

State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Agency Name: Orange County Environmental Health Care Agency (County)	Address: 1241 East Dyer Road, Suite 120, Santa Ana, CA 92705
Agency Caseworker: Shyamala Sundaram	Case No.: 99UT032

Case Information

Site Name: Farjami Mobil	Global ID: T0605902327
Responsible Party (RP): Fred Farjami	Site Address: 12493 Beach Blvd., Stanton, CA
USTCF Claim No.: 14412	Address: 12493 Beach Blvd., Stanton, CA
USTCF Expenditures to Date: \$1,039,571	Number of Years Case Open: 14

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605902361

Summary

A leak was identified in 1992 and the County opened an initial UST case No. 92UT53 at this site. In May 1999 the UST case No. 92UT053 was closed, and a new UST case No. 99UT032 was opened by the County to address MTBE and TBA in groundwater. Since 1993, 20 monitoring wells have been installed. A groundwater extraction and treatment system (GWETS) operated from June 2003 to September 2008, treating approximately 5,882,180 gallons of groundwater removing approximately 278 pounds of TBA. An oxygen infusion was in place from 2008 to 2010; and a scaled-back GWETS operated at the site from November 2010 to November 2011. To date, \$1,039,571 in corrective action costs have been reimbursed by the Fund.

According to groundwater monitoring data, water quality objectives for petroleum hydrocarbons have been achieved, except for TBA. Impacted groundwater is not currently being used as a source of drinking water or for other beneficial uses. Water in the vicinity of the site is provided by the City of Stanton Public Works and one mobile home park, Villa Capri Mobile Estates (cross-gradient). No petroleum hydrocarbon constituents have been/were detected in either of the public supply wells according to GeoTracker data. No domestic wells were identified. Based on the available information, the residual petroleum hydrocarbon at the site does not pose a significant risk to human health, safety, or the environment.

Objections to Closure

The County objects to UST case closure for this case because:

- Two shallow small water system wells and one large public supply well are located within 1.2 miles of this site.

- TBA concentration increased to 4,500 µg/L in one well during post-remedial monitoring, and the RP was conducting targeted remediation on-site.

Response to Objections to Closure

Based on the existing data, the Fund Manager does not believe that any potential residual petroleum hydrocarbon remaining at this Site represents a significant risk to human health, safety, or the environment. The petroleum hydrocarbon concentration in all monitoring wells is below the laboratory detection limits with the exception of TBA in one monitoring well, which is now near or below the DPH Response Level as the result of the recent focused remedial actions. Water in the vicinity of the Site is provided to water users by the City of Stanton Public Works and two one mobile home park.

Compliance with State Water Board Policies and State Law

The site complies with the State Water Resources Control Board policies and state law. See **Attachment 1: Compliance with State Water Board Policies and State Law**, and **Attachment 2: Summary of Basic Site Information**.

Fund Manager Recommendation for Closure

Based on the available information, any residual petroleum hydrocarbon at the site does not pose significant risk to human health, safety, or the environment, and the Fund Manager recommends that the case be closed. The Fund is conducting public notification. The County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

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

5/18/2012

Date

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

GENERAL CLOSURE CRITERIA (Compliance with Decisional Framework and Res. 92-49)

Will corrective action performed ensure the protection of human health, safety and the environment? Yes No

Impacted groundwater is not currently being used as a source of drinking water or for other beneficial uses, and water is provided to water users near the site by the Villa Capri Mobile Estates, and Magic Lamp Mobile Estates. No domestic wells were identified. It is highly unlikely that any groundwater that may be impacted will be used as a source of drinking water. Based on the available information, the residual petroleum hydrocarbons at the site do not pose significant risk to human health, safety, and the environment.

Are corrective action and UST case closure consistent with State Water Board Resolution 92-49? Yes No

Specifically:

Is achieving background water quality feasible? Yes No

To remove all traces of residual petroleum constituents at the site would require significant effort and cost. Removal of all traces of residual petroleum hydrocarbon constituents (if present) that contribute to detectable concentrations in shallow groundwater can be accomplished, but would require excavation of additional soil as well as additional remediation of shallow groundwater. If complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, the statewide technical and economic implications will be enormous. Because of the high costs involved and minimal benefit of attaining further reductions in concentrations of TBA 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 No

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. 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, an acceptable 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? Yes No

Impacted groundwater is not used as a source of drinking water or any other beneficial use currently. It is highly unlikely that the impacted groundwater will be used as a source of drinking water or any other beneficial use in the foreseeable future.

Will the alternative level of water quality exceed water quality prescribed in applicable Basin Plan? Yes 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 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 No

In approving an alternative level of water quality less stringent than background, the State Water Board considers 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. 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, 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, the 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.

Will requisite level of water quality be met in a reasonable period of time?
 Yes No

Water quality objectives have been met for all constituents except for TBA. Although the WQO's for TBA have not been met, the approximate time period in which the requisite level of water quality will be met is 10-20 years. This is a reasonable period in which to meet the requisite level of water quality, because impacted groundwater is not currently being used as a source of drinking water, and it is highly unlikely that impacted groundwater will be used as a source of drinking water in the future. Residential and commercial water users in the area are currently served by the City of Stanton, Villa Capri Mobile Estates (cross gradient), and Magic Lamp Mobile Estates (abandoned). Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Other designated beneficial uses of impacted groundwater are not threatened, and it is highly unlikely that the planners will be considering these factors in the context of the site setting. The site conditions do not represent a substantial threat to human health, safety and the environment, and case closure is appropriate.

Chemicals	Water Quality Objective (WQO) (µg/L)	Estimated Time to Meet WQO (Years)
TBA	12/1,200 µg/L ^a	10-20

^a CDPH Notification/Response Level

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

Site Location/ History

- The site is an active gasoline service station on the northwestern corner of the intersection of Beach Boulevard and Lampson Avenue, Stanton, California. The land use is mixed, with commercial establishments next to the major streets, and residential areas on the opposite (back) side of the blocks.
- The site was operated as an Exxon service station until November 1992. An unauthorized release was reported in March 1992. The site is currently operated as an active 76 service station.
- Twenty monitoring wells have been installed and monitored.
- Site map showing the location of the former USTs, monitoring wells, and groundwater level contours, is provided at the end of this summary.

Pollutant Source

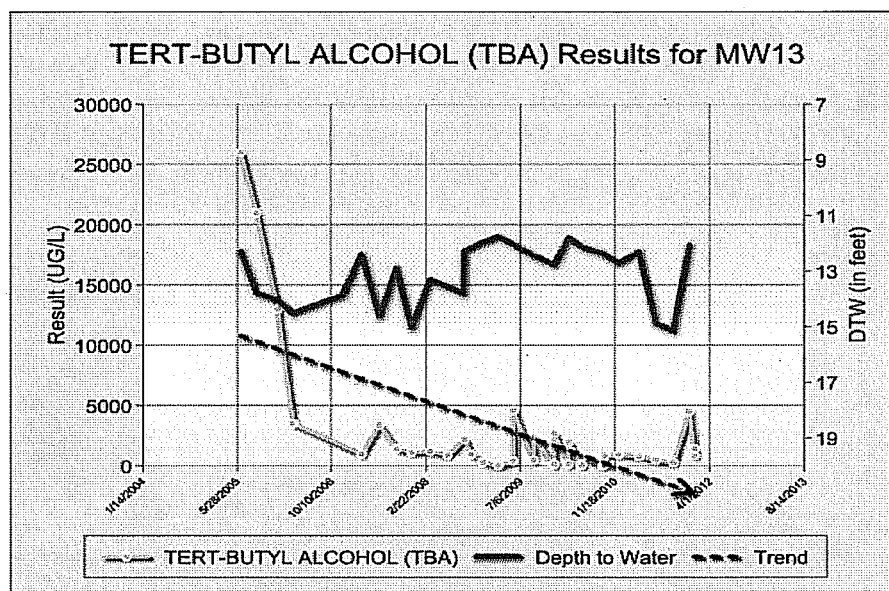
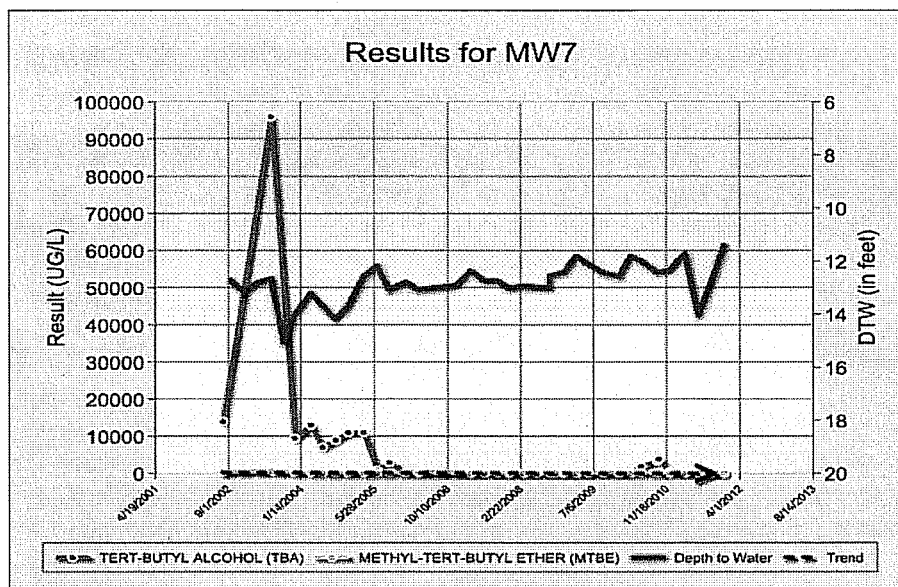
- Nature of Contaminants of Concern: Petroleum hydrocarbons only
- Source, Date reported, and Status of Release: UST system, June 8, 1998, USTs removed
- Free Phase Hydrocarbons: None reported

Geology/ Hydrogeology

- Stratigraphy: The site is underlain by sands, clayey silts and silty clays.
- Maximum Sample Depth: 75 feet below ground surface (bgs)
- Minimum Groundwater Depth: 11.77 feet bgs at monitoring well MW-13.
- Maximum Groundwater Depth: 23.17 feet bgs at monitoring well MW-9C.
- Current Average Depth to Groundwater: 14 feet bgs
- Appropriate Screen Interval: Yes
- Saturated Zones(s) Studied: 10 to 75 bgs
- Groundwater Flow Direction: Predominately southwest for the shallow and intermediate zones, and southeast in the deeper zone.

Groundwater Trends:

The graphs below show significant reduction in TBA in groundwater in both the source area (monitoring well MW-13) and downgradient (on-Site monitoring MW-7).



Receptors

- GW Basin: Santa Ana Pressure Sub-basin of the Lower Santa Ana Watershed
- Beneficial Uses: Municipal and domestic supply
- Land Use Designation: Commercial
- Public Water System: City of Stanton Public Works, Villa Capri Mobile Estates, and Magic Lamp Mobile Estates
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are five CDPH regulated water supply wells within ½ mile of the site. These wells range in distance from 949 feet to 2,295 feet from the site. In addition, two mobile home parks had been supplying water to their residents Magic Lamp Mobile Estates and Villa Capri Mobile Estates downgradient and cross-gradient of the Site, respectively. No domestic supply wells were identified.

Risk Criteria

- Estimate of Hydrocarbon Mass in Soil: None reported
- Soil/Groundwater tested for MTBE: Yes, see table below
- Plume extent and mobility: TBA is detected in one monitoring well (source area). Downgradient on-Site monitoring wells have no detectable TBA, and the plume concentrations are decreasing and shrinking.
- Contaminated Zone(s) Used for Drinking Water: No
- Risk from Residual Petroleum Hydrocarbons: No, this is an active station entirely covered with asphalt concrete.

Remediation Summary (Secondary Source Removal)

- Free Product: None reported
- Soil Excavation: Petroleum hydrocarbon impacted soil was removed and disposed.
- In-Situ Soil Remediation: An air sparging/soil vapor extraction system operated at the Site from June 1994 to September 1995.
- Groundwater Remediation: The GWETS was started during the second quarter of 2003, until it was shut down when it reached the point of diminishing return on September 4, 2008. During the operation of the GWETS, approximately 5,882,180 gallons of affected groundwater were extracted, treated and discharged. It was estimated that approximately 278 pounds of TBA were removed during the operation of the GWETS.

Remediation continued with the infusion of oxygen into well MW-13, starting in early 2009. The infuser, however, was later removed from MW-13 when TBA appeared in the down-gradient well MW-7. Monitoring wells MW-13 and MW-7 were reconnected to a scaled-back GWETS in November 2010. As groundwater concentration of TBA in the wells continued to decline, the system was discontinued in November 2011.

Supporting Site Data

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	Not available	Gasoline	Removed	1993
2	Not available	Gasoline	Removed	1993
3	Not available	Gasoline	Removed	1993
4	Not available	Waste Oil	Removed	1993

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/2011)
MW-1	1992	5-25	13.91
MW-2	1992	10-30	14.95
MW-3	1992	10-30	13.61
MW-4	1992	10-30	14.88
MW-5	1993	5-35	12.51
MW-6	1993	5-35	13.98
MW-7	1993	4-24	12.75
MW-8A	2001	4-24	12.38
MW-8B	2001	45-50	12.65
MW-8C	2001	70-75	14.25
MW-9A	2001	5-25	14.25
MW-9B	2001	45-50	14.58
MW-9C	2001	70-75	16.51
MW-10A	2001	5-25	13.85
MW-10B	2001	45-50	14.98
MW-10C	2001	70-75	17.41
MW-11	2005	10-25	13.81
MW-12	2005	10-25	14.18
MW-13	2005	10-25	15.15

Petroleum Hydrocarbon Constituent Concentration

Contaminant	Soil (mg/kg)		Water (µg/L)		WQOs (µg/L) MCL/Low Risk	Estimated Years to Achieve WQO ^b (Years)
	Maximum	Latest	Maximum	Latest (1/11/2012)		
TPHg	NA	NA	4,000	<50	NL	0
Benzene	NA	NA	8.4	<0.5	1/250	0
Toluene	NA	NA	17	<1.0	150/300	0
Ethylbenzene	NA	NA	3.5	<1.0	300/680	0
Xylenes	NA	NA	12	<1.0	1,750/1,750	0
MTBE	NA	NA	47,000	3.5	13 primary/5 secondary	0
TBA	NA	NA	1,500,000	830/1,400*	12/1,200 ^a	10-20

NA: Not Analyzed, Not Applicable or Data Not Available NL: Not listed mg/kg: milligrams per kilogram, parts per million
 µg/L: micrograms per liter, parts per billion WQOs: Water Quality Objectives ^a California Department of Public Health Notification
 Level/ Response Level ^b Estimated trends based on 1st order linear degradation * Duplicate samples on January 11, 2012

