

State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Agency Name: Tulare County Environmental Health Services Division	Address: 5957 South Mooney Boulevard Visalia, CA 93277
Agency Caseworker: Leticia Tapia	Case No.: 751

Case Information

USTCF Claim No.: 13111	Global ID: T0610700403
Site Name: Waterman Industries	Site Address: 25500 Road 204 Exeter, Tulare County (Site)
Petitioner: GNI Waterman, Inc. Attention: Jerry Wright	Address: P.O. Box 458 Exeter, CA 93221
USTCF Expenditures to Date: \$59,511	Number of Years Case Open: 15

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0610700403

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 Low-Threat Policy. This Case does **NOT** satisfy **GENERAL CRITERIA a** of the Policy, which requires the unauthorized release to be located within the service area of a public water system. This Site meets all of the required criteria of the State Water Resources Control Board Resolution 92-49. A summary evaluation of compliance with the Resolution 92-49 is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model (CSM) upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Site Information**. Highlights of the CSM upon which the evaluation of the Case has been made are as follows:

The release at this Site was discovered when the underground storage tanks (USTs) were removed in 1998. No USTs are currently on-Site. During the 2000 remedial excavation event, approximately 500 cubic yards of soil was excavated to a depth of 20 feet below ground surface (bgs) near the UST cluster.

The Site is not located within the service area of a public water system. The on-Site Domestic Well is located approximately 75 feet northwest and crossgradient of the former USTs.

The petroleum release is limited to a depth of 45 feet bgs in soil and shallow groundwater within the Site boundary. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Remaining petroleum constituents are limited, stable and declining.

Waterman Industries
2550 Road 204, Exeter, Tulare County

Remedial actions have been implemented and further remediation is not necessary. Additional assessment/monitoring will not likely change the conceptual model. Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment.

Objections to Closure

Central Valley Regional Water Quality Control Board staff objected to UST case closure because:

1. Gasoline constituents have historically been detected in the on-Site water supply well and that the on-Site supply well may again be impacted if the water table rises and concentrations could exceed MCLs. Deep source mass removal by Soil Vapor Extraction and Air Sparging is recommended. Response: Concentrations of gasoline constituents in the on-Site Domestic Well were never above water quality objectives (WQOs) during 21 sampling events between 1999 and 2008. During the 2000 remediation event, approximately 500 cubic yards of soil was excavated to a depth of 20 feet bgs near the UST cluster. Gasoline constituents were not detected in the grab groundwater samples collected from three temporary wells during 2008. The on-Site Domestic Well is located approximately 75 feet northwest and crossgradient of the former USTs. Remedial actions have been implemented and further remediation is not necessary.

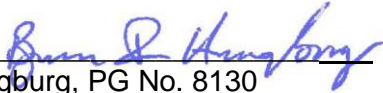
Recommendation for Closure

The corrective action performed at this Site ensures the protection of human health, safety, the environment and is consistent with chapter 6.7 of the Health and Safety Code and implementing regulations, applicable state policies for water quality control and the applicable water quality control plan, and case closure is recommended.

Prepared By: 
Charlow Arzadon
Water Resource Control Engineer

9/13/2013

Date

Reviewed By: 
Benjamin Heningburg, PG No. 8130
Senior Engineering Geologist

9/13/2013

Date

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

The Site complies with State Water 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 Site complies with the requirements of Resolution 92-49 as described below.

<p>Will corrective action performed ensure the protection of human health, safety, and the environment? The information included in this UST Case Closure Summary supports a determination that corrective action performed at this Site will ensure the protection of human health, safety, and the environment.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>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 case 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 Site meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this Site?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Are corrective action and UST case closure consistent with State Water Board Resolution 92-49?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Is achieving background water quality feasible? 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 all 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 petroleum constituents at this Site, and the fact that beneficial uses are not threatened, attaining background water quality at this Site is not feasible.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

<p>If achieving background water quality is not feasible: Is the alternative cleanup level consistent with the maximum benefit to the people of the State?</p> <p>It is impossible to determine the precise level of water quality that will be attained given the uncertainties about the rates of dissolution and degradation. 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.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Will the alternative cleanup level unreasonably affect present and anticipated beneficial uses of water?</p> <p>The aquifer beneath the Site is at or near WQOs and the surrounding aquifer is below WQOs. Groundwater concentrations will continue to reduce through natural attenuation.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Will the alternative level of water quality result in water quality less than that prescribed in applicable Basin Plan?</p> <p>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.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Have factors contained in title 23 of the California Code of Regulations, section 2550.4 been considered?</p> <p>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).</p> <p>The adverse effect on shallow groundwater will be minimal and localized, and there will be little 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, and physical structures, and the persistence and permanence of potential effects.</p> <p>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.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

<p>Will the requisite level of water quality be met within a reasonable time? Although WQOs may not have been met at the Site, the approximate time period in which the requisite level of water quality will be met for constituents of concern is decades to hundreds of years. This is a reasonable period in which to meet the requisite level of water quality because current and future beneficial uses are not impaired. Concentrations of petroleum constituents in the impacted on-Site Domestic Well were never above WQOs during 21 sampling events between 1999 and 2008. The site conditions do not represent a substantial threat to human health, safety, or the environment, and case closure is appropriate.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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ATTACHMENT 2: SUMMARY OF BASIC INFORMATION (Conceptual Site Model)

Site Location/ History

- Location: The Site is located near the intersection of Avenue 256 and Road 204 in Exeter. The Site is an operating commercial facility.
- Nature of Contaminants of Concern: Petroleum constituents.
- Primary Source of Release: UST system.
- Discovery Date: 1998.
- Release Type: Petroleum¹.
- Free Product: Not reported.

Table A: USTs

Tank	Size in Gallons	Contents	Status	Date
1 UST	1,000	Gasoline	Removed	1998
1 UST	1,000	Gasoline	Removed	1998

Receptors

- Groundwater Basin: San Joaquin Valley - Kaweah.
- Groundwater Beneficial Uses: Municipal and Domestic.
- Designated Land Use: Commercial and Residential.
- Public Water System: None.
- Distance to Nearest Supply Wells: Public supply well ~75 feet northwest and crossgradient of the former UST release.
- Distance to Nearest Surface Waters: Friant Kern Canal ~3,000 feet east.

Geology/ Hydrogeology

- Average Groundwater Depth: ~38-63 feet bgs.
- Minimum Groundwater Depth: ~30 feet bgs.
- Geology: Asphalt and concrete underlain by interbedded and intermixed sand, silt, and clay to a maximum explored depth of 70 feet bgs.
- Hydrology: The groundwater flow direction is southwest. Groundwater beneath the Site is unconfined.

Corrective Actions

- During remediation activities in 2000, approximately 500 cubic yards of impacted soil was excavated near the UST cluster and placed within an on-Site treatment cell.
- A soil vapor extraction pilot test conducted in December 2003. Soil boring data from air sparge and soil vapor extraction wells demonstrate that the secondary source is limited to a small area directly beneath the UST cluster.

¹ "Petroleum" means crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means at 60 degrees Fahrenheit and 14.7 pounds per square inch absolute.
(Health & Safety Code, § 25299.2)

Table B: Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 ft. bgs (mg/kg)	Maximum 5-10 ft. bgs (mg/kg)
Benzene	<0.02	Not Analyzed ¹
Ethylbenzene	<0.02	Not Analyzed ¹
Naphthalene	Not Analyzed ¹	Not Analyzed ¹
PAHs ²	Not Analyzed ¹	Not Analyzed ¹

¹Petroleum-impacted soil between 0 to 20 feet was excavated in 2000.

²Poly-aromatic hydrocarbons as benzo(a)pyrene toxicity equivalent.

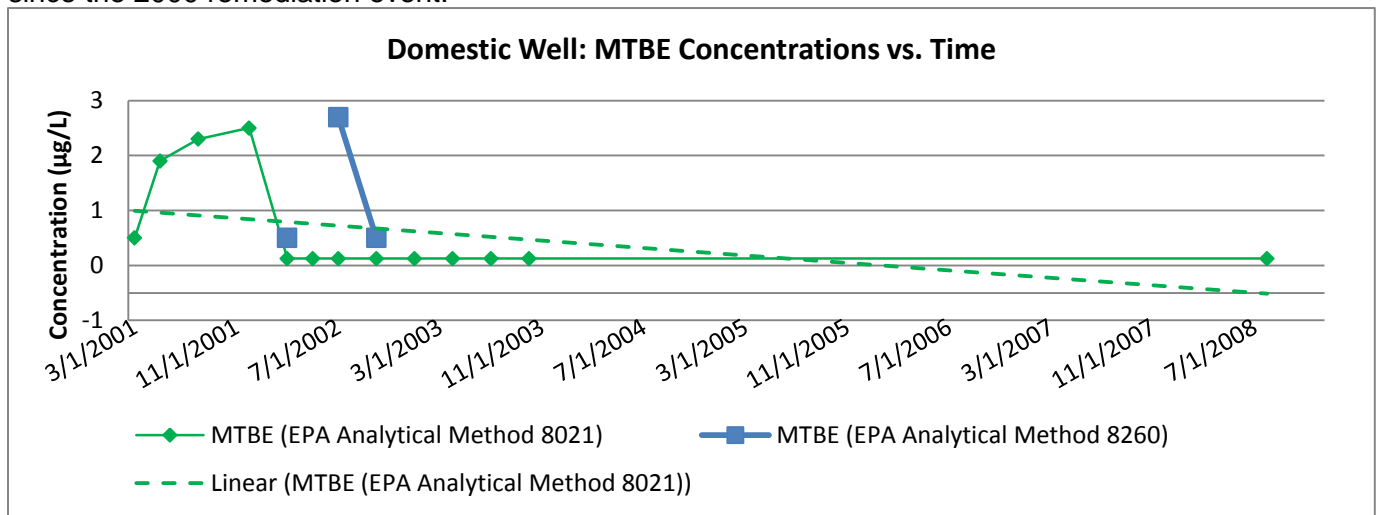
Table C: December 2010 Groundwater Sampling Results

Well ID	Sample Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/22/03	<50	<0.5	<0.5	<0.5	<1.5	<2.5
MW-2	10/22/03	<50	<0.5	<0.5	<0.5	<1.5	150
MW-3	10/22/03	<50	<0.5	<0.5	<0.5	<1.5	<2.5
Domestic Well	8/20/08	<50	<0.5	<0.5	<0.5	<1.5	<2.5
WP-1*	8/20/08	<50	<0.5	<0.5	<0.5	<1.5	<2.5
WP-2*	8/20/08	<50	<0.5	<0.5	<0.5	<1.5	<2.5
WP-3	8/20/08	<50	<0.5	<0.5	<0.5	<1.5	<2.5
WQOs		-	1	150	300	1750	5

*	Grab groundwater samples.
bold	Indicates that sample result exceeds WQOs.
TPHg	Total petroleum hydrocarbons as gasoline.
µg/L	Micrograms per liter.
<	Indicates result is below the laboratory reporting limit.

Groundwater Trends

Reported concentrations of MTBE at the Site have demonstrated stable or decreasing trends over time, since the 2000 remediation event.



Evaluation of Risk Criteria

- Maximum Petroleum Constituent Plume Length above WQOs: Monitoring wells were dry in 2008. Grab groundwater data collected in deeper well points indicates no plume during 2008.
- Petroleum Constituent Plume Determined Stable or Decreasing: Yes.
- Soil/Groundwater Sampled for MTBE: Yes, see Table C above.
- Residual Petroleum Constituents Pose Significant Risk to the Environment: No.
- Residual Petroleum Constituents Pose Significant Vapor Intrusion Risk to Human Health: No – Petroleum constituents most likely to pose a threat for vapor intrusion were removed during soil excavation and over-excavation. Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective of human health.
- Residual Petroleum Constituents Pose a Nuisance² at the Site: No.
- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No – Site-specific conditions satisfy all of the applicable characteristics and criteria for petroleum vapor intrusion to indoor-air under class a. scenario 3.
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No – There are no soil samples results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2% benzene and 0.25% naphthalene. Therefore, benzene concentrations can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Table 1 of the Policy. Therefore, estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

² Nuisance as defined in California Water Code, section 13050, subdivision (m).

SITE MAP

