State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Sacramento County Environmental Management Department (County)	Address: 10590 Armstrong Avenue, Mather, CA 95655
Agency Caseworker: Sue Erikson	Case No.: G020/RO0001508

Case Information

USTCF Claim No.: 17600	Global ID: T0606702751
Site Name: Fair Oaks Car Wash	Site Address: 4350 Sunrise Blvd., Fair Oaks, CA 92628
Responsible Party: Fair Oaks Car Wash, LLC	Address: 2688 West Imperial Boulevard, Inglewood, CA 90303
USTCF Expenditures to Date: $171,803	Number of Years Case Open: 9

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606702751

Summary

The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This case meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Case Information (Conceptual Site Model).** Highlights of the case follow:

An unauthorized leak was reported in December 2002 following the removal of three USTs. Approximately 900 cubic yards of impacted soil were removed and disposed off-site in 2003. According to groundwater data, water quality objectives have nearly been achieved for all constituents except methyl tert-butyl ether (MTBE).

The petroleum release is limited to the shallow soil and groundwater. According to data available in GeoTracker, there are no California Department of Public Health regulated supply wells or surface water bodies within 1,000 feet of the defined plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by the Fair Oaks Water District. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected groundwater will be used as a source of drinking water in the foreseeable future. Other designated beneficial uses of impacted groundwater are not threatened and it is highly unlikely that they will be considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited, stable and concentrations declining. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose a significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria: The case meets all Policy eight general criteria.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 2. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 3,000 µg/L and the dissolved concentration of MTBE is less than 1,000 µg/L.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 3. The maximum benzene concentration is less than 100 µg/L. The minimum depth to groundwater is greater than 5 feet, overlain by soil containing less than 100 mg/kg of TPH.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial land use and the concentration limits for a Utility Worker are not exceeded. There are no soil sample 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the 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.

Objections to Closure and Responses

The County objects to UST case closure because there was no established declining trend. Water quality objectives projection couldn't be made at the time.

RESPONSE: There are sufficient monitoring data to demonstrate a declining trend for the MTBE plume. All other petroleum constituents have achieved or nearly achieved their water quality objectives. This Case meets all Policy criteria.

Determination

Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification. Sacramento County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock — 3/22/13

Lisa Babcock, P.G. 3939, C.E.G. 1235 — **Date**

Prepared by: James Young, P.E.

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

The case complies with the State Water Resources Control 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 case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

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 site 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 case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
General Criteria General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☐ Yes ☐ No ☒ NA
Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.

Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No
Nuisance as defined by Water Code section 13050 does not exist at the site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites? If YES, check applicable class: ☐ **1** ☒ **2** ☐ **3** ☐ **4** ☐ **5**	☒ Yes ☐ No ☐ NA
For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.	
Is the site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.	☐ Yes ☒ No
a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: ☐ **1** ☐ **2** ☒ **3** ☐ **4**	☒Yes ☐ No ☐ NA

b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?	☐ Yes ☐ No ☒ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: The site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☒ Yes ☐ No ☐ NA
b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA

ATTACHMENT 2: SUMMARY OF BASIC CASE INFORMATION (Conceptual Site Model)

Site Location/History

- The Site is located at 4350 Sunrise Boulevard in Fair Oaks and is an active car wash.
- The Site is bounded by businesses across Sunrise Boulevard to the west, businesses and residences across Winding Way to the north and northeast, and residences across Entrance Street to the south. The surrounding land use is mixed residential and commercial.
- Five monitoring wells reside onsite. Two wells, AMW-6 and AMW-7, were installed by the former UST operator prior to 2005. These wells have not been sampled according to GeoTracker.
- A Site map showing the location of the former USTs, monitoring wells, and groundwater level contours is provided at the end of this closure review summary.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: December 5, 2002.
- Status of Release: USTs removed.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	10,000	Gasoline	Removed	December 2002
2	8,000	Gasoline	Removed	December 2002
3	8,000	Gasoline	Removed	December 2002

Receptors

- GW Basin: Sacramento Valley - North American.
- Beneficial Uses: Municipal and Domestic Supply.
- Land Use Designation: Aerial photos show the site is commercial surrounded by mixed commercial/residential.
- Public Water System: Fair Oaks Water District.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there is no California Department of Public Health regulated water supply well within 1,000 feet of the defined plume boundary. The nearest public supply well is located 1,936 feet west-southwest from the site. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by inter-bedded and intermixed sand, silt and clay.
- Maximum Sample Depth: 20 feet below ground surface (bgs).
- Minimum Groundwater Depth: 5.38 feet bgs at monitoring well MW-2.
- Maximum Groundwater Depth: 13.54 feet bgs at monitoring well AMW-7.
- Current Average Depth to Groundwater: Approximately 9 feet bgs.
- Saturated Zones(s) Studied: Approximately 5 - 20 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Predominately to the west-northwest with a gradient from 0.06 to 0.08 foot/foot.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (June 2010)
MW-1	August 2005	5-20	10.44
MW-2	December 2005	5-20	5.38
MW-3	December 2005	5-20	9.66
AMW-6	Not available	Not available	5.56
AMW-7	Not available	Not available	12.46

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Approximately 900 cubic yards of impacted soil were removed and disposed off-site in 2003. Excavation continued to a depth of 15 feet.
- In-Situ Soil/Groundwater Remediation: None reported.

Most Recent Concentrations of Petroleum Constituents in Soil*

Constituent	Maximum 0-5 feet bgs [mg/kg and (date)]	Maximum 5-10 feet bgs [mg/kg and (date)]
Benzene	Clean fill (2003)	<0.005 (01/13/2003)
Ethylbenzene	Clean fill (2003)	0.0055 (01/13/2003)
Naphthalene	NA	NA
PAHs	NA	NA

NA: Not Analyzed, Not Applicable or Data Not Available
mg/kg: Milligrams per kilogram, parts per million
<: Not detected at or above stated reporting limit
PAHs: Polycyclic aromatic hydrocarbons
* Excavation was conducted to a depth 15 feet bgs and contaminated soil was removed to the maximum extent possible. Clean material was backfilled in the excavation.

Most Recent Concentrations of Petroleum Constituents in Groundwater

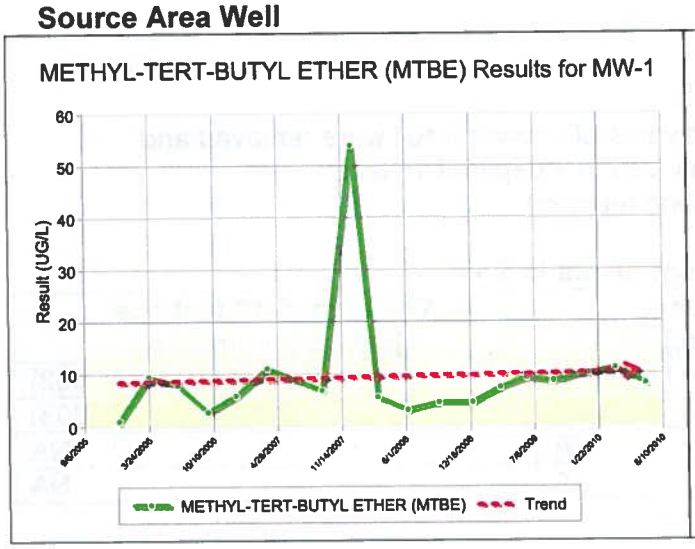
Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	12/20/05	**69.9**	**<0.5**	<0.5	<0.5	<1	**8.1***	<5
MW-2	12/20/05	**<50**	**<0.5**	<0.5	<0.5	<1	<0.5*	<50
MW-3	12/20/05	**65.4**	**<0.5**	<0.5	<0.5	<1	**74.4***	<50
WQOs	-	**5**	**0.15**	**42**	**29**	**17**	**5**	**1,200[a]**

NA: Not Analyzed, Not Applicable or Data Not Available
µg/L: Micrograms per liter, parts per billion
<: Not detected at or above stated reporting limit
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tert-butyl ether
TBA: Tert-butyl alcohol
WQOs: Water Quality Objectives, Region 5 Basin Plan
[a]: California Department of Health Services drinking water action level
*Sampled on 06/17/2010.

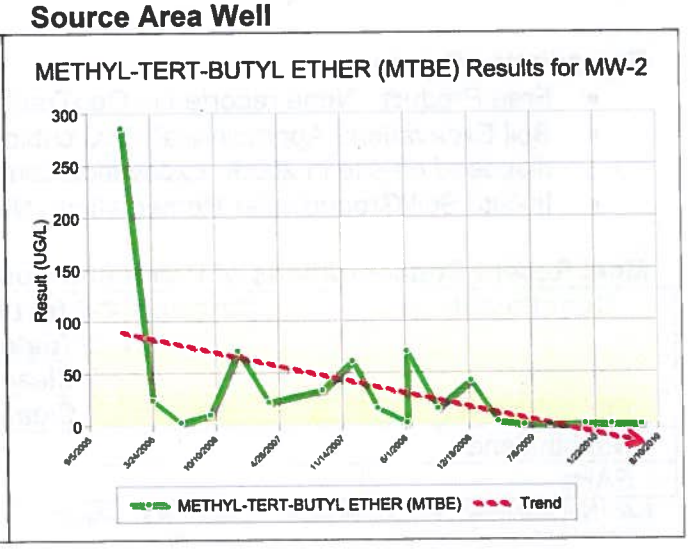
Groundwater Trends:

- There are more than 5 years of groundwater monitoring data for this Site. MTBE trends are shown below: Source Area (MW-1 and MW-2) and Downgradient/Crossgradient (MW-3).

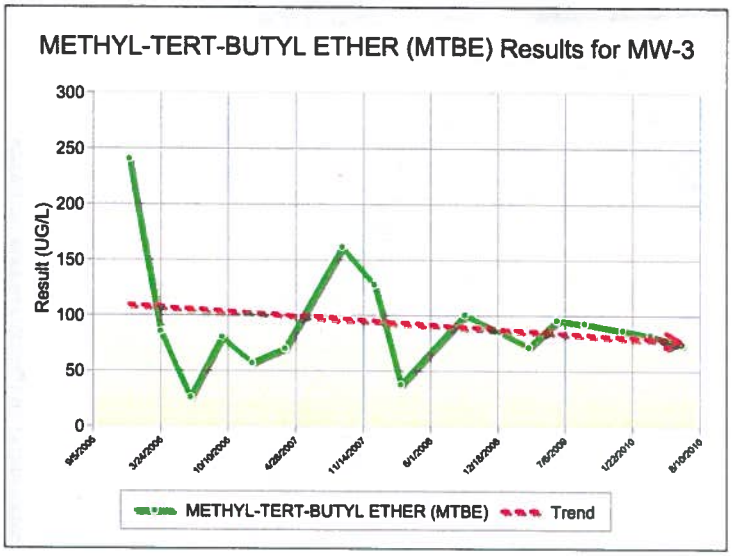
Source Area Well



Source Area Well

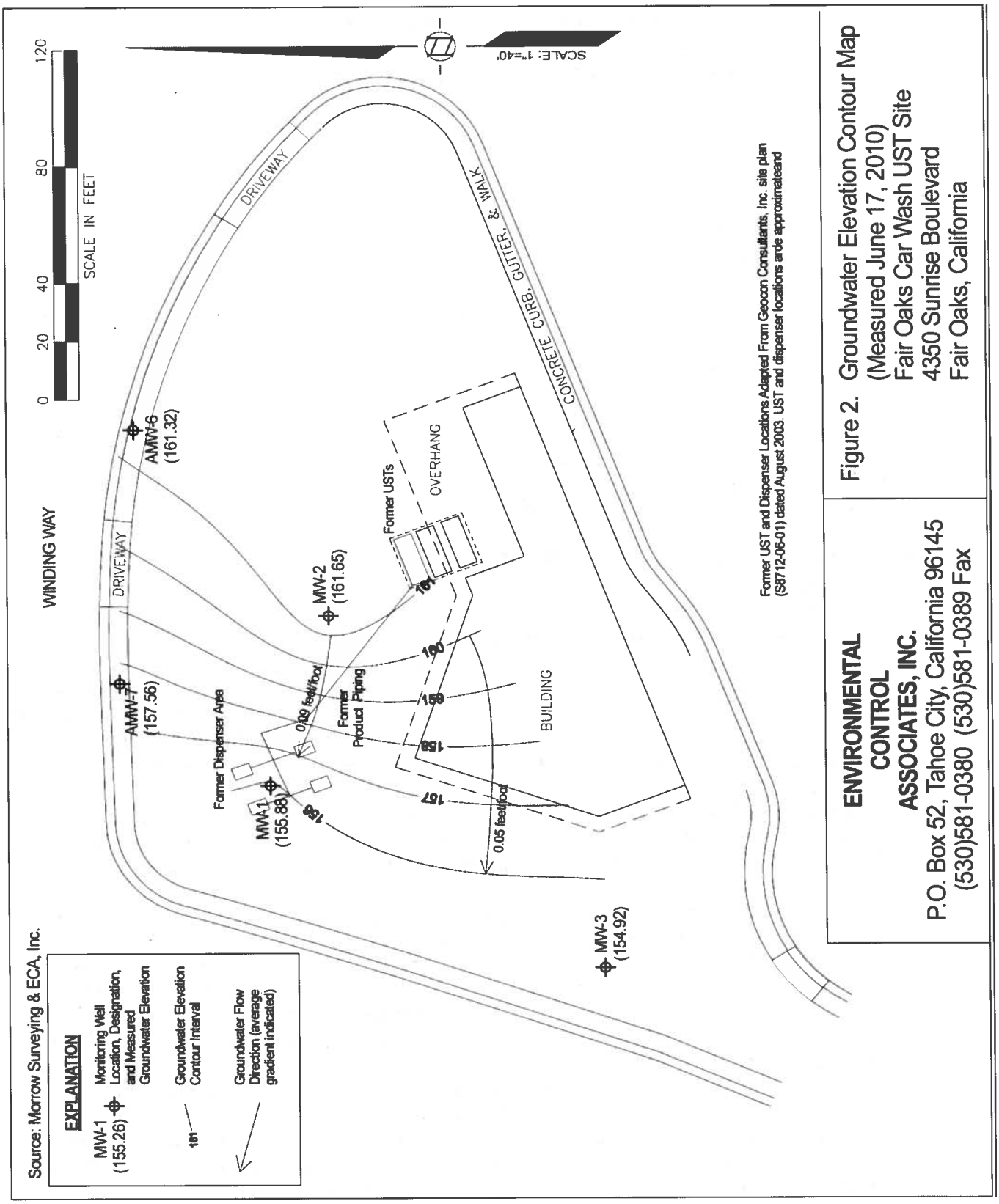


Downgradient/Crossgradient Well



Evaluation of Current Risks

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <250 feet long.
- Plume Stable or Degrading: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 2. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. The dissolved concentration of benzene is less than 3,000 µg/L and the dissolved concentration of MTBE is less than 1,000 µg/L.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 2a by Scenario 3. The maximum benzene concentration is less than 100 µg/L. The minimum depth to groundwater is greater than 5 feet, overlain by soil containing less than 100 mg/kg of TPH.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial land use and the concentration limits for a Utility Worker are not exceeded. There are no soil sample 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the 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.


SCALE: 1"=40'
0
20
40
80
120
SCALE IN FEET
WINDING WAY
DRIVEWAY
DRIVEWAY
CONCRETE CURB, GUTTER, & WALK
AMW-6 (161.32)
AMW-7 (157.56)
MW-2 (161.65)
MW-1 (155.88)
MW-3 (154.92)
Former USTs
OVERHANG
BUILDING
Former Dispenser Area
Former Product Piping
0.09 feet/foot
0.05 feet/foot
161
160
159
158
157
156
Former UST and Dispenser Locations Adapted From Geocon Consultants, Inc. site plan (S8712-06-01) dated August 2003. UST and dispenser locations arde approximateand
Source: Morrow Surveying & ECA, Inc.
EXPLANATION
MW-1 (155.26) Monitoring Well Location, Designation, and Measured Groundwater Elevation
161 Groundwater Elevation Contour Interval
Groundwater Flow Direction (average gradient indicated)
ENVIRONMENTAL CONTROL ASSOCIATES, INC.
P.O. Box 52, Tahoe City, California 96145
(530)581-0380 (530)581-0389 Fax
Figure 2. Groundwater Elevation Contour Map
(Measured June 17, 2010)
Fair Oaks Car Wash UST Site
4350 Sunrise Boulevard
Fair Oaks, California