State Water Resources Control Board

Division of Financial Assistance
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Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

EXHIBIT 3
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 4625 El Camino Avenue in Sacramento, California (Site).

Agency Information

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

Case Information

SCEMD Case No: D530	Global ID: T0606701048
Site Name: Silver Gas and Food	Site Address: 4625 El Camino Avenue Sacramento, CA 95828
Responsible Party: Sam Arman	Mailing Address: PO Box 935 Carmichael, CA 95609-0935
USTCF Claim No.: 14002	USTCF Expenditures to Date: $130,377
	Number of Years Open: 11 years

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active?	Date
T-1	8,000	Gasoline	Removed	Oct 98
T-2	8,000	Gasoline	Removed	Oct 98
T-3	8,000	Diesel	Removed	Oct 98
T-4	10,000	Gasoline	Active	-
T-5	10,000	Gasoline	Active	-

Release Information

- Source of Release: UST system, largely from a product line leak
- Date of Release: October 8, 1998, discovered during tank pull
- 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, surrounded by residential.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are two public supply wells within ½ mile of the Site. Wells are located 1,831 feet, and 2,449 feet from the Site.

- Minimum Groundwater Depth: 107.92 feet below ground surface (bgs) at monitoring well MW-2
- Maximum Groundwater Depth: 113.94 feet bgs at monitoring well MW-4
- Flow Direction: Based on groundwater elevations measured on 25 June 2008, the groundwater flow direction is westerly at an average gradient of 0.002 feet per foot (ft/ft)
- Soil Types: The Site is underlain from 20 to 35 feet bgs by clayey to silty fine sand, and silty to sandy clay; from 35 to 75 feet bgs soil is described as silty fine sand with localized sandy clay; from 75 to 95 feet bgs soil is described as moist silty clay; from 95 to 120 feet bgs soil is described as clayey to silty sand; and from 120 to 130 feet bgs soil is described as clayey silt/silty clay.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Most Recent Depth to Groundwater (feet bgs) (July 2008)
MW-1	Oct 00	110-130	109.47
MW-2	Oct 00	110-130	108.55
MW-3	Oct 00	110-130	109.56
MW-4	Oct 00	110-130	109.30

Petroleum Hydrocarbon Constituent Concentration

Contaminant	Soil (mg/kg)		Water (ug/L)		WQOs (ug/L)
	Maximum	Latest 10/2000	Maximum	Latest (Nov 08)	
TPHg	14,000	<1.0	1,100	<50	5
TPHd	51,000	4.7	97	NA	56
Benzene	40	0.074	23	<0.5	0.15
Toluene	250	0.11	58	<0.5	42
Ethylbenzene	140	0.015	14	<0.5	29
Xylenes	750	0.039	213	<0.6	17
MTBE	230,000	<5.0	16	<1	5
TBA	2,600	<25	26	<0.5	12
1,2-DCA	<5,000	<5.0	<1.0	NA	0.4
Lead	20	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 located on the northwest corner of El Camino Avenue and Mission Avenue in Sacramento, California. The site is currently operated as a retail gasoline station and mini market. The fueling station utilizes two 10,000 gallon USTs and two dispenser islands.

Site History/Assessments
On October 8, 1998, during the removal of three USTs and product piping, petroleum hydrocarbons were detected in soil and groundwater. Four monitoring wells were installed in October 2000, which have been monitored regularly since their installation, though no data has been collected since November 2008. A Site map showing the location of current and 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: no in-situ soil remediation has been conducted.
- Groundwater remediation: No active groundwater remediation has been conducted.

General Site Conditions
- Geology and Hydrogeology: The Site is underlain by interbedded mixtures of silt and clay with sand and silt to the total depth explored of 130 bgs. Depth to groundwater varies seasonally between 108 and 114 feet bgs. The groundwater direction has principally been westerly, at a gradient of 0.002 ft/ft.
- Estimate of Remaining Mass: Based on 1998, 1999, and 2000 analytical soil results, the following residual mass estimates were calculated by the responsible party's consultant: approximately 1,675 pounds of TPHg, 1,475 pounds of TPHd, and 4,095 pounds of MTBE were present in the soil.

Sensitive Receptor Survey
A Sensitive Receptor Survey conducted by Advanced GeoEnvironmental, Inc. (AGE) included a records search at the Department of Water Resources and an on-the-ground survey in the area. A total of five wells, two municipal wells and three domestic, were identified. These wells were located between 1,800 and 2,500 feet from the Site.

Risk Evaluation
Based on a human health risk assessment conducted by AGE in 2007, the consultant made the following statements: *"At the request of the Sacramento County Environmental Management Department (EMD), AGE utilized RISC Workbench 4 (RISC), a commercial risk assessment and fate and transport software, to assess potential impacts to indoor air in the Site's northeastern building, located adjacent to the north edge of the former UST excavation, by petroleum hydrocarbon-contaminated soil (Appendix E). No significant risk was documented at the Silver Gas and Food Site."*

Further, AGE stated, "Based on the results of the Johnson and Ettinger Indoor Air model, the health hazard *at a commercial Site from any intrusion of subsurface petroleum-impacted soil vapor is within the acceptable Cal EPA hazard quotient of 1.0, as well as the SFBRWQCB' s hazard quotient of 0.2.*

This model was based upon a theoretical building located directly over the contaminant plume.. Since the contaminant plume does not appear to extend beneath any of the buildings on-site,

the possibility of soil-vapor intrusion is minimal and should be generally discounted as a risk at the Silver Gas and Food Site." (AGE; Closure Summary Report Addendum; May 7, 2007).

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 contributing 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 TPHg 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 SWRCB 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? Yes, with the possible exception of benzene and TPHg. TPHg was not detected above the reporting limit of 50 ug/L. The WQO for TPHg of 5 ug/L will be met within a reasonable period of time, if it is not currently met. Similarly, benzene was not detected above the reporting limit 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 objects to UST case closure because a soil vapor survey and associated human health risk assessment has not been conducted as directed.

The Fund Manager disagrees that additional work is necessary at this Site and does not believe that the residual petroleum hydrocarbons at this Site represent a significant risk to human health and safety and the environment. The Responsible Party/Claimant, through his consultant, has conducted a risk assessment, which concluded that no significant risk for soil-vapor intrusion from residual hydrocarbons currently exists. The Fund Manager concurs with this conclusion and finds that a soil vapor survey is not warranted given the facts and circumstances of this case. Water Quality Objectives have been achieved for all petroleum constituents with the possible exception of TPH-g and benzene. These constituents were not detected at reporting limits as explained above.

Applicable water quality objectives for these constituents will be achieved within a reasonable period of time if they are not already met. In addition, there are no domestic or public water supply wells within 1,800 feet of the Site. Water is provided to water users in the vicinity of the Site by the Sacramento Suburban Water District.

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

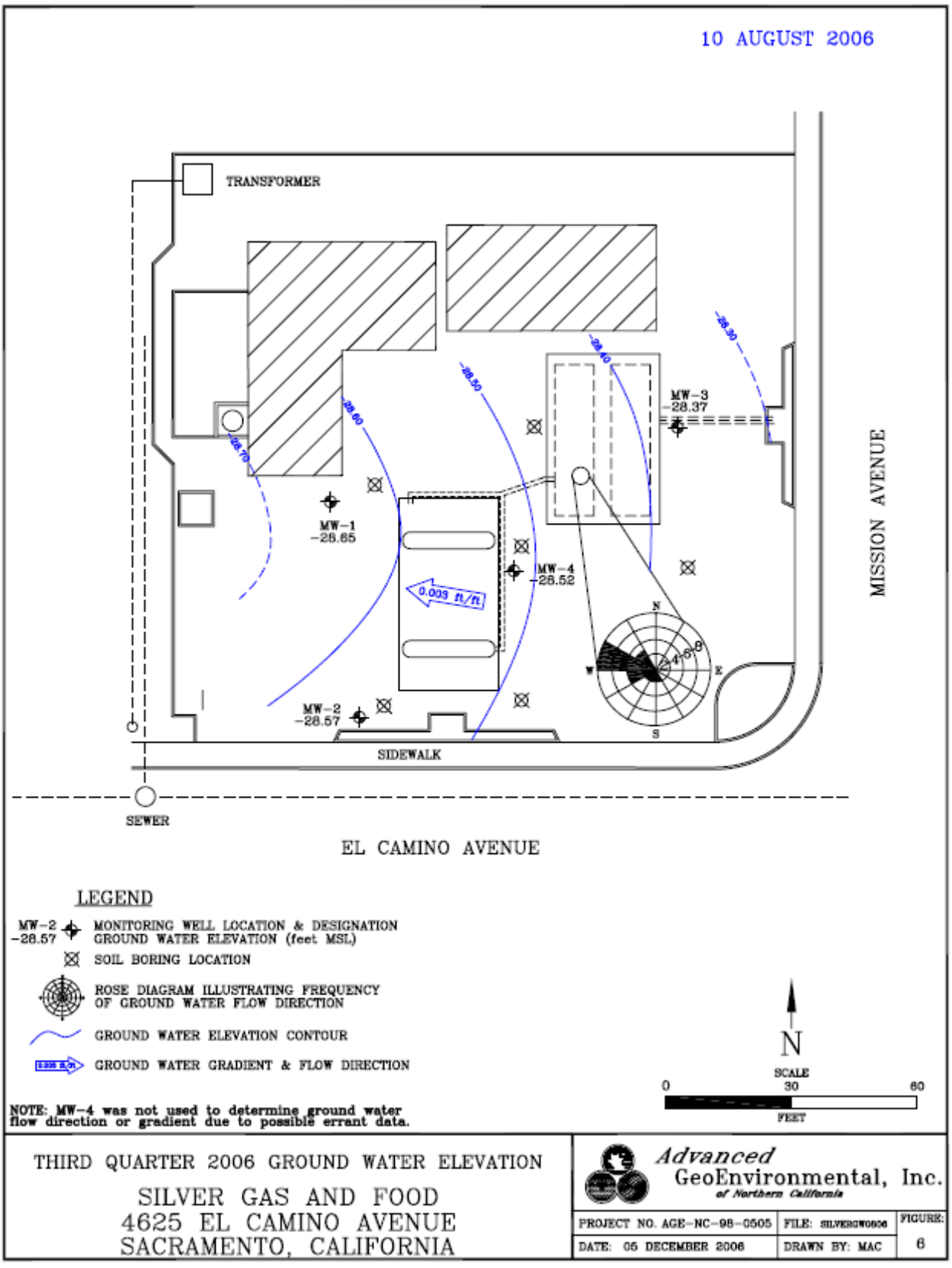
Summary and Conclusion

On October 8, 1998, during the removal of three USTs and product piping, petroleum hydrocarbons were detected in soil and groundwater. Four monitoring wells were installed in October 2000, which have been monitored regularly since their installation, though no data has been collected since November 2008. The Site is currently a retail gasoline service station and mini market. To date, $130,377 in corrective action costs have been reimbursed by the Fund. Water Quality Objectives at this Site have been achieved, with the possible exception of benzene and TPHg, as explained above. The nearest sensitive receptors, three domestic water wells and three public supply wells, are located more than 1,800 feet from the Site. Water is provided to water users in the vicinity of the Site by the Sacramento Suburban Water District. Finally, any impacted groundwater is not currently being used as a source of drinking water or other beneficial uses. 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. 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

August 2, 2010
Date


10 AUGUST 2006
TRANSFORMER
MW-1
-26.65
MW-2
-28.57
MW-3
-28.37
MW-4
-26.52
-28.30
-28.40
-28.50
-28.60
-28.70
0.003 ft/ft
N
E
S
W
SIDEWALK
SEWER
MISSION AVENUE
EL CAMINO AVENUE
LEGEND
MW-2 -28.57 MONITORING WELL LOCATION & DESIGNATION GROUND WATER ELEVATION (feet MSL)
SOIL BORING LOCATION
ROSE DIAGRAM ILLUSTRATING FREQUENCY OF GROUND WATER FLOW DIRECTION
GROUND WATER ELEVATION CONTOUR
0.003 ft/ft GROUND WATER GRADIENT & FLOW DIRECTION
NOTE: MW-4 was not used to determine ground water flow direction or gradient due to possible errant data.
N
SCALE
0
30
60
FEET
THIRD QUARTER 2006 GROUND WATER ELEVATION
SILVER GAS AND FOOD
4625 EL CAMINO AVENUE
SACRAMENTO, CALIFORNIA
Advanced GeoEnvironmental, Inc.
of Northern California
PROJECT NO. AGE-NC-98-0505
FILE: SILVERGW0606
FIGURE: 6
DATE: 05 DECEMBER 2006
DRAWN BY: MAC