

Atlantic Richfield Company (a BP affiliated company)

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P.O. Box 1257 San Ramon, CA 94583 Phone: (925) 275-3801 Fax: (925) 275-3815

23 June 2009



10:10 am, Jun 24, 2009





Re: Response to Request for Site Conceptual Model and Soil & Water Investigation Work Plan

Atlantic Richfield Company (a BP affiliated company) Station No.2111

1156 Davis Street San Leandro, California ACEH Case No.RO0000494

"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Submitted by:

Paul Supple

Environmental Business Manger



23 June 2009

Project No. 06-88-615

Atlantic Richfield Company P.O. Box 1257 San Ramon, California 94583 Submitted via ENFOS

Attn.: Mr. Paul Supple

Re:

Response To Request For Site Conceptual Model and Soil & Ground-Water

Investigation Work Plan, Atlantic Richfield Company Station No.2111,

1156 Davis Street, San Leandro, Alameda County, California;

ACEH Case No.RO0000494

Dear Mr. Supple:

Provided herein is a response to the Alameda County Environmental Health (ACEH) letter dated 24 April 2009. In this letter, ACEH requested an evaluation of the effectiveness of the remediation system on-site and preparation of a work plan to address the possible presence of a geologic preferential pathway for Atlantic Richfield Company Station No. 2111 located at 1156 Davis Street, San Leandro, California (Site). The letter also requested the preparation of a site conceptual model and soil and water investigation work plan. A copy of the ACEH letter is attached. Technical comments are addressed, in turn, within the following sections.

Remediation Effectiveness

In the ACEH directive letter, an evaluation of the remediation system as well as recommendations and conclusions were requested in future remediation reports. A summary of current system operating conditions and effectiveness are discussed below.

The on-site remediation system has been in operation since January of 2007. As of 3 March 2009, the Dual-Phase Extraction (DPE) system has removed approximately 869.14 pounds (lbs) of Gasoline-Range Organics (GRO) from soil vapor and approximately 5.82 lbs of GRO from ground water. The ground-water extraction system has also removed approximately 0.093 lbs of Benzene and approximately 8.42 lbs of Methyl Tert-Butyl Ether (MTBE) from ground water. Based on this data, the DPE system has effectively removed a significant amount of hydrocarbons from the subsurface at the Site during its operation.

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Page 2

Recent operating times associated with the remediation system at the Site have been problematic. Following a review of the fourth quarter 2008 system operating data, it was apparent that high-water level alarms were occurring far too frequently. Based on the current operating conditions and low contaminant concentrations observed within ground water at the Site, the ground-water extraction pump located in well MW-2 was turned off on 18 February 2009. Since this system modification, the system operating time increased to approximately 52 percent of the time during the first quarter 2009 compared to approximately eight percent during the fourth quarter of 2008.

The cumulative mass removal of GRO, Benzene, and MTBE in ground water at the Site has reached asymptotic conditions (Figure 1) and influent concentrations of GRO and Benzene in the extracted ground-water stream have decreased to levels below laboratory reporting limits (Figure 2). The cumulative mass removal of GRO as soil vapor has reached near asymptotic conditions (Figure 3) and influent concentrations of GRO in the extracted vapor stream have been inconsistent but recently decreased below laboratory reporting limits (Figure 4). Based on the decreasing concentration trends observed in the wells associated with the Site (Figures 5-8), the asymptotic mass removal conditions associated with the remediation system, and the observed system influent concentrations below laboratory reporting limits, it is recommended that operation of the DPE system be discontinued. The remediation system is no longer cost effective and concentrations observed on-site do not warrant operation of the system.

Regional Geologic and Hydrogeologic Setting

Review of the available lithologic logs and cross sections associated with work performed at Station 2111 by EMCON (9/19/1996) and URS (5/6/2004) has been completed. The following commentary is offered as part of a response to Item 2 of the 24 April 2009 correspondence from ACEH pertaining to the geologic and hydrologic setting.

Close examination of lithologic logs of borings MW-7, H-2, and SB-2 was conducted. A Clayey Sand (USCS Group Symbol: SC) was described in boring MW-7 from 20.5 feet to 32.5 feet below ground surface (ft bgs), or 12 feet thick. Contrary to the findings in MW-7, a well graded Sand (USCS Group Symbol: SW) was described in boring H-2 from the shallower depth of 16 ft to 20 ft bgs (4 feet thick). Additionally, found within boring SB-2, which lies midpoint along the transect MW-7 and H-2, is a well graded Sand (USCS Group Symbol: SW) from 29 ft to 31 ft bgs (2 feet thick).

The similarly described well graded Sand (SW) in both borings H-2 and SB-2 are not present in boring MW-7. Furthermore, the connection between the well graded Sand (SW) in H-2 and SB-2 is not depicted in URS cross section C-C' (Figure 4 of the 6 May 2004 report); and if it were interpreted as connected, it would represent an unlikely dip to the east of 10° between the H-2 and SB-2 locations. This same cross section C-C' authored by URS does not connect the deeper 12 foot thick Clayey Sand (SC) unit in MW-7 with the 4 foot thick well-graded Sand (SW) in boring H-2. We agree with the

URS interpretation of lack of continuity as a result of numerous data points supporting the URS depiction (i.e. SB-2, MW-2, V-1, and V-2).

From review of the available lithologic logs and resultant cross sections, we do not believe the permeable unit (identified as Clayey Sand at MW-7) extends to the H-2 location. Furthermore, the URS cross section C-C' (Figure 4 of the 6 May 2004 report) does not connect the 29-foot deep, two foot thick well-graded Sand (SW) at SB-2 with the much shallower 16-foot deep, four foot thick well-graded sand (SW) found at the boring H-2 location. To verify or refute this lack of continuity depicted by URS might require additional drilling of multiple borings in the area north of the First Christian Church Community Center building. To extend this level of investigation does not appear to be justified as one may, or may not discover a reliable conclusion of a preferential pathway between the MW-7, SB-2 and H-2 locations. Further reasoning for the unnecessary investigation into a preferential pathway in the area discussed is the absence of GRO and Benzene in the wells monitored during First Quarter 2009 except single concentrations of 86.0 micrograms per liter (μ g/1) and 3.5 μ g/l, respectively, in Well MW-2. The significant declines in contaminant concentrations are attributed to the DPE remediation conducted to date at the Site.

Soil and Groundwater Characterization

The 24 April 2009 ACEH letter requests justification that the ground-water contaminant plume has been adequately characterized down-gradient or the development of a work plan to address off-site characterization. A review of historic documents was conducted in order to determine why the originally proposed monitoring wells MW-9 and MW-10 were not installed. A summary of the findings from this review are provided below.

Installation of down-gradient off-site wells MW-9 and MW-10 were first proposed within the *Additional Subsurface Investigation Report* prepared by URS Corporation (URS) on 6 May 2004. The proposed locations were in the vicinity of exploratory borings H-2 and H-4 (See Drawing 1) to the west of the Site and were to be installed in an effort to further delineate the horizontal extent of the hydrocarbon contaminant plume. An *Offsite Well Installation Work Plan* was submitted by URS on 17 November 2004 outlining the proposed well locations and construction. Correspondence between URS and Ms. Eva Chu of ACEH was contained within Appendix A of this report stating the intent to move the proposed wells further down-gradient on property associated with Liberty Fitness at 1260 Davis Street. A property access agreement for the installation of the proposed wells at 1260 Davis Street was prepared by URS on 12 May 2005. Access negotiation was unsuccessful in 2005.

Based on the historic information regarding off-site down-gradient well installation activities and concentrations observed in off-site borings, it is proposed to install one ground-water monitoring well (MW-9) in front of Liberty Fitness located at 1260 Davis Street, and one ground-water monitoring well (MW-10) in the public right-of-way within Douglas Court (See Drawing 1). Due to the potential for property access

Page 4

issues at 1260 Davis Street, it is proposed to pursue property access prior to the submittal of a detailed well installation work plan. Should property access be granted, an off-site well installation work plan detailing the scope of work and completion schedule will be submitted promptly to ACEH.

Site Conceptual Model

Preparation of a Site Conceptual Model (SCM) was requested within the 24 April 2009 letter from ACEH. At this time, completion of a SCM does not appear to be warranted based on the relatively low current concentrations, decreasing contaminant trends, and remediation system effectiveness. Further discussion regarding the technical comment suggesting the development of a SCM is provided below.

Contaminant concentrations observed on-site have dramatically decreased since startup of the DPE system in 2007 (See Figures 5-8). This downward trend suggests that the remediation system has effectively decreased contaminant concentrations at the Site. The main constituents present within the ground-water at the Site include GRO, Benzene and MTBE. Recent laboratory analytical results from samples collected in wells associated with the Site indicate that the majority of the contaminant concentrations are below the Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB). A summary table with the concentration range of GRO, Benzene, and MTBE observed at the Site over the last year and the ESLs for each constituent is provided below.

Concentration	Range -
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Constituent of Concern	$4/8/2008 - 2/3/2009 \; (\mu g/L)$	ESL (µg/L)
GRO	< 50 - 990	210
Benzene	< 0.50 - 34	46
MTBE	< 0.50 - 1,200	1,800

 $\mu g/L = micrograms per liter$

Concentrations of Benzene and MTBE associated with the Site have not exceeded their respective ESLs during the past four quarters of ground-water monitoring and sampling. GRO concentrations associated with the Site have exceeded the ESL within wells MW-2 (990 μ g/L - 8/20/2008 and 290 μ g/L - 11/17/2008) and MW-7 (270 μ g/L -4/8/2008). Observed GRO, Benzene, and MTBE concentrations within the remaining wells associated with the Site have been below the established ESLs for ground water that is not a current or potential source of drinking water since 8 April 2008. Laboratory analytical results obtained from the first quarter of 2009 indicated that GRO, Benzene, and MTBE concentrations in each well associated with the Site were below ESLs.

As discussed in the previous section, an off-site ground-water investigation to the southeast of the Site is proposed to further characterize the contaminant plume. Therefore, a site conceptual model does not appear to be necessary based on the decreasing concentration trends observed within ground-water monitoring wells associated with the Site, detected concentrations below ESLs in a majority of the wells,

and the effectiveness of the DPE system. At this time, post-remediation monitoring is recommended for the Site.

Ground-Water Sampling Frequency

The ACEH letter stated that ground-water monitoring and sampling for wells MW-1 through MW-5, MW-7, and MW-8 be modified from a quarterly basis to a semi-annual basis. The letter also stated that well MW-6 continues to be monitored annually and remediation reports be submitted quarterly. Compliance with these requests will be implemented during the second quarter of 2009.

References

- Alameda County Environmental Health Services, 24 April 2009. Fuel Leak Case No.RO0000494 and Geotracker Global ID T0600101764, ARCO #2111, 1156 Davis Street, San Leandro, CA 94577. Letter from Mr. Paresh Khatri (ACEH) to Mr. Paul Supple (Atlantic Richfield Company).
- Broadbent & Associates, Inc., 30 April 2009. First Quarter 2009 Ground-Water Monitoring and Remediation System Status Report, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California. Prepared for Atlantic Richfield Company.
- EMCON, 19 September 1996. Soil and Groundwater Assessment Report, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California. Prepared for ACEH on behalf of Atlantic Richfield Company.
- URS Corporation, 6 May 2004. *Additional Subsurface Investigation Report, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California.* Prepared for ACEH on behalf of Atlantic Richfield Company.
- URS Corporation, 17 November 2004. Offsite Well Installation Work Plan, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California. Prepared for ACEH on behalf of Atlantic Richfield Company.
- URS Corporation, 6 June 2005. Second Quarter 2005 Groundwater Monitoring Report, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California. Prepared for ACEH on behalf of Atlantic Richfield Company.
- URS Corporation, 28 October 2005. *Third Quarter 2005 Groundwater Monitoring Report, Atlantic Richfield Company Station No. 2111, 1156 Davis Street, San Leandro, California*. Prepared for ACEH on behalf of Atlantic Richfield Company.

Should you have any questions or concerns, please do not hesitate to contact us at (530) 566-1400.

Sincerely,

BROADBENT & ASSOCIATES, INC.

Thomas A. Venus, P.E.

Senior Engineer



Attachments:

ACEH Letter dated 24 April 2009

Figure 1: Cumulative GWE Mass Removal for GRO, Benzene, and MTBE

Figure 2: GWE Influent Concentrations for GRO, Benzene, and MTBE

Figure 3: SVE System Influent Concentrations vs. Time

Figure 4: SVE System Cumulative GRO Mass Removed vs. Time

Figure 5: MW-2 Concentrations and Ground-Water Elevations vs. Time

Figure 6: MW-5 Concentrations and Ground-Water Elevations vs. Time

Figure 7: MW-7 Concentrations and Ground-Water Elevations vs. Time

Figure 8: MW-8 Concentrations and Ground-Water Elevations vs. Time

Drawing 1: Site Map With Proposed Well Location

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp Site) Mr. Karl Busche, City of San Leandro Environmental Services Division, 835 East 14th Street, San Leandro, California 94577 Electronic copy uploaded to GeoTracker

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY



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DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

April 24, 2009

Paul Supple Atlantic Richfield Company (A BP Affiliated Company) P.O. Box 1257 San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0000494 and GeoTracker Global ID T0600101764, ARCO #2111, 1156 Davis Street, San Leandro, CA 94577

Dear Mr. Supple:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Fourth Quarter 2008 Ground-Water Monitoring and Remediation System Status Report," dated January 28, 2009, which was prepared by Broadbent & Associates, Inc. (BAI) for the subject site. In January 2007, a soil vapor extraction system and groundwater extraction system began operating at the site to abate elevated concentrations of hydrocarbons in soil and groundwater. The system has been periodically operating due to a high-water level alarm.

At this juncture, ACEH request that you address the following technical comments, and send us the technical work plan and reports requested below.

TECHNICAL COMMENTS

- 1. Remediation Effectiveness In the above-mentioned remediation report, BAI includes system performance data including the quantity of contaminants removed from soil and groundwater. However, BAI does not discuss whether the system is effectively reducing hydrocarbon contamination from soil and groundwater nor does BAI include any recommendations and conclusions. Without recommendations and conclusions or an adequate evaluation of the system, ACEH is concerned that although the system may be operating, the system may not be effectively removing contaminants in a cost-effective manner. Typically, the treatment system should be evaluated followed by modifications and or adjustments so that the system continues to optimally operate and remove contaminants in a cost-effective manner. In future remediation summary reports, please include an evaluation of the treatment system as well as recommendations and conclusions.
- 2. Regional Geologic and Hydrogeologic Setting Elevated concentrations of TPH-g and MTBE have been detected in groundwater monitoring well MW-5. In March 2004, a transect of borings was installed west of the site between the Cedar Grove Apartments and the First Christian Church. In boring H-2, a sand unit was identified between 15 to 20 ft bgs. Although monitoring well MW-5 is located in approximately 30 feet south of H-2, the sand unit was absent at this location, based on a review of the boring logs. The concentrations of

hydrocarbons detected in a "grab" groundwater sample collected from H-2 were significantly elevated. Specifically, TPH-g and MTBE were detected a concentration of 260,000 μ g/L and 7,600 μ g/L, respectively. During that same timeframe, groundwater samples collected from monitoring well MW-5 detected TPH-g and MTBE at concentrations of 8,000 μ g/L and 2,000 μ g/L, respectively, and the highest concentrations of TPH-g and MTBE on-site were detected in well MW-7 at concentrations of 62,000 μ g/L and 37,000 μ g/L, respectively. A permeable unit was also identified in MW-7 from approximately 20 feet bgs to its total installed depth of 35 feet bgs. Data suggests that the permeable unit (i.e. identified as clayey sand at MW-7) may extend to H-2, as evidenced by the elevated concentrations of contaminants detected in the "grab" groundwater sample. Therefore, this permeable unit identified in MW-7 and boring H-2 may be a preferential pathway for contaminant migration, and hence a data gap that requires further evaluation and/or investigation. Please propose a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below.

- 3. Soil and Groundwater Characterization In URS' May 6, 2004 "Additional Subsurface Investigation Report," URS recommended two additional down-gradient wells, MW-9 & MW-10, to be located in the vicinity of H-2 and H-4. Based on a review of the above-mentioned remediation report, a work plan does not appear to have been submitted and the proposed two monitoring wells do not appear to have been installed. At this time, please evaluate and justify whether the groundwater contaminant plume is adequately characterized or submit a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below.
- 4. <u>Site Conceptual Model</u> At this juncture, it may be advantageous to develop a site conceptual model (SCM), which synthesizes all the analytical data and evaluates all potential exposure pathways and potential receptors that may exist at the site, including identifying or developing site cleanup objectives and goals. At a minimum, the SCM should include:
 - Local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.) extent of contamination, direction and rate of groundwater flow, potential preferential pathways, and locations of receptors;
 - (2) Geologic cross section maps that illustrate subsurface features, man-made conduits, and lateral and vertical extent of contamination;
 - (3) Plots of chemical concentrations versus time;
 - (4) Plots of chemical concentrations versus distance from the source;
 - (5) Summary tables of chemical concentrations in different media (i.e. soil, groundwater, and soil vapor); and
 - (6) Well logs, boring logs, and well survey maps;
 - (7) Discussion of likely contaminant fate and transport.

If data gaps (i.e. potential contaminant volatilization to indoor air or contaminant migration along preferential pathways, etc.) are identified in the SCM, please include a proposed scope of work to address those data gaps in the work plan due by the date specified below. Please

note that the work plan must address all technical comments presented in this correspondence as well as all data gaps identified in the SCM.

5. Groundwater Sampling Frequency – Several years of quarterly groundwater data has been collected at the site. Currently, MW-6 is sampled annually and all other monitoring wells are samples quarterly. At this time, please continue to sample MW-6 annually during the 3rd quarter of the year and sample monitoring wells MW-1 through MW-5, MW-7, and MW-8 semi-annually, during the 1st and 3rd quarters of the year. However, please continue to submit the remediation reports quarterly. Should an alternate groundwater monitoring schedule be desired, please submit a proposal for review. You may include the proposal in the upcoming Remediation Report, as specified below.

REQUEST FOR INFORMATION

ACEH's case file for the subject site contains the following electronic reports as listed on our website (http://www.acgov.org/aceh/lop/ust.htm). You are requested to submit copies of all other reports related to environmental investigations for this property (including the "Soil and Groundwater Assessment Report," dated September 19, 1996 by EMCON) by **May 25, 2009**.

NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork, including routine groundwater sampling.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- June 23, 2009 SCM & Soil and Water Investigation Work Plan
- **Due within 30 Days of Sampling** Remediation Summary Report (2nd Quarter 2009)
- Due within 30 Days of Sampling Semi-annual Monitoring & Remediation Summary Report (3rd Quarter 2009)
- Due within 30 Days of Sampling Remediation Summary Report (4th Quarter 2009)
- Due within 30 Days of Sampling Semi-annual Monitoring & Remediation Summary Report (1st Quarter 2010)

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the

responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic submittal/report rgmts.shtml,

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

<u>UNDERGROUND STORAGE TANK CLEANUP FUND</u>

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Thank you for your cooperation. If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri

Hazardous Materials Specialist

Donna L. Drogos, PE

Supervising Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, 1324 Mangrove Avenue, Suite 212, Chico, CA 95926

Donna Drogos, ACEH Paresh Khatri, ACEH

GeoTracker

File

Figure 1
Cumulative GWE Mass Removal for GRO, Benzene, and MTBE
Station #2111, 1156 Davis Street, San Leandro, California

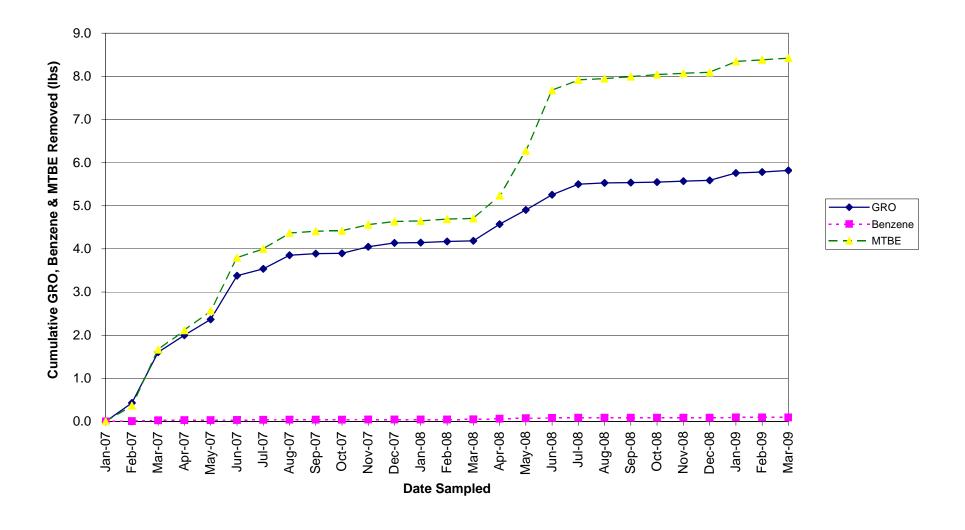


Figure 2

GWE Influent Concentrations for GRO, Benzene, and MTBE

Station #2111, 1156 Davis Street, San Leandro, California

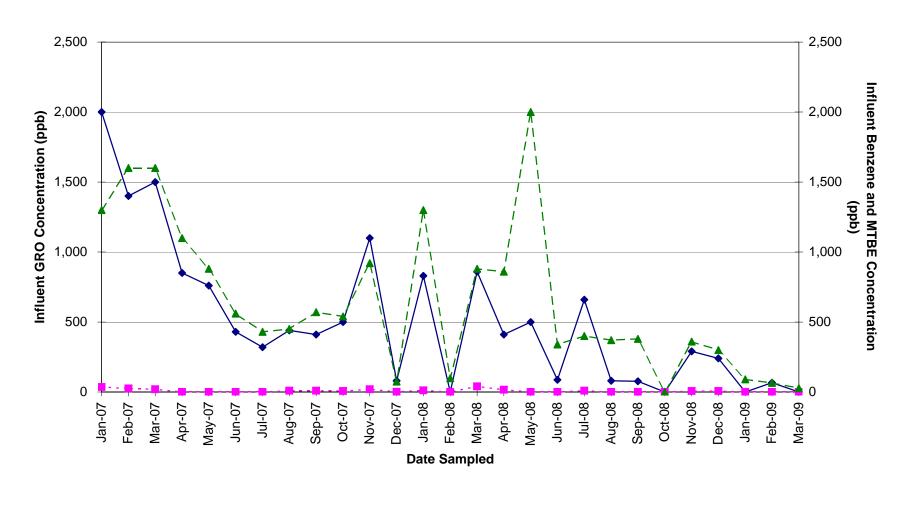




Figure 3
SVE System Influent Concentration vs.Time
Station #2111, 1156 Davis Street, San Leandro, California

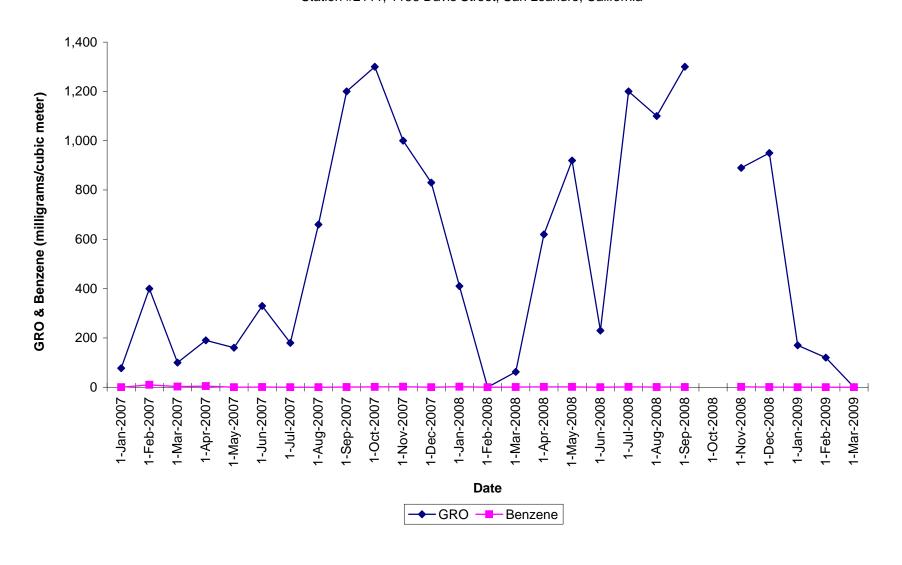


Figure 4
SVE System Cumulative GRO Mass Removed vs. Time
Station #2111, 1156 Davis Street, San Leandro, California

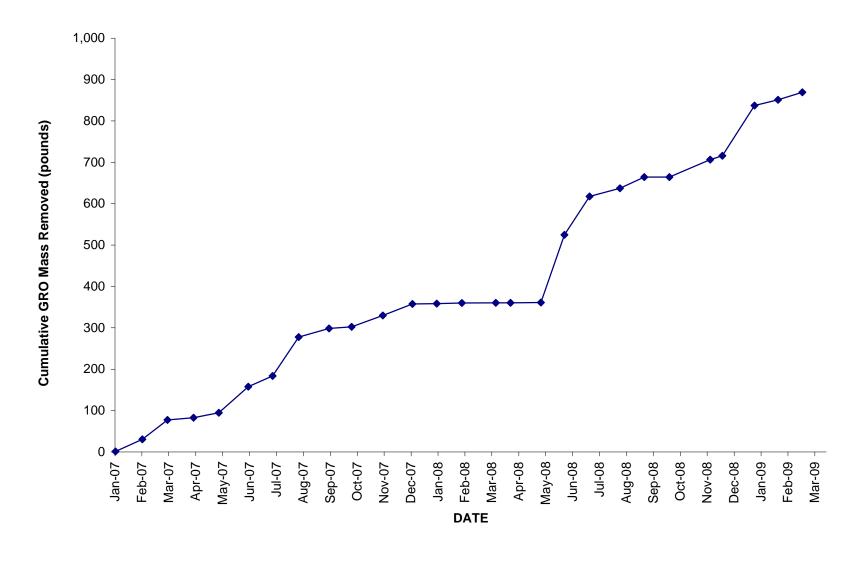


Figure 5
MW-2 Concentrations vs. Time
ARCO Station #2111
1156 Davis Street, San Leandro, California

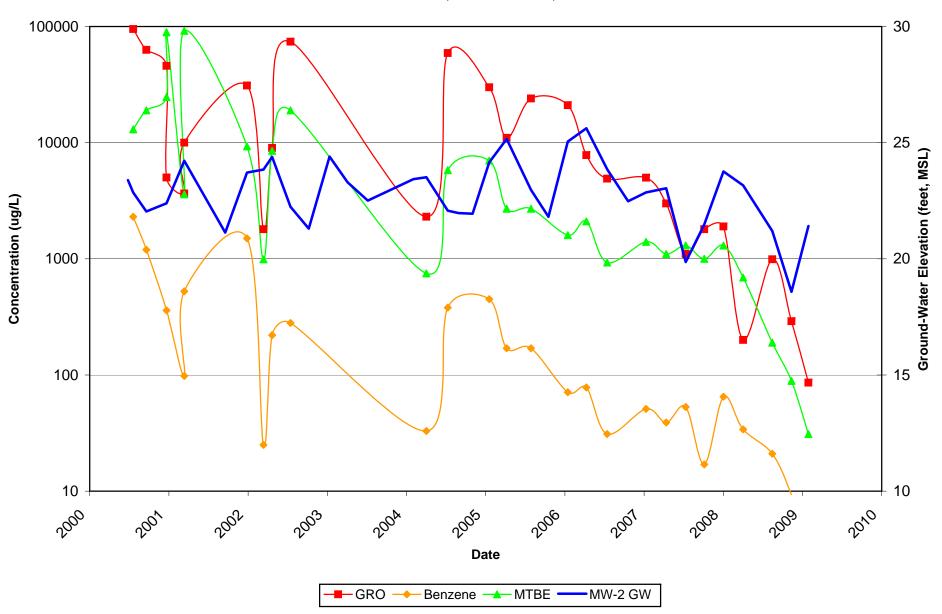


Figure 6
MW-5 Concentrations vs. Time
ARCO Station #2111
1156 Davis Street, San Leandro, California

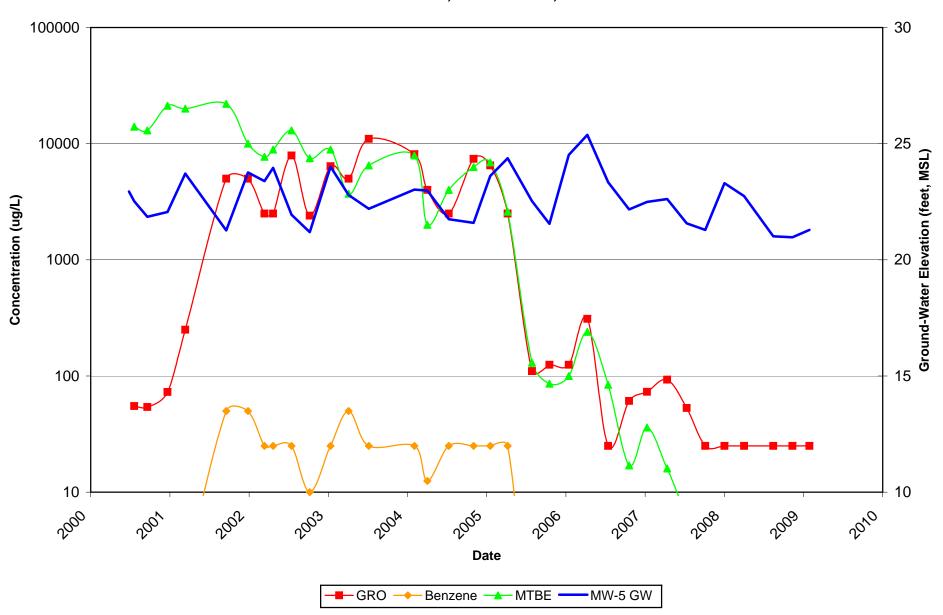


Figure 7
MW-7 Concentrations vs. Time
ARCO Station #2111
1156 Davis Street, San Leandro, California

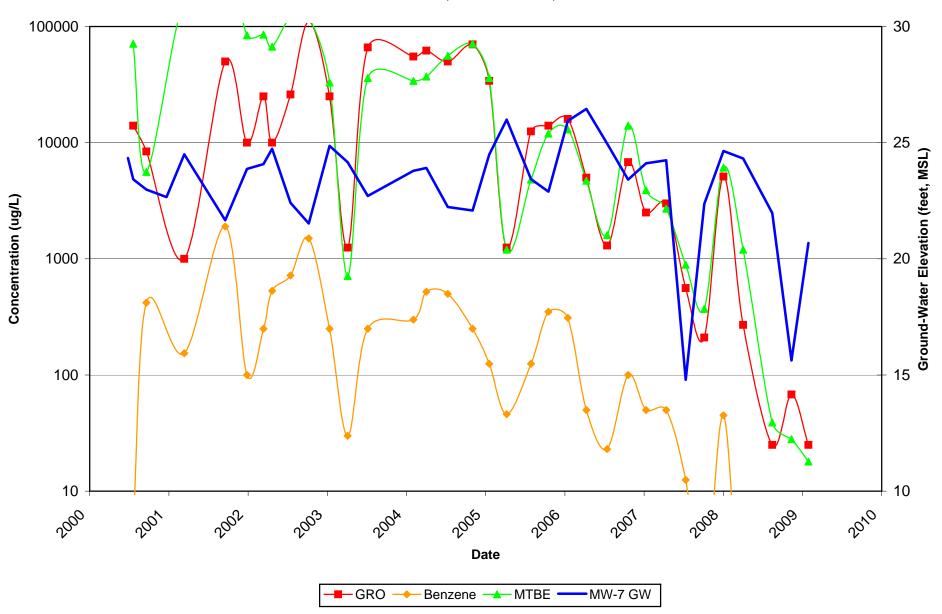


Figure 8

MW-8 Concentrations vs. Time

ARCO Station #2111

1156 Davis Street, San Leandro, California

