State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board, Redding (Regional Water Board)	Address: 364 Knollcrest Drive, Suite 200, Redding, CA 96002
Agency Caseworker: Melissa Buciak	Case No.: 470034

Case Information

USTCF Claim No.: 11909	Global ID: T0609300168
Site Name: Jim's McCloud Shell	Site Address: 117 Squaw Valley Road, McCloud, CA 96057
Responsible Party: Juanita Corina Neyhart	Address: Private Address
USTCF Expenditures to Date: $574,714	Number of Years Case Open: 16

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0609300168

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 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 release was reported in August 1996 following the removal of the four USTs (three gasoline and one diesel UST). Oxygen release compound was injected at or near the former UST location and at the property boundary in July 1999. Ozone sparging has been conducted between April 2004 and August 2012. Eleven groundwater monitoring wells have been installed since 1996 and monitored irregularly. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except total petroleum hydrocarbons as gasoline (TPHg), benzene, and xylenes.

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 1,000 feet of the defined plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by the McCloud Community Services District. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected groundwater will be used as a source of drinking water in the foreseeable future. Other designated beneficial uses of impacted groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited, stable and concentrations 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 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 µg/L.
- Vapor Intrusion to Indoor Air: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. A professional assessment of site-specific risk from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health. No soil data was found in Geotracker for review, however, recent groundwater monitoring reporting (low contaminant concentrations) indicate that any soil contamination levels present would likely be low. Furthermore, the Site is paved and accidental access to site soils is prevented. As a commercial petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

The Regional Water Board requested that the Responsible Party terminate ozone sparging and to initiate rebound monitoring in their August 2012 letter.
RESPONSE: The ozone system was shut down August 2012 and post remediation groundwater monitoring has been performed 24 September 2012 and 21 January 2013. The results of the event are incorporated into this review.

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

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

5/30/13
Date

Prepared by: Mark Owens, P.E.

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]

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.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
General Criteria General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☒ Yes ☐ No ☐ NA
Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No

[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

Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No
Nuisance as defined by Water Code section 13050 does not exist at the Site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
<u>Media-Specific Criteria</u> Candidate sites must satisfy all three of these media-specific criteria: **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:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
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: ☐ **1** ☐ **2** ☐ **3** ☒ **4** ☐ **5**	☒ Yes ☐ No ☐ NA
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?	☐ Yes ☐ No ☒ NA
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. **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.	☒ Yes ☐ No
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?	☐Yes ☐ No ☒ NA

If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**	
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?	☐ Yes ☐ No ☒ NA
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?	☐ Yes ☐ No ☒ NA
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).	
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)?	☐ Yes ☐ No ☒ NA
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?	☒ Yes ☐ No ☐ NA
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?	☐ Yes ☐ No ☒ NA

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

Site Location/History

- This case is an active commercial petroleum fueling facility and is bounded by a business across Highway 89 to the north, an empty lot to the west and south, and a business to the east across Squaw Valley Road.
- Site maps showing the location of the current and former USTs, monitoring wells, groundwater level contours, and TPHg concentration contours are provided at the end of this closure review summary (Lawrence & Associates, 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: August 1996.
- Status of Release: USTs replaced.
- Free Product: Yes; has not been detected since 2007.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	5,000	Gasoline	Removed	July 1996
2	8,000	Gasoline	Removed	July 1996
3	8,000	Gasoline	Removed	July 1996
4	5,000	Diesel	Removed	July 1996
5	10,000	Gasoline	Active	-
6	10,000	Gasoline	Active	-

Receptors

- GW Basin: McCloud Area.
- Beneficial Uses: Regional Water Board Basin Plan lists municipal and domestic supply.
- Land Use Designation: An aerial photograph from Geotracker shows mixed light commercial/residential land use in the vicinity of the Site.
- Public Water System: McCloud Community Services District.
- 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 1,000 feet of the defined plume boundary. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed sand, silt, gravel, cobbles and clay.
- Maximum Sample Depth: 35 feet below ground surface (bgs).
- Minimum Groundwater Depth: 6.15 feet bgs at monitoring well MW-3.
- Maximum Groundwater Depth: 27.54 feet bgs at monitoring well MW-10.
- Current Average Depth to Groundwater: Approximately 22 feet bgs.
- Saturated Zones(s) Studied: Approximately 6-35 feet bgs.

- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Southwest with a gradient of 0.025 feet/foot (September 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/24/2012)
MW-1	December 1996	12-26	17.42[1]
MW-2	January 1997	5-26	NA
MW-3	December 1996	10-27	NA
MW-4	May 1997	10-25	19.62
MW-5	May 1997	10-25	18.59[1]
MW-6	May 1998	5-30	23.31
MW-7	May 1998	5-30	24.66
MW-8	May 1998	5-30	NA
MW-9[2]	May 1998	5-30	NA
MW-10	July 2003	15-35	NA
MW-11	July 2003	15-35	NA
MW-12	July 2003	15-35	NA

NA Not Analyzed, Not Applicable or Data Not Available
1 Measured on 1/21/13
2 Destroyed October 2007

Remediation Summary

- Free Product: Yes; has not been detected since 2007.
- Soil Excavation: Approximately 200 cubic yards of contaminated soil were removed in 1996.
- In-Situ Soil Remediation: None reported.
- Groundwater Remediation: Oxygen release compound was injected at or near the former UST location and at the property boundary in July 1999. Ozone sparging has been conducted between April 2004 to August 2012.

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	0.021 (01/07/97)	0.029 (01/07/97)
Ethylbenzene	0.058 (01/07/97)	0.60 (01/07/97)
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

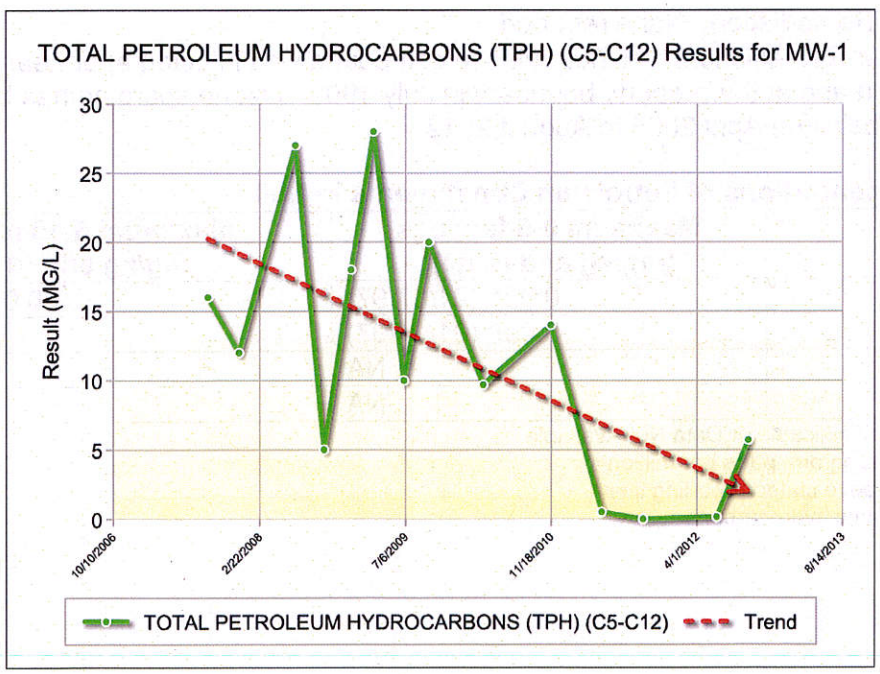
Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-1	1/21/13	**8,100**	**<0.5**	18	**60**	**1,900**	<0.5[a]
MW-3	9/24/12	**<50**	**<0.5**	<0.5	<0.5	<1	<0.5[a]
MW-4	9/24/12	**<50**	**<0.5**	<0.5	<0.5	<1	<0.5[b]
MW-5	1/21/13	**1,000**	**4.4**	3.4	**38**	**28**	<0.5[a]
MW-6	9/24/12	**1,700**	**9.9**	<2.5	<2.5	<5	<0.5[a]
MW-7	9/24/12	**1,200**	**5.8**	<2.5	3.6	<5	<0.5[c]
MW-8	3/18/09	**<50**	**<0.5**	<0.5	<0.5	<1	<0.5
MW-9	NA	NA	NA	NA	NA	NA	NA
MW-10	9/24/12	**<50**	**<0.50**	<0.50	<0.50	<1.0	NA
WQOs	-	**5**	**0.15**	**42**	**29**	**17**	**5**

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]: Collected on 18 March 2009
[b]: Collected on 29 September 2008
[c]: Collected on 23 June 2008

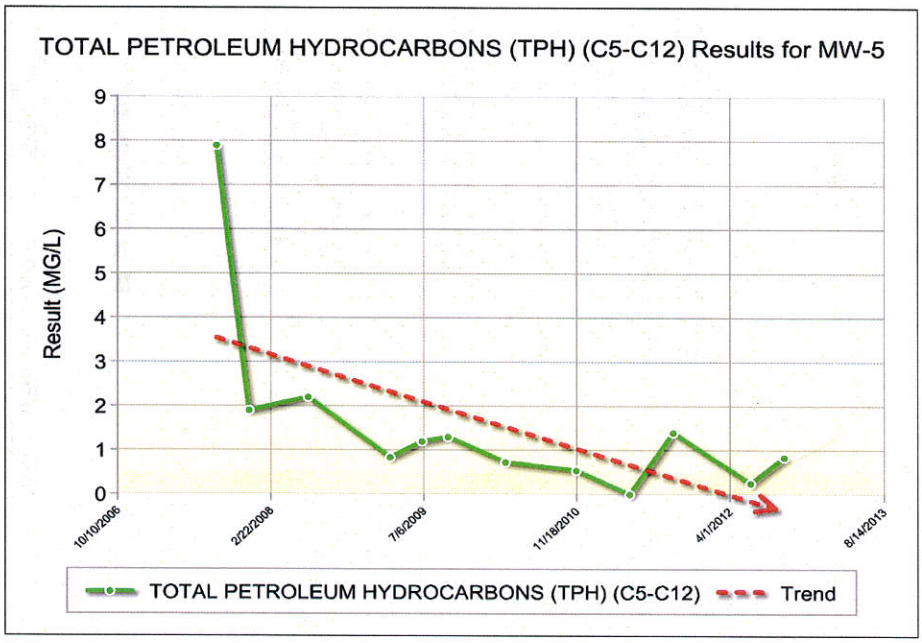
Groundwater Trends

- There are more than 14 years of groundwater monitoring data for this Site. TPHg trends are shown below: Source Area (MW-1) and Downgradient (MW-5).

Source Area well



Downgradient Well

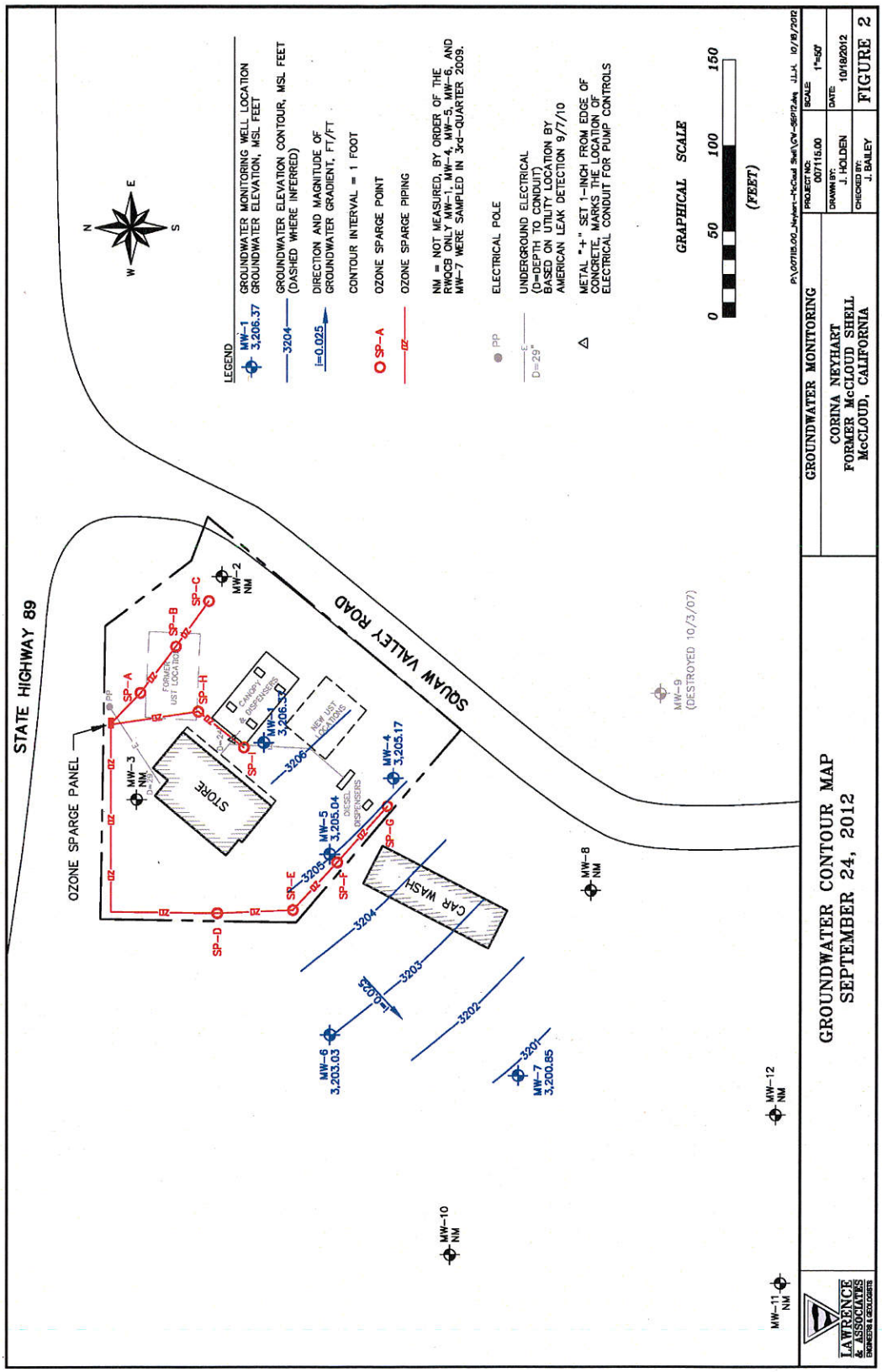


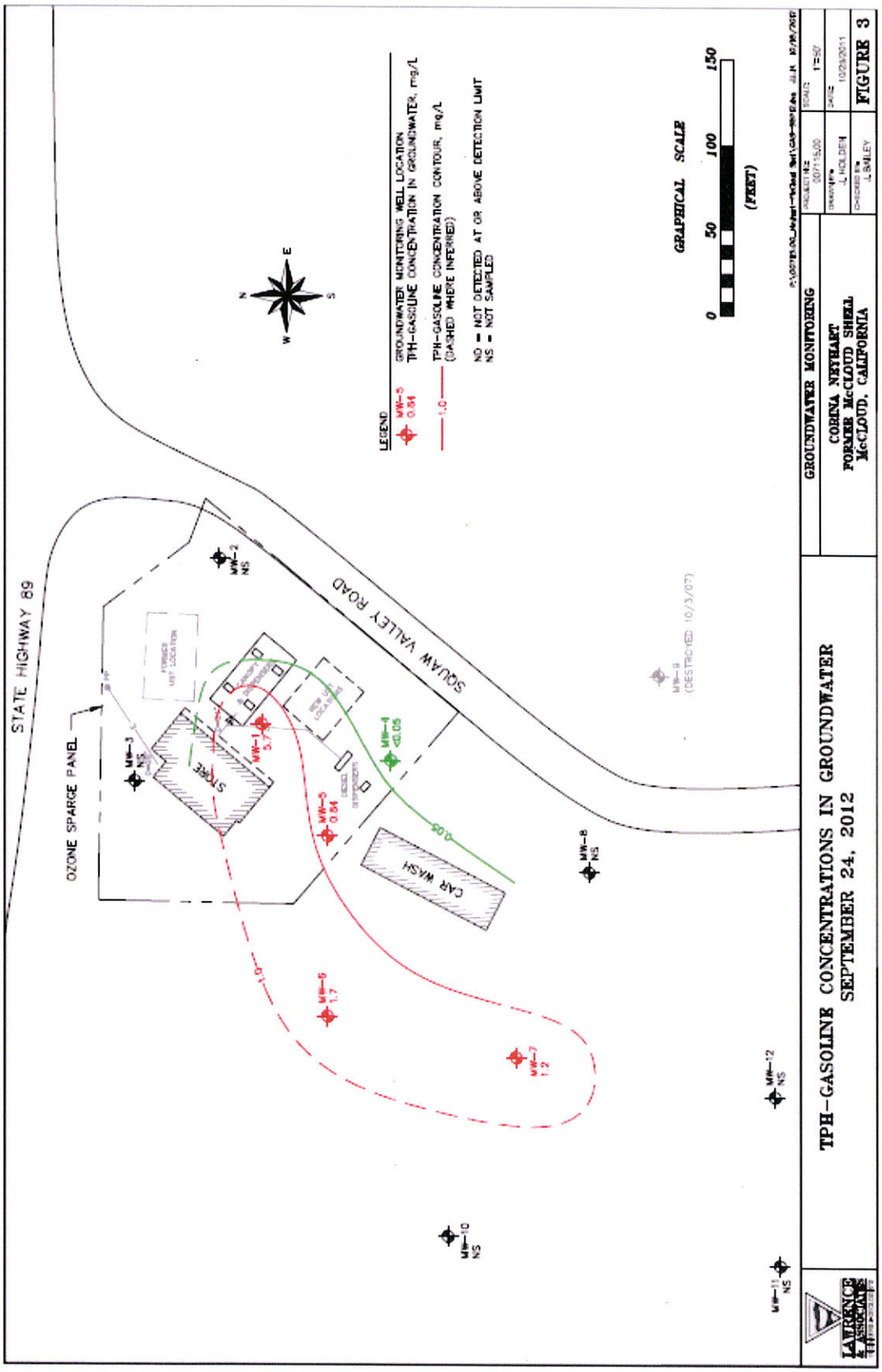
Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes.
- Oxygen Concentrations in Soil Vapor: 4.42 percent (June 2012).
- Plume Length: Approximately 300 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 4. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentrations of benzene and MTBE are each less than 1,000 µg/L.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: This case meets Policy Criterion 3b. A professional assessment of site-specific risk from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health. Furthermore, the Site is paved and accidental access to site soils is prevented. As an active gas station, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Jim's McCloud Shell
117 Squaw Valley Road, McCloud
Claim No: 11909

May 2013




TPH-GASOLINE CONCENTRATIONS IN GROUNDWATER
SEPTEMBER 24, 2012
GROUNDWATER MONITORING
COBINA NETHART
FORMER McCLOUD SHELL
McCLOUD, CALIFORNIA
FIGURE 3
LAWRENCE & ASSOCIATES
LEGEND
GROUNDWATER MONITORING WELL LOCATION
TPH-GASOLINE CONCENTRATION IN GROUNDWATER, mg/L
TPH-GASOLINE CONCENTRATION CONTOUR, mg/L
(DASHED WHERE INFERRED)
ND = NOT DETECTED AT OR ABOVE DETECTION LIMIT
NS = NOT SAMPLED
GRAPHICAL SCALE
0
50
100
150
(FEET)
STATE HIGHWAY 89
SQUAW VALLEY ROAD
OZONE SPARGE PANEL
STORE
CAR WASH
MW-1
5.7
MW-2
NS
MW-3
NS
MW-4
<0.05
MW-5
0.84
MW-6
1.7
MW-7
1.2
MW-8
NS
MW-9
(DESTROYED 10/3/07)
MW-10
NS
MW-11
NS
MW-12
NS
1.0
50.0