



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality

1001 I Street, Sacramento, California 95814 ♦ (916) 341-5851
Mailing Address: P.O. Box 2231, Sacramento, California 95812
FAX (916) 341-5808 ♦ Internet Address: <http://www.waterboards.ca.gov>



Arnold Schwarzenegger
Governor

UST Case Closure Summary Al Negri 3692 Bohemian Highway, Occidental

Summary:

The release from the subject site was discovered during removal of underground storage tanks (USTs) in 1999. The release has impacted only shallow groundwater in the immediate vicinity of the site. No additional remediation is intended for this case. The case has not been closed because concentrations of methyl tert-butyl ether (MTBE) remain above water quality objectives (WQOs).

The mass of remaining residual petroleum hydrocarbons is small and dissolved petroleum constituents including MTBE are degrading. Conservative estimates of the hydrologic properties of the shallow bedrock at the site indicate that the zone of affected groundwater (about 4 to 8 feet bgs) is incapable of producing enough water to be a viable water supply. Trend lines show that water quality objectives in affected groundwater will be attained in several decades. The site is within the commercial area of Occidental and relies on a public water supply. A domestic well is 200 feet up gradient of the site and a spring and creek are down gradient. Based on facts in the record and the hydrologic and geologic conditions at the site, the limited residual petroleum hydrocarbons, including MTBE, that remain in soil and groundwater pose a low risk to the beneficial uses of water and public health, safety and the environment. For these reasons, case closure is appropriate.

Background:

This UST Case Closure Summary has been prepared in response to a petition filed by Al Negri (petitioner) to the State Water Resources Control Board (State Water Board) for closure of the UST case at 3692 Bohemian Highway, Occidental. All record owners of fee title for this site as well as adjacent property owners and other interested parties have been notified of the recommendation for closure and were given an opportunity to provide comments.

Petitioner's site is a former gasoline station located at 3692 Bohemian Highway, Occidental, in western Sonoma County. Land use is commercial and the UST site is a paved parking lot. Businesses and residents of the town are provided water and sewer service from the local utility district. A leaky, abandoned-in-place UST is located within the highway right-of-way about 50 feet to the east of the site.

Sonoma County Environmental Health Division (Sonoma County) denied Petitioner's request for UST case closure asserting that case closure is inappropriate because concentrations of MTBE in groundwater samples collected from site monitor wells exceed the North Coast Regional Water Quality Control Board's (Regional Board) Basin Plan WQO for MTBE of 5 parts per billion (5 ppb) and MTBE concentrations do not show a declining trend.

Petitioner information

Al Negri - Jerry's Chevron (former)	Address: 3692 Bohemian Hwy, Occidental
Global ID No: T0609700523	Petition Date: October 27, 2008
USTCUF Claim No: 15258	USTCUF expenditures: \$105,132

Agency Information

County of Sonoma Environmental Health Division	475 Aviation Blvd. Suite 220 Santa Rosa, CA 95403
Agency Case No.00001230	Years Case Open: 10

Release Information:

- USTs:

Tank No.	Size in Gallons	Contents	Status	Date
1	8,000	Gasoline	Removed	Oct 1999
2	5,000	Gasoline	Removed	Oct 1999
3	3,000	Gasoline	Removed	Oct 1999
4	3,000	Diesel	Removed	Oct 1999

- Source of Release: UST system
- Discovery Date: October 1999
- Affected Media: Soil and shallow groundwater
- Free Product: none reported
- Corrective Actions
 - October 1999: UST removal
 - July 2001: Soil and Groundwater Assessment
 - February 2003: Soil and Groundwater Assessment
 - October 2004: Natural attenuation

Site Description/Conditions:

- Groundwater Basin: Russian River Hydrologic Unit
- Beneficial Uses: MUN, AGR, IND, PRO.
- Land Use: Commercial, paved parking lot.
- Distance to Nearest Supply Well: Domestic well 200 feet south.¹
- Distance to Nearest Surface Water: Spring ~ 850 feet north, creek ~ 2,000 feet north

¹ The well is 150 feet deep and constructed with a 20 foot sanitary seal.

- Minimum Groundwater Depth: ~ 4 feet – Note that the zone of affected groundwater (about 4 to 8 feet bgs) is incapable of producing enough water to be a viable water supply.
- Groundwater Flow Direction: North
- Geology: Boring logs show that the site is underlain by up to five feet of gravelly and sandy fill that in turn overlies sandy and silty clay to the depth explored (45 feet).
- Estimate of Remaining Mass: Minimal
- Estimated time to meet WQOs for MTBE and TPHg: several decades.

Site History:

In October 1999, four USTs and associated piping were removed. Analyses of soil samples collected from the excavation sidewalls and under the dispenser island, and water samples from the excavation indicated a release of gasoline and diesel fuel had occurred.

In July 2001, soil samples from six borings were analyzed for diesel (TPHd), gasoline (TPHg), and benzene, toluene, ethylbenzene, and xylene (BTEX) and oxygenates. All soil samples tested non-detect for all constituents except for 8.2 parts per million (ppm) of TPHd detected in one sample. Analyses of groundwater samples collected from the borings and three monitor wells at that time had low reported concentrations of TPHg and TPHd and concentrations of MTBE ranging from 240 ppb to non-detect (<0.5 parts per billion (ppb)). Water quality objectives for the constituents of concern are as follows: MTBE – 5 ppb, TPHd – 100 ppb, TPHg – 5 ppb.

In September 2004, a feasibility study and corrective action plan (FS/CAP) concluded that natural attenuation was the preferred remedial option and recommended that the case be closed. By letter dated October 18, 2004, Sonoma County did not concur with the remedial option because Petitioner had not demonstrated that natural attenuation would meet the Regional Board's Basin Plan WQO for MTBE and required that a revised CAP be prepared.

In January 2005, the revised CAP concluded that natural attenuation was the preferred remedial option citing the facts that MTBE concentrations are stable or declining, affected soil was limited in area, and that receptors were not threatened. Long-term monitored natural attenuation was proposed to assess the efficacy of the preferred remedial option. The CAP was approved in October 2005.

In June 2008, Petitioner requested that Sonoma County close the case contending that remaining impacts do not pose a threat to public health, constituent concentrations are stable or declining, and remaining residual petroleum hydrocarbons will continue to decline in mass and concentration.

Sonoma County denied the request because concentrations of MTBE in groundwater samples were too high and that concentrations of TPHg in groundwater from two of the monitoring wells were "slightly" increasing. Petitioner was directed to prepare a new

FS/CAP. Petitioner petitioned the State Water Board for case closure by letter dated October 27, 2008.

Objection to Closure and Response:

Sonoma County asserts that case closure is inappropriate because concentrations of MTBE in groundwater samples collected from site monitoring wells exceed the WQO and MTBE concentrations in groundwater samples from well MW-3 do not show a declining trend. Well MW-3 is down-gradient of the source area and reflects the higher concentrations detected in source area well MW-1. As the concentrations in groundwater in the vicinity of well MW-1 continue to decline, concentrations at MW-3 will also begin to decline.

While shallow groundwater affected by the release from the former USTs exceeds the WQOs for MTBE and TPHg in a localized area, the WQOs will be achieved in a reasonable period of time. Shallow affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for some other beneficial use in the foreseeable future. Conservative estimates of the hydrologic properties of the shallow bedrock at the site indicate that the zone of affected groundwater (about 4 to 8 feet bgs) is incapable of producing enough water to be used as a viable water supply. The remaining petroleum hydrocarbon mass is minimal.

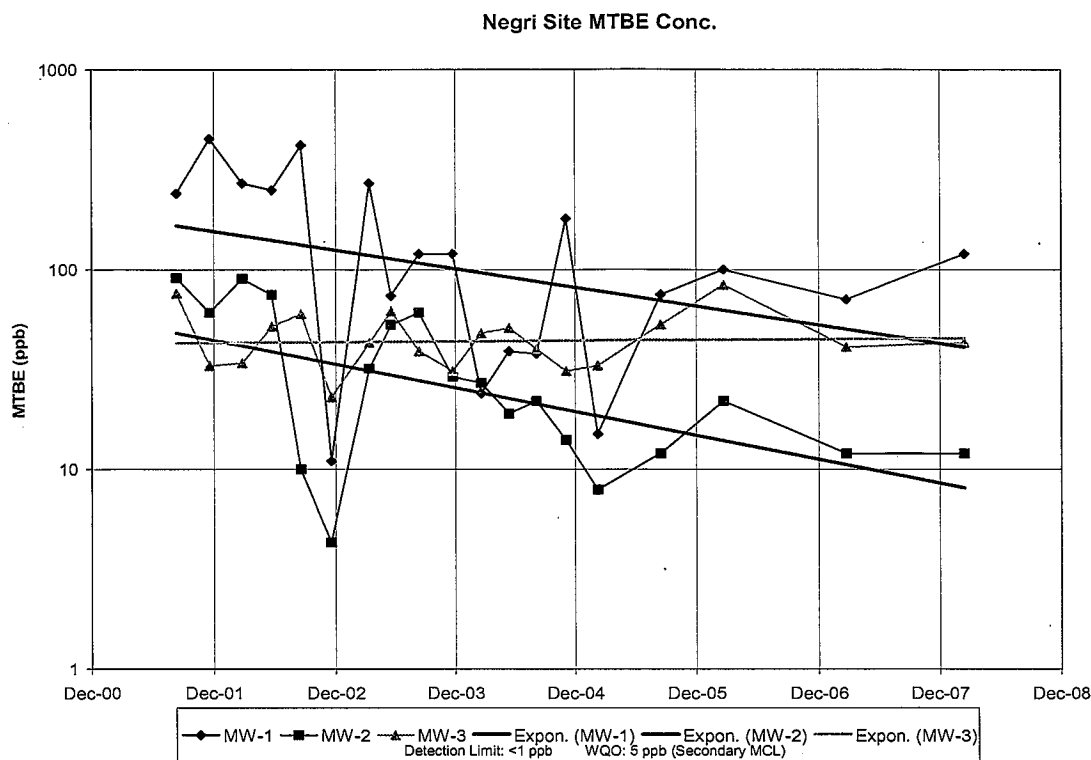
Contaminant Concentrations and Trends:

Concentrations of MTBE are stable (MW-3) and declining (MW-1 and -2). Based on the general concentration trend for groundwater from well MW-1 (source area well), concentrations of MTBE should diminish to less than WQOs in several decades. Concentrations of TPHg vary from ND (<50 ppb) to less than 150 ppb and should also diminish to below WQOs in several decades.

Closure:

Does corrective action performed to date ensure the protection of human health, safety and the environment? Yes

Is corrective action and UST case closure are 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,

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 foreseeable future.

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 alternate 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 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 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.

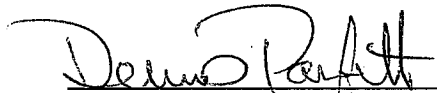
Has the requisite level of water quality been met? No.

Though the requisite level of water quality has not been met, water quality objectives for MTBE and TPHg will be achieved via natural attenuation in several decades. This is a reasonable period in which to meet the requisite level of water quality because 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 future. Other designated beneficial uses of water are not threatened and it is highly unlikely that they will be. Standard well construction requirements will prevent

any cross contamination in the unlikely event that a well is installed in this area. Considering these factors in the context of the site setting, site conditions do not represent a substantial threat to public health and safety and the environment and case closure is appropriate.

Summary and Conclusions:

Although shallow groundwater affected by the release from the former USTs exceeds the WQOs for MTBE and TPHg in a localized area, the WQOs will be achieved in approximately 20 years, which is a reasonable period of time. Shallow affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for some other beneficial use in the foreseeable future. Conservative estimates of the hydrologic properties of the shallow bedrock at the site indicate that the zone of affected groundwater (about 4 to 8 feet bgs) is incapable of producing any usable quantities of groundwater. Standard well construction requirements will prevent any cross contamination in the unlikely event that a well is installed in this area. Closure is appropriate.


Dennis Parfitt, CEG #1223
Senior Engineering Geologist

Date: 4/20/10

Figure 1

**Al Negri UST Closure Petition
3692 Bohemian Highway
Occidental, California**

