

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Santa Ana Regional Water Quality Control Board (Regional Water Board)	Address: 3737 Main Street, Suite 500, Riverside, CA 92501
Agency Caseworker: Tom E. Mbeke-Ekanem	Case No.: 083001886T

Case Information

USTCF Claim No.: 17691	Global ID: T0605901407
Site Name: Fast Gas #929	Site Address: 519 South Harbor Blvd., Fullerton, CA 92632
Responsible Party: H&M Inc.	Address: 23276 South Pointe Drive, Laguna Hills, CA 92653
USTCF Expenditures to Date: \$445,043	Number of Years Case Open: 21

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605901407

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:

The Site is an active commercial petroleum fueling facility located in Fullerton, CA. An unauthorized release was reported in August 1991. Reportedly, three truck-loads of contaminated soil were excavated and removed from the Site in 1994 during the removal of USTs. Soil vapor extraction (SVE) was conducted between January 1996 and 1998 for a total of 17,000 hours, which removed 100,000 pounds of total petroleum hydrocarbons as gasoline (TPHg). Further SVE was conducted from March 2007 through April 2008 which removed approximately 1,656 pounds of TPHg. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except for benzene, toluene, ethylbenzene, xylene, and MTBE source area well MW-1 and minor MTBE in the other wells.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no supply wells regulated by the California Department of Public Health or surface water bodies within 250 feet of the projected plume boundary. No other water supply wells have been identified within 250 feet of the projected plume boundary in files reviewed. Water is provided to water users near the Site by the City of Anaheim Water Department and Municipal Water District of Southern California. 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, and stable, and concentrations are decreasing. 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 eight Policy general criteria.
- **Groundwater Specific Criteria:** The case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. No free product is present. The nearest water supply well or surface water body is greater than 250 feet from the projected plume boundary.
- **Vapor Intrusion to Indoor Air:** The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- **Direct Contact and Outdoor Air Exposure :** This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

According to the GeoTracker Closure Review page, the Regional Water Board objects to UST case closure because active groundwater remediation is needed.

RESPONSE: A groundwater remediation system was installed in March 2008 but was not operated. The Case meets the Policy criteria and remediation is not necessary.

Determination

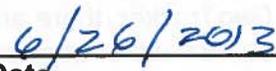
Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

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 as required by the Policy. Orange County has the regulatory responsibility to supervise the abandonment of monitoring wells.



Lisa Babcock, P.G. 3939, C.E.G. 1235



Date

Prepared by: Kirk Larson, P.G. 6535

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

<p>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.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>If so, was the corrective action performed consistent with any order?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><u>General Criteria</u> General criteria that must be satisfied by all candidate sites:</p> <p>Is the unauthorized release located within the service area of a public water system?</p> <p>Does the unauthorized release consist only of petroleum?</p> <p>Has the unauthorized (“primary”) release from the UST system been stopped?</p> <p>Has free product been removed to the maximum extent practicable?</p> <p>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

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

http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

<p>Has secondary source been removed to the extent practicable?</p> <p>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?</p> <p>Nuisance as defined by Water Code section 13050 does not exist at the site?</p> <p>Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><u>Media-Specific Criteria</u> Candidate sites must satisfy all three of these media-specific criteria:</p> <p>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:</p> <p>Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?</p> <p>Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?</p> <p>If YES, check applicable class: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>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?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>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.</p> <p>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.</p> <p>a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

<p>of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p>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?</p> <p>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?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>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).</p> <p>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)?</p> <p>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?</p> <p>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?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

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

Site Location/History

- The Site is a commercial petroleum fueling facility located in Fullerton CA. It is bounded by a residence to the west, a business to the north, Ash Avenue to the south, and South Harbor Boulevard to the east. The surrounding land use is mixed residential and commercial.
- In August 1991, soil contamination was identified during an environmental investigation.
- Four monitoring wells have been installed and monitored irregularly.
- A Site map showing the location of the site facilities, monitoring wells and groundwater level contours is provided at the end of this closure summary (Environmental Monitoring Services, Inc., 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: August 1991.
- Status of Release: USTs replaced.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
Unknown	Unknown	Unknown	Removed	1994
1,2	?	Gasoline	Removed	June 2000
3,4	?	Gasoline	Active	-

Receptors

- GW Basin: Coastal Plain of Orange County.
- Beneficial Uses: Regional Water Board Basin Plan: Municipal and Domestic Supply.
- Land Use Designation: Aerial photograph available on GeoTracker show the land use is mixed commercial and residential in the vicinity of the Site.
- Public Water System: City of Anaheim Water Department.
- Water District: Metropolitan Water District of Southern California.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by California Department of Public Health within 250 feet of the projected plume. No other water supply wells were identified within 250 feet of the projected plume in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the projected plume.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed sand, silt and clay.
- Maximum Sample Depth: 80 feet below ground surface (bgs).
- Minimum Groundwater Depth: 65.60 feet bgs at monitoring well MW-1.
- Maximum Groundwater Depth: 72.28 feet bgs at monitoring well MW-4.
- Current Average Depth to Groundwater: Approximately 69 feet bgs.
- Saturated Zones(s) Studied: Approximately 66 - 80 feet bgs.

- Groundwater Flow Direction: Predominately to the south with an average gradient of 0.0053 feet/foot (September 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/06/2012)
MW-1	November 2000	?-78	68.88
MW-2	November 2000	?-74	68.82
MW-3	November 2000	?-80	68.81
MW-4	March 2006	?-80	68.85

Remediation Summary

- Free Product: No free product was documented in GeoTracker.
- Soil Excavation: Reportedly, 3 truck-loads of contaminated soil were excavated and removed from the Site in 1994 during the removal of USTs.
- In-Situ Soil Remediation: SVE was conducted between January 1996 and 1998 for a total of 17,000 hours, which removed 100,000 pounds of TPHg. Further SVE was conducted from March 2007 through April 2008 which removed approximately 1,656 pounds of TPHg.
- Groundwater Remediation: No groundwater remediation has been conducted

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	NA	NA
Ethylbenzene	NA	NA
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

Most Recent Concentrations of Petroleum Constituents in Groundwater

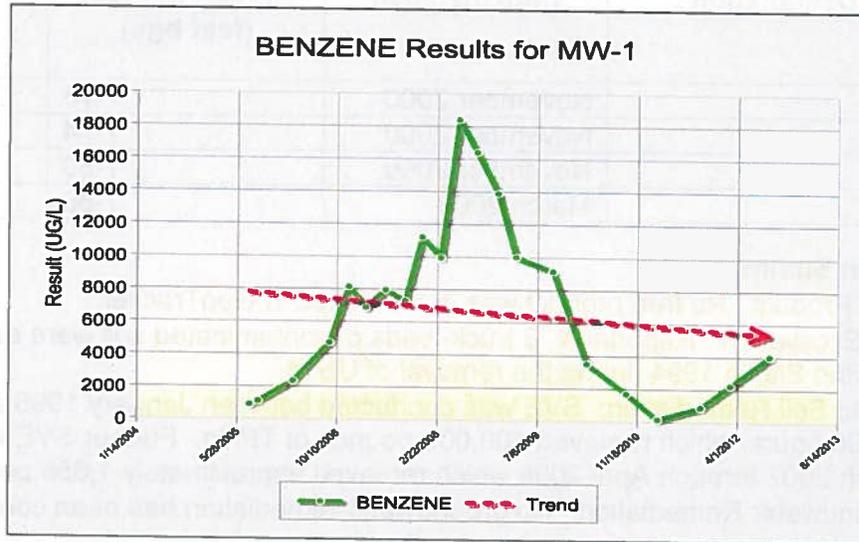
Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	09/06/12	16,900	4,030	426	861	1,940	610	949
MW-2	09/06/12	98.8	<1	<1	<1	<3	91.8	<50
MW-3	09/06/12	49.7	<1	<1	<1	<3	41.5	11.1
MW-4	09/06/12	70.7	0.89	<1	<1	4.41	21.9	20.6
WQOs	-	--	1	150	300	1,750	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, Regional Water Board Basin Plan
^a: California Department of Public Health, Response Level

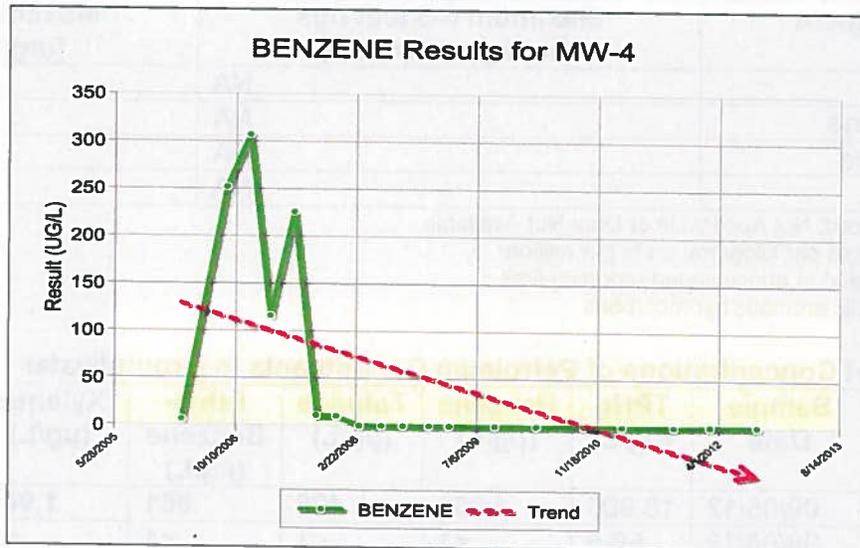
Groundwater Trends

There are more than 11 years of groundwater monitoring data for this Site. Benzene trends are shown below: Source Area (MW-1) and Downgradient (MW-4).

Source Area Well

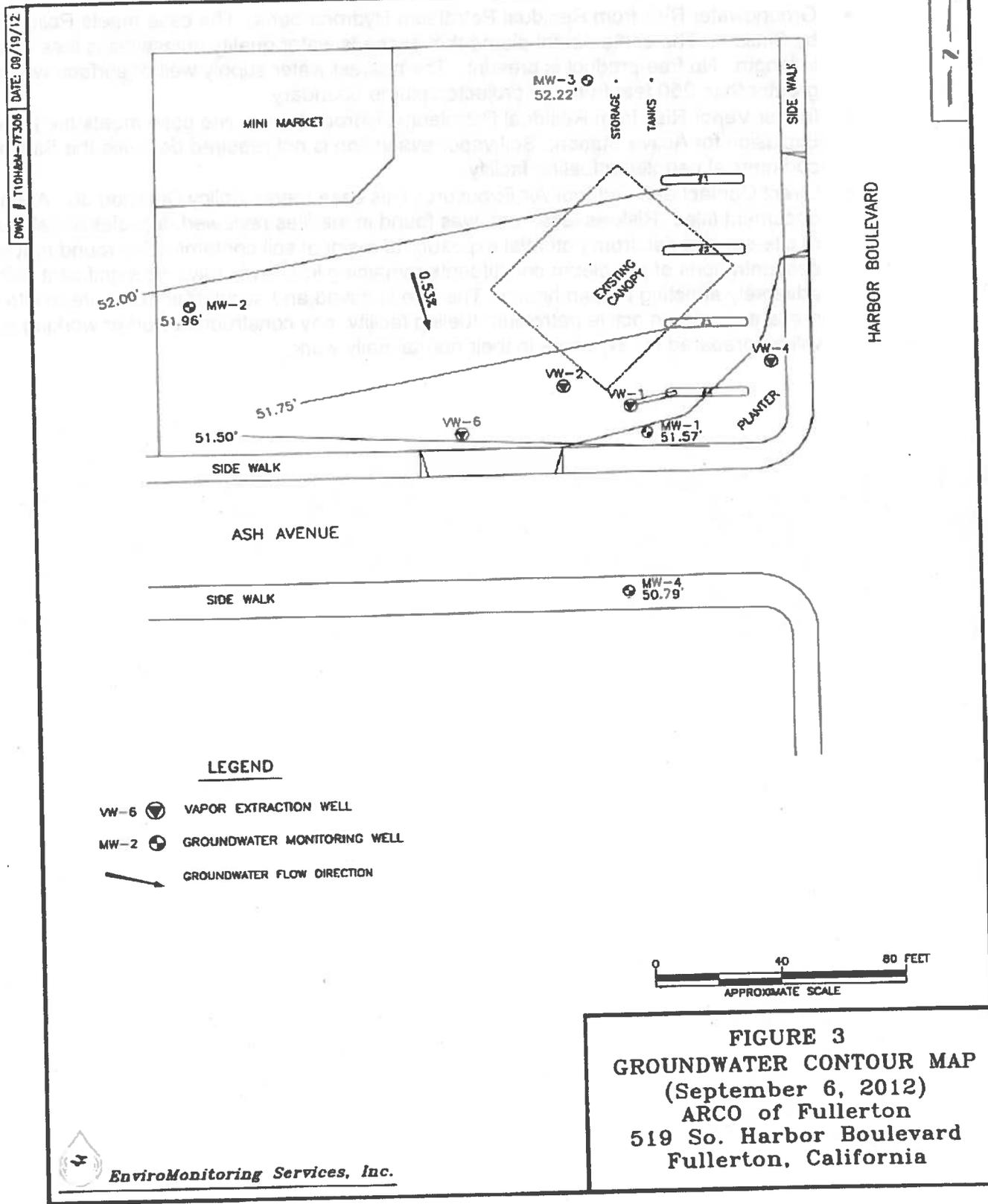


Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet long.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.



- **Groundwater Risk from Residual Petroleum Hydrocarbons:** The case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. No free product is present. The nearest water supply well or surface water body is greater than 250 feet from the projected plume boundary.
- **Indoor Vapor Risk from Residual Petroleum Hydrocarbons:** The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- **Direct Contact and Outdoor Air Exposure:** This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.