

## State Water Resources Control Board

### 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 17340 Calle Real, Gaviota, CA (Site).

#### Agency Information

Agency: County of Santa Barbara Fire Department (County)	Address: 4410 Cathedral Oaks Road, Santa Barbara, CA 93110
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#### Case Information

Lead Agency Case No: 50414	Global ID: T0608300181
Site Name: Gaviota Village	Site Address: 17340 Calle Real, Gaviota, CA 93117
Responsible Party: The Trust for Public Land, Assignee: Polly Powell	Address: 116 New Montgomery, San Francisco, CA 94105
USTCF Claim No. 2990	Number of Years Case Open: 22
USTCF Expenditures to Date: \$566,387	

URL: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0608300181](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608300181)

#### Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active?	Date
1	10,000	Gasoline	Removed	June-July 1989
2	10,000	Gasoline	Removed	June-July 1989
3	10,000	Gasoline	Removed	June-July 1989
4	NA	Diesel	Removed	June-July 1989
5	NA	Waste Oil	Removed	June-July 1989

NA – Data not available in the files reviewed

### Summary

A leak was identified in 1989 during station closure. Since 1989, a total of 8,152 cubic yards of contaminated soil have been excavated. According to groundwater data, water quality objectives have been achieved on Site. Monitoring wells MW-14, MW-15, MW-16 and MW-23 drilled off site in the center median and adjacent to Highway US101, contain dissolved TPHg, benzene, toluene, ethylbenzene, and MTBE believed to be from other sources. To date, \$566,387 in corrective action costs have been reimbursed by the Fund. The nearest water supply wells are more than 5,000 feet from the Site. Any impacted groundwater is not currently being used as a source of drinking water or other beneficial use due to insufficient quality and quantity. Drinking water is provided to water users near the Site by the Chevron petroleum de-watering desalination plant south of the Site. 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.

### Objections to Closure and Response

The County objects to UST case closure for this case because of the perceived extent of the petroleum hydrocarbon plume (See Figure).

The Fund Manager does not believe that any potential residual petroleum hydrocarbons at this Site represent a significant risk to human health, safety, or the environment. Petroleum hydrocarbons found off site are a result of off-Site current and past activities. As a result of over excavation of 8,152 cubic yards of impacted soil, recovery of minor amounts of excavation water and free product, there is little residual petroleum hydrocarbon in soil at the Site. Drinking water in the vicinity of the Site is provided to water users by the Chevron petroleum de-watering desalination plant.

### Release Information

- Source of Release: USTs
- Date of Release: Reported 6/29/1989
- Affected Media: Groundwater

### Site Information

- GW Basin: Not groundwater basin specified by the Department of Water Resources
- Watershed: South Coast - Arguello
- Beneficial Uses: Agricultural, Industrial Process, Industrial Service, Municipal and Domestic Supply. Note: Local groundwater does not exist in sufficient quantity or quality to serve any beneficial use. Well yields are very low; shallow groundwater (when found) contains elevated concentrations of total dissolved solids and, at depth, hydrogen sulfide. As a result, the Site has historically relied on a surface water seep to provide a limited supply. The seep is located in a drainage uphill and approximately ¼ mile to the northeast of the Site.
- Land Use Designation: Vacant (Open space)
- Minimum Groundwater Depth: 4.08 feet below ground surface (bgs) in well MW-24
- Maximum Groundwater Depth: 42.79 feet bgs in well MW-19
- Distance to Nearest Supply Well (Municipal or Domestic): There are no public supply wells regulated by the California Department of Public Health (CDPH) within ½ mile of this Site.
- Flow Direction: Groundwater flows southeast.
- Soil Types: Approximately 30 to 35 feet of silty-sands and clayey-sands overlie laterally continuous, very low permeability shale. The thickness of the shale is in excess of 100 feet as demonstrated by a 125-foot deep boring and four refraction seismic lines.
- Maximum Depth Sampled: 45 feet bgs

**Monitoring Well Information**

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth To Water (feet bgs) 4/14/2011
MW-3	NA	35-40	27.00
MW-4	NA	35-40	Abandoned
MW-5	NA	36-41	Dry
MW-14	NA	39-44	NM
MW-15	NA	35-40	NM
MW-16	NA	28-33	NM
MW-19	NA	55-70	42.79
MW-21	NA	20-30	Abandoned
MW-22	NA	20-35	34.55*
MW-23	NA	20-35	11.34
MW-24	NA	24.5-29.5	4.08
MW-25	NA	25-30	30.38*

\* Measurement assumed to be condensation at bottom of well because they are deeper than the screened interval.

NA: Data not available  
NM: Not Measured

**Petroleum Hydrocarbon Constituent Concentration**

Contaminant	Soil (mg/kg)		Water (µg/L)		WQOs (µg/L)
	Maximum April	Latest (April 1995)	Maximum	Latest July 2009	
TPH-g	9600	ND	484,000	<5 (MW-16)	1,000
Benzene	260	ND	41,000	<0.5 (MW-16)	1
Toluene	130	ND	2,870,000	<0.5(MW-16)	150
Ethylbenzene	240	ND	1,830,000	<0.5(MW-16)	300
Xylenes	210	ND	10,900,000	<0.5 (MW-16)	1,750
MTBE	NA	ND	200	200	5
TBA	NA	NA	11	11 (MW-16)	1,200 <sup>a</sup>

<sup>a</sup> CDPH, Response Level.

WQOs: Water Quality Objectives, as stated in the Basin Plan adopted by the Central Coast Regional Board.

NA: Not Analyzed, Not Applicable or Data Not Available

ND: Not detected

NL: Not listed

mg/kg: milligrams per kilogram, parts per million

ug/L: micrograms per liter, parts per billion

Note: On April 14, 2011, at the direction of the LOP, the claimant's consultant sampled one well (MW-23) located approximately 800 feet downgradient, across US-101 and adjacent to the US-1-1 shoulder. The laboratory results from this sampling event identified the highest levels of petroleum hydrocarbons is several years.

### **Site Description**

The Site is a former gasoline station/restaurant that served travelers along US Highway 101. In 1989, the Station ceased operation and assessment/remedial actions commenced. The Site is approximately 11.4 acres, with 900 feet of frontage on US-101 and is approximately 4 miles south of Las Cruces, CA. Across US-101 approximately 1,000 feet south of the Site is the Pacific Ocean. A parking lot operated by the Gaviota State Park provides beach access approximately one mile west of the Site on US-101..

A Chevron crude oil receiving station operates approximately 2,500 east of the Site. The Santa Barbara County Fire Protection District operates a Fire Station approximately 1,000 feet north of the Site.

Petroleum hydrocarbon sources unrelated to the Site are found in the area. These natural crude oil seep(s) in the area historically mined by Native Americans; a crude oil receiving and pump station for incoming oil from ocean-going barges on the parcel across US 101 (south) of the Site, runoff from highway US 101; and numerous automobile accidents as reported by the California Highway Patrol on US-101 adjacent to the Site that may have resulted in petroleum releases.

The area surrounding the Site is open undeveloped land. The Trust for Public Lands recently acquired the property from Pacific Seaview, LLC. The planned future use of the Site and the surrounding area is undeveloped open space. The Trust for Public Lands has assumed all responsibilities for the Site, including future monitoring and any remedial actions.

### **Site Assessments**

The Site operated as a service station/restaurant between the early 1930's through 1989. The Site was a rest area and scenic vista spot due to its location and proximity to the Pacific Ocean. During the summer of 1989 all USTs, piping, and associated pumps were removed; the station building was destroyed; impacted soil was excavated; and free product/groundwater were extracted and recycled.

Multiple assessments have resulted in the installation of as many as 25 monitoring wells and collection of numerous soil samples from borings and grab samples from the excavation. Groundwater monitoring has been erratic, starting in approximately 1992.

The land south of the Site and extending across US-101 to the Pacific Ocean was used (between the early 1920's and 1980) as a receiving dock/storage area/pipeline right-of-way to unload crude oil being brought onshore by barges/ships. The facility was decommissioned around 1980 and restored to undeveloped open space. Off-site monitoring wells MW-23 and MW-24 are located down slope from this former facility. In addition, well MW-23 is adjacent to the shoulder of US-101.

### **Remediation Summary**

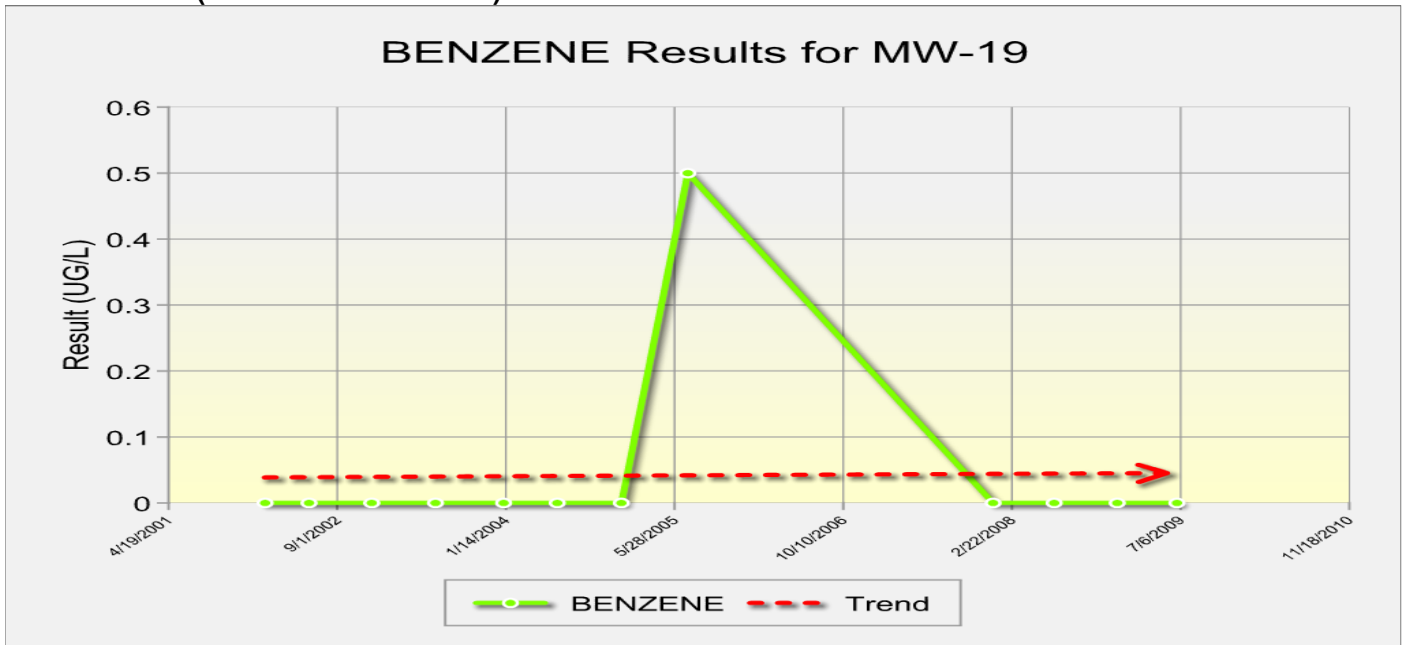
- Free Product Recovery: A free product removal system began operation on April 16, 1991, and continued through February 1993. A total of 4,050 gallons of gasoline and groundwater was pumped and subsequently recycled off Site.
- Soil Excavation: Between March and July 1990, 652 cubic yards of impacted soil was excavated and aerated on the Site under the supervision of the County.
- Between April and May 1995, a total of 7,500 cubic yards of impacted soil was excavated and treated on Site using enhanced bioremediation. By August 1995, the final confirmation sampling found that acceptable remediation had been achieved and the soil was used to refill the excavation with the approval of the County.

- Groundwater Remediation: A total of 4,050 gallons of free product/excavation water was collected and disposed. Currently, natural biodegradation processes are attenuating the remaining dissolved mass in the shallow affected zone.

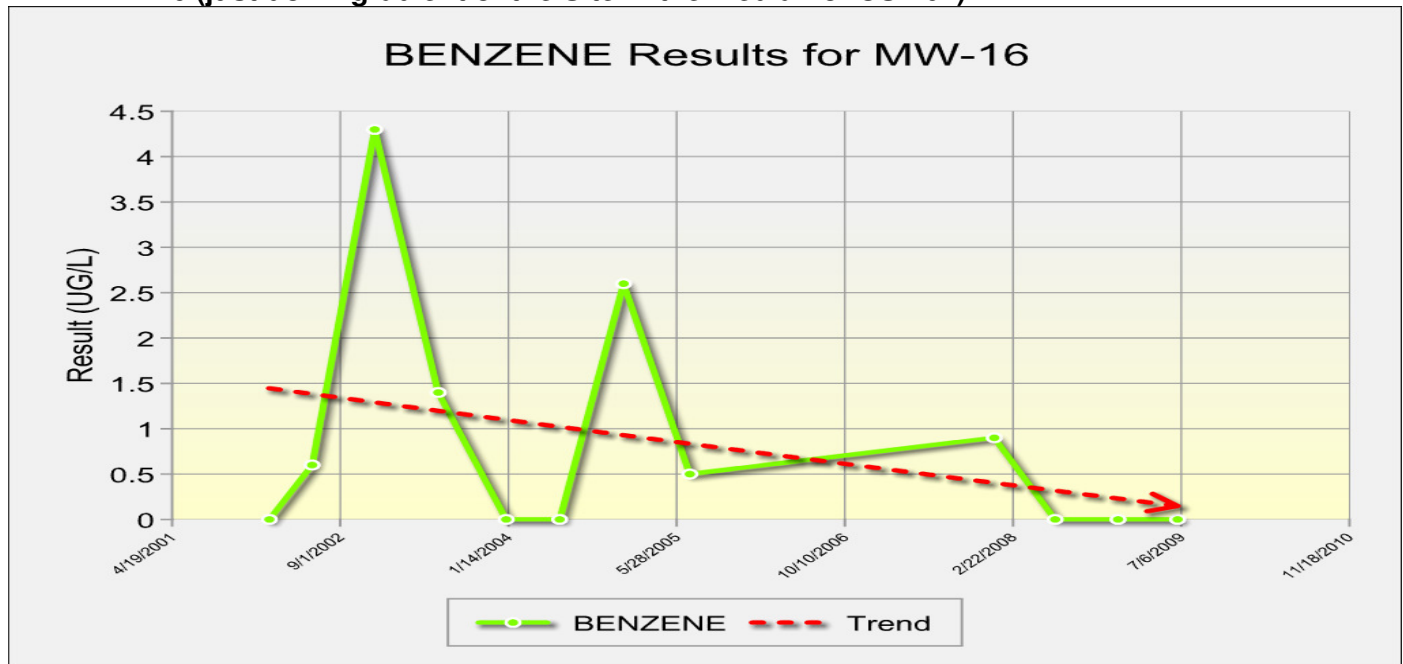
### **General Site Conditions**

- Geology and Hydrogeology: Soil beneath the site is approximately 20 feet thick overlying nearly vertically-dipping metamorphic rocks. Insufficient water is present to sample all monitoring wells at any one sampling event. A seasonal adjacent creek has experienced more than 100 years of historical mining of naturally occurring crude oil that seeps to the surface from underlying rocks. Several test holes have been drilled without finding sufficient groundwater in the area to complete as drinking water wells.
- Estimate of Hydrocarbon Mass in Soil: The claimant's consultant has provided a total petroleum hydrocarbon mass removal calculation that estimates that 99 percent of the contamination has been removed from the soil and no other sources remain at the Site. Adjacent to the Site, there are other unrelated sources for petroleum hydrocarbons.
- Groundwater Trends: The graphs below present historic TPH-g concentrations for wells MW-19 (near the source area) and MW-16 just down gradient of the Site in the median of US-101.
- Off-Site Well: Well MW-23 is adjacent to the former offshore oil receiving dock and just off US-101 shoulder. MW-23 was sampled once in April 2011, following an extremely wet winter at the request of the County. This event identified high detections of petroleum hydrocarbons. Because of the location of MW-23, it is unlikely that the recent detections of petroleum hydrocarbons in this monitoring well are associated with the former Gaviota Village Site USTs.
- Water Quality Objectives (WQO's): WQO's have been met on the Site. However, concentrations of petroleum hydrocarbons detected in well MW-23 during the March 2011 sampling event and wells MW-14, MW-15 and MW-16 in previous sampling events these detection are not likely related to the residual hydrocarbons from the USTs on Site.

**MW-19 (near the source area)**



**MW-16 (just down gradient of the Site in the median of US-101)**



**Sensitive Receptor Survey:** A review of CDPH data in GeoTracker did not identify any public water supply wells (PSW) within a 2,000 foot radius of the Site. Drinking water is supplied to the County Fire Station by a nearby Chevron plant that dewateres oil and gas being brought ashore from offshore production prior to being shipped to refineries. The recovered water is treated for use as drinking water.

**Risk Evaluation:** Exposure to residual petroleum hydrocarbons at this Site will be limited. No surface waters are present in the immediate area. The only drinking water needs in the area are the Chevron plant and the Santa Barbara Fire Station are provided treated water from the Chevron plant. The Site structures have been removed so there is no vapor intrusion risk. The Site has been recently been acquired by the Trust for Public Lands, that plans to keep the land as undeveloped open space.

## **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 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 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 WQOs 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 no groundwater supply wells exist, the lack of adequate volume of groundwater, the current and potential future uses of groundwater in the area, 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**

The WQOs with respect to fuel hydrocarbons appear to have been achieved on Site. In off-Site wells dissolved petroleum hydrocarbons exist and based on historic degradation rates the WQO of TPH and MTBE should be met within two decades. It is also likely that the Site is not the source for the hydrocarbons in the off-Site wells.

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. Water users (Chevron and the Fire Department) are currently connected to the Chevron desalination plant which supplies potable water to these two users. 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.

**Conclusion**

Based on available information, the existing groundwater is of poor quality and very limited quantity. Therefore, any remaining residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, and the environment. The Fund Manager recommends that the case be closed. The Fund is conducting the required public notification and the County has the regulatory responsibility to supervise the abandonment of monitoring wells.

ORIGINAL SIGNED BY

February 28, 2012

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Lisa Babcock PG 3939, CEG 1235

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Date



[REGULATIONS HOME](#) | [LINK TO THIS MAP](#)

## GEOTRACKER

SIGNIFIES A CLOSED SITE

Leaking Underground Tank (LUST) Cleanup Sites

Other Cleanup Sites

Land Disposal Sites

Military Sites

WADR Sites

Permitted Underground Storage Tank (UST) Facilities

CDPH Wells

Monitoring Wells \*

DTSC Cleanup Sites

DTSC Haz Waste Permit

CLEANUP STATUS FILTER

All Cleanup Statuses

MAP SIZE

640x480

OPTIONS

Site List - EXPORT TO EXCEL

**2 Sites**

*Well Locations from GeoTracker.*

**SITE LIST**