

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Santa Barbara County Fire Department (County)	Address: 4410 Cathedral Oaks Road Santa Barbara, CA 93110
Agency Caseworker: Tom Rejzek	Case No.: 90011

Case Information

USTCF Claim No.: 1394	Global ID: T0608300167
Site Name: Agri-Turf Supplies	Site Address: 130 Garden Street Santa Barbara, CA 93101
Responsible Party 1: Robert Schnackenberg	Address: 2257 Las Positas Road Santa Barbara, CA 93101
Responsible Party 2: William Wright Company Attn: Tony Bortolazzo	Address: 130 Garden Street Santa Barbara, CA 93101
Responsible Party 3: William & Edna Wright	Address: 130 Garden Street Santa Barbara, CA 93101
USTCF Expenditures to Date: \$442,912	Number of Years Case Open: 24

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608300167

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:

This Site was a retail and commercial fertilizer, pesticide, and herbicide sales and storage facility from 1958 to 1988. An unauthorized release was reported in July 1998 following the removal of four USTs (two gasoline and two diesel). The Site was previously a saltwater or tide water marsh, landfill, burn dump, and lumber yard. Groundwater in the area is unusable because of high total dissolved solids (TDS) and the entire area is on public water supply. Additionally, the Site is surrounded by a wastewater treatment plant, commercial and industrial uses, a railroad line, and a freeway. The channel adjacent to the Site drains stormwater for a large portion of downtown Santa Barbara and empties into a brackish and semi-stagnant beach lagoon. Approximately 220 tons of contaminated soil were excavated, characterized, and returned to the tank basin when samples were shown to be less than 100 ppm of total petroleum hydrocarbons (TPH). Soil vapor extraction and air sparging were conducted between May and September 2012 for a total of 1,919 hours, which reportedly removed 6,980 pounds of total petroleum hydrocarbons as gasoline (TPHg).

Groundwater extraction was conducted between May 1991 and October 1993, which removed 615 gallons of water and free product from MW-2. According to groundwater data, water quality objectives have been achieved or nearly achieved for all petroleum constituents except methyl tert-butyl ether (MTBE).

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no California Department of Public Health regulated supply wells 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. Laguna Channel is approximately 25 feet down gradient of the plume boundary. Water is provided to water users near the Site by the City of Santa Barbara Water Department. 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 5. The case fails Classes 1 through 4 because of the proximity of the Laguna Channel. In December 1993, the Regional Water Board issued a letter stating they "will not require additional groundwater assessment or remediation at this Site. Our position is based on issues described in your reports as follows: 1. This Site is located in the old El Estero. As a consequence, the groundwater beneath this Site is of poor quality (i.e., TDS has been measured at 7,370 mg/l). As you indicated, the State Water Resources Control Board has defined usable groundwater in its Resolution 88-63. Consequently, groundwater beneath this Site, per this definition, is not usable. 2. We have closed similar Sites in the immediate area conditioned on BETX concentrations being detected at or less than ten times the drinking water standard. This Site meets this condition." The regulatory agency determines, based on an analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 3a. The maximum benzene concentration in groundwater 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: 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.

Objections to Closure and Responses

In their January 2012 letter, the County objects to UST case closure because:

- The MTBE plume has not been defined.

RESPONSE: The projected MTBE plume which exceeds water quality objectives is decreasing in areal extent and concentrations. The case meets all Policy criteria and does not pose a significant risk to human health. Residual MTBE that remains in groundwater is located in the near shore, brackish, tidally influenced area between the Site and the Pacific Ocean. Although above the drinking water quality objective, the groundwater concentration of MTBE is three orders of magnitude below the marine water quality objective of 50,000 µg/L.

Determination

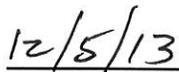
Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

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. Santa Barbara County has the regulatory responsibility to supervise the abandonment of monitoring wells.



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



Date

Prepared by: Bruce Locken

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

- This case is located on the northwest corner of Garden Street and Yanonali Street. The Site is currently a landscape supply and construction business, a self-storage facility, and a construction company.
- The Site is bounded by a construction site across Yanonali Street to the northwest, several construction oriented businesses across Garden Street to the southwest, and the Laguna Channel to the northeast and east.
- The Site was previously a saltwater or tide water marsh, landfill, burn dump, and lumber yard.
- Site maps showing the location of the former USTs, monitoring wells, and groundwater level contours are provided at the end of this closure review summary (Hayden Environmental).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: July 1988.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	1,000	Gasoline	Removed	August 1988
2	1,000	Gasoline	Removed	August 1988
3	3,000	Diesel #4	Removed	August 1988
4	4,000	Diesel #4	Removed	August 1988

Receptors

- GW Basin: Santa Barbara.
- Beneficial Uses: Central Coast Regional Water Quality Control Board (Regional Water Board) Basin Plan lists industrial process and service supply, agricultural supply, groundwater recharge, municipal and domestic supply.
- Land Use Designation: Industrial.
- Public Water System: City of Santa Barbara Public Works Department.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no wells are located within 1,000 feet of the Site.
- Distance to Nearest Surface Water: The nearest surface water is Laguna Channel which is located on the eastern boundary of the site. The defined plume boundary may extend beneath the channel.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by consolidated fill material consisting of fine-grained sand, sandy silt, silty sand, and silty clay to a depth of 28 feet below ground surface (bgs). Landfill debris such as glass, ceramic, brick, trash, and organic materials have been identified to a depth of 10 feet bgs.
- Maximum Sample Depth: 30 feet bgs.
- Minimum Groundwater Depth: 0.0 feet bgs at monitoring well MW-10.
- Maximum Groundwater Depth: 14.02 feet bgs at monitoring well MW-12.
- Current Average Depth to Groundwater: Approximately 10 feet bgs.
- Saturated Zones(s) Studied: Approximately 3-20 feet bgs.

- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: East by southeast with an average gradient of 0.005 feet/foot (August 2012).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (12/17/12)
MW-1	03/1989	3 - 28	9.31
MW-3	03/1989	3 - 28	10.54
MW-4	01/1993	5 - 25	11.02
MW-6	01/2002	4 - 19	9.90
MW-7	01/2002	4 - 19	8.27
MW-8	01/2002	5 - 20	9.58
MW-11	10/2009	5 - 20	11.96
MW-12	08/2011	5 - 20	14.04
MW-13	08/2011	4 - 19	9.24
MW-14	08/2011	4 - 19	7.74
MW-15	08/2011	4 - 19	8.50
MW-16	08/2011	4 - 19	9.41
MW-17	08/2011	4 - 19	10.44
MW-18	08/2011	4 - 19	9.74
MW-19	08/2011	5 - 20	9.75

Remediation Summary

- Free Product: No petroleum free product noted since 1994. In May 1991, 24 inches of non-petroleum liquid, with a wood stain odor was reported in MW-2.
- Soil Excavation: 220 tons of contaminated soil were excavated, characterized, and returned to the tank basin when samples were shown to be less than 100 ppm of TPH.
- In-Situ Soil/Groundwater Remediation: Soil vapor extraction and air sparging were conducted between May and September 2012 for a total of 1919 hours, which reportedly removed 6,980 pounds of TPHg (Hayden, 2012). Groundwater extraction was conducted between May 1991 and October 1993, which removed 615 gallons of water and free product were removed from MW-2.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg (date)]	Maximum 5-10 feet bgs [mg/kg (date)]
Benzene	0.0077 (08/19/11)	9.2 (08/19/11)
Ethylbenzene	0.0016 (08/19/11)	45 (08/19/11)
Naphthalene	0.62 (08/19/11)	28 (08/19/11)
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)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1	12/19/12	51	400	<0.5	<0.5	<0.5	<0.5	4.2	4.9
MW-3	12/19/12	34	180	<0.5	<0.5	<0.5	<0.5	2.7	290
MW-4	12/19/12	33	190	<0.5	<0.5	<0.5	<0.5	14	3.2
MW-6	12/19/12	26	390	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5
MW-7	12/20/12	39	570	<0.5	<0.5	<0.5	<0.5	8.4	16
MW-8	12/19/12	21	220	<0.5	<0.5	<0.5	<0.5	2.1	5.3
MW-11	12/17/12	49	160	<0.5	<0.5	<0.5	<0.5	<0.5	<10
MW-12	12/17/12	25	660	<0.5	<0.5	<0.5	<0.5	0.33	<10
MW-13	12/20/12	22	320	<0.5	<0.5	<0.5	<0.5	7.6	3.2
MW-14	12/20/12	21	370	<0.5	<0.5	<0.5	<0.5	8.2	46
MW-15	12/20/12	<50	350	<0.5	<0.5	<0.5	<0.5	2.1	21
MW-16	12/20/12	<50	280	<0.5	<0.5	<0.5	<0.5	10	5.4
MW-17	12/20/12	<50	400	<0.5	<0.5	<0.5	<0.5	7.6	5.8
MW-18	12/19/12	27	320	<0.5	<0.5	<0.5	<0.5	23	9.7
MW-19	12/19/12	56	290	<0.5	<0.5	<0.5	<0.5	27	9.3
WQOs	-	--	--	1	150	300	1,750	5^b	1,200^c

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

TPHd: Total petroleum hydrocarbons as diesel

MTBE: Methyl tert-butyl ether

TBA: Tert-butyl alcohol

WQOs: Water Quality Objectives, Regional Water Board Basin Plan

^a: Region Basin Plan does not have a numeric water quality objective for TPHg and TPHd

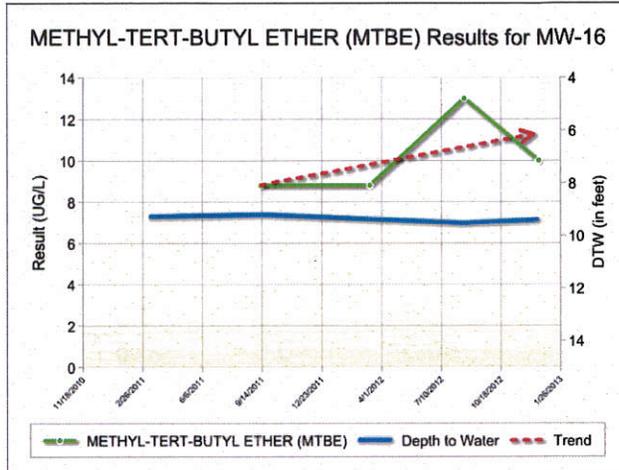
^b: Secondary maximum contaminant level (MCL)

^c: California Department of Public Health, Response Level

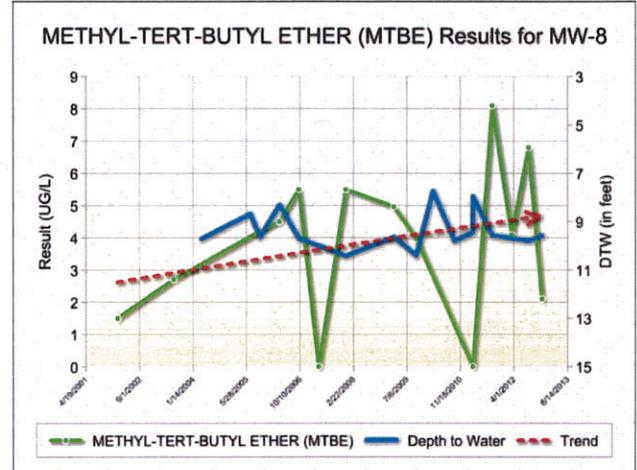
Groundwater Trends

- There are 23 years of regular groundwater monitoring data for this case. MTBE trends are shown below.

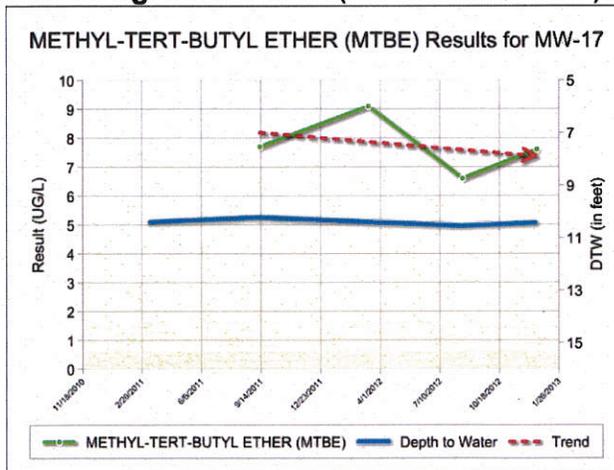
Source Area Well



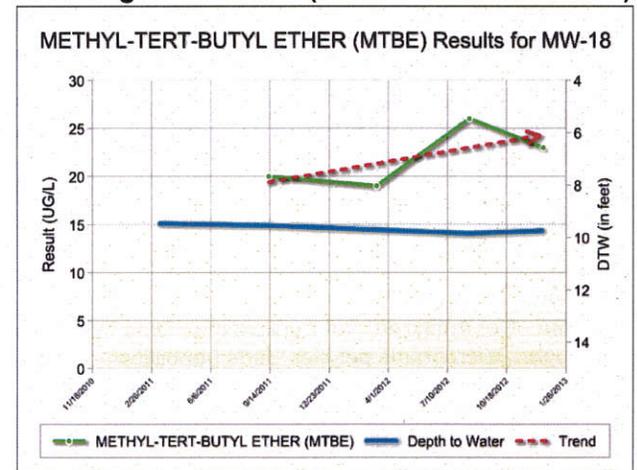
Downgradient Well (73 feet east of source)



Downgradient Well (30 feet southeast)



Downgradient Well (45 feet east-southeast)



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <250 feet.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.

- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 5. The case fails Classes 1 through 4 because of the proximity of the Laguna Channel. In December 1993, the Regional Water Board issued a letter stating they "will not require additional groundwater assessment or remediation at this Site. Our position is based on issues described in your reports as follows: 1. This Site is located in the old El Estero. As a consequence, the groundwater beneath this Site is of poor quality (i.e., TDS has been measured at 7,370 mg/l). As you indicated, the State Water Resources Control Board has defined usable groundwater in its Resolution 88-63. Consequently, groundwater beneath this Site, per this definition, is not usable. 2. We have closed similar Sites in the immediate area conditioned on BETX concentrations being detected at or less than ten times the drinking water standard. This Site meets this condition." The regulatory agency determines, based on an analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 3a. The maximum benzene concentration in groundwater 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: 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.

