



**Linda S. Adams**  
Secretary for  
Environmental Protection

# State Water Resources Control Board

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## Division of Financial Assistance

1001 I Street • Sacramento, California 95814  
P.O. Box 944212 • Sacramento, California • 94244-2120  
(800) 813-FUND (3863) • FAX (916) 341-5806 • [www.waterboards.ca.gov/water\\_issues/programs/ustcf/](http://www.waterboards.ca.gov/water_issues/programs/ustcf/)



**Arnold Schwarzenegger**  
Governor

December 7, 2009

Mr. Rick Davis  
P.O. Box 546  
Rail Road Flat, CA 95248

### **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: 14977; SITE ADDRESS: 313 RAIL  
ROAD FLAT ROAD, RAIL ROAD FLAT, 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, 24<sup>th</sup> Floor [95814]  
P.O. Box 100  
Sacramento, CA 95812-0100  
(tel) 916-341-5600  
(fax) 916-341-5620  
(email) [commentletters@waterboards.ca.gov](mailto: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: Mr. Greg Stahl, Ground Zero Analysis, Rancho Cordova  
Ms. Pamela Creedon, Executive Officer, RWQCB, Rancho Cordova  
Mr. Brian Newman, UST Program Manager, RWQCB, Rancho Cordova  
Mr. Glenn Meeks, UST Case Manager, RWQCB, Rancho Cordova  
Mr. & Mrs. Dale Buller, Trustees, Railroad Flat, CA  
Railroad Flat Community Club, Railroad Flat, CA  
Ms. Myra Hunt, Trustee, Railroad Flat, CA  
Calaveras Unified School District, Railroad Flat, CA  
Ms. Pamela Ann Taylor, Railroad Flat, CA



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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 313 Railroad Flat Road, Railroad Flat (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

### Date:

|  |   |
|--|---|
| Agency Name: Central Valley-Sacramento Regional Water Quality Control Board (Regional Board) | Address: 11020 Sun Center Drive #200, Rancho Cordova, CA 95670-6114 |
| Responsible staff person: Glenn Meeks  | Title: Engineering Geologist  |

### Case Information

|   |   |
|---|---|
| RWQCB Case No: 050029                   | Global ID: T0600900026                                    |
| Site Name: Rail Road Flat General Store | Site Address: 313 Rail Road Flat Road, Rail Road Flat, CA |
| Responsible Party: Rick Davis           | USTCF Expenditures to Date: \$ 293,107                    |
| USTCF Claim No.: 14977                  | Number of Years Open: 18 years                            |

### Tank Information

| Tank No. | Size in Gallons | Contents | Closed in Place/Removed/Active? | Date |
|----------|-----------------|----------|---------------------------------|------|
| 1        | 650             | Gasoline | Removed                         | 4/91 |
| 2        | 550             | Gasoline | Removed                         | 4/91 |

### Release Information

- Source of Release: UST system.
- Date of Release: 4/15/91
- Affected Media: Soil and groundwater.

### Site Information

- GW Basin: unnamed basin
- Beneficial Uses: Municipal and Domestic (MUN), Agricultural (AGR), Industrial Service (IND), and Industrial Process (PRO)
- Land Use Designation: residential and commercial
- Distance to Nearest Supply Well: According to Geotracker, five wells are within ½ mile of the site. Wells are located 129 feet north, 396 feet southeast, 449 feet east, and 1,610 feet northeast.
- Minimum Groundwater Depth: 14.2 feet below ground surface

- Maximum Groundwater Depth: 45.3 feet below ground surface
- Flow Direction: East-southeast
- Soil Types: surficial sediments of lean clay with sand and fine-grained silty sand underlain by alternating layers of foliated crystalline rock

**Monitoring Well Information**

| Well Designation | Date Installed           | Screen Interval (feet below ground surface or bgs) | Most Recent Depth to Groundwater (DTW) (9/09) |
|------------------|--------------------------|--|---|
| MW-1             | Jun 00                   | 40-60  | 36.57   |
| MW-2             | Jun 00                   | 43-63  | 35.70   |
| MW-3*            | Jun 00                   | 33-53  | -   |
| MW-4             | Jun 02                   | 65-85  | 42.42   |
| MW-5             | Jun 02                   | 58-78  | 43.46   |
| MW-1D            | Jun 02                   | 100-120  | 42.43   |
| MW-2D            | Mar26 through Apr02 2008 | 225-245  | 43.46   |

\* Well cannot be located.

**Contaminant Concentration**

| Contaminant  | Soil (mg/kg)   |        | Water (ug/L or parts per billion [ppb]) |                 | WQOs (ug/L) |
|--------------|----------------|--------|---|-----------------|-------------|
|              | Maximum 2005*  | Latest | Maximum                                 | Latest (Sep 09) |             |
| TPH-g        | 86,714 ('91)** | NA     | 270 ('02)                               | ND<50           | 5           |
| TPH-d        | NA             | NA     | NA                                      | NA              | 56          |
| Benzene      | 740            | NA     | 360 ('05)#                              | 2.7             | 0.15        |
| Toluene      | 2,700          | NA     | 1.9                                     | ND<0.5          | 42          |
| Ethylbenzene | 550            | NA     | 0.6                                     | ND<0.5          | 29          |
| Xylenes      | 2,900          | NA     | 1.8                                     | ND<1.0          | 17          |
| MTBE         | 0.26 ('99)***  | NA     | <2                                      | NA              | 5           |
| TBA          | 3.6 ('99)***   | NA     | NA                                      | NA              | 12          |
| 1,2-DCA      | NA             | NA     | NA                                      | NA              | 0.4         |
| Lead         | 33 (99)****    | NA     | NA                                      | NA              | 2           |

\* Maximum concentrations detected at 14 feet below ground surface during the installation of VW-1 except for TPHg, MTBE and TBA.

\*\* Sample taken during tank removal in April 1991 below tank 1 at 12 feet bgs.

\*\*\* Sample taken from SB3 at 9.5 feet bgs.

\*\*\*\* Stockpile composite sample.

# Detected in well MW-5.

NA: Not Analyzed, Not Applicable or Data Not Available  
WQO Water Quality Objectives

**Site Description:** A grocery store currently occupies the site. According to a recent site map, a school is located east of the site across Railroad Flat Road. North of the site is a post office and some residences. Immediately adjacent to the south is a restaurant. Surface elevation at the site is approximately 2,750 feet above sea level. Two Dollar Gulch, a natural drainage feature, is located approximately 600 feet southeast of the property.

**Site History/Assessment:** The site was previously operating as a retail gasoline station. Two underground storage tanks were removed in April 1991. According to an October 8, 1998 Regional Board correspondence, soil samples collected from beneath the USTs showed significant petroleum hydrocarbon concentrations. Maximum concentrations in mg/kg were as

follows: TPHg – 86,714, benzene – 478, toluene – 639, ethylbenzene – 282, xylenes – 955 and ethylene dibromide – 1. Following tank removal, a limited volume of contaminated soil was over excavated. According to information provided by Mr. Davis as noted in the Fund application form, no more than ten cubic yards were over excavated and aerated onsite.

In November 1999, soil borings SB1 through SB6 were advanced. All samples were non-detects or at or near detections for TPHg and BTEX except for the soil sample collected at 10 feet bgs from SB4. SB4 was drilled within the former tank pit approximately 12 feet east of the storefront. Concentrations in mg/kg were as follows: TPHg - 8,800, benzene - 46, toluene – 320, ethylbenzene – 100, and xylenes – 450. During this investigation, MTBE concentrations ranged from non-detects to 0.26 mg/kg and from non-detects to 3.6 mg/kg for TBA with the highest concentration detected in the sample collected from SB3 at 9.5 feet bgs. No groundwater data was found associated with this investigation. However, it appears that a sample from a domestic well was collected prior to this investigation. Table 3 of the July 25, 2000, *Groundwater Monitoring Well Installation Report* lists sample RRF DW with a corresponding date of 9/3/99. The sample was non-detected for petroleum hydrocarbons.

In June 2000, groundwater monitoring wells MW1 thru MW3 were installed. No petroleum odors or discolorations were observed during the installation of the wells. Groundwater samples collected from these wells were also non-detect for petroleum hydrocarbons.

A survey of neighboring properties found seven domestic wells within a 1,000-foot radius of the site. Due to inaccessibility of one of the wells, only six domestic wells were sampled on June 13, 2001. Of the six wells sampled, only one well showed contamination. The sample collected from the domestic well at 3421 Old School Road showed benzene at 7.1 ppb using EPA Method 8020 and 4.7 ppb using EPA Method 8260. To confirm the detection of benzene, two sets of samples were collected from the same well on June 26, 2001 and each set was sent to two separate laboratories for analysis. Benzene concentrations were 19 ppb and 12 ppb. Subsequently, a granulated carbon water treatment system was installed on July 20, 2001, at the residence in 3421 Old School Road to treat the impacted domestic well. An older, unused well located a few feet from the domestic well at the same address was also sampled on June 26, 2001. Results were non-detect for petroleum hydrocarbons. The older well was completed at a shallower depth. In June 2002, the old, unused domestic well was abandoned. In addition, residences in the area have since been connected to the municipal water supply system. However, reports do not indicate the exact date when the connection actually occurred.

To further define the groundwater contamination between the former USTs and the impacted domestic well, groundwater monitoring wells MW-4, MW-5 and MW-1D were installed in June 2002. These wells were screened based on site stratigraphy, initial depth to groundwater observed in the borings, and in correlation with the screen interval of the impacted domestic well. No petroleum odors or discolorations were observed in either the surficial soil or the underlying rock during drilling.

Benzene concentrations in the groundwater samples collected from these three wells range from 11 to 87 ppb with the highest concentration detected in MW-5. This well was installed in the area where the former USTs were located.

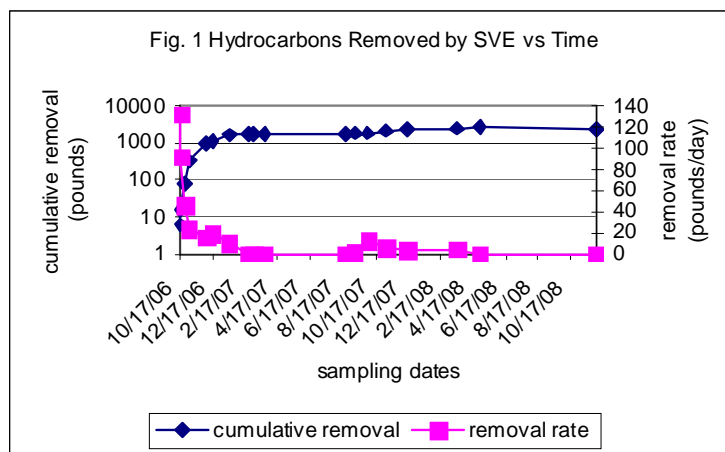
In December 2005, one vapor extraction well was installed in the tank pit area. This well is screened between 5 to 25 feet bgs. Petroleum hydrocarbons were not detected in the soil sample collected at 5 feet bgs. However, significant levels of petroleum hydrocarbons were detected in the soil sample collected at 9 feet and 14 feet bgs. The highest concentrations were detected in the sample collected at 14 ft bgs. This sample showed concentrations of TPHg,

benzene, toluene, ethylbenzene and xylenes at 28,000 ppm, 740 ppm, 2,700 ppm, 550 ppm and 2,900 ppm respectively.

On March 26 through April 2, 2008, an additional deep groundwater monitoring well MW-2D was installed. This well was installed to further delineate the vertical extent of groundwater contamination. During drilling, a significant fracture was observed between 175 and 185 feet bgs in a layer of crystalline rock. No petroleum odors or discolorations were noted in the soil or rock cuttings. Results from the analysis of the groundwater sample collected from MW-2D were non-detect for petroleum hydrocarbons. An upward hydraulic potential was present in the well.

### Remediation Summary

- **Free Product Removal:** Free product has not been observed at the site. Therefore, product removal was never conducted.
- **Soil Excavation:** According to the November 20, 2008, Soil Vapor and Direct Exposure Risk Evaluation prepared by Ground Zero Analysis, Inc., over excavation subsequent to tank removal in April 1991 proceeded down to approximately 15 feet below grade. However, in the claim application, it states that soil beneath the tanks was over excavated down to seven feet. Furthermore, it states that no more than ten cubic yards of stockpiled soil was initially covered and aerated by spreading at a later date.
- **In-Situ Soil Remediation:** An extended soil vapor extraction test was initiated during the fourth quarter 2006 and was discontinued in early 2007 due to low influent vapor concentrations. Rebound testing in March 2007 did not show any significant increases in soil vapor concentrations. The system was restarted in August 2007 and operated intermittently until it was shutdown in April 2008. The system operated for a total of 346 days. Approximately 2,500 pounds of hydrocarbons have reportedly been removed by the system during its operation.



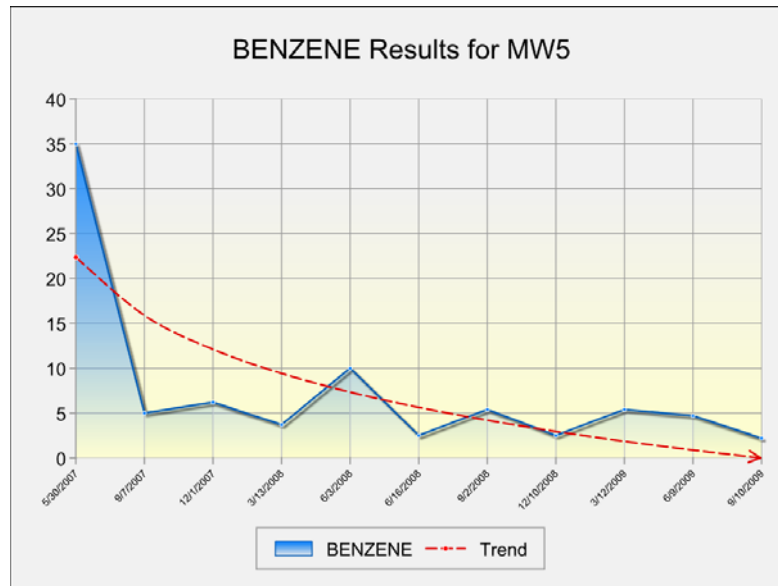
- **Groundwater Remediation:** None identified

### General Site Conditions

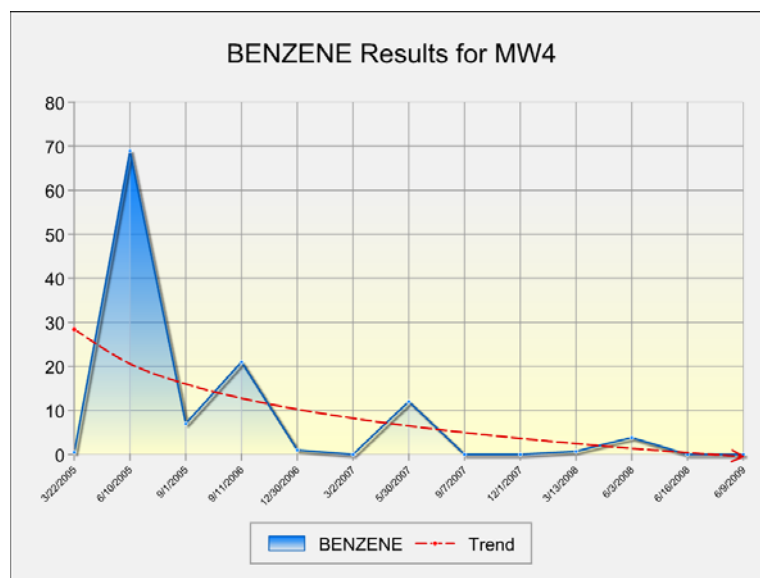
- **Hydrogeology:** Unconfined groundwater was encountered in a silty clay unit above bedrock. It appears that groundwater in confined conditions occurs primarily in bedrock fractures. The potentiometric surface of the groundwater fluctuates seasonally between 25 and 40 feet bgs and has a gradient toward the east.



- Geology: Site stratigraphy consists of metasedimentary and metavolcanic rocks overlain by surficial sediments. Surficial sediments were classified as clayey sand, sandy lean clay, silty clay and silt, varying in thickness between five feet and 45 feet. Fractures measured in outcrop along Railroad Flat Road dip steeply toward the east and strike due north to N6°W.
- Groundwater Trends:  
 Note: Concentrations are in units of ug/l or parts per billion [ppb].

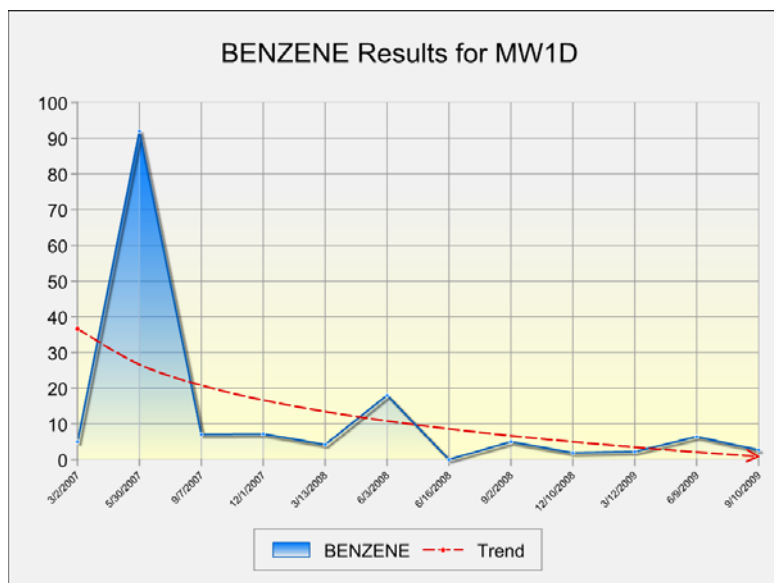


Well nearest the source area



Well with shallow screen near the impacted domestic well





Well with deeper screen near the impacted domestic well

Soil vapor extraction performed at the site has removed majority of the petroleum hydrocarbon contamination as indicated by an overall decreasing trend for benzene concentration in groundwater. During the most recent groundwater monitoring conducted in September 2009, benzene was the only petroleum hydrocarbon contaminant detected. Benzene was detected at 2.7, and 1.8 ug/l in monitoring wells MW-1D and MW-5 respectively. MW-5 is the well closest to the source area while MW-1D is a deep well near the impacted domestic well. MW-4 is also located near the impacted well but has shallower screen.

### Sensitive Receptor Survey

Based on a site map, surrounding areas include residences north and northeast of the site. A school is located to the east across Railroad Flat Road.

### Closure

**Has corrective action 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 the site would require significant additional effort and cost. 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 this site is not feasible.

**If achieving background water quality is not feasible,**

- (i) **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.

- (ii) **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 foreseeable future. Other beneficial uses are not affected and are not likely to be affected by the remaining contamination at this site.

- (iii) **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 State Water Board Resolution 92-49, a case may be closed if the basin plan requirements will be met within a reasonable time frame.

- (iv) **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 State Water Board 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 hydrogeological 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 approximate time period in which the requisite level of water quality will be met is estimated to be approximately 5 years.

This is a reasonable period to meet the requisite level of water quality because the 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 foreseeable future. Residences in the surrounding area are now connected to the municipal public water supply system. Other beneficial uses are not affected and are not likely to be affected by the remaining contamination at this site.

**Objections to Closure and Response**

In their response to the 5-year review recommendation for closure, the Regional Board stated that case closure evaluation, public participation and initiation of well abandonment will proceed provided the human health risk assessment passes. In their letter dated, January 19, 2009, the Regional Board approved a workplan to conduct a human health risk assessment for vapor intrusion and dermal soil contaminant exposure.

The Underground Storage Tank (UST) Cleanup Fund manager disagrees that a human health risk assessment for vapor intrusion and dermal soil contaminant exposure is necessary. Based on the corrective actions conducted at the site which included limited excavation of contaminated soil and soil vapor extraction, the limited residual petroleum hydrocarbon in the soil that may still exist does not pose significant risks to health and safety. The evaluation of the risk of dermal exposure is not necessary because at least seven feet of contaminated soil was excavated subsequent to tank removal. Furthermore, site investigations conducted prior to soil vapor extraction indicated that at least five feet of clean soil overlies contaminated soil. Finally, the former UST location is currently covered with asphalt and pavement. Consequently, there is currently no completed pathway for dermal contact with any residual soil contamination.

Similarly, 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. Additionally, results of vapor samples collected at the start of soil vapor extraction, rebound testing, and restart of the system have shown that the majority of the soil contamination has been removed and the system had reached the point of diminishing results. With respect to the continued detection of low levels of benzene in groundwater, vapor intrusion is not a concern for the same reason stated previously.

Although the current concentration of benzene exceeds WQOs, years of groundwater monitoring data have shown an overall decreasing trend. In addition, it is highly unlikely that the affected groundwater will be used as a source of drinking water in the near future. Residences are currently connected to the municipal drinking water supply.

The Fund has currently conducted public notification and the Calaveras County Department of Environmental Health has the regulatory responsibility to supervise the proper abandonment of monitoring wells.

### **Summary and Conclusion**

A grocery store currently occupies the site where a former gasoline station operated. Two underground storage tanks were removed in April 1991. At the time of tank removal, petroleum hydrocarbon contamination was observed. A limited amount of soil was excavated in 1991 subsequent to tank removal. Between 1999 and 2008, soil and groundwater investigation at the site consisted of drilling six soil borings and installation of shallow and deep groundwater monitoring wells. Soil vapor extraction was conducted to treat the soil contamination at the site. Based on years of groundwater monitoring data, remedial actions conducted at the site have resulted in the removal of majority of the petroleum hydrocarbon contamination. The highest benzene concentration in groundwater during the September 2009 groundwater monitoring event was 2.7 ug/l detected in groundwater monitoring well MW-1D. Furthermore, samples taken before and after purging a deeper well MW-2D, were non-detect for benzene.

Although current concentration in groundwater exceed the drinking water maximum contaminant level for benzene, the 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 foreseeable future. Residences in the surrounding area are now connected to the municipal public water supply system. 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 corrective action ensures the protection of human health, safety and the environment and Fund manager recommends that the case be closed.

