

State Water Resources Control Board



Linda S. Adams Secretary for Environmental Protection **Division of Financial Assistance** 1001 I Street • Sacramento, California • 95814 P.O. Box 944212 • Sacramento, California • 94244-2120

(916) 341-5660 FAX (916) 341-5806 + www.waterboards.ca.gov/cwphome/ustcf

Arnold Schwarzenegger Governor

EXHIBIT 1 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 3519 Broadway, Sacramento, California (Site).

Agency Information

Agency Name: Sacramento County	Address: 10590 Armstrong Ave., Suite A
Environmental Management Department	Mather, CA 95655
(SCEMD)	

Case Information

SCEMD Case No: 0455/71455	Global ID: T0606700181		
Site Name: Stilson Cleaners	Site Address: 3519 Broadway,		
	Sacramento, CA 95817		
Responsible Party: Leo Schuering, Jr.,	Address: 400 University Avenue,		
Executor	Sacramento, CA 95825		
USTCF Claim No.: 191	Number of Years Case Open: 22		
USTCF Expenditures to Date: \$131,602			

Tank Information

Tank No.*	Size in Gallons	Contents	Closed in Place/	Date
			Removed/Active?	
T-1	550	Stoddard Solvent	Removed	March 23,1988
		Solveni		
T-2	550	Stoddard	Removed	March 23,1988
		Solvent		

According to the Fund claim application, tank number 1 was installed in 1923 and tank number 2 was installed in 1948.

Release Information

- Source of Release: UST System
- Date of Release: According to the Fund application, contamination was initially discovered during an investigation conducted at the request of a prospective buyer of the property. The USTs were subsequently removed and an unauthorized release/contamination site report was submitted in March 1988.
- Affected Media: Soil and Groundwater

Site Information

- GW Basin: Sacramento Valley
- Beneficial Uses: Municipal and Domestic Water Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), and Industrial Process Supply (PRO)
- Land Use Designation: Commercial



- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no listed Department of Public Health (DPH) water supply wells within ½ mile of the Site.
- Minimum Groundwater Depth: 23.84 feet below ground surface (bgs) at monitoring well MW-3
- Maximum Groundwater Depth: 28.34 feet bgs at monitoring well MW-1
- Groundwater Flow Direction: Variable, ranging from northeast, to east, to southeast. Groundwater flow during the June 2010 monitoring event was to the southwest. This direction is not consistent with previous monitoring events. The hydraulic gradient on June 22, 2010, was calculated at 0.002 feet/foot (ft/ft).
- Soil Types: The Site is underlain by interbedded and intermixed sand, silt, and clay.
- Maximum Depth Sampled: Not specified.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval	Most Recent Depth
Ū		(feet bgs)	To Groundwater
			(feet bgs)
			(6/22/2010)
MW-1 ¹	5/1990	$TD = 39.46^2$	26.25
MW-2	10/1991	$TD = 41.95^2$	25.96
MW-3	10/1991	$TD = 40.13^2$	25.56
MW-4	10/1991	$TD = 42.77^2$	26.15
MW-5	4/2008	$TD = 40.46^2$	26.42
MW-6	4/2008	$TD = 40.53^2$	25.49
MW-7 ³	4/2008	$TD = 39.47^2$	25.57

DTW Depth to Water

1 MW-1 was installed through the backfilled excavation (Kleinfelder, 6/11/1992)

2 Total well depth reported on the monitoring well pump record data sheets provided in the October 18, 2010, Quarterly Monitoring Report Second Quarter – 2010 prepared by Earthtec, Inc.

3 According to the August 31, 2006 Workplan for Additional Groundwater Monitoring Wells prepared by Earthtech Ltd., MW-7 was installed to define the extent of tetrachloroethylene (PCE) in the groundwater at the site.

-2-



Constituent Concentration

Contaminant	Soil (mg/kg)		Water (ug/L)		WQOs
	Maximum	Latest	Maximum	Latest ¹	(ug/L)
				(6/22/2010)	
Stoddard Solvent	NA	NA	5,000	470	NA
DRO	NA	NA	7,600	NA	56
(C ₁₄ to C ₂₉)					
GRO	NA	NA	8,100	NA	5
$(C_6 \text{ to } C_{12})$					
Benzene	NA	NA	1.3	<0.5	0.15
Toluene	NA	NA	15	<0.5	42
Ethylbenzene	NA	NA	30.2	<0.5	29
Total Xylenes	NA	NA	52.4	<1.5	17
MTBE	NA	NA	1.4	<1.0	5
ТВА	NA	NA	<10	<10	12
1,2-DCA	NA	NA	<0.5	<0.5	0.4
PCE	NA	NA	140	98	0.06
TCE	NA	NA	<50	NA	0.8

NA Not Analyzed, Not Applicable or Data Not Available

mg/kg milligrams per kilogram, parts per million

ug/L micrograms per liter, parts per billion

WQOs Water Quality Objectives

DRO Diesel Range Organics

GRO Gasoline Range Organics

1 Monitoring wells MW-2 through MW-7 are sampled on a semi-annual basis and monitoring well MW-1 is sampled on an annual basis. MW-1 was not sampled in June 2010.

Site Description

The Site is located at 3519 Broadway in Sacramento, California and is comprised of a dry cleaning facility. The Site is bounded by Broadway to the west and south, a restaurant to the northwest and commercial buildings to the north and east. Third Avenue is immediately north of the commercial buildings.

Site History/Assessments

The site has operated as a dry cleaning facility since the 1920s. Two 550-gallon stoddard solvent tanks were excavated and removed from the Site in March 1988. To date, seven groundwater monitoring wells have been installed and monitored regularly. Free product was encountered in monitoring well MW-1 and a passive skimmer devise was installed in September 1992. No other remediation has been conducted at the site. A site map showing the location of the former USTs, monitoring wells, and groundwater level contours is provided at the end of this case closure summary.

Remediation Summary

- Free Product: Free product was detected in monitoring well MW-1 and a passive skimmer device was installed in September 1992.
- Soil Excavation: No soil excavation has been conducted.
- In-Situ Soil Remediation: No soil remediation has been conducted.
- Groundwater Remediation: With the exception of the passive skimmer device, no groundwater remediation has been conducted.

General Site Conditions

- Geology and Hydrogeology: The Site is underlain by interbedded and intermixed sand, silt, and clay. Historically, depth to groundwater has ranged from 23.84 feet bgs to 28.34 feet bgs. The depth to groundwater during the June 2010 monitoring event was recorded at approximately 26 feet bgs. The groundwater flow direction is variable, ranging from northeast, to east, to southeast. Groundwater flow during the June 2010 was to the southwest. This direction is not consistent with previous monitoring events. The hydraulic gradient on June 22, 2010, was calculated at 0.002 ft/ft.
- There are no surface water receptors present within 2,000 feet of the Site.
- Groundwater Trends: There are more than 12 years of groundwater monitoring data for this Site. The following graphs show analytical data trends for two of the originally most impacted groundwater monitoring wells (MW-1 and MW-4).





 Water Quality Objectives (WQOs): WQOs for petroleum constituents have already been met with the possible exception of stoddard solvent and benzene. There is no published WQO for stoddard solvent. However, the Fund calculates that a laboratory reporting limit (RL) of 50 ug/L will be reached in approximately 10 years. Benzene was not detected above the laboratory RL of 0.5 ug/L. The WQO for benzene of 0.15 ug/L will be met within a reasonable period of time, if it is not currently met.

Sensitive Receptor Survey

According to GeoTracker, there are no DPH supply wells within ½ mile of the Site. Drinking water at and near the Site is currently supplied by the City of Sacramento.

Risk Evaluation

All petroleum constituents of concern are below applicable WQO or RL except for stoddard solvent . Since residual concentrations are low and the Site and public areas are paved with thick concrete, there is little potential for hydrocarbon vapors to migrate or pose a threat to human health or the environment. There are no water supply wells or surface water receptors present within 2,000 feet of the Site.

Closure

Does corrective action performed ensure 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 effort and cost. Removal of all traces of residual petroleum hydrocarbon constituents 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. The soil excavation could also entail relocation of existing utilities and demolition of existing buildings. 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 Stoddard solvent and benzene 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. 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 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?** 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.

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, 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.

WQOs for petroleum constituents have already been met with the possible exception of stoddard solvent and benzene. There is no published WQO for stoddard solvent. However, the Fund calculates that a laboratory reporting limit (RL) of 50 ug/L will be reached in approximately 10 years. This is a reasonable period in which to meet the requisite level of water quality because the 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 are currently connected to the municipal drinking water supply. Other designated beneficial uses of the impacted groundwater are not threatened and it is highly unlikely that they will be considering these factors in the context of the Site setting, Site conditions do not represent a substantial threat to human health and safety and the environment and case closure is appropriate. Benzene was not detected above the laboratory RL of 0.5 ug/L. The WQO for benzene of 0.15 ug/L will be met within a reasonable period of time, if it is not currently met.



Objections to Closure and Response

The SCEMD requested a closure package in February 2010. The County indicated that the petroleum case would likely be closed by the end of November 2010 and the chlorinated solvent case (PCE) would be transferred to the RWQCB Site Cleanup Program. According to the responsible party, as of the date of this summary, a closure package has not yet been prepared and submitted.

The Fund Manager does not believe that any potential residual petroleum hydrocarbons at this Site represent a significant risk to human health and safety, and the environment. As a result of free product removal and natural attenuation there is little residual petroleum hydrocarbon in soil at the Site. Any residual petroleum hydrocarbons, if present in the groundwater, would be at very low concentrations and would continue to attenuate. In addition, there are no domestic or public water supply wells within 2,000 feet of the Site. Water in the vicinity of the Site is provided to water users by the City of Sacramento.

The Fund is conducting public notification and the SCEMD has the regulatory responsibility to supervise the abandonment of monitoring wells.

Summary and Conclusion

According to the Fund application, contamination was initially discovered during an investigation conducted at the request of a prospective buyer of the property. The USTs were subsequently removed and an unauthorized release/contamination site report was submitted in March 1988. Since 1990, seven groundwater monitoring wells have been installed and free product removal has been conducted. Other than stoddard solvent, water quality objectives have been achieved or contaminants are below laboratory reporting limits. There is no published WQO for stoddard solvent. However, the Fund calculates that a laboratory reporting limit (RL) of 50 ug/L will be reached in approximately 10 years. To date, \$131,602 in corrective action costs have been reimbursed by the Fund. The nearest water supply wells are more than one mile from the Site. Groundwater in the vicinity of the site is not currently being used as a source of drinking water or other beneficial uses and water is provided to water users near the Site by the City of Sacramento. It is highly unlikely that any impacted groundwater will be used as a source of drinking water or other beneficial use in the foreseeable future. In addition, in the unlikely event that a water supply well is drilled in the future, standard construction practices and requirements would prevent impacts from any residual petroleum contamination. Based on available information, the residual petroleum hydrocarbons at the Site do not pose significant risks to human health, safety, and the environment, and the Fund Manager recommends that the case be closed.

John Russell

John Russell PG No. 8396

December 15, 2010

Date



