

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: San Francisco Regional Water Quality Control Board (Regional Water Board)	Address: 1515 Clay Street, Suite 1400 Oakland, CA 94612
Agency Caseworker: Cherie McCaulou	Case No: 01-0801
Agency Name: Alameda County Water District (ACWD)	Address: 43885 South Grimmer Blvd. Fremont, CA 94538
Agency Caseworker: Eileen Chen	Case No: 0696

Case Information

USTCF Claim No.: 3205	Global ID: T0600100737
Site Name: International Window Corporation	Site Address: 30526 San Antonio Street Hayward, CA 94544
Responsible Party: General Window Corporation C/O: International Aluminum Corporation Attn: Mike Norring	Address: 30526 San Antonio Street Hayward, CA 94544
USTCF Expenditures to Date: \$83,408	Number of Years Case Open: 26

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0600100737

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 case is a former commercial manufacturing facility. An unauthorized release was reported in December 1986 following soil contamination identified during a soil investigation. In February 1990, the two diesel USTs were removed and approximately 400 cubic yards of impacted soil were removed and disposed offsite. Since 1990, six groundwater monitoring wells have been installed and sporadically monitored. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents, except ethylbenzene and possibly benzene in monitoring well MW-6.

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 plume boundary. No other water supply wells have

been identified within 250 feet of the plume boundary in files reviewed. Water is provided to water users near the Site by the Alameda County 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 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 not 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. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- 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: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial 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 Response

Alameda County Water District submitted their objections to closure in an email dated August 27, 2013;

- The case does not meet the Policy criteria because the unauthorized release consists of petroleum and chlorinated solvents.
RESPONSE: The case meets the Policy criteria. The chlorinated solvents are unrelated to Site activities and the unauthorized release from the USTs.
- The Conceptual Site Model is incomplete:
 - The lateral extent of groundwater contamination is undefined beyond the property boundary, i.e. well MW-6, which has documented petroleum hydrocarbon constituents.

RESPONSE: The petroleum hydrocarbons identified in well MW-6 is considered to be a separate and different release not associated with the USTs because of the distinct difference in components and concentrations when compared to the data from the UST release.

- o The vertical extent of groundwater contamination is undefined.

RESPONSE: It seems an unnecessary risk to drill into the drinking water aquifer below the affected saturated zone and to thereby install potential conduits for shallow affected groundwater to impact the deeper drinking water zone. Sufficient information has been collected to fulfill general criterion e to assess nature, extent and mobility of release.

- o A potential sensitive receptor survey has not been completed; therefore, the presence of any water supply wells within 1,000 feet of the plume boundary is unknown.

RESPONSE: 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 plume boundary. No other water supply wells have been identified within 250 feet of the plume boundary in files reviewed.

- The groundwater plume stability is unknown. Since 2009, when the most downgradient well was installed (MW-6), groundwater samples from it have consistently documented higher concentrations of petroleum hydrocarbon than any other well at the Site.

RESPONSE: The petroleum hydrocarbons identified in well MW-6 is considered to be a separate and different release not associated with the USTs because of the distinct difference in components and concentrations when compared to the data from the UST release. In addition, there has been little or no detectable petroleum hydrocarbon constituents in the other five monitoring wells even though no remediation was conducted.

Determination

Based on the review performed in accordance with Health and 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. Alameda County has the regulatory responsibility to supervise the abandonment of monitoring wells.



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



Date

Prepared by: **Walter Bahm**

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? Note: low levels of chlorinated hydrocarbons found in select groundwater samples, but not attributable to the unauthorized release from the USTs at this Site.</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><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>

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 a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p> <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 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? 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><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</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>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 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><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 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><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 property on 6 acres with one 150,000-square-foot manufacturing building, which includes a 10,000 square-foot office. The areas of the Site not occupied by the building consist of loading docks on three sides of the building, paved parking areas and a thin grassy strip along San Antonio Street.
- The Site is bounded by industrial or commercial properties on all sides.
- In December 1986, soil contamination was identified during a subsurface investigation.
- Since 2001, six monitoring wells have been installed and monitored.
- A Site map showing the location of site facilities, monitoring wells, and groundwater level contours is provided at the end of this closure review summary (URS, 2010).
- Nature of Contaminants of Concern: Petroleum hydrocarbons.
- Source: UST system.
- Date reported: December 1986.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	7,500	Diesel	Removed	February 1990
2	7,500	Gasoline/Diesel	Removed	February 1990
3	Unknown	Diesel	Inactive	---

Receptors

- GW Basin: Santa Clara Valley - East Bay Plain.
- Beneficial Uses: Regional Water Board Basin Plan lists agricultural, municipal, and industrial service and process supply.
- Land Use Designation: Commercial and Industrial.
- Public Water System: Alameda County Water District
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health within 250 feet of the plume boundary. No other water supply wells were identified within 250 feet of the plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed gravel, sand, silt, and clay.
- Maximum Sample Depth: 25 feet below ground surface (bgs).
- Minimum Groundwater Depth: 6.48 feet bgs at monitoring well MW-3.
- Maximum Groundwater Depth: 14.59 feet bgs at monitoring well MW-4.
- Current Average Depth to Groundwater: Approximately 11 feet bgs.
- Saturated Zones(s) Studied: Approximately 7–20 feet bgs.
- Groundwater Flow Direction: Southwest at a gradient of 0.019 on June 19, 2010.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (06/30/10)
MW-1	November 2001	NA	9.88
MW-2	November 2001	NA	10.23
MW-3	November 2001	NA	9.21
MW-4	June 2007	7-13	11.46
MW-5	April 2009	10-20	10.63
MW-6	April 2009	10-20	12.41

Remedial Action

- Free Product: None reported in GeoTracker.
- Soil Excavation: Over-excavation in 1990 removed 400 cubic yards of contaminated soil.
- In-Situ Soil Remediation: The injection of controlled release oxygen compound with nutrients (EHC-O) was proposed in February 2010, however, never implemented.
- In-Situ Groundwater Remediation: None reported.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg (date) Boring number]	Maximum 5-10 feet bgs [mg/kg (date) Boring number]
Benzene	<0.1 (10/29/01) MW-2-3	2 (6/21/90) B1-10
Ethylbenzene	2.5 (10/29/01) MW-2-3	22 (10/29/01) B1-10
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)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-1	06/30/10	<50	<50	<0.5	<0.5	<0.5	<1	<0.5
MW-2	06/30/10	100	300	<0.5	<0.5	3.6	<1	<0.5
MW-3	06/30/10	<50	<50	<0.5	<0.5	<0.5	<1	11
MW-4	06/30/10	<50	<50	<0.5	<0.5	<0.5	<1	<0.5
MW-5	06/30/10	<50	<50	<0.5	<0.5	<0.5	<1	7.9
MW-6	06/30/10	8,400	1,500	<10	<10	1,300 ^a	1,300	<10
WQOs	-	--	--	1	150	300	1,750	5^b

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

WQOs: Water Quality Objectives, Regional Water Board Basin Plan

--: Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg.

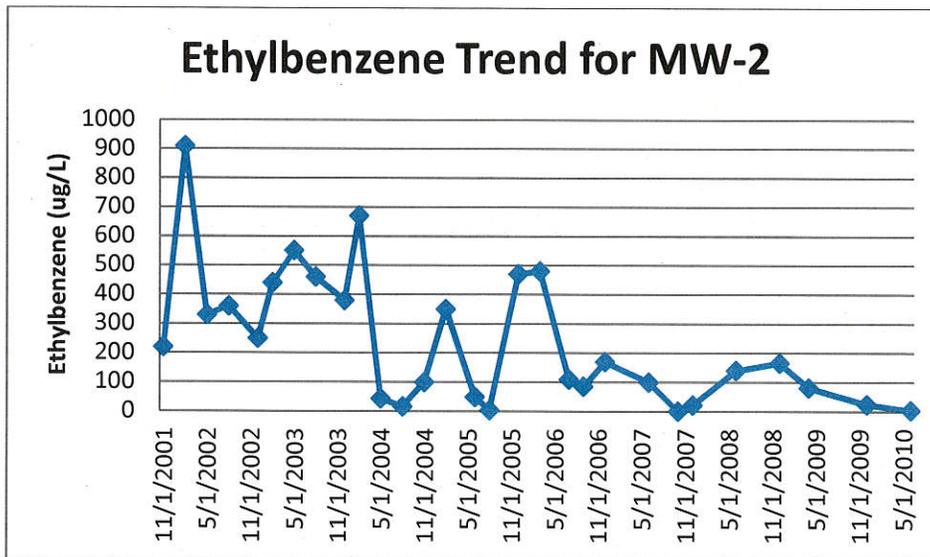
^a: It is believed the petroleum hydrocarbon concentration found in well MW-6 is unrelated to the UST and more likely to be related to onsite manufacturing operations

^b: Secondary maximum contaminant level (MCL)

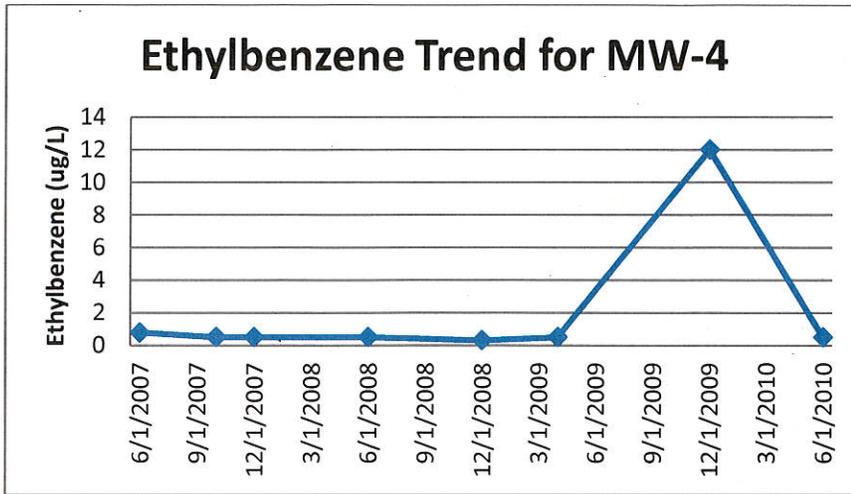
Groundwater Trends

- This Site has been monitored sporadically since 2001. Ethylbenzene trends are shown below: Near Source Area (MW-2) and Downgradient (MW-4, MW-5, and MW-6).

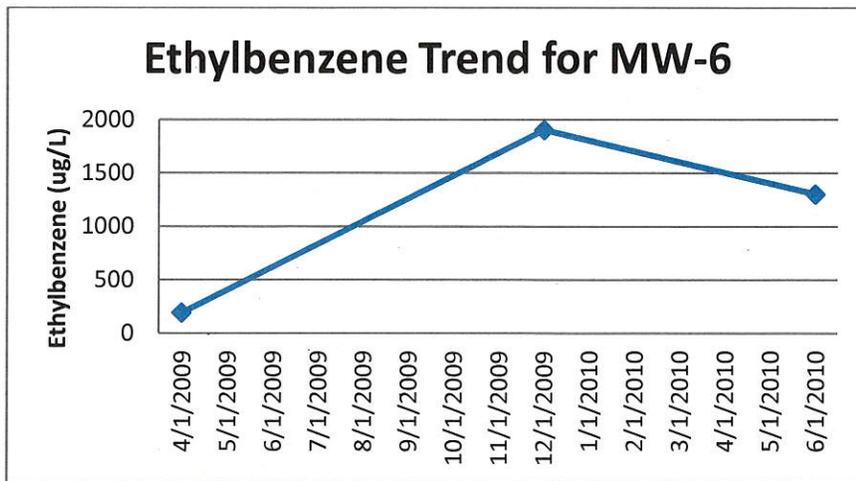
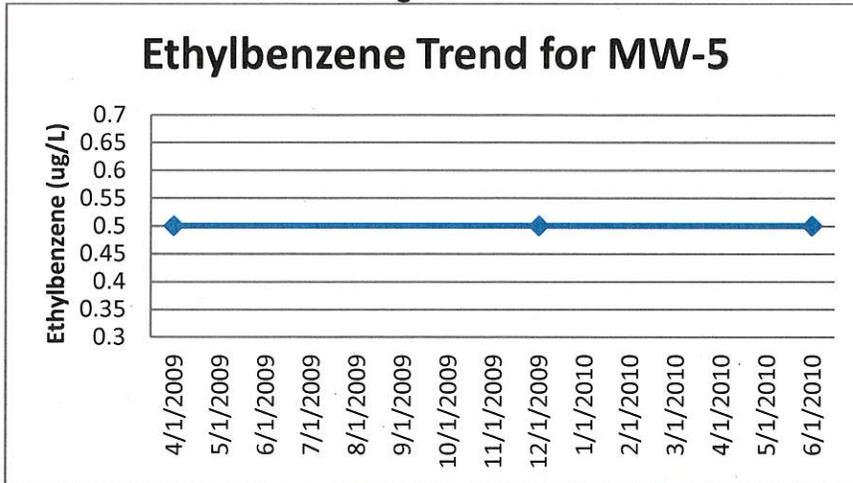
Near Source Area Well



Downgradient Well



Downgradient Wells



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet, MW-6 analytical results considered anomalous.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- 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. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined 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. In addition, 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: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial 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.

