



Linda S. Adams  
Secretary for  
Environmental Protection

# State Water Resources Control Board



Arnold Schwarzenegger  
Governor

## Division of Financial Assistance

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### 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 7037 Power Inn Road in Sacramento, California (Site).

#### Agency Information

Agency Name: Sacramento County Environmental Management Department (SCEMD)	Address: 10590 Armstrong Avenue, Suite A Mather, CA 95655
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#### Case Information

SCEMD Case No: C350	Global ID: T0603701072
Site Name: Sacramento Crane Co.	Site Address: 7037 Power Inn Road Sacramento, CA 95829
Responsible Party: Sacramento Valley Crane Service, Inc.	Mailing Address: 7512 Pacific Avenue Pleasant Grove, CA 95668
USTCF Claim No.: 14560	USTCF Expenditures to Date: \$384,807
	Number of Years Open: 11 years

#### Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active?	Date
T-1	2,000	Diesel	Removed	Apr 99
T-2	1,000	Diesel	Removed	Apr 99
T-3	1,000	Gasoline	Removed	Apr 99

#### Release Information

- Source of Release: UST System
- Date of Release: April 16, 1999, discovered during tank removal
- Affected Media: Soil and groundwater

#### Site Information

- GW Basin: Sacramento Valley Basin
- Beneficial Uses: Municipal and Domestic Water Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), and Industrial Process Supply (PRO)
- Land Use Designation: The Site is zoned commercial.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are four public supply wells within ½ mile of the Site. The closest supply well is located approximately 300 feet downgradient from the Site.
- Minimum Groundwater Depth: 59.87 feet below ground surface (bgs) at monitoring well MW-4
- Maximum Groundwater Depth: 76.50 feet bgs at monitoring well MW-3

*California Environmental Protection Agency*

- Groundwater Flow Direction: Predominantly east/northeast with an average gradient of 0.002 feet per foot (ft/ft)
- Soil Types: The Site is predominantly underlain by interbedded silts and sands.

**Monitoring Well Information**

Well Designation	Date Installed	Screen Interval (feet bgs)	Most Recent Depth to Groundwater (feet bgs) (April 2010)
MW-1	10/23/2000	64-79	60.04
MW-2	10/24/2000	60.5-75.5	63.53
MW-3	10/24/2000	60.5-74.5	60.21
MW-4	5/6/2002	60.5-74.5	59.87
MW-5	5/8/2002	60.5-74.5	59.94
MW-6	5/7/2002	60.5-74.5	60.32
MW-7	5/7/2002	60.5-74.5	59.98
MW-8	5/9/2002	60.5-74.5	59.94

**Petroleum Hydrocarbon Constituent Concentration**

Contaminant	Soil (mg/kg)		Water (ug/L)		WQOs (ug/L)
	Maximum	Latest	Maximum	Latest (9/16/2009)	
TPHg	NA	NA	14,000	<50	5
TPHd	NA	NA	770	<50	56
Benzene	NA	NA	7,700	0.82	0.15
Toluene	NA	NA	84	1.0	42
Ethylbenzene	NA	NA	360	1.1	29
Xylenes	NA	NA	720	4.8	17
MTBE	NA	NA	12,000	350 (4/1/2010)	5
TBA	NA	NA	3,600	<5	12
1,2-DCA	NA	NA	<0.5	NA	0.4
Lead	NA	NA	NA	NA	15

NA Not Analyzed, Not Applicable or Data Not Available

WQO Water Quality Objectives

mg/kg - milligrams per kilogram, parts per million

ug/L - micrograms per liter, parts per billion

**Site Description**

The Site is on the northeast corner of Florin Road and Power Inn Avenue in Sacramento, California. The Site currently consists of a vacant building and yard.

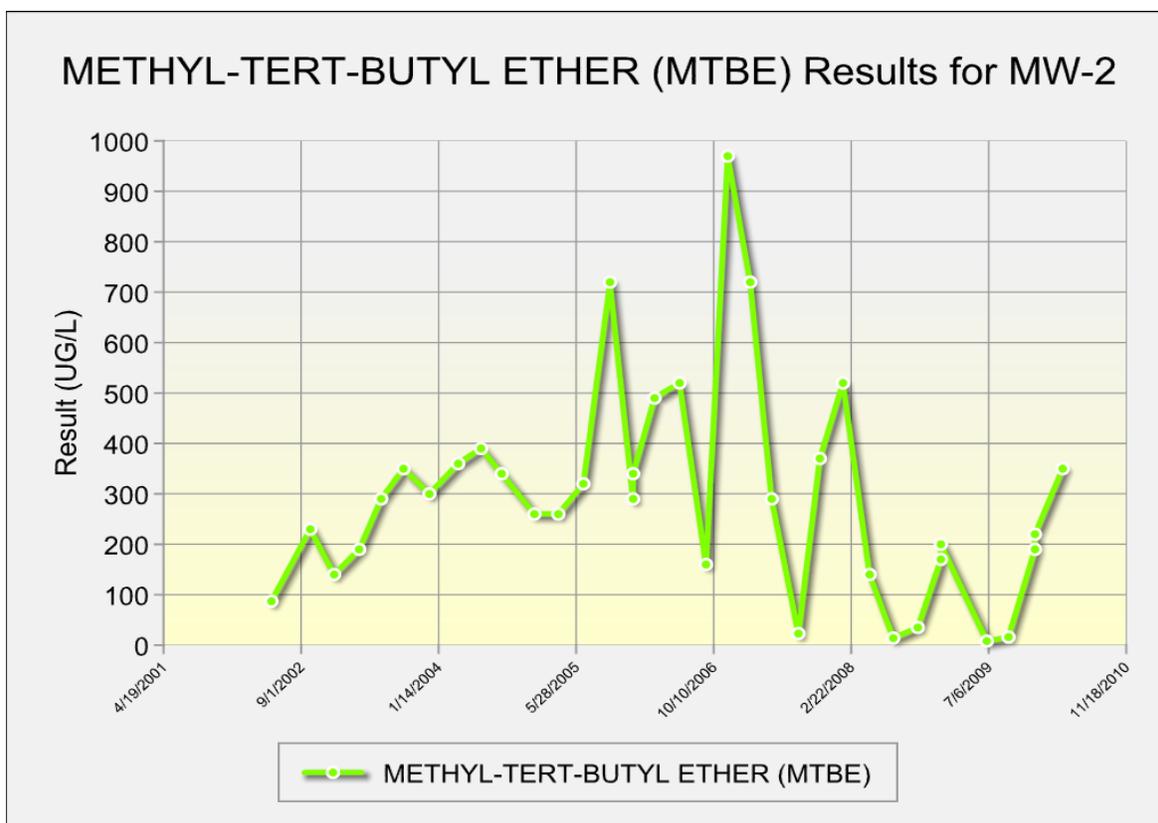
**Site History/Assessments:**

Petroleum hydrocarbons were detected in soil during the removal of three USTs and product piping in April 1999. Eight monitoring wells, installed from November 2000 through May 2002, have been monitored regularly since their installation. Soil vapor extraction was conducted from July 2006 through September 2007 and approximately 3,536 pounds of petroleum hydrocarbons was removed from the subsurface.

A Site map showing the location of former USTs, monitoring wells locations and the recent groundwater gradient is provided at the end of this case closure summary.

### Remediation Summary

- Free product: no free product has been documented throughout the life of this case.
- Soil excavation: an unknown volume of contaminated soil was excavated and removed from the site.
- In-situ soil remediation:
  - Method: soil vapor extraction (SVE)
  - Duration: July 2006 through September 2007
  - Mass removed: 3,536 pounds of TPHg
- Groundwater remediation: no active groundwater remediation has been conducted.
- Groundwater trends: The MTBE trend in MW-2 is shown below.



### General Site Conditions

- Geology and Hydrogeology: The Site is underlain by interbedded mixtures of sands and silts. Depth to groundwater varies seasonally between 59 and 77 feet bgs. The groundwater gradient is relatively flat and flows predominantly east/northeast at approximately 0.002 (ft/ft).

- Groundwater Impacts: Based upon most recent data, Water Quality Objectives (WQOs) have been achieved for all constituents of concern except MTBE and benzene, which barely exceeds the WQO of 0.15 ug/L. Conservative degradation calculations and trends analysis conducted by Fund staff using water quality data collected from MW-2 for the past 8 years found that water WQOs are expected to be achieved in MW-2 within 25 years.
- Estimate of Remaining Mass: Geocon estimates that 4,350 pounds of TPHg were present in the subsurface prior to active remediation and 814 pounds remain beneath the Site after soil vapor extraction.

### **Sensitive Receptor Survey**

Geocon conducted a Sensitive Receptor Survey (SRS) in 2010 that concluded "The SRS shows that the closest identified supply well is an offsite municipal well (Well 3) located approximately 300 feet northeast of the Site. The reported perforated interval for this well is from 170 to 290 feet bgs. which is approximately 100 feet deeper than the depth of the impacted groundwater beneath the Site. Additionally, no analytes have been reported greater than the laboratory reporting limit for the groundwater samples collected since monitoring of the supply well began in May 2002."

Water in the vicinity of the Site is provided to water users by the Florin County Water District.

### **Risk Evaluation**

Based on a Human Health Risk Assessment (HHRA) conducted by Geocon in 2010, the consultant made the following statements: "*The HHRA concluded there is not an excess risk to human health (specifically an excess cancer risk or a non-carcinogenic risk) under a residential or commercial land use scenario due to the presence of COCs in soil vapor.*"

Further, Geocon stated "*Soil vapor intrusion into the existing or a future building and dermal exposure pathways are incomplete, and therefore no human health risk exists at the Site*" (Geocon Consultants, Inc.; *Addendum-Closure Request Report*, June 4, 2010.)

### **Closure**

**Will 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, demolition of existing buildings, temporary closure of existing businesses and road closures. 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 MTBE 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**

Although the requisite level of water quality has not been met WQOs, the approximate time period in which the requisite level of water quality will be met is approximately 25 years. This is a reasonable period in which to meet the requisite level of water quality because the impacted shallow groundwater is not currently being used as a source of drinking water and it is highly unlikely that impacted shallow 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.

**Objections to Closure and Response**

SCEMD believes that it has not been satisfactorily demonstrated that the WQO for MTBE is likely to be met in MW-2 prior to beneficial use of the shallow groundwater because a post-remedial declining MTBE concentration trend cannot be demonstrated. In addition, SCEMD is concerned that a municipal supply well is located approximately 300 feet from MW-2 in the downgradient direction.

The Fund Manager disagrees that additional work is necessary at this Site and does not believe that the remaining residual petroleum hydrocarbons represent a significant risk to human health and safety, and the environment. Only one well, MW-2, contains MTBE and all other Site wells around MW-2 have reached WQOs. Evaluation of water quality data collected from MW-2 by Fund staff found that there is a declining MTBE concentration trend in MW-2. Degradation calculations and trends analysis conducted by Fund staff using water quality data collected from MW-2 for the past 8 years found that water quality objective for MTBE is expected to be achieved in MW-2 within 25 years. In addition, MW-1, located in the former tank pit and approximately 30 feet downgradient from MW-2 has also shown a significant post-remedial declining MTBE concentration trend, and is currently non-detect for all petroleum constituents. This demonstrates that the remaining MTBE in the groundwater is localized and stable to the vicinity of MW-2 and is not migrating downgradient. Similarly, MW-6, located approximately 160 feet downgradient and halfway between MW-2 and the nearest public supply well, has never had a detection of MTBE or any other petroleum constituent since groundwater monitoring began in 2002. In addition, the groundwater contamination remaining at this Site is found at approximately 60 to 80 feet bgs. The closest public supply well is perforated from 170 to 290 feet bgs and consequently is drawing water from a depth of 100 to 200 feet deeper than the depth of the detected MTBE in MW-2. This supply well has been sampled regularly since 2002 and no MTBE has ever been detected in the supply well. Water is provided to water users in the vicinity of the Site by the Florin County Water District.

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

**Summary and Conclusion**

Petroleum hydrocarbons were detected in soil during the removal of three USTs and product piping in April 1999. Eight monitoring wells were installed from November 2000 through May 2002 and have been monitored regularly since their installation. Soil vapor extraction was conducted from July 2006 through September 2007 and approximately 3,536 pounds of petroleum hydrocarbons were removed from the subsurface. To date, \$384,807 in corrective action costs have been reimbursed by the Fund. WQOs are likely to be achieved in 25 years. Water is provided to water users in the vicinity of the Site by the Florin County Water District. The remaining impacted groundwater is not currently being used as a source of drinking water or other beneficial uses and it is highly unlikely that the impacted shallow groundwater will be used as a source of drinking water or other beneficial use in the foreseeable future. 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.

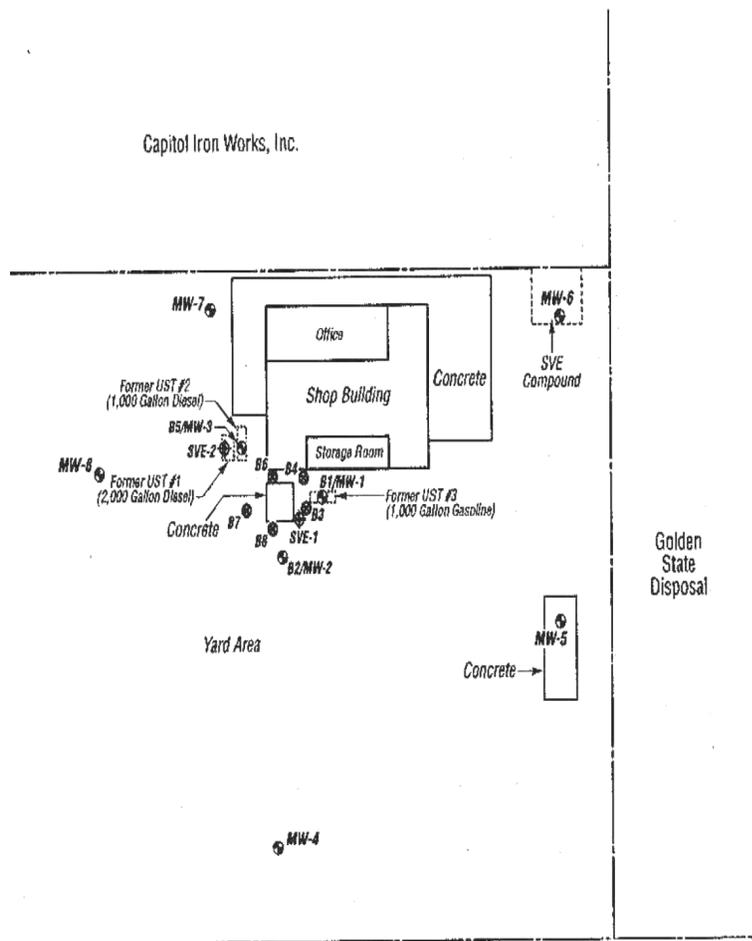
*John Russell*

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John Russell PG No. 8396

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August 2, 2010

Date

◆ ← Approximate Location of  
 Florin Water Works Well



LEGEND:

- MW-1 ◆ Approximate Monitoring Well Location
- BS ◆ Approximate Soil Boring Location
- SVE-1 ◆ Approximate Soil Vapor Extraction Well Location

Security Public Storage



**GEOCON**  
 CONSULTANTS, INC.

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Sacramento Valley Crane

7037 Power Inn Road  
 Sacramento, California

**SITE PLAN**

S8401-06-09

January 2010

Figure 2