

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

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| Agency Name: Los Angeles Regional Water Quality Control Board (Regional Water Board) | Address: 320 West 4 th Street, Suite 200, Los Angeles, CA 90013 |
| Agency Caseworker: Ha D. Nguyen | Case No.: I-05660 |

Case Information

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| USTCF Claim No.: 7169 | GeoTracker Global ID: T0603703096 |
| Site Name: Former Mobil Station # 1221 | Site Address: 15508 East Gale Avenue, Hacienda Heights, CA 91745 |
| Responsible Party: (1) Janice Kitamura | Address: Personal Residence |
| Responsible Party: (2) John Hanna | Address: 15508 East Gale Avenue, Hacienda Heights, CA 91745 |
| USTCF Expenditures to Date: \$1,421,051 | Number of Years Case Open: 19 |

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603703096

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 an active commercial petroleum fueling facility. An unauthorized leak was reported in October 1992 following the discovery of soil and groundwater contamination during an environmental site assessment. Four USTs were removed in 1997. Soil vapor extraction and air sparging conducted between May 2001 and May 2007 removed approximately 18,703 gallons of total petroleum hydrocarbons as gasoline (TPHg). Dual phase extraction conducted intermittently between February 2007 and June 2012 removed approximately 325,530 gallons of contaminated groundwater and 1,131 pounds of TPHg. A total of eight groundwater monitoring wells have been installed since 1999 and are monitored irregularly. Over ten years of groundwater monitoring have demonstrated that concentrations of benzene, the constituent of most concern at the Site, are stable and decreasing. Water quality objectives have been met for petroleum constituents of concern except benzene, ethylbenzene and MTBE at three near source monitoring wells and TBA at one downgradient monitoring well.

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 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 both the Suburban Water Systems and the San Gabriel Valley Water Company (El Monte). 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 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 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 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 recent e-mail correspondence, the Regional Water Board objects to UST case closure because:

- Groundwater contaminants of concern are above cleanup goals.
RESPONSE: Groundwater contaminant concentrations are stable and declining. The case meets all Policy criteria. The Policy does not require cleanup goals be met in order to close a case.
- Site remediation is still on-going and boundary wells (MW-1, MW-2, MW-5, and MW-7) have not been monitored, so natural attenuation effects cannot be established.
RESPONSE: All monitoring wells were sampled as recently as December 2012. Data show the Site meets the 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.

Former Mobil Station #1221
15508 East Gale Avenue, Hacienda Heights
Claim No: 7169

June 2013

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. Los Angeles County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

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

7/1/13

Date

Prepared by: Mark Owens, P.E. C66804

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

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| <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

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| <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 checked="" 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 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><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> |

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| <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 an active commercial petroleum fueling facility in Hacienda Heights, and is bounded by businesses across South Kwis Avenue to the west, parking lots across East Gale Avenue to the north, and residences to the south and east.
- A Site map showing the location of the USTs, monitoring wells, and the groundwater gradient direction, is provided at the end of this closure review summary (Aqua Science Engineers, Inc., 2012).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: October 1992.
- Status of Release: USTs replaced.
- Free Product: None reported.

Tank Information

| Tank No. | Size in Gallons | Contents | Closed in Place/Removed/Active | Date |
|----------|-----------------|----------|--------------------------------|------|
| 1,2 | 12,000 | Gasoline | Removed | 1997 |
| 3 | 10,000 | Gasoline | Removed | 1997 |
| 4 | 10,000 | Diesel | Removed | 1997 |
| 5,6 | 10,000 | Gasoline | Active | - |
| 7 | 20,000 | Diesel | Active | - |

Receptors

- GW Basin: San Gabriel Valley.
- Beneficial Uses: The Regional Water Quality Control Board (Regional Water Board), Los Angeles Region Basin Plan lists: Municipal and Domestic Supply.
- Land Use Designation: Aerial photograph available on GeoTracker indicates mixed residential and commercial land use in the vicinity of the Site.
- Public Water System: Suburban Water Systems and the San Gabriel Valley Water Company (El Monte).
- 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 1,000 feet of the defined plume boundary. 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 interbedded and intermixed sand, silt, and clay.
- Maximum Sample Depth: 25 feet below ground surface (bgs).
- Minimum Groundwater Depth: 16.11 feet bgs at monitoring well MW-2.
- Maximum Groundwater Depth: 24.56 feet bgs at monitoring well MW-8.
- Current Average Depth to Groundwater: Approximately 22.5 feet bgs.
- Saturated Zones(s) Studied: Approximately 16-35 feet bgs.

- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: Northwest with an average gradient of 0.006 feet/foot. Flow direction and gradient have been consistent over the past six years.

Monitoring Well Information

| Well Designation | Date Installed | Screen Interval (feet bgs) | Depth to Water (feet bgs) (10/09/2012) |
|------------------|----------------|----------------------------|----------------------------------------|
| MW-1 | February 1999 | 14-34 | 22.70 |
| MW-2 | February 1999 | 14-34 | 22.50 |
| MW-3 | February 1999 | 14-34 | 23.15 |
| MW-4 | February 1999 | 14-34 | 22.52 |
| MW-5 | February 1999 | 14-34 | 22.53 |
| MW-6 | April 2007 | 15-35 | 22.32 |
| MW-7 | April 2007 | 9-34 | 22.37 |
| MW-8 | July 2002 | 10-35 | 23.25 |

Remediation Summary

- Free Product: Historically present (none since 2002).
- Soil Excavation: None reported.
- In-Situ Soil/Groundwater Remediation: Soil vapor extraction and air sparging conducted between May 2001 and May 2007 removed approximately 18,703 gallons of total petroleum hydrocarbons as gasoline (TPHg). Dual phase extraction conducted intermittently between February 2007 and June 2012 removed approximately 325,530 gallons of contaminated groundwater and 1,131 pounds of TPHg.

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 ¹ | NA ¹ |
| Ethylbenzene | NA ¹ | NA ¹ |
| Naphthalene | NA ¹ | NA ¹ |
| PAHs | NA ¹ | NA ¹ |

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

1: No post remediation soil sampling conducted at the Site

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 | 10/09/12 | <100 | <1 | <1 | <1 | <2 | <2 | <20 |
| MW-2 | 10/09/12 | 698 | 1 | <1 | 5.3 | 3.3 | <2 | <20 |
| MW-3 | 10/09/12 | 7,920 | 56.5 | 30.1 | 439 | 1,410 | <2 | <20 |
| MW-4 | 10/09/12 | 5,370 | 48.6 | 3.2 | 31.3 | 5.2 | <2 | <20 |
| MW-5 | 10/09/12 | 765 | 1.8 | <1 | <1 | <2 | <2 | <20 |
| MW-6 | 10/09/12 | 1,150 | <1 | <1 | 1.7 | <2 | 1.6 | 2,080 |
| MW-7 | 10/09/12 | 115 | <1 | <1 | <1 | <2 | <2 | 114 |
| MW-8 | 10/09/12 | NA | NA | NA | NA | NA | NA | NA |
| WQOs | | -- | 1 | 150 | 300 | 1,750 | 5 ^a | 1,200 ^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

MTBE: Methyl tert-butyl ether

TBA: Tert-butyl alcohol

WQOs: Water Quality Objectives, Regional Water Board Basin Plan

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

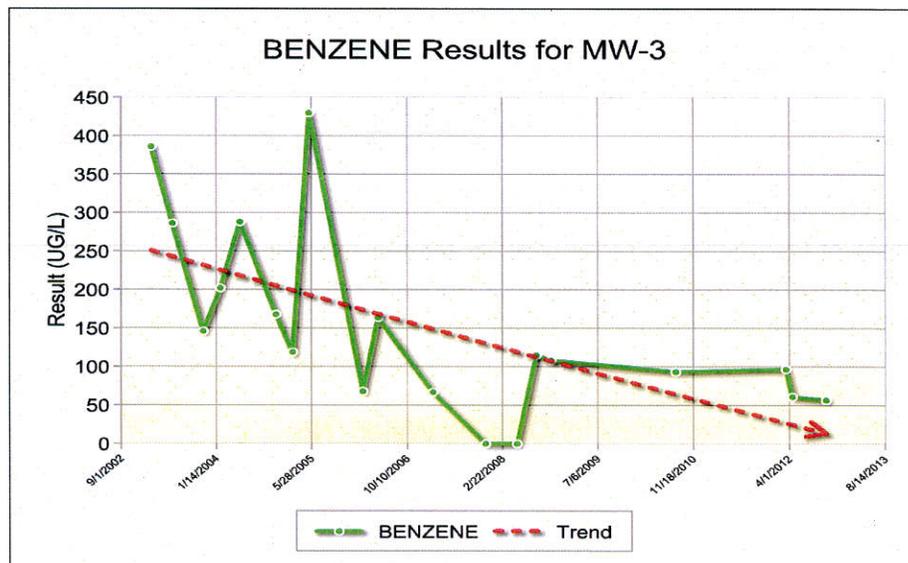
^a: Secondary maximum contaminant level (MCL)

^b: California Department of Public Health, Response Level

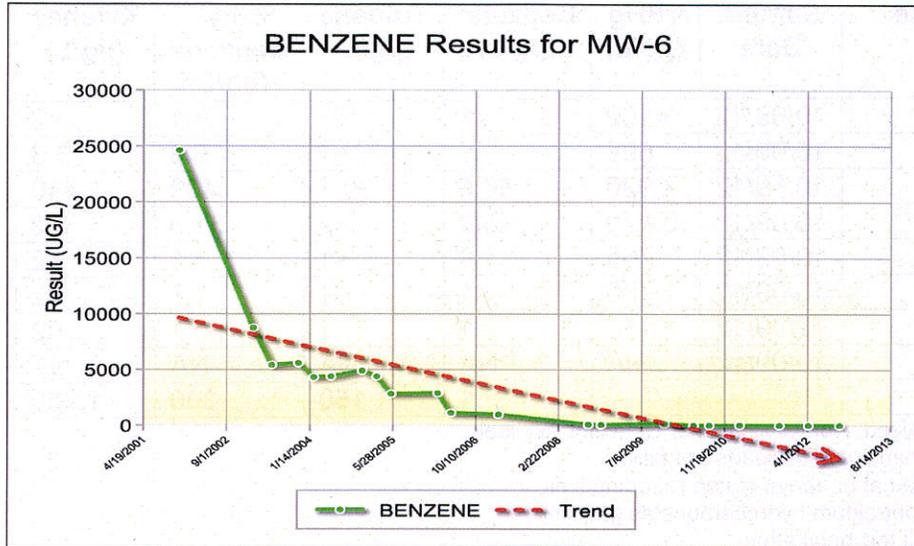
Groundwater Trends

- There are more than 10 years of groundwater monitoring data for this case. Water quality objectives have been met for petroleum constituents of concern except benzene, ethylbenzene and MTBE at three near source monitoring wells and TBA at one downgradient monitoring well. Benzene trends for the source area, near downgradient and far downgradient wells are shown below:

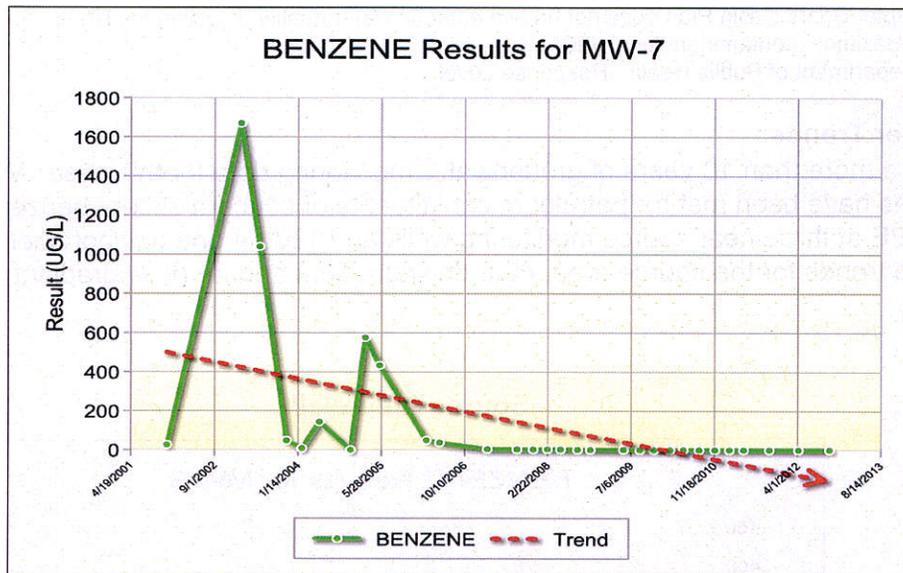
Source Area Well



Near Downgradient Well



Far 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: projected to be less than 250 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 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 the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: 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.

