,900 cubic yards of soil were excavated, and the contaminated soil was aerated on Site until elevated vapor levels were no longer detected. Soil was placed back into the pit area. The source area is now a paved parking area and access road. Since 1995, four monitoring wells and one injection well have been installed. Biofluid was added to the former tank pit in 1996 to increase oxygen concentration in groundwater to improve access to contaminated fractures in the bedrock. A soil vapor extraction pilot test was conducted in 2008, resulting in the recommendation that SVE was a viable remediation option. The system installation was delayed due to financial limitations. According to recent groundwater data, water quality objectives have been achieved or nearly achieved for all constituents of concern.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no supply wells regulated by the California Department of Public Health or surface water bodies within 250 feet of the defined plume boundary. No other water supply wells have been identified within 250 feet of the defined plume boundary in files reviewed.

Water is provided to water users near the Site by the Amador Water Agency. 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 declining. 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 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.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: This case meets Policy Criterion 2b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to petroleum constituents as a result of vapor intrusion found there to be no significant risk of petroleum vapors adversely affecting human health. This Site is and has been a lumber yard for over 40 years. The original source area is an asphalt covered parking lot and access road. There are no buildings downgradient that have potential for vapor intrusion. Elevated volatile hydrocarbon soil vapor contamination is localized on-site and the nearest building is a barn-style transfer station that is open to air on both sides. A real estate office to the east approximately 500 feet upgradient of the source area has installed an additional ventilation system to control potential vapor intrusion impacts.
- Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. The Site has been an active lumber yard for over 40 years and is paved preventing direct contact. It is very unlikely that there will be any subsurface contact near the source.

Objections to Closure and Responses

The Regional Water Board objects to UST case closure in their January 2012 letter because:

- The source area does not have 5 feet of clean soil beneath that would eliminate the requirement for further soil vapor assessment work.
RESPONSE: The most recent soil data for this Site is from the 1995 excavation. Potential indoor vapor migration on Site is minimal because the original source area is now paved with asphalt and there are no overlying structures.
- Potential soil vapor intrusion into adjacent building, due to seasonal contaminated groundwater levels that rise 1 to 2 feet, increases the potential for shallow soil impacts within 5 feet bgs.
RESPONSE: The nearest building to the source area is an open barn-style lumber storage facility open to air on both sides. In addition, groundwater beneath the Site has reached water quality objectives.

June 2013

- Recent soil vapor sampling results exceed the Regional Water Board's Environmental Screening Levels (ESLs) for soil vapor intrusion into indoor air under a commercial use scenario for total petroleum hydrocarbons (TPHg), benzene, and Ethylbenzene.
RESPONSE: Elevated volatile hydrocarbon vapor content will have minimal impact to human health in an open air barn style facility. The sample collected inside the lumber storage facility contained no fuel hydrocarbons. The Site is paved and has no occupied buildings in the area of concern. ESL's are not regulatory standards.

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.

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. Amador County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

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

6/26/13

Date

Prepared by: Kenyatta Dumisani

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>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

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 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 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><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><input type="checkbox"/> Yes <input checked="" 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 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>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 type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

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

Site Location/History

- This Site is an active lumber yard and hardware store that occupies 5.5 acres on the southeast corner of Highway 49 and Martell Road, in Martell. The entire Site is paved with asphalt.
- The Site is bounded by commercial property (a former 480-acre forest products facility) to the north across Depot Road, a residence to the east across Highway 49, a commercial property south across Martell Road and an empty open lot to the west 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 (BSK, 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: April 1995.
- Status of Release: USTs removed.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/Removed/Active	Date
1	500 Gallons	Gasoline	Removed	April 1995

Receptors

- GW Basin: Unnamed Basin.
- Watershed: Middle Sierra-Sutter Creek.
- Beneficial Uses: Agricultural Supply, Municipal and Domestic Supply, Industrial Process Supply and Industrial Service Supply. (GeoTracker)
- Land Use Designation: Aerial photograph available on GeoTracker suggests commercial land use in the vicinity of the Site.
- Public Water System: Amador Water Agency.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by California Department of Public Health within 250 feet of the defined plume boundary in files reviewed. No other water supply wells were identified within 250 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is sandy clay underlain by metamorphosed bedrock (phyllite).
- Maximum Sample Depth: 20 feet below ground surface (bgs).
- Minimum Groundwater Depth: 3.12 feet bgs at monitoring well MW-102.
- Maximum Groundwater Depth: 19.68 feet bgs at monitoring well MW-101.
- Current Average Depth to Groundwater: Approximately 14 feet bgs.
- Saturated Zones(s) Studied: Approximately 3 – 20 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Southwest with an average gradient of 0.11 feet/foot (October 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/28/12)
MW-1	October 1995	15 - 20	abandoned in 1996
MW-2	October 1995	15 - 20	12.11
MW-101	October 2002	unknown - 20	17.32
MW-102	October 2002	unknown - 20	12.23
IW-1	December 1996	9 - 20	abandoned in 1996

Remediation Summary

- Free Product: None reported in Geotracker.
- Soil Excavation: April 1995, 190 cubic yards of soil excavated, aerated, tested for vapor then spread over site.
- In-Situ Soil Remediation: In February 1996, a "biofluid" was added to the injection well (IW-1) to elevate the groundwater table to increase access to contaminated fractures in the soil. A soil vapor extraction pilot test was conducted in 2008. System installation was to occur by December 2012. System installation has been delayed due to lack of resources. (BSK, 2013 Soil Vapor Report).
- Groundwater Remediation: None reported.

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	NA ^a	NA ^a
Ethylbenzene	NA ^a	NA ^a
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
^a: Metamorphic bedrock immediately underlies the Site

00^a

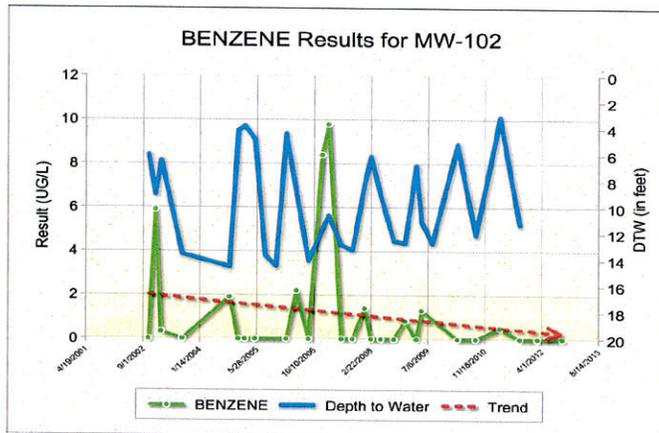
MVV-102	9/28/2012	<50	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
WQOs	-	5	0.15	42	29	17	5	1,2	

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
^a: Department of Public Health, Response Level

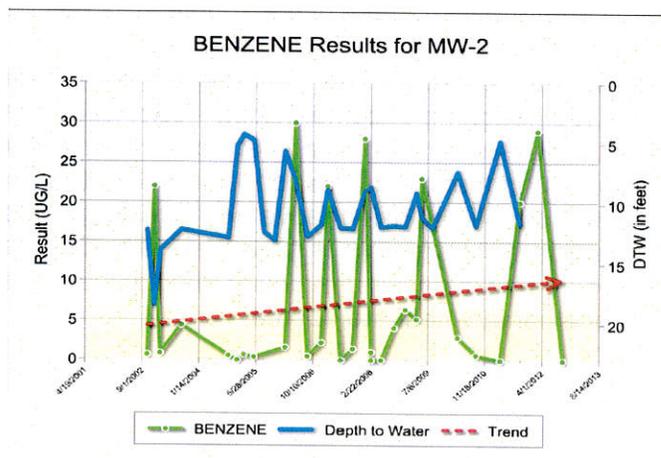
Groundwater Trends

- There are 17 years of irregular groundwater monitoring data for this case. Benzene trends are shown below: Source area (MW-102), Near downgradient (MW-2), and Far downgradient (MW-101).

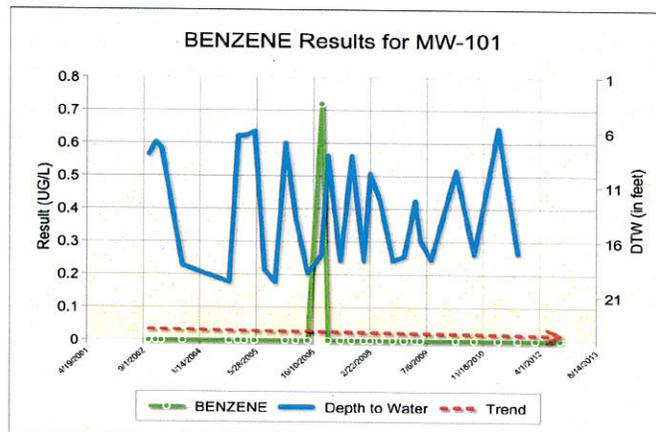
Source Area Well



Near Downgradient Well

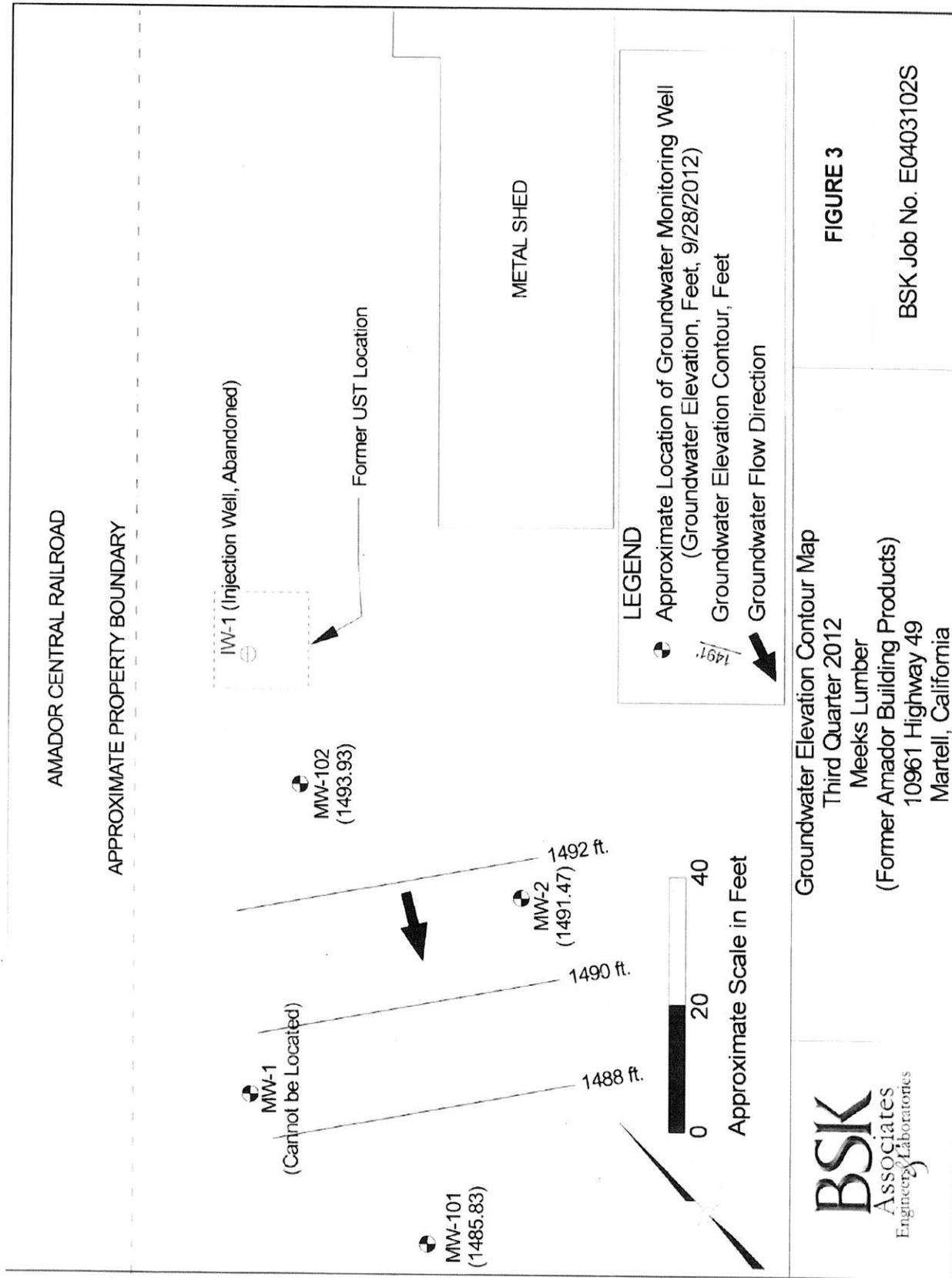


Far Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet long.
- Plume Stable or Decreasing: 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.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: This case meets Policy Criterion 2b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to petroleum constituents as a result of vapor intrusion found there to be no significant risk of petroleum vapors adversely affecting human health. This Site is and has been a lumber yard for over 40 years. The original source area is an asphalt covered parking lot and access road. There are no buildings downgradient that have potential for vapor intrusion. Elevated volatile hydrocarbon soil vapor contamination is localized on-site and the nearest building is a barn-style transfer station that is open to air on both sides. A real estate office to the east approximately 500 feet upgradient of the source area has installed an additional ventilation system to control potential vapor intrusion impacts.
- Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. . This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. The Site has been an active lumber yard for over 40 years and is paved preventing direct contact. It is very unlikely that there will be any subsurface contact near the source.



BSK
 Associates
 Engineering Laboratories

Groundwater Elevation Contour Map
 Third Quarter 2012
 Meeks Lumber
 (Former Amador Building Products)
 10961 Highway 49
 Martell, California

FIGURE 3

BSK Job No. E0403102S

