



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Financial Assistance

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Arnold Schwarzenegger
Governor

December 7, 2009

Ione Cardlock
Attn: Brad Barnett

NOTIFICATION OF PUBLIC HEARING

UNDERGROUND STORAGE TANK (UST) CLEANUP FUND (FUND), MEETING
NOTIFICATION FOR CASE CLOSURE RECOMMENDATION, PURSUANT TO HEALTH AND
SAFETY CODE SECTION 25299.39.2: CLAIM NUMBER: 15471; SITE ADDRESS: 116 MAIN
STREET W, IONE, CA

By this letter, as Fund Manager, I am informing you of the Fund's intent to recommend closure of your UST site cleanup case to the State Water Resources Control Board (State Water Board) at its January 19, 2010, Board meeting.

In the interim, any reasonable, necessary, and eligible costs that you incur and submit in a properly documented reimbursement request will continue to be reimbursed by the Fund, as monies are available.

Meeting Notice

The State Water Board is planning to consider closing your UST case at its meeting that will be held on January 19, 2010 commencing at 9:00 AM in the Coastal Hearing Room, Second Floor of the Cal/EPA Building, 1001 I Street, Sacramento, California.

Under separate cover at a later date, you will receive an agenda for this meeting.

Legal Authority

Health & Safety Code Section 25299.39.2(a) requires that the Fund Manager notify UST owners or operators who have a Letter of Commitment (LOC) that has been in active status for five or more years and to review the case history of these sites on an annual basis unless otherwise notified by the UST owner or operator. In addition, the H&SC section further states that the Fund Manager, with approval of the UST owner or operator, may recommend regulatory case closure to the State Water Board. This process is called the "5-Year Review." The State Water Board may close or require the closure of a UST case that is under the jurisdiction of a regional water quality control board (regional water board) or a local agency participating in the State Water Board's local oversight program.

Discussion

Having obtained your approval and pursuant to Health and Safety Code Section 25299.39.2(a) to recommend closure of your UST case to the State Water Board, enclosed is a copy of the UST Case Closure Summary for your UST case. The case closure summary contains information about your UST case and forms the basis for UST Cleanup Fund manager's recommendation to the State Water Board for UST case closure. A copy of the Case Closure Summary is also being provided to your environmental consultant and the regional water board that has been overseeing corrective action at your site. Other interested persons may obtain a copy of the Case Closure Summary by contacting Ms. Dennise Walker, at (916) 341-5789.

Comments

At the meeting, interested persons will be allowed to comment orally on the case closure recommendation (including the case closure summary), subject to the following time limits. The UST Cleanup Fund claimant and the regional water board overseeing corrective action at the site will be allowed five minutes for oral comment, with additional time for questions by the State Water Board members. Other interested persons will be allotted a lesser amount of time to address the State Water Board. At the meeting, the State Water Board may grant UST case closure, deny case closure, or may continue consideration until a later meeting.

Written comments on the case closure summary must be received by the State Water Board by 12:00 p.m. on December 31, 2009. Please provide the following information in the subject line: January 19, 2010 Board Meeting, UST Case Closure, and applicable site address and UST Cleanup Fund claim number. Comments must be addressed to:

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100
(tel) 916-341-5600
(fax) 916-341-5620
(email) commentletters@waterboards.ca.gov

If you have any questions regarding this matter, please contact Mr. Robert Trommer at (916) 341-5684.

Sincerely,



Ronald M. Duff, P.E., Fund Manager
Underground Storage Tank Cleanup Fund

Enclosure

cc: See next page

cc: RWQCB - Central Valley
Ms. Pamela Creedon
11020 Sun Center Drive
Rancho Cordova, CA 95670-6114

RWQCB - Central Valley
Mr. Brian Newman
11020 Sun Center Drive
Rancho Cordova, CA 95670-6114

RWQCB - Central Valley
Mr. Glenn Meeks
11020 Sun Center Drive
Rancho Cordova, CA 95670-6114

E2C Remediation
Mr. Daniel Hidalgo
5300 Woodmere Drive, Suite 105
Bakersfield, CA 93313

County of Amador

City of Ione

Ronald & Linda Blackburn

Jack Phillips

John B Jr. & Corinne Allen

Doug Knutssen

Phyllis Tokerud

Newell & Mary Stewart

Jay & Jenni Kellerman

Sierra Foothills Petroleum LLC

Larry & Phyllis Paquette

Clarence & Ardyce Terhune



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Draft UST Case Closure Summary

This underground storage tank (UST) Case Closure Summary has been prepared in support of a recommendation by the Petroleum Underground Storage Tank Cleanup Fund (Fund) to the State Water Resources Control Board (State Water Board) for closure of the UST case at 116 Main Street W in Lone, California (Site). All record owners of fee title for this site as well as adjacent property owners and other interested parties, as appropriate, have been notified of the recommendation for closure and were given an opportunity to provide comments.

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board, Sacramento Office (Regional Board)	Address: 11020 Sun Center Drive, Rancho Cordova, CA, 95670-6114
Responsible staff person: Glenn Meeks	Title: Engineering Geologist

Case Information

RWQCB Case No: 030063	Global ID: T0600500054
Site Name: Lone Cardlock	Site Address: 116 Main Street W, Lone, CA 95640
Responsible Party (RP): Sierra Energy	Address: PO Box 759, Colfax, CA 95713
Contact: Brad Barnett	USTCF Expenditures to Date: \$ 56,510
USTCF Claim No.: 15471	Number of Years Open: 10

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active?	Date
1	2,000	Diesel	Removed	Jun 99
2	2,000	Gasoline	Removed	Jun 99
3	2,000	Gasoline	Removed	Jun 99
4	2,000	Gasoline	Removed	Jun 99
5	2,000	Gasoline	Removed	Jun 99
6	500	Gasoline	Removed	Jun 99

Release Information

- Source of Release: UST system.
- Date of Release: 8/18/99.
- Affected Media: Soil and groundwater.

Site Information

- GW Basin: San Joaquin Valley.
- Beneficial Uses: Municipal and Domestic (MUN), Agricultural (AGR), Industrial Service (IND), and Industrial Process (PRO).

California Environmental Protection Agency



- Land Use Designation: Commercial and Residential.
- Distance to Nearest Supply Well: According to GeoTracker, there are no public supply wells within 2000 feet of the site.
- Minimum depth to groundwater (DTW): 7.93 feet below ground surface (bgs) at monitoring well MW-6.
- Maximum DTW: 20.53 feet bgs at monitoring well MW-8.
- Flow Direction: variable, from south southeast to northwest.
- Soil Types: interbedded and intermixed sand, silt, clay, and gravel.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Most Recent DTW (Jun 09)
MW-1	May 00	?-19	11.55
MW-2	May 00	?-19	11.36
MW-3	May 00	?-19.5	11.52
MW-4	Jan 02	?-19	13.11
MW-5	Jan 02	?-19	-
MW-6	Jan 02	?-20	11.03
MW-7	Jul 08	10-25	11.67
MW-8	Jul 08	10-25	13.72
MW-9	Jul 08	8-18	10.87
MW-10	Jul 08	10-25	10.78

Contaminant Concentration

Contaminant	Soil (mg/kg)		Water (ug/L)*		WQOs (ug/L)
	Maximum	Latest	Maximum	Latest (Jun 09)	
TPH-g	NA	NA	170,000	58.6	5
TPH-d	NA	NA	22,000	140	56
Benzene	NA	NA	32	<0.5	0.15
Toluene	NA	NA	89	<0.5	40
Ethylbenzene	NA	NA	890	<0.5	29
Xylenes	NA	NA	2,900	<0.5	17
MTBE	NA	NA	1,100	<0.5	5
TBA	NA	NA	9.4	<2.5	12
1,2-DCA	NA	NA	54	NA	0.4
Lead	NA	NA	NA	NA	15
PCE	NA	NA	NA	NA	0.06
TCE	NA	NA	NA	NA	0.8

NA Not Analyzed, Not Applicable, or Data Not Available
 WQO Water Quality Objectives
 * ug/L equals parts per billion

Site Description

The site is relatively flat, approximately one acre in size, and at an elevation of 285 feet above mean sea level. Currently, on-site there is one building, two fueling pumps, and two aboveground storage tanks. The area around the Site is composed of mixed commercial and residential properties and is adjacent to a drum storage warehouse. The location of the property is south of Sutter Creek and west of Highway 104 and Highway 124 in the town of Ione, California. The site is an active cardlock station owned and operated by Hunt Oil. The former USTs and fuel dispenser islands have been removed.

Site History

Based on available information, the site was operated as a gasoline and service station since the 1940s. In June 1999, six USTs, associated piping, and fuel islands were removed. Between May 2000 and July 2008, 10 monitoring wells have been installed and the monitoring wells have been monitored regularly since installation.

Remediation Summary

- **Free Product:** none identified
- **Soil Excavation:** approximately 25 cubic yards of contaminated soil and overburden was excavated during the tank pull in June 1999 and then returned to the tank pit.
- **In-Situ Soil Remediation:** none identified
- **Groundwater Remediation:** none identified

General Site Conditions

- **Geology and Hydrogeology:** The site is underlain by interbedded and intermixed sand, silt, and clay. The depth to groundwater varies from approximately 8 feet (MW-6) to 21 feet (MW-8). The apparent groundwater flow direction is variable, from south southeast to northwest and the average groundwater gradient is approximately 0.001.
- **Groundwater Trends:** The principal constituents of concern at this site are TPH-G (MW-8) and TPH-D (MW-3) identified in two wells at the site. All constituents of concern have shown a downward trend and are either at or below laboratory detection levels. Concentrations of heavy hydrocarbons (TPH-G and TPH-D range) in groundwater remain above Water Quality Objectives but are likely to continue to attenuate.

Sensitive Receptor Survey

A sensitive receptor survey conducted in October 2005 identified three water wells within ½ mile of the site. Two of the identified wells lie approximately ¼ mile down gradient from the site and one well lies 0.1 miles up gradient of the site. The nearby up gradient well has a sanitary seal to 23 feet below grade. The consultant for the RP, E₂C concluded that none of the wells was at risk of impact from residual hydrocarbons from the site (E₂C, October 2005). The Fund manager concurs that there is no risk to these wells from the residual contamination.

Closure

Has corrective action performed ensured the protection of human health, safety and the environment? Yes.

Is corrective action and UST case closure consistent with State Water Board Resolution 92-49? Yes.

Is achieving background water quality feasible? No.

To remove all traces of residual petroleum constituents at this site, it would require the additional excavation of soil. The excavation would have to be very large, would seriously impact the operating business, and would likely impact local traffic and public utilities. If complete removal of



detectable traces of petroleum constituents becomes the standard for UST corrective actions, however, the statewide technical and economic implications will be enormous. For example, disposal of soils from comparable areas of excavation throughout the state would greatly impact already limited landfill space. In light of the precedent that would be set by requiring additional excavation at this site and the fact that beneficial uses are not threatened, attaining background water quality at the RP's site is not feasible.

If achieving background water quality is not feasible,

Is the alternative cleanup level consistent with the maximum benefit to the people of the state? Yes.

It is impossible to determine the precise level of water quality that will be attained given the limited residual petroleum hydrocarbons that remain at the site, but in light of all the factors discussed above, and the fact that the residual petroleum constituents will not unreasonably affect present and anticipated beneficial uses of groundwater, a level of water quality will be attained that is consistent with the maximum benefit to the people of the state.

Will the alternative cleanup level unreasonably affect present and anticipated beneficial uses of water? No.

Impacted groundwater is not used as a source of drinking water currently and it is highly unlikely that the impacted groundwater will be used as a source of drinking water in the future. Other beneficial uses are not affected and are not likely to be affected by the remaining contamination at this site.

Will the alternative level of water quality exceed water quality prescribed in applicable Basin Plans? No.

The final step in determining whether cleanup to a level of water quality less stringent than background is appropriate for this site requires a determination that the alternative level of water quality will not result in water quality less than that prescribed in the relevant basin plan. Pursuant to SWRCB Resolution 92-49, a site may be closed if the basin plan requirements will be met within a reasonable time frame.

Have factors contained in Title 23 of the California Code of Regulations, Section 2550.4 been considered? Yes.

In approving an alternative level of water quality less stringent than background, the SWRCB has also considered the factors contained in California Code of Regulations, title 23, section 2550.4, subdivision (d). As discussed earlier, the adverse effect on shallow groundwater will be minimal and localized, and there will be no adverse effect on the groundwater contained in deeper aquifers, given the physical and chemical characteristics of petroleum constituents, the hydrogeological characteristics of the site and surrounding land, and the quantity of the groundwater and direction of the groundwater flow. In addition, the potential for adverse effects on beneficial uses of groundwater is low, in light of the proximity of the groundwater supply wells, the current and potential future uses of groundwater in the area, the existing quality of groundwater, the potential for health risks caused by human exposure, the potential damage to wildlife, crops, vegetation, and physical structures, and the persistence and permanence of potential effects.

Finally, a level of water quality less stringent than background is unlikely to have any impact on surface water quality, in light of the volume and physical and chemical characteristics of petroleum constituents; the hydrogeologic characteristics of the site and surrounding land; the quantity and quality of groundwater and direction of groundwater flow, the patterns of precipitation in the region, and the proximity of residual petroleum to surface waters.

Has the requisite level of water quality been met? No.

The current groundwater plume is stable and shrinking in size and concentration. WQO's have been met for all constituents of concern except heavy hydrocarbons, TPH-D and TPH-G. It is estimated that the TPH-G and TPH-D concentrations will decrease to below Water Quality Objectives in 10 years or more. TPH-G and TPH-D do not threaten groundwater resources, the public, or the environment because they are unlikely to mobilize from the soils to which they adhere. This is a reasonable period in which to meet the requisite level of water quality because the groundwater plume is stable and degrading, neither current nor anticipated beneficial uses of water are or will be affected, and the remaining petroleum hydrocarbons at the site do not threaten human health, safety or the environment.

Objections to Closure and Response

The Regional Board objects to case closure at this time because the Responsible Party has not conducted a soil vapor survey and human health risk assessment for vapor migration and dermal exposure and is preparing a Cleanup Abatement Order to require the work. In addition, the RP must conduct Public Participation and abandon site wells before closure can be considered.

The Fund manager disagrees that the case cannot be closed at this time. A soil vapor survey is not appropriate or necessary because this is an active fueling station located next to a drum storage area. Minor fugitive volatile emissions from the subsurface are insignificant compared to those from the active facility(s). Further, the Fund believes that based on the corrective actions conducted at the site, the limited soil contamination that may still exist does not pose significant risks to public health and safety. Approximately five feet of soil clean fill was backfilled after tank removal. Studies have shown that vapor intrusion from petroleum hydrocarbon contamination is not a concern if the top five feet of soil is clean provided free product is not present.

With respect to the continued detection of low levels of TPH-G and TPH-D in groundwater, vapor intrusion is not a concern for the same reason stated above. Although the current concentration of TPH-G and TPH-D exceed the WQOs, years of groundwater monitoring data have shown an overall decreasing trend. Residences and businesses are currently connected to the municipal drinking water supply. In addition, because the groundwater plume is stable and degrading, neither current nor anticipated beneficial uses of water are or will be affected, and the remaining petroleum hydrocarbons at the site do not threaten human health, safety or the environment.

Finally, the Fund has conducted public notification and the Amador County Environmental Health Department has the regulatory responsibility to supervise the proper abandonment of monitoring wells.

Summary and Conclusion

This site is currently a cardlock fuel station. The release was discovered in 1999 when six gasoline and diesel USTs were removed. Groundwater conditions have been monitored since May 2000 and currently there are 10 monitoring wells associated with the site. In the most recent groundwater monitoring event conducted in June 2009, no BTEX or MTBE were identified above method detection limits. In June 2009, TPH-G and TPH-D were detected at maximum concentrations of 58.6 and 140 ug/l, respectively. There are three sensitive receptors within ½ mile of the site: two are more than ¼ mile down gradient of the site and one well is 0.1 miles up gradient of the site with a sanitary seal to 23 feet below grade. Impacted groundwater is not used as a source of drinking water currently and it is highly unlikely that the impacted groundwater will be used as a source of drinking water in the future. Other beneficial uses are not affected and are not likely to be affected by the remaining contamination at this site. Based on available information, the residual petroleum hydrocarbon contamination at the site does not pose significant risks to public health and safety and the environment and the Fund manager recommends that the case be closed.



References

Environmental Engineering, Consulting and Remediation, Inc. (E₂C), 2005. *Sensitive Receptor Survey*, Ione Cardlock, 116 Main Street W, Ione, CA. October.

Central Valley Regional Water Quality Control Board, 2009. memo to State Board UST Cleanup Fund. 26 May.

Environmental Engineering, Consulting and Remediation, Inc. (E₂C), 2009. *Second Quarter 2009 Groundwater Monitoring Report*, Ione Cardlock, 116 Main Street W, Ione, CA. 2 October.

Davis, Robin, 2006. Project Manager Utah Department of Environmental Quality Leaking Underground Storage Tank Program. *Vapor Attenuation in the Subsurface from Petroleum Hydrocarbon Sources, Update on Field Data & Ramification on the Vapor Intrusion Risk Pathway*. 21 March.



