



Atlantic Richfield Company  
(a BP affiliated company)

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

1 June 2009

Re: Addendum to Soil & Ground-Water Investigation Work Plan  
Former BP Service Station # 11102  
100 MacArthur Boulevard  
Oakland, California  
ACEH Case #RO0000456

**RECEIVED**

3:41 pm, Aug 14, 2009

Alameda County  
Environmental Health



"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 Manager

1 June 2009

Project No. 06-88-643

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

Attn.: Mr. Paul Supple

Re: Addendum to Soil & Ground-Water Investigation Work Plan, Former BP Service Station No.11102, 100 MacArthur Boulevard, Oakland, Alameda County, California; ACEH Case No.RO0000456.

Dear Mr. Supple:

Provided herein is an addendum to the *Initial Site Conceptual Model with Soil & Ground-Water Investigation Work Plan* (herein referred to as the *Work Plan*) submitted to Alameda County Environmental Health (ACEH) by Broadbent and Associates, Inc. (BAI) on 9 April 2009. In response to the *Work Plan*, ACEH issued the 24 April 2009 letter with technical comments and a request for the submittal of a work plan addendum. A copy of this letter is attached. Each technical comment is addressed, in turn, in the following sections.

### **Monitoring Well Construction and Hydrogeologic Setting**

In the ACEH letter, concerns were expressed regarding the “excessive” screened intervals for proposed new monitoring wells MW-4 through MW-6. In an attempt to construct useful wells that would accommodate the seasonal and periodic fluctuations, BAI had proposed in the *Work Plan* screen intervals for each new well from 10 to 30 feet below ground surface (ft bgs). It is presently unknown with certainty what the depths to ground water are in the areas proposed for new wells MW-4 through MW-6. Depth to ground water at the Site has historically ranged from approximately eight to 17 ft bgs. Upon further review, including analysis of off-site wells owned by others and the geologic cross-sections discussed below, BAI now proposes that the screened intervals be targeted to extend from approximately 10 to 20 ft bgs. This change will be implemented during well installation activities. However, conditions encountered in the field will influence the final well construction details including the total depth and screen interval, with the primary objective of securing an adequate water column for monitoring/sampling throughout the year and the secondary objective of minimizing the screen length, so as not to connect separate water-bearing zones.

## **Cross-Sections**

The creation of geologic cross-sections was requested by ACEH in their 24 April 2009 letter “to assist in identifying or justifying appropriate screened intervals for the proposed ground-water monitoring wells.” Although previously constructed geologic cross-sections were provided within Appendix C of the *Work Plan*, new geologic cross-sections for the Site and vicinity are provided as attached Drawings 1-3. Several off-site monitoring wells and borings associated with the adjacent former Unocal Station No.1871 located at 96 MacArthur Boulevard were utilized to extend the geologic cross-sections off-site.

The subsurface lithology encountered beneath the majority of the Site and immediate vicinity consists mainly of silts and clays of relatively lower permeability. Several small and seemingly discrete layers of silty and clayey sands and gravels of relatively moderate permeability have been observed at various depths both on and off-site. A large layer of relatively moderately permeable soil has been observed from ground surface to an approximate total depth of 20 ft bgs near the base of the hill behind the station building. A small layer of sands and gravels of relatively higher permeability was observed within boring B-4 from approximately six to ten ft bgs.

## **TBA Iso-Concentration Map**

Due to elevated concentrations of tert-Butyl alcohol (TBA) detected in on-site wells, the ACEH requested in their 24 April 2009 letter that TBA concentrations be added on the figure depicting Gasoline Range Organics (GRO), Benzene, and Methyl tert-butyl ether (MTBE) concentrations associated with the Site. A revised Ground-Water Elevation Contour and Analytical Summary Map utilizing the data from First Quarter 2009, but including TBA concentrations, is provided as Drawing 4.

The ACEH also requested that “GRO, Benzene, MTBE, and TBA iso-concentration figures, which utilize aerial photographs as base maps” be included in all future reports. At the present time it is impractical to develop iso-concentration contour maps using concentrations from only the three current monitoring wells. Upon completion of well installation and ground-water monitoring activities at the proposed off-site monitoring wells, iso-concentration figures will be created and included in subsequent reports. However, it is cost-prohibitive to contract for an aerial survey that would have accurate horizontal control. In the *Work Plan*, BAI provided an aerial Area Development Photo taken from a common internet application to show the location of the Site within the surrounding vicinity. It is infeasible to utilize similar uncontrolled aerial photographs as base maps due to the inability to accurately manipulate the horizontal attributes and scales of aerial photographs. As proposed in the *Work Plan*, an accurate map of the Site and vicinity will be generated following survey activities associated with the installation of the proposed off-site wells.

## **Contaminant Concentrations Versus Time**

The ACEH requested in their letter dated 24 April 2009 that the contaminant concentrations in ground water versus time graphs submitted with the *Work Plan* be expanded to include ground-water elevation data. It was also requested that individual graphs for each well be produced and a graph depicting TBA concentrations versus time and ground-water elevation be generated. The revised graphs for each well are provided as Figures 1-4. It should be noted that historic concentrations reported as non-detect are represented on each graph as half of the laboratory reporting limit rather than zero. Tables 1 and 2, containing analytical concentration data, are provided for easy reference. An interpretation and evaluation of the data contained within these graphs is provided below.

After review of the historical concentrations observed within wells MW-1, MW-2, and MW-3 on-site, the source area of the release is not obvious since high concentrations were observed within wells MW-1 (near the former waste oil tank) and MW-2 (near the UST pit and product dispensers/piping) immediately following well installation. Contaminant concentrations within well MW-1 have gradually decreased over time while concentrations within wells MW-2 and MW-3 have gradually increased over time, which suggests that the contaminant plume is migrating down-gradient since the release. There does appear to be a strong correlation between contaminant concentrations and ground-water elevations. Upon further examination of the trends depicted for GRO and MTBE in each well over time, it is apparent that the majority of the GRO constituents within each well are or were comprised of MTBE. Furthermore, in wells MW-1 and MW-2, presumed to be closer to the source area than MW-3, TBA concentrations appear to be rising as MTBE concentrations drop, typical of transformation during biodegradation.

## **Quarterly Monitoring Report Due Dates**

Ground-water monitoring is currently completed on a quarterly basis at Station No.11102. The deadline for submittal of past quarterly ground-water monitoring reports at Station No.11102 was 30 days following the close of the quarter. However, the ACEH letter dated 24 April 2009 stipulated that quarterly monitoring reports must be submitted within 30 days of sampling. It is our understanding that the ACEH has implemented this change in an effort to spread out report submittals received.

As you are aware, BP currently has two suppliers working on the environmental case at Station No.11102. Stratus Environmental, Inc. (Stratus) completes the field work and BAI generates the final reports for submittal to the ACEH. Typically, Stratus receives the laboratory report two weeks following completion of the monitoring/sampling event. Stratus then generates a certified data packet which includes field data sheets, non-hazardous waste transportation form, chain-of-custody documentation, laboratory analytical results, and field procedures for ground-water sampling, which BAI typically receives one month following completion of the sampling event.



As detailed above, the timing of when BAI receives the necessary information to facilitate generation of a monitoring report makes it not possible to meet the stipulated deadline of within 30 days following the sampling date. Furthermore, monitoring reports serve to summarize all environmental work completed at Station No.11102 through the end of the given quarter; therefore, submittal of a report before close of the quarter is not logical. BAI currently generates approximately 50 reports for former BP stations in Alameda County each quarter. A report deadline based on a specific number of days since sampling is not cost effective as reports are generated, reviewed, and processed in batch format.

Alternatively, it is proposed that a given quarter be split into two halves. If Station No.11102 is sampled in the first half of the quarter, the deadline for submittal of the report would be five business days following close of the quarter (e.g., for Second Quarter 2009, the report deadline would be 7 July 2009). If Station No.11102 is sampled in the second half of the quarter, the deadline for submittal of the report would be 30 days following close of the quarter (e.g., for Second Quarter 2009, the report deadline would be 30 July 2009). The more recent sampling events for Station No.11102 have been completed in the first half of the quarter; therefore, the deadline for submittal of future reports at Station No.11102 would be 5 business days following the close of the quarter. In addition to being a cost-effective and achievable deadline for BP, this revision will also spread out report submittals received by ACEH and serve to provide reports encompassing the full quarter.

We trust that the above modifications/explanations to the *Work Plan* will satisfy the comments and requests expressed by ACEH in their letter dated 24 April 2009. Once ACEH has approved this *Addendum to Work Plan for Soil & Ground-Water Investigation*, Stratus Environmental Inc. (Stratus) will be directed to execute the proposed scope of work. Upon completion of field work, Stratus will prepare a certified data packet summarizing field activities and including copies of the necessary permits, boring logs/well construction records, survey records, and laboratory analytical reports. BAI will complete a soil and ground-water investigation report for submittal to ACEH within 60 days after completion of field work.

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

Sincerely,  
BROADBENT & ASSOCIATES, INC.



Thomas A. Venus, P.E.  
Senior Engineer



Attachments:

ACEH Letter dated 24 April 2009

Drawing 1: Site Layout Plan with Geologic Cross-Section Locations

Drawing 2: Geologic Cross-Section A-A'

Drawing 3: Geologic Cross-Section B-B'

Drawing 4: Ground-Water Elevation Contour and Analytical Summary Map

Figure 1: MW-1 Concentrations and Ground-Water Elevations vs. Time

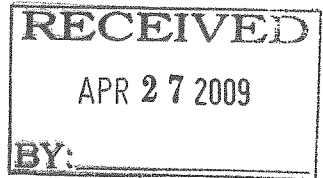
Figure 2: MW-2 Concentrations and Ground-Water Elevations vs. Time

Figure 3: MW-3 Concentrations and Ground-Water Elevations vs. Time

Table 1: Summary of Ground-Water Monitoring Data: Relative Water Elevations  
and Laboratory Analyses

Table 2: Summary of Fuel Additives Analytical Data

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp Site)  
Ms. Shelby Lathrop, ConocoPhillips, 76 Broadway, Sacramento, CA 95818  
Mr. Chris Jimmerson, Reimbursement Processor, Delta Environmental Consulting Inc.,  
(Submitted via ENFOS)  
Electronic copy uploaded to GeoTracker



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  
BP West Coast Products, LLC.  
P.O. Box 1257  
San Ramon, CA 94583

Jennifer Sedlachek  
Exxon Mobil Refining and Supply Co.  
7096 Piedmont Ave., #194  
Oakland, CA 94611

Terry Grayson  
ConoccoPhillips  
76 Broadway  
Sacramento, CA 95818

Subject: Fuel Leak Case No. RO0000456 and GeoTracker Global ID T0600100908, BP #11102,  
100 W. Macarthur Boulevard, Oakland, CA 94610

Dear Mr. Supple, Ms. Sedlachek, and Mr. Grayson:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Initial Site Conceptual Model with Soil & Ground-Water Investigation Work Plan," dated April 9, 2009, which was prepared by Broadbent & Associates, Inc. for the subject site. To characterize the extent of the soil and groundwater plume off-site to the southwest, BAI proposes to install three groundwater monitoring wells (MW-4 through MW-6).

ACEH generally concurs with the proposed scope of work. However, ACEH has concerns regarding the proposed monitoring well construction. ACEH requests that you address in the technical comments below and submit a Work Plan addendum due by the date specified below.

#### **TECHNICAL COMMENTS**

1. **Monitoring Well Construction and Hydrogeologic Setting** – Depth to groundwater (DTW) at the site has ranged from approximately 8 feet to 17 feet below the ground surface (bgs). BAI proposes to install the three groundwater monitoring wells to a depth of 30 feet bgs with screened intervals ranging from 10 feet to 30 feet bgs. ACEH is concerned that the proposed screened intervals appear excessive, based on historic depth to groundwater data collected at the site. This may yield analytical results that are not indicative of actual site conditions. ACEH requests that BAI justify the proposed well construction or propose shorter screened intervals. Please address the above-mentioned concerns and submit a work plan addendum due by the date specified below.
2. **Cross-sections** – In our January 8, 2009, correspondence, we requested that cross-sections be included in the SCM. Preparation of cross-sections may assist in identifying or justifying appropriate screened intervals for proposed groundwater monitoring wells. Please prepare cross-sections and submit a work plan addendum due by the date specified below.

3. **TBA Iso-concentration Map** – BAI has posted the TPH-g, benzene and MTBE concentrations detected in groundwater on a figure in the above-mentioned report. Significantly elevated concentrations of TBA have also been detected in groundwater samples collected from site monitoring wells. At this time, it may be advantageous to illustrate contaminant concentrations detected in groundwater on figures. Please include TPH-g, benzene, MTBE, and TBA iso-concentration figures, which utilize aerial photographs as base maps for your site and accurately depict neighboring structures and site features in relation to the groundwater contaminant plumes, in all future reports.
  
4. **Contaminant Concentrations Versus Time** – BAI has included contaminant concentrations in groundwater versus time graphs for gasoline, benzene and MTBE. Based on the MTBE data, several spikes in MTBE concentrations are depicted between 1998 and 2004. Groundwater elevation data was not included in the figure, all three wells were superimposed on the same graph, and an adequate evaluation of the nature of the release (i.e. possible causes) was not included in the SCM. At this time, please prepare separate graphs for each well and include groundwater elevation data and an interpretation and evaluation of the data. Since significantly elevated concentrations of TBA have also been detected in groundwater samples collected from site monitoring wells, a TBA concentration versus time graph also appears warranted. Please address the above-mentioned concerns and submit a work plan addendum due by the date specified below.

#### **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 8, 2009** – Soil and Water Investigation Work Plan Addendum
  
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (2<sup>nd</sup> Quarter 2009)
  
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (3<sup>rd</sup> Quarter 2009)
  
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (4<sup>th</sup> Quarter 2009)
  
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (1<sup>st</sup> 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\\_rqmts.shtml](http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.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.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

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.

Mr. Supple, Ms. Sedlachek, and Mr. Grayson  
RO0000456  
April 24, 2009, Page 4

**AGENCY OVERSIGHT**

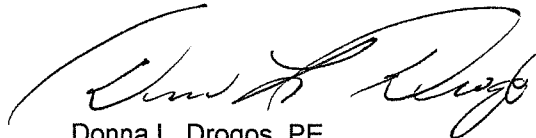
If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 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](mailto:paresh.khatri@acgov.org).

Sincerely,



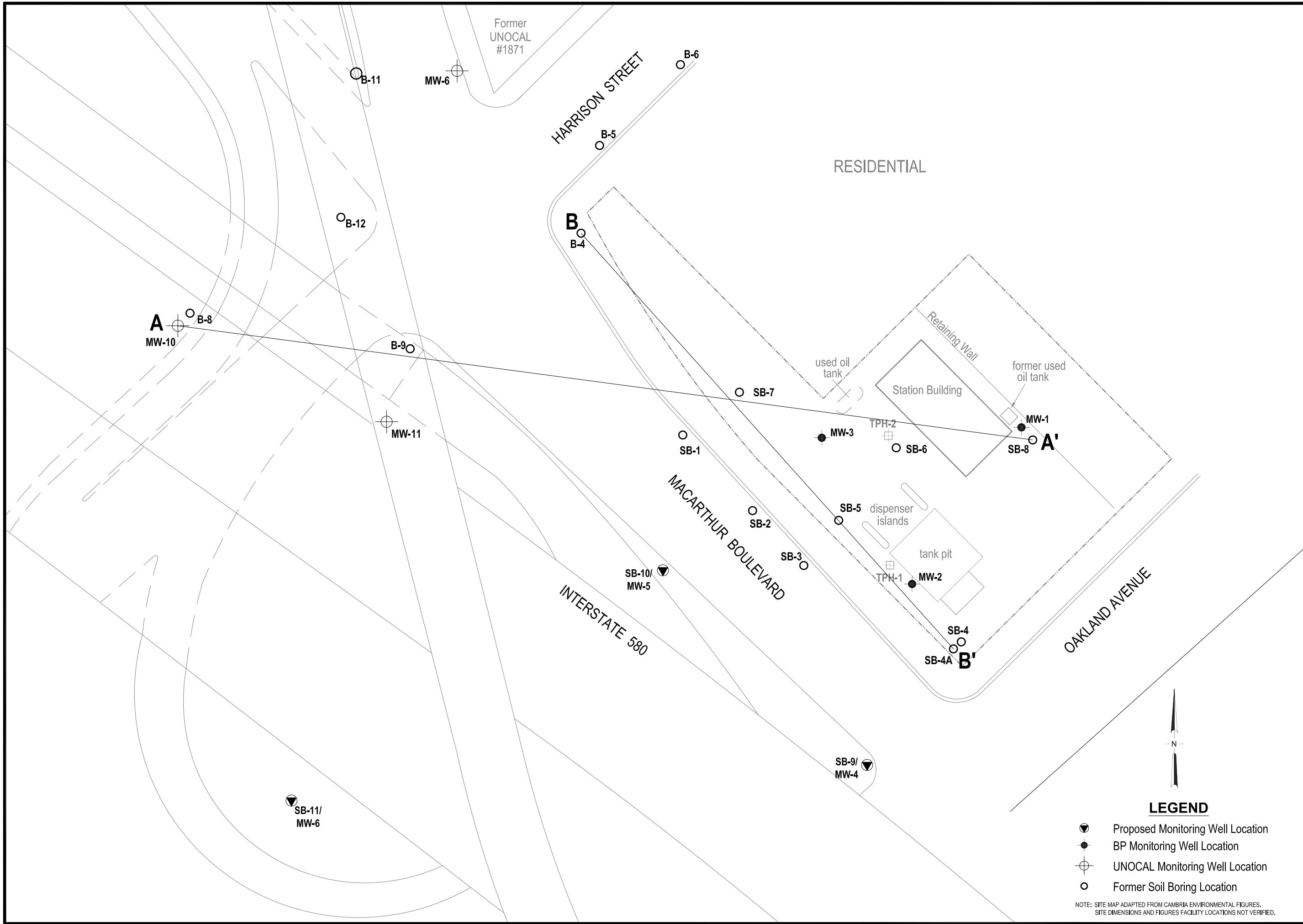
Paresh C. Khatri  
Hazardous Materials Specialist



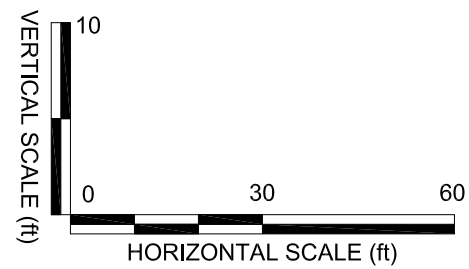
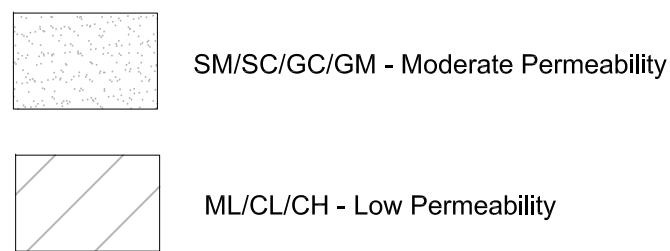
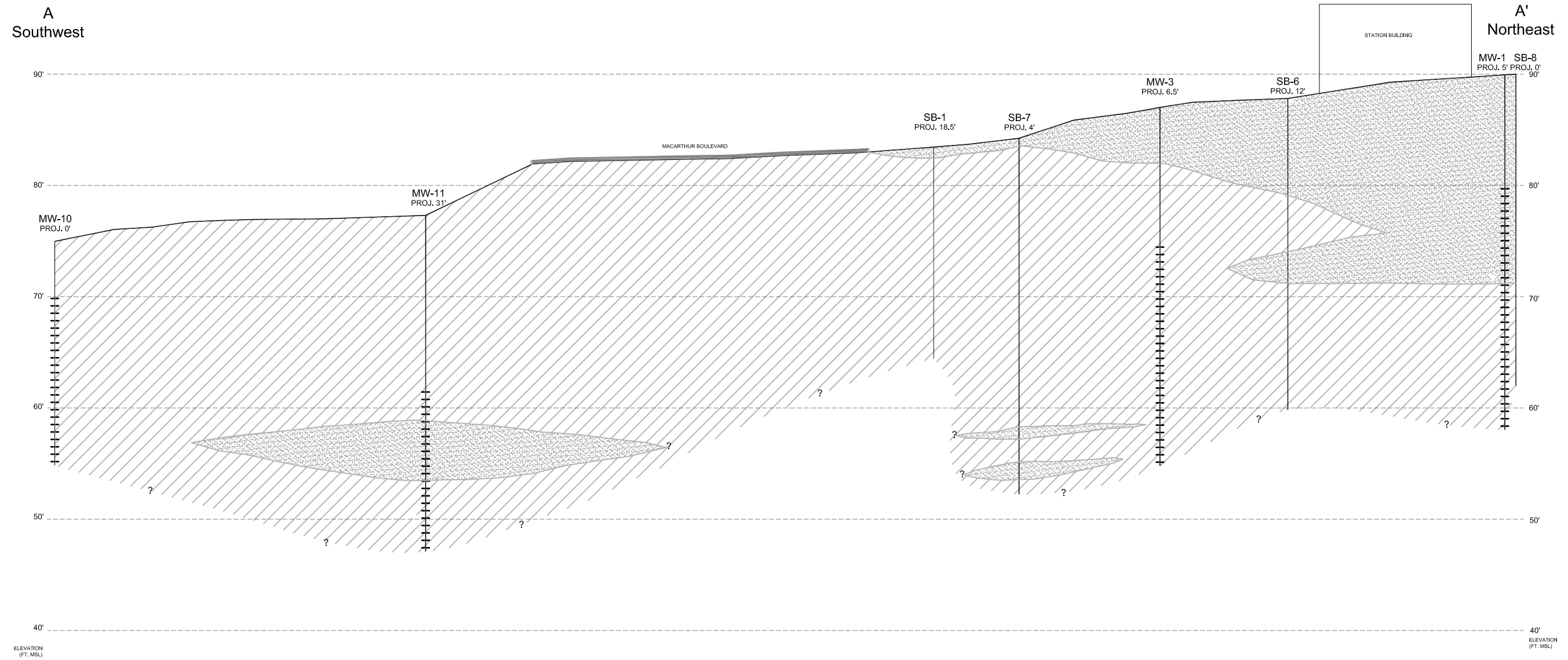
Donna L. Drogos, PE  
Supervising Hazardous Materials Specialist

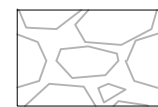
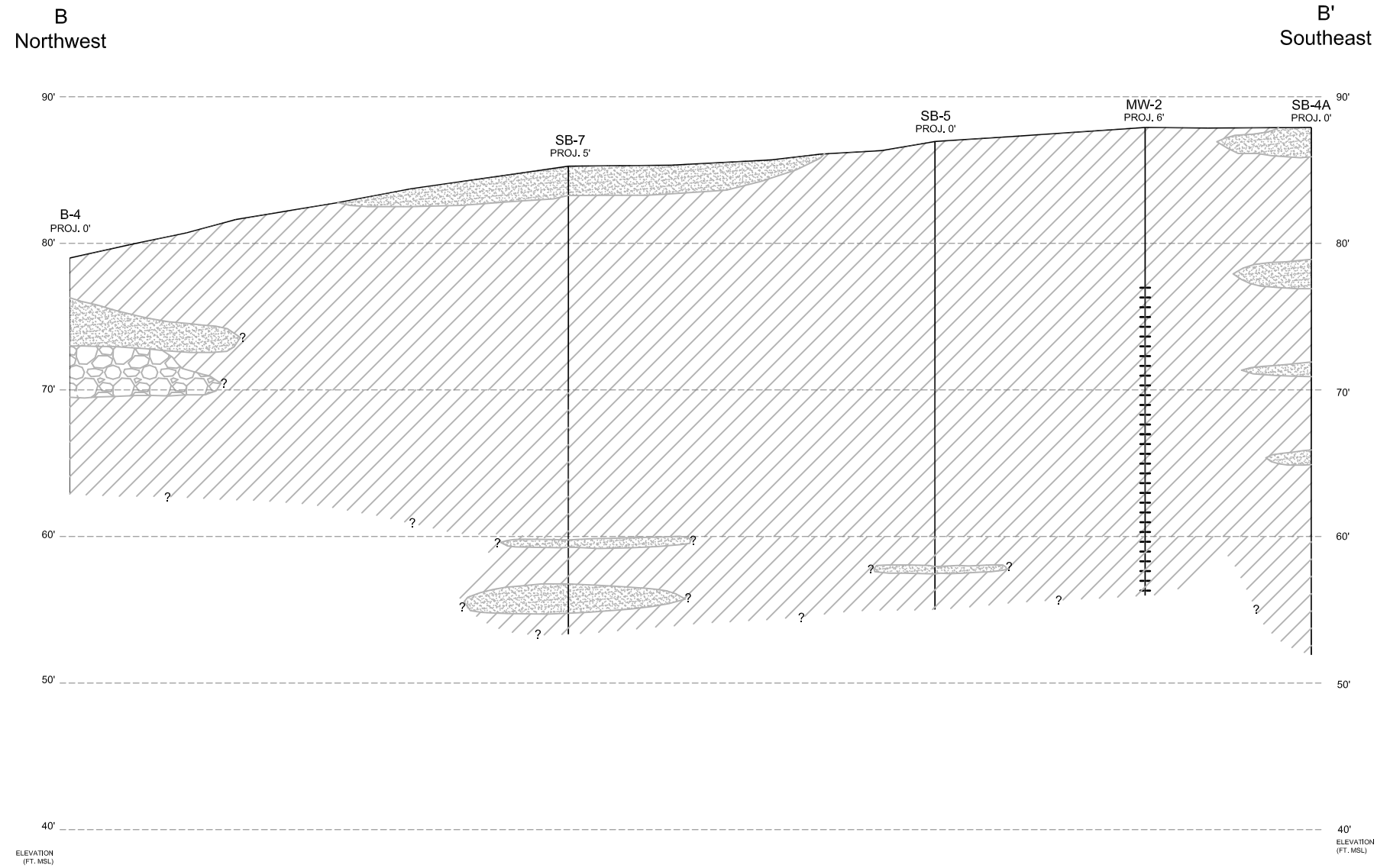
Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, 1324 Mangrove Ave., Suite 212, Chico, 95926  
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA  
94612-2032  
Donna Drogos, ACEH  
Paresh Khatri, ACEH  
GeoTracker  
File



Drawing	1
Site Layout Plan with Geologic Cross-Section Locations	
Former Station #11102 100 MacArthur Boulevard Oakland, California	
<b>BROADBENT &amp; ASSOCIATES, INC.</b> ENGINEERING, WATER RESOURCES & ENVIRONMENTAL 1324 Mangrove Avenue, Suite 212 Chico, CA Project No.: 06-08-643    Date: 5/22/09	
0    40    80  SCALE (ft)	<b>LEGEND</b> <ul style="list-style-type: none"> <li> Proposed Monitoring Well Location</li> <li> BP Monitoring Well Location</li> <li> UNOCAL Monitoring Well Location</li> <li> Former Soil Boring Location</li> </ul> <p style="font-size: 0.7em; margin-top: 5px;">NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.</p>

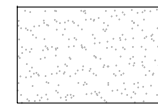




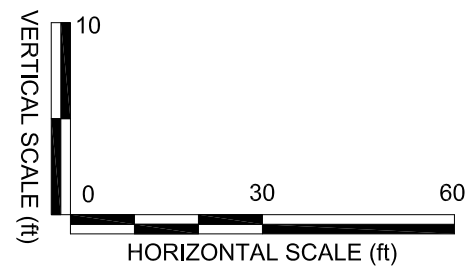
SP/SW/GP/GW - High Permeability



ML/CL/CH - Low Permeability



SM/SC/GC/GM - Moderate Permeability



### LEGEND

● Monitoring Well Location

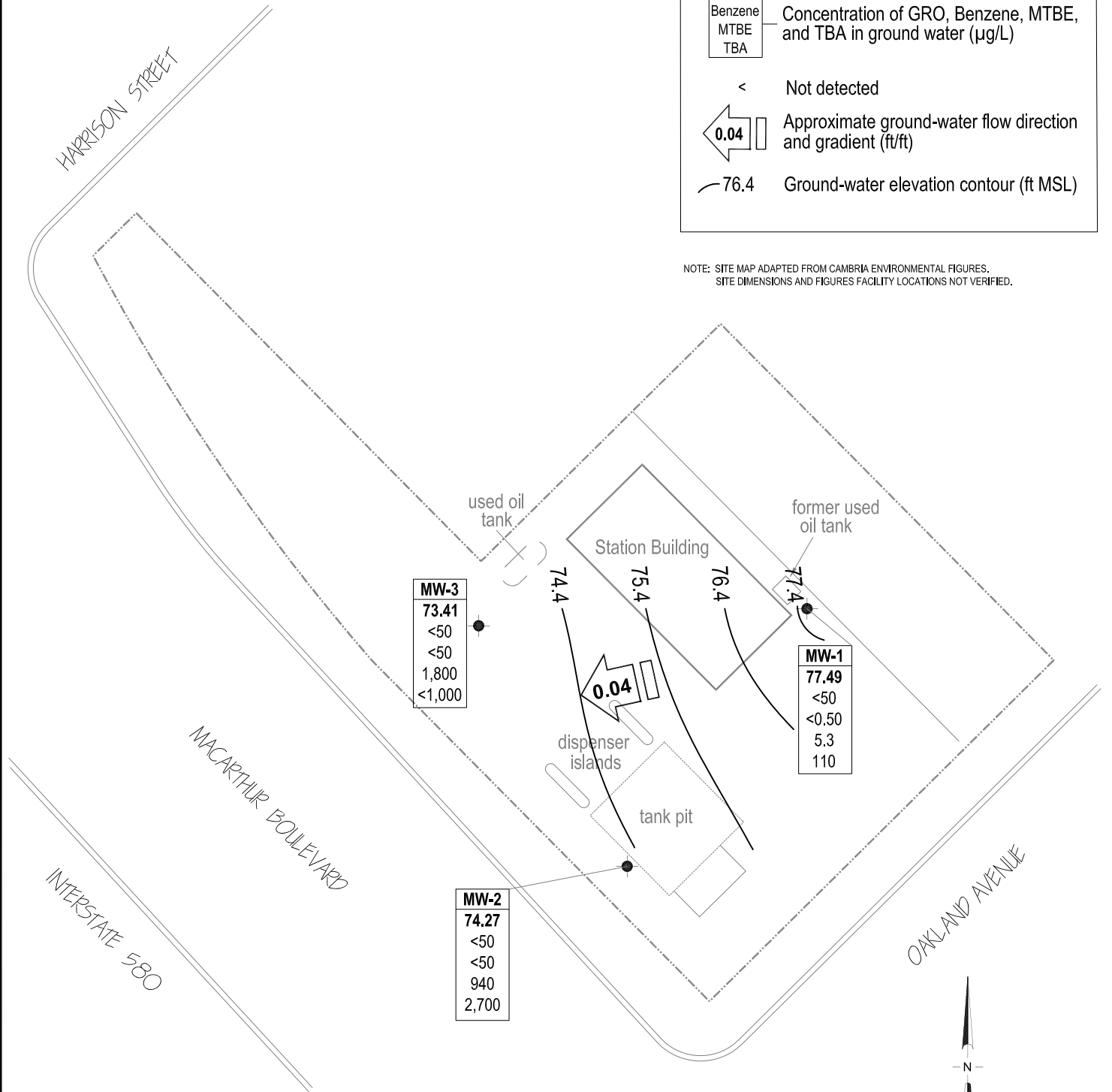
<b>Well</b>	Well designation
<b>ELEV</b>	Ground-water elevation (ft MSL)
GRO	Concentration of GRO, Benzene, MTBE, and TBA in ground water (µg/L)
Benzene	
MTBE	
TBA	

< Not detected

← 0.04 Approximate ground-water flow direction and gradient (ft/ft)

— 76.4 Ground-water elevation contour (ft MSL)

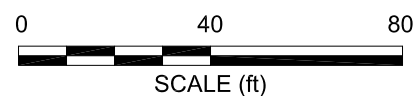
NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES.  
SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.



<b>MW-3</b>
73.41
<50
<50
1,800
<1,000

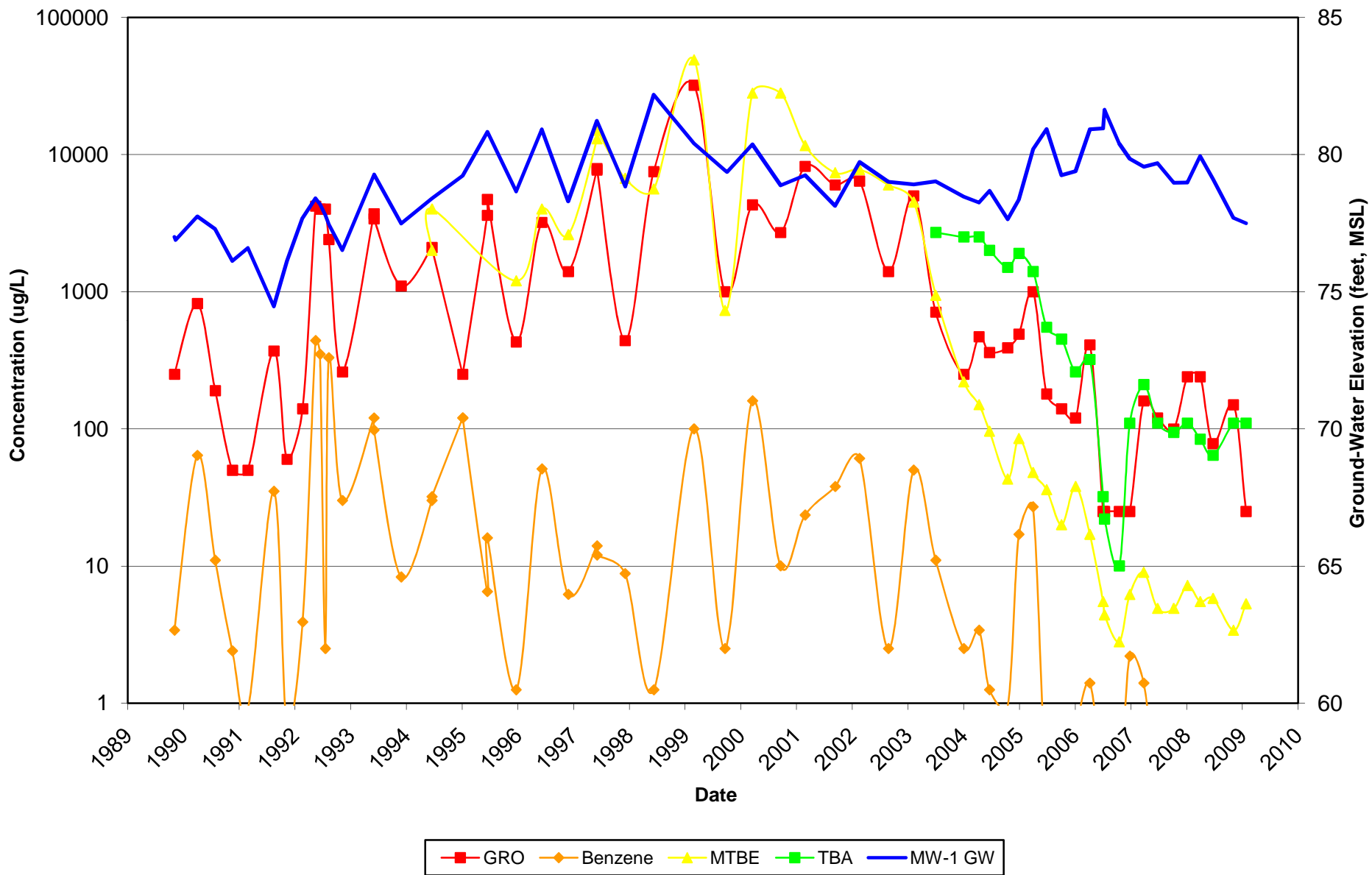
<b>MW-1</b>
77.49
<50
<0.50
5.3
110

<b>MW-2</b>
74.27
<50
<50
940
2,700

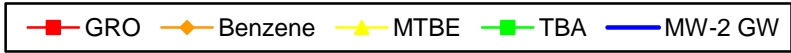
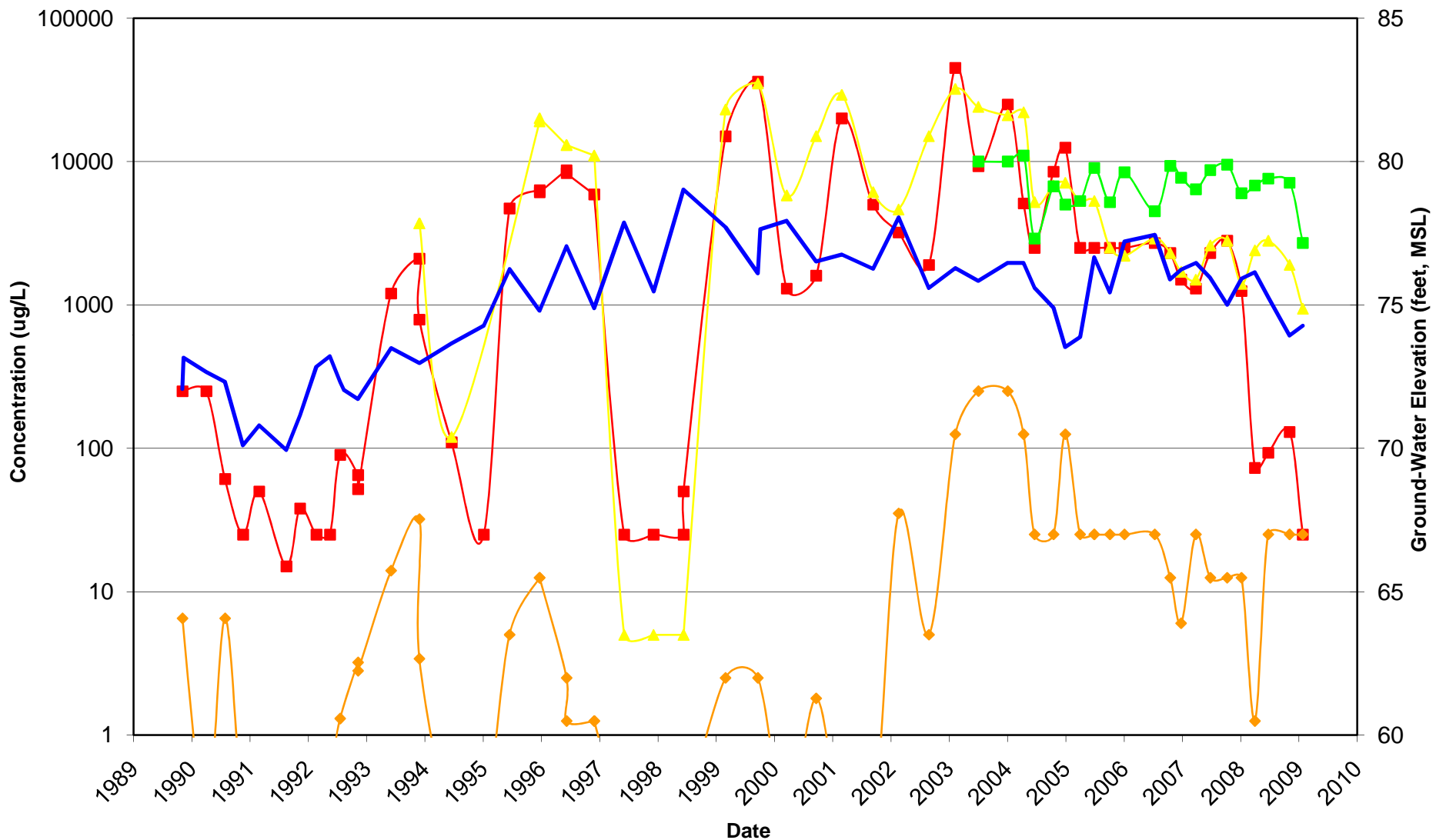




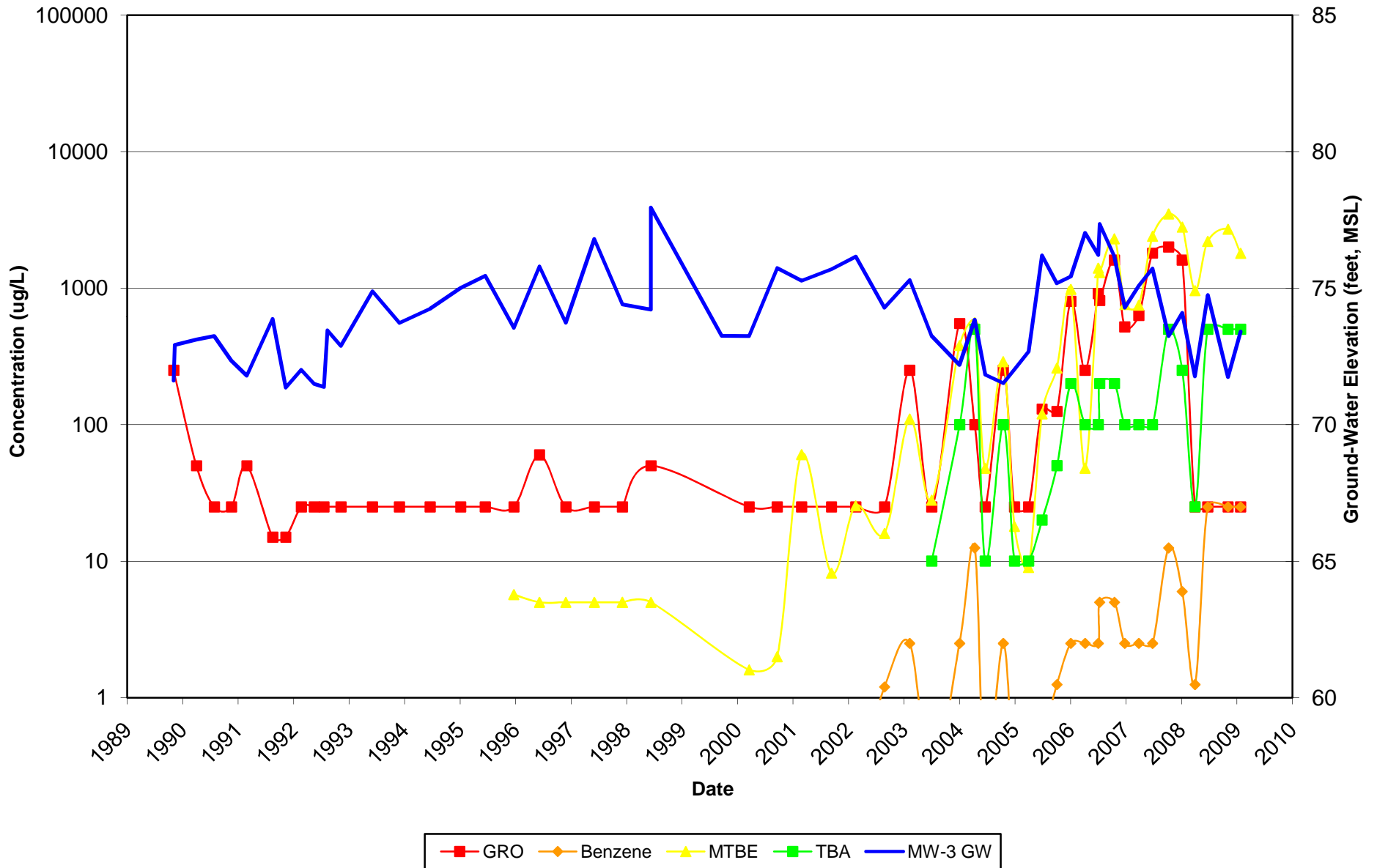
**Figure 1**  
**MW-1 Concentrations and Ground-Water Elevations vs. Time**  
**Former BP Station #11102**  
**100 MacArthur Boulevard, Oakland, California**



**Figure 2**  
**MW-2 Concentrations and Ground-Water Elevations vs. Time**  
**Former BP Station #11102**  
**100 MacArthur Boulevard, Oakland, California**



**Figure 3**  
**MW-3 Concentrations and Ground-Water Elevations vs. Time**  
**Former BP Station #11102**  
**100 MacArthur Boulevard, Oakland, California**



**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**

**Station #11102, 100 MacArthur Blvd., Oakland, CA**

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
<b>MW-1</b>																		
11/4/1989	--		90.20	13.21	--	76.99	<500	3.4	0.6	<0.3	<0.3	--	--	SAL	--	<50	<5000	--
11/11/1989	--		90.20	13.32	--	76.88	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		90.20	12.46	--	77.74	820	64	1.9	23	34	--	--	ANA	--	--	--	--
7/30/1990	--		90.20	12.92	--	77.28	190	11	<5.0	<5.0	<5.0	--	--	ANA	--	<50	<5000	--
11/20/1990	--		90.20	14.08	--	76.12	50	2.4	<0.3	<0.3	<0.3	--	--	SAL	--	79	<5000	--
3/1/1991	--		90.20	13.61	--	76.59	<100	0.9	<0.3	<0.3	0.3	--	--	SAL	--	<1000	14,000	--
8/19/1991	--		90.20	15.74	--	74.46	370	35	0.73	6.4	5.6	--	--	SEQ	--	<50	<5000	--
11/13/1991	--		90.20	14.08	--	76.12	60	0.68	<0.3	<0.3	<0.3	--	--	SEQ	--	<50	<5000	--
2/24/1992	--		90.20	12.52	--	77.68	140	3.9	0.66	1.2	3.8	--	--	SEQ	--	100	<5000	--
5/19/1992	--		90.20	11.80	--	78.40	4,200	440	21	250	37	--	--	SEQ	--	910	<5000	--
6/17/1992	--		90.20	12.01	--	78.19	4,000	350	14	150	17	--	--	SEQ	--	560	<5000	--
7/22/1992	--		90.20	12.42	--	77.78	4,000	<5.0	19	210	61	--	--	ANA	--	--	--	--
8/14/1992	--		90.20	12.75	--	77.45	2,400	330	20	150	47	--	--	SEQ	--	1,700	<5000	--
11/11/1992	--		90.20	13.69	--	76.51	260	30	3.4	7.6	6.8	--	--	ANA	--	92	<5000	--
6/7/1993	--		90.20	10.93	--	79.27	3,400	98	11	21	7.6	--	--	PACE	--	440	--	--
6/7/1993	--	c	90.20	--	--	--	3,700	120	12	26	9.5	--	--	PACE	--	--	--	--
12/2/1993	--		90.20	12.72	--	77.48	1,100	8.3	3.6	0.6	1.5	--	--	PACE	--	120	<5000	--
6/22/1994	--	c, d	90.20	--	--	--	2,100	30	3.2	2	15	2,000	--	PACE	--	--	--	--
6/22/1994	--	d	90.20	11.81	--	78.39	2,100	32	3.8	2.2	17	4,000	3.2	PACE	--	<50	<5000	--
1/10/1995	--		90.20	10.97	--	79.23	<500	120	<5	<5	<10	--	3.9	ATI	--	420	--	--
1/10/1995	--	c	90.20	--	--	--	<500	120	<5	5	<10	--	--	ATI	--	--	--	--
6/21/1995	--		90.20	9.38	--	80.82	4,700	16	<5.0	<5.0	<10	--	6.7	ATI	--	1,300	2,900	0.6
6/21/1995	--	c, e	90.20	--	--	--	3,600	<13	<5.0	<5.0	<10	--	--	ATI	--	--	--	--
12/27/1995	--		90.20	11.55	--	78.65	430	<2.5	<2.5	<2.5	<5.0	1,200	6.3	ATI	--	2,100	640	--
6/13/1996	--		90.20	9.28	--	80.92	3,200	51	<12	<12	<12	4,000	6.3	SPL	--	920	2,000	--
12/4/1996	--	f	90.20	11.91	--	78.29	1,400	6.2	<5	<5	<5	2,600	6.7	SPL	--	280	2,000	6
6/10/1997	--	c	90.20	--	--	--	7,700	14	<25	<25	<25	13,000	--	SPL	--	--	--	--
6/10/1997	--		90.20	8.97	--	81.23	7,900	12	<10	<10	<10	15,000	6	SPL	--	1,700	<5	--
12/12/1997	--		90.20	11.37	--	78.83	440	8.8	<1.0	2.6	9.4	6,700	5.5	SPL	--	760	1,200	--
6/18/1998	--		90.20	8.02	--	82.18	7,500	<2.5	<5.0	<5.0	<5.0	5,600	4.9	SPL	--	2,900	<5	--
3/9/1999	--		90.20	9.80	--	80.40	32,000	100	16	72	110	49,000	--	SPL	--	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-1 Cont.																		
9/28/1999	--		90.20	10.78	--	79.42	1,000	<5.0	<5.0	<5.0	<5.0	730	--	SPL	--	--	--	<1.0
10/14/1999	--		90.20	10.84	--	79.36	--	--	--	--	--	--	--	SPL	--	660	--	--
3/27/2000	--		90.20	9.83	--	80.37	4,300	160	19	37	43	28,000	--	PACE	--	--	--	--
9/28/2000	--		90.20	11.33	--	78.87	2,700	10	2.6	1.1	2.7	28,000	--	PACE	--	--	--	--
3/8/2001	--		90.20	10.96	--	79.24	8,200	23.5	6.09	5.23	8.97	11,600	--	PACE	--	--	--	--
9/21/2001	--		90.20	12.07	--	78.13	6,000	37.9	<0.5	<0.5	<1.5	7,370	--	PACE	--	--	--	--
2/28/2002	--		90.20	10.48	--	79.72	6,400	60.8	<5.0	6.43	<10	7,750	--	PACE	--	--	--	--
9/6/2002	--		90.20	11.20	--	79.00	1,400	<5.0	<5.0	<5.0	<5.0	6,000	--	SEQ	--	--	--	--
2/19/2003	--	h	90.20	11.29	--	78.91	<10000	<100	110	<100	<100	4,500	--	SEQ	--	--	--	--
7/14/2003	--		90.20	11.18	--	79.02	710	11	<10	<10	<10	940	--	SEQ	--	--	--	--
01/14/2004	--		90.20	11.74	--	78.46	<500	<5.0	<5.0	<5.0	<5.0	220	--	SEQM	6.6	--	--	--
04/23/2004	P	l	90.20	11.95	--	78.25	470	3.4	<2.5	<2.5	<2.5	150	--	SEQM	6.7	--	--	--
07/01/2004	P		90.20	11.52	--	78.68	360	<2.5	<2.5	<2.5	<2.5	96	--	SEQM	6.0	--	--	--
10/28/2004	P		90.20	12.56	--	77.64	390	0.94	<0.50	<0.50	<0.50	43	--	SEQM	6.2	--	--	--
01/10/2005	P		90.20	11.85	--	78.35	490	17	<2.5	5.8	5.4	85	--	SEQM	7.6	--	--	--
04/13/2005	P		90.20	10.00	--	80.20	1,000	27	<2.5	<2.5	25	48	--	SEQM	6.6	--	--	--
07/11/2005	P		90.20	9.27	--	80.93	180	<0.50	<0.50	<0.50	<0.50	36	--	SEQM	7.7	--	--	--
10/17/2005	P		90.20	10.96	--	79.24	140	<0.50	<0.50	<0.50	<0.50	20	--	SEQM	8.0	--	--	--
01/17/2006	P		90.20	10.81	--	79.39	120	0.64	<0.50	<0.50	0.56	38	--	SEQM	6.5	--	--	--
04/21/2006	P	m	90.20	9.28	--	80.92	410	1.4	1.0	<0.50	<0.50	17	--	SEQM	6.5	--	--	--
7/17/2006	--		90.20	9.25	--	80.95	<50	<0.50	<0.50	<0.50	<0.50	5.5	--	TAMC	7.7	--	--	--
7/26/2006	--		90.20	8.57	--	81.63	<50	<0.50	<0.50	<0.50	<0.50	4.4	--	TAMC	6.6	--	--	--
10/31/2006	P		90.20	9.80	--	80.40	<50	<0.50	<0.50	<0.50	<0.50	2.8	2.81	TAMC	6.99	--	--	--
1/8/2007	P		90.20	10.36	--	79.84	<50	2.2	<0.50	<0.50	<0.50	6.2	2.51	TAMC	6.97	--	--	--
4/10/2007	P		90.20	10.65	--	79.55	160	1.4	<0.50	<0.50	<0.50	9.0	1.75	TAMC	7.00	--	--	--
7/10/2007	P	p	90.20	10.52	--	79.68	120	<0.50	<0.50	<0.50	<0.50	4.9	2.01	TAMC	6.60	160	--	--
10/24/2007	P		90.20	11.23	--	78.97	100	<0.50	<0.50	<0.50	<0.50	4.9	1.89	TAMC	6.57	--	--	--
1/22/2008	P		90.20	11.22	--	78.98	240	<0.50	<0.50	0.83	1.7	7.2	3.18	TAMC	6.49	--	--	--
4/15/2008	P		90.20	10.26	--	79.94	240	<0.50	<0.50	<0.50	0.73	5.5	3.32	CEL	6.45	--	--	--
7/8/2008	P		90.20	11.10	--	79.10	78	<0.50	<0.50	<0.50	<0.50	5.8	1.65	CEL	6.78	--	--	--
11/19/2008	P		90.20	12.51	--	77.69	150	<0.50	<0.50	<0.50	<0.50	3.4	1.59	CEL	6.84	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-1 Cont.																		
2/10/2009	P		90.20	12.71	--	77.49	<50	<0.50	<0.50	<0.50	<0.50	5.3	1.63	CEL	7.00	--	--	--
MW-2																		
11/4/1989	--		87.91	15.84	--	72.07	<500	6.5	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
11/11/1989	--		87.91	14.75	--	73.16	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		87.91	15.25	--	72.66	<500	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
7/30/1990	--		87.91	15.59	--	72.32	61	6.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
11/20/1990	--		87.91	17.81	--	70.10	<50	0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
3/1/1991	--		87.91	17.11	--	70.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
8/19/1991	--		87.91	17.97	--	69.94	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
11/13/1991	--		87.91	16.76	--	71.15	38	0.32	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
2/24/1992	--		87.91	15.07	--	72.84	<50	<0.5	<0.5	<0.5	0.58	--	--	SEQ	--	--	--	--
5/19/1992	--		87.91	14.70	--	73.21	<50	0.55	<0.5	<0.5	<0.5	--	--	SEQ	--	--	--	--
7/22/1992	--		87.91	15.60	--	72.31	90	1.3	0.6	0.9	1.9	--	--	ANA	--	--	--	--
8/14/1992	--		87.91	15.88	--	72.03	--	--	--	--	--	--	--	--	--	--	--	--
11/11/1992	--		87.91	16.19	--	71.72	52	2.8	<0.5	<0.5	0.9	--	--	ANA	--	--	--	--
11/11/1992	--	c	87.91	--	--	--	65	3.2	<0.5	<0.5	1	--	--	ANA	--	--	--	--
6/7/1993	--		87.91	14.42	--	73.49	1,200	14	2.8	1.9	1.71	--	--	PACE	--	--	--	--
12/2/1993	--	d	87.91	14.94	--	72.97	790	3.4	0.5	10	<0.5	3,700	--	PACE	--	--	--	--
12/2/1993	--	c, d	87.91	--	--	--	2,100	32	3.8	2.2	17	3,700	--	PACE	--	--	--	--
6/22/1994	--	d	87.91	14.25	--	73.66	110	<0.5	<0.5	<0.5	<0.5	120	3.9	PACE	--	--	--	--
1/10/1995	--		87.91	13.64	--	74.27	<50	<0.5	<0.5	0.6	1	--	4.3	ATI	--	--	--	--
6/21/1995	--		87.91	11.66	--	76.25	4,700	<10	<10	<10	<20	--	7.8	ATI	--	--	--	--
12/27/1995	--		87.91	13.11	--	74.80	6,100	<25	<25	<25	<50	20,000	6.7	ATI	--	--	--	--
12/27/1995	--	c	87.91	--	--	--	6,300	<25	<25	<25	<50	19,000	--	ATI	--	--	--	--
6/13/1996	--		87.91	10.86	--	77.05	8,300	<2.5	<2.5	<2.5	<2.5	13,000	6.5	SPL	--	--	--	--
6/13/1996	--	c	87.91	--	--	--	8,700	<5	<5	<5	<5	13,000	--	SPL	--	--	--	--
12/4/1996	--		87.91	13.03	--	74.88	5,900	<2.5	<5	<5	<5	11,000	6.3	SPL	--	--	--	--
12/4/1996	--	c	87.91	--	--	--	5,900	<2.5	<5	<5	<5	11,000	--	SPL	--	--	--	--
6/10/1997	--		87.91	10.04	--	77.87	<50	<0.5	<1.0	<1.0	<1.0	<10	5.8	SPL	--	--	--	--
12/12/1997	--		87.91	12.44	--	75.47	<50	<0.5	<1.0	<1.0	<1.0	<10	5.7	SPL	--	--	--	--



Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-2 Cont.																		
6/18/1998	--		87.91	8.89	--	79.02	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--
6/18/1998	--	c	87.91	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
3/9/1999	--		87.91	10.20	--	77.71	15,000	<5.0	<5.0	<5.0	<5.0	23,000	--	SPL	--	--	--	--
9/28/1999	--		87.91	11.81	--	76.10	36,000	<5.0	12	7	26	35,000	--	SPL	--	--	--	<5.0
10/14/1999	--		87.91	10.27	--	77.64	--	--	--	--	--	--	--	SPL	--	100	--	--
3/27/2000	--		87.91	9.98	--	77.93	1,300	<0.5	<0.5	0.51	<0.5	5,800	--	PACE	--	--	--	--
9/28/2000	--		87.91	11.40	--	76.51	1,600	1.8	1.7	0.54	2.2	15,000	--	PACE	--	--	--	--
3/8/2001	--		87.91	11.16	--	76.75	20,000	<0.5	<0.5	<0.5	<0.5	29,100	--	PACE	--	--	--	--
9/21/2001	--		87.91	11.65	--	76.26	5,000	<0.5	<0.5	<0.5	<1.5	6,110	--	PACE	--	--	--	--
2/28/2002	--		87.91	9.86	--	78.05	3,200	35.1	<0.5	<0.5	<1.0	4,620	--	PACE	--	--	--	--
9/6/2002	--		87.91	12.32	--	75.59	1,900	<10	<10	<10	<10	15,000	--	SEQ	--	--	--	--
2/19/2003	--	h	87.91	11.63	--	76.28	45,000	<250	<250	<250	<250	32,000	--	SEQ	--	--	--	--
7/14/2003	--		87.91	12.07	--	75.84	9,300	<500	<500	<500	<500	24,000	--	SEQ	--	--	--	--
01/14/2004	P		87.91	11.45	--	76.46	<50,000	<500	<500	<500	<500	21,000	--	SEQM	6.9	--	--	--
04/23/2004	P	l	87.91	11.45	--	76.46	5,100	<250	<250	<250	<250	22,000	--	SEQM	6.8	--	--	--
07/01/2004	P		87.91	12.32	--	75.59	<5,000	<50	<50	<50	<50	5,200	--	SEQM	5.6	--	--	--
10/28/2004	P		87.91	13.02	--	74.89	8,500	<50	<50	<50	<50	6,800	--	SEQM	6.2	--	--	--
01/10/2005	P		87.91	14.38	--	73.53	<25,000	<250	<250	<250	<250	7,100	--	SEQM	7.6	--	--	--
04/13/2005	P		87.91	14.03	--	73.88	<5,000	<50	<50	<50	<50	5,300	--	SEQM	6.6	--	--	--
07/11/2005	P		87.91	11.25	--	76.66	<5,000	<50	<50	<50	<50	5,300	--	SEQM	7.5	--	--	--
10/17/2005	P		87.91	12.48	--	75.43	<5,000	<50	<50	<50	<50	2,500	--	SEQM	8.2	--	--	--
01/17/2006	P		87.91	10.70	--	77.21	<5,000	<50	<50	<50	<50	2,200	--	SEQM	7.0	--	--	--
04/21/2006	--	n	87.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/2006	--	k	87.91	10.47	--	77.44	2,700	<50	<50	<50	<50	2,900	--	TAMC	6.69	--	--	--
10/31/2006	P		87.91	12.02	--	75.89	2,300	<25	<25	<25	<25	2,300	2.02	TAMC	6.71	--	--	--
1/8/2007	P		87.91	11.68	--	76.23	1,500	<12	<12	<12	<12	1,700	1.37	TAMC	6.54	--	--	--
4/10/2007	P	k	87.91	11.45	--	76.46	1,300	<50	<50	<50	<50	1,500	1.60	TAMC	6.89	--	--	--
7/10/2007	P	k, p	87.91	11.97	--	75.94	2,300	<25	<25	<25	<25	2,600	1.82	TAMC	6.69	120	--	--
10/24/2007	P	k	87.91	12.91	--	75.00	2,800	<25	<25	<25	<25	2,800	1.55	TAMC	6.77	--	--	--
1/22/2008	P		87.91	12.00	--	75.91	<2,500	<25	<25	<25	<25	1,400	2.08	TAMC	6.55	--	--	--
4/15/2008	P		87.91	11.77	--	76.14	73	<2.5	<2.5	<2.5	<2.5	2,400	3.12	CEL	6.72	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
<b>MW-2 Cont.</b>																		
7/8/2008	P		87.91	12.65	--	75.26	93	<50	<50	<50	<50	2,800	1.78	CEL	7.05	--	--	--
11/19/2008	P		87.91	13.98	--	73.93	130	<50	<50	<50	<50	1,900	1.75	CEL	6.72	--	--	--
<b>2/10/2009</b>	<b>P</b>		<b>87.91</b>	<b>13.64</b>	<b>--</b>	<b>74.27</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>940</b>	<b>1.71</b>	<b>CEL</b>	<b>7.04</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-3</b>																		
11/4/1989	--		87.02	15.40	--	71.62	<500	<0.3	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
11/11/1989	--		87.02	14.10	--	72.92	--	--	--	--	--	--	--	--	--	--	--	--
4/3/1990	--		87.02	13.90	--	73.12	<100	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	--	--
7/30/1990	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	--	<5000	--
11/20/1990	--		87.02	14.67	--	72.35	<50	0.3	0.8	0.4	1.5	--	--	SAL	--	--	--	--
3/1/1991	--		87.02	15.22	--	71.80	<100	0.4	<0.3	<0.3	<0.3	--	--	SAL	--	--	--	--
8/19/1991	--		87.02	13.15	--	73.87	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
11/13/1991	--		87.02	15.66	--	71.36	<30	<0.3	<0.3	<0.3	<0.3	--	--	SEQ	--	--	--	--
2/24/1992	--		87.02	15.01	--	72.01	<50	0.65	1.4	0.66	4.4	--	--	SEQ	--	--	--	--
5/19/1992	--		87.02	15.52	--	71.50	<50	<0.5	<0.5	<0.5	<0.5	--	--	SEQ	--	--	--	--
7/22/1992	--		87.02	15.63	--	71.39	<50	<0.5	<0.5	<0.5	<0.5	--	--	ANA	--	<50	<5000	--
8/14/1992	--		87.02	13.57	--	73.45	--	--	--	--	--	--	--	--	--	--	--	--
11/11/1992	--		87.02	14.13	--	72.89	<50	<0.5	0.7	<0.5	1.3	--	--	ANA	--	--	--	--
6/7/1993	--		87.02	12.13	--	74.89	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
12/2/1993	--		87.02	13.29	--	73.73	<50	<0.5	<0.5	<0.5	<0.5	--	--	PACE	--	--	--	--
6/22/1994	--		87.02	12.78	--	74.24	<50	<0.5	<0.5	<0.5	<0.5	--	2.9	PACE	--	--	--	--
1/10/1995	--		87.02	12.01	--	75.01	<50	<0.5	<0.5	<0.5	<1	--	3.8	ATI	--	--	--	--
6/21/1995	--		87.02	11.57	--	75.45	<50	<0.50	<0.50	<0.50	<1.0	--	7.4	ATI	--	--	--	--
12/27/1995	--		87.02	13.47	--	73.55	<50	<0.50	<0.50	<0.50	<1.0	5.7	7.3	ATI	--	--	--	--
6/13/1996	--		87.02	11.22	--	75.80	60	<0.5	<0.5	<0.5	<0.5	<10	6.8	SPL	--	--	--	--
12/4/1996	--		87.02	13.28	--	73.74	<50	<0.5	<1	<1	<1	<10	6.7	SPL	--	--	--	--
6/10/1997	--		87.02	10.22	--	76.80	<50	<0.5	<1.0	<1.0	<1.0	<10	6.1	SPL	--	--	--	--
12/12/1997	--		87.02	12.61	--	74.41	<50	<0.5	<1.0	<1.0	<1.0	<10	5.6	SPL	--	--	--	--
12/12/1997	--	c	87.02	--	--	--	<50	<0.5	<1.0	<1.0	<1.0	<10	--	SPL	--	--	--	--
6/18/1998	--		87.02	12.80	--	74.22	--	--	--	--	--	--	--	--	--	--	--	--
6/18/1998	--		87.02	9.07	--	77.95	50	<0.5	<1.0	<1.0	<1.0	<10	5.3	SPL	--	--	--	--

Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #11102, 100 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
<b>MW-3 Cont.</b>																		
9/28/1999	--		87.02	13.76	--	73.26	--	--	--	--	--	--	--	--	--	--	--	--
3/27/2000	--		87.02	13.77	--	73.25	<50	<0.5	<0.5	<0.5	<0.5	1.6	--	PACE	--	--	--	--
9/28/2000	--		87.02	11.28	--	75.74	<50	<0.5	7.4	<0.5	1.3	2	--	PACE	--	--	--	--
3/8/2001	--		87.02	11.75	--	75.27	<50	<0.5	<0.5	<0.5	<0.5	60.4	--	PACE	--	--	--	--
9/21/2001	--		87.02	11.33	--	75.69	<50	<0.5	<0.5	<0.5	<1.5	8.18	--	PACE	--	--	--	--
2/28/2002	--		87.02	10.86	--	76.16	<50	<0.5	<0.5	<0.5	<1.0	25.5	--	PACE	--	--	--	--
9/6/2002	--		87.02	12.73	--	74.29	<50	1.2	<0.5	<0.5	1	16	--	SEQ	--	--	--	--
2/19/2003	--	h	87.02	11.72	--	75.30	<500	<5.0	<5.0	<5.0	<5.0	110	--	SEQ	--	--	--	--
7/14/2003	--		87.02	13.76	--	73.26	<50	<0.50	<0.50	<0.50	0.67	28	--	SEQ	--	--	--	--
01/14/2004	P		87.02	14.83	--	72.19	550	<5.0	<5.0	<5.0	<5.0	380	--	SEQM	8.1	--	--	--
04/23/2004	P	l	87.02	13.17	--	73.85	<200	<25	<25	<25	<25	560	--	SEQM	6.8	--	--	--
07/01/2004	P		87.02	15.19	--	71.83	<50	<0.50	<0.50	<0.50	0.50	48	--	SEQM	6.4	--	--	--
10/28/2004	P		87.02	15.50	--	71.52	<500	<5.0	<5.0	<5.0	<5.0	290	--	SEQM	6.3	--	--	--
01/10/2005	P		87.02	15.00	--	72.02	<50	<0.50	<0.50	<0.50	<0.50	18	--	SEQM	7.6	--	--	--
04/13/2005	P		87.02	14.34	--	72.68	<50	<0.50	<0.50	<0.50	<0.50	9.0	--	SEQM	7.1	--	--	--
07/11/2005	P	k	87.02	10.82	--	76.20	130	<1.0	<1.0	<1.0	<1.0	120	--	SEQM	7.8	--	--	--
10/17/2005	P		87.02	11.84	--	75.18	<250	<2.5	<2.5	<2.5	<2.5	260	--	SEQM	8.5	--	--	--
01/17/2006	P		87.02	11.59	--	75.43	800	<5.0	<5.0	<5.0	<5.0	980	--	SEQM	7.2	--	--	--
04/21/2006	P		87.02	10.00	--	77.02	<500	<5.0	<5.0	<5.0	<5.0	48	--	SEQM	6.7	--	--	--
7/17/2006	P	k	87.02	10.80	--	76.22	910	<5.0	<5.0	<5.0	<5.0	1,400	--	TAMC	7.7	--	--	--
7/26/2006	P		87.02	9.67	--	77.35	810	<10	<10	<10	<10	1,300	--	TAMC	6.56	--	--	--
10/31/2006	P		87.02	10.85	--	76.17	1,600	<10	<10	<10	<10	2,300	2.50	TAMC	6.84	--	--	--
1/8/2007	P		87.02	12.73	--	74.29	520	<5.0	<5.0	<5.0	<5.0	760	3.61	TAMC	7.12	--	--	--
4/10/2007	P	k	87.02	11.93	--	75.09	630	<5.0	<5.0	<5.0	<5.0	750	2.31	TAMC	7.15	--	--	--
7/10/2007	P	k, p	87.02	11.30	--	75.72	1,800	<5.0	<5.0	<5.0	<5.0	2,400	1.56	TAMC	6.72	66	--	--
10/24/2007	P	k	87.02	13.77	--	73.25	2,000	<25	<25	<25	<25	3,500	1.62	TAMC	6.41	--	--	--
1/22/2008	P	k	87.02	12.92	--	74.10	1,600	<12	<12	<12	<12	2,800	2.17	TAMC	6.32	--	--	--
4/15/2008	P		87.02	15.25	--	71.77	<50	<2.5	<2.5	<2.5	<2.5	960	3.44	CEL	6.71	--	--	--
7/8/2008	P		87.02	12.27	--	74.75	<50	<50	<50	<50	<50	2,200	1.52	CEL	7.01	--	--	--
11/19/2008	P		87.02	15.27	--	71.75	<50	<50	<50	<50	<50	2,700	1.60	CEL	6.83	--	--	--
<b>2/10/2009</b>	<b>P</b>		<b>87.02</b>	<b>13.61</b>	<b>--</b>	<b>73.41</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>1,800</b>	<b>1.66</b>	<b>CEL</b>	<b>6.98</b>	<b>--</b>	<b>--</b>	<b>--</b>

**Table 1. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses**  
**Station #11102, 100 MacArthur Blvd., Oakland, CA**

Well and Sample Date	P/NP	Footnote	TOC Elevation (feet msl)	DTW (feet bgs)	Product Thickness (feet)	Water Level Elevation (feet msl)	Concentrations in (µg/L)						DO (mg/L)	Lab	pH	DRO/TPHd (µg/L)	TOG (µg/L)	HVOC (µg/L)
							GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MtBE						
MW-3																		
QC-2																		
11/11/1992	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	ANA	--	--	--	--
6/7/1993	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	--	--	--
12/2/1993	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	--	--	--
6/22/1994	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	PACE	--	--	--	--
1/10/1995	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<1	<1	--	ATI	--	--	--	--
6/21/1995	--	nc	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<1.0	--	ATI	--	--	--	--
12/27/1995	--	nc	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	--	ATI	--	--	--	--
6/13/1996	--	nc	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<10	--	SPL	--	--	--	--

ABBREVIATIONS & SYMBOLS:

--/-- = Not analyzed/applicable/measured/available  
< = Not detected at or above specified laboratory reporting limit  
DO = Dissolved oxygen  
DRO = Diesel range organics  
DTW = Depth to water in ft bgs  
ft bgs = feet below ground surface  
ft MSL = feet above mean sea level  
GRO = Gasoline range organics, range C4-C12  
GWE = Groundwater elevation measured in ft MSL  
HVOC = Halogenated volatile organic compounds  
mg/L = Milligrams per liter  
MTBE = Methyl tert-butyl ether  
NP = Well not purged prior to sampling  
P = Well purged prior to sampling  
TOC = Top of casing measured in ft MSL  
TOG = Total oil and grease  
TPH-d = Total petroleum hydrocarbons as diesel  
TPH-g = Total petroleum hydrocarbons as gasoline  
µg/L = Micrograms per liter  
ANA = Anametrix, Inc.  
PACE = Pace, Inc.  
ATI = Analytical Technologies, Inc.  
SAL = Superior Analytical Laboratory  
SPL = Southern Petroleum Laboratories  
SEQ/SEQM = Sequoia Analytical/Sequoia Analytical - Morgan Hill (Laboratories)  
CEL = CalScience Environmental Laboratories, Inc.

FOOTNOTES:

c = Blind duplicate.  
d = A copy of the documentation for this data is included in Appendix C of Alisto report 10-076-06-002.  
e = Tetrachloroethene  
f = trans-1,2-Dichloroethene  
g = Travel blank.  
h = TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE analyzed by EPA Method 8260B beginning on 1st quarter sampling event (2/19/03).  
k = The hydrocarbon result was partly due to individual peaks in the quantification range (GRO).  
l = GRO analyzed by EPA Method 8015B.  
m = Confirmatory analysis for total xylenes was past holding time.  
n = Well inaccessible.  
p = Hydrocarbon in req. fuel range, but doesn't resemble req. fuel (DRO).

NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

Values for pH and DO were obtained through field measurements.

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 2. Summary of Fuel Additives Analytical Data  
Station #11102, 100 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-1</b>									
7/14/2003	<2000	2,700	940	<20	<20	<20	--	--	
01/14/2004	<1,000	2,500	220	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<500	2,500	150	<2.5	<2.5	<2.5	<2.5	<2.5	
07/01/2004	<500	2,000	96	<2.5	<2.5	<2.5	<2.5	<2.5	
10/28/2004	<5.0	1,500	43	<0.50	<0.50	0.58	<0.50	<0.50	
01/10/2005	<500	1,900	85	<2.5	<2.5	<2.5	<2.5	<2.5	
04/13/2005	<500	1,400	48	<2.5	<2.5	<2.5	<2.5	<2.5	
07/11/2005	<100	550	36	<0.50	<0.50	<0.50	<0.50	<0.50	
10/17/2005	<100	450	20	<0.50	<0.50	<0.50	<0.50	<0.50	a
01/17/2006	<300	260	38	<0.50	<0.50	0.54	<0.50	<0.50	
04/21/2006	<300	320	17	<0.50	<0.50	<0.50	<0.50	<0.50	
7/17/2006	<300	32	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/26/2006	<300	22	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	
10/31/2006	<300	<20	2.8	<0.50	<0.50	<0.50	<0.50	<0.50	a
1/8/2007	<300	110	6.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2007	<300	210	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
7/10/2007	<300	110	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
10/24/2007	<300	94	4.9	<0.50	<0.50	<0.50	<0.50	<0.50	
1/22/2008	<300	110	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/15/2008	<300	84	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	
7/8/2008	<300	64	5.8	<0.50	<0.50	<0.50	<0.50	<0.50	
11/19/2008	<300	110	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>2/10/2009</b>	<b>&lt;300</b>	<b>110</b>	<b>5.3</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
<b>MW-2</b>									
7/14/2003	<100000	<20000	24,000	<1000	<1000	<1000	--	--	
01/14/2004	<100,000	<20,000	21,000	<500	<500	<500	<500	<500	
04/23/2004	<50,000	11,000	22,000	<250	<250	420	<250	<250	
07/01/2004	<10,000	2,900	5,200	<50	<50	110	<50	<50	
10/28/2004	<5.0	6,700	6,800	<50	<50	120	<50	<50	
01/10/2005	<50,000	<10,000	7,100	<250	<250	<250	<250	<250	
04/13/2005	<10,000	5,300	5,300	<50	<50	95	<50	<50	



**Table 2. Summary of Fuel Additives Analytical Data  
Station #11102, 100 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-2 Cont.</b>									
07/11/2005	<10,000	9,000	5,300	<50	<50	99	<50	<50	
10/17/2005	<10,000	5,200	2,500	<50	<50	<50	<50	<50	a
01/17/2006	<30,000	8,400	2,200	<50	<50	<50	<50	<50	
04/21/2006	--	--	--	--	--	--	--	--	Well inaccessible
7/26/2006	<30,000	4,500	2,900	<50	<50	<50	<50	<50	
10/31/2006	<15,000	9,300	2,300	<25	<25	41	<25	<25	a
1/8/2007	<7,500	7700	1700	<12	<12	38	<12	<12	
4/10/2007	<30,000	6,400	1,500	<50	<50	<50	<50	<50	
7/10/2007	<15,000	8,700	2,600	<25	<25	42	<25	<25	
10/24/2007	<15,000	9,500	2,800	<25	<25	52	<25	<25	
1/22/2008	<15,000	6,000	1,400	<25	<25	<25	<25	<25	
4/15/2008	<1,500	6,800	2,400	<2.5	<2.5	30	2.8	<2.5	
7/8/2008	<30,000	7,600	2,800	<50	<50	<50	<50	<50	
11/19/2008	<30,000	7,100	1,900	<50	<50	<50	<50	<50	
<b>2/10/2009</b>	<b>&lt;30,000</b>	<b>2,700</b>	<b>940</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	
<b>MW-3</b>									
7/14/2003	<100	<20	28	<1.0	<1.0	<1.0	--	--	
01/14/2004	<1,000	<200	380	<5.0	<5.0	<5.0	<5.0	<5.0	
04/23/2004	<5,000	<1,000	560	<25	<25	<25	<25	<25	
07/01/2004	<100	<20	48	<0.50	<0.50	0.52	<0.50	<0.50	
10/28/2004	<5.0	<200	290	<5.0	<5.0	<5.0	<5.0	<5.0	
01/10/2005	<100	<20	18	<0.50	<0.50	<0.50	<0.50	<0.50	
04/13/2005	<100	<20	9.0	<0.50	<0.50	<0.50	<0.50	<0.50	
07/11/2005	<200	<40	120	<1.0	<1.0	1.4	<1.0	<1.0	a
10/17/2005	<500	<100	260	<2.5	<2.5	4.2	<2.5	<2.5	a
01/17/2006	<3,000	200	980	<5.0	<5.0	13	<5.0	<5.0	
04/21/2006	<3,000	<200	48	<5.0	<5.0	<5.0	<5.0	<5.0	
7/17/2006	<3,000	<200	1,400	<5.0	<5.0	15	<5.0	<5.0	
7/26/2006	<6,000	<400	1,400	<10	<10	18	<10	<10	
10/31/2006	<6,000	<400	2,300	<10	<10	39	<10	<10	a
1/8/2007	<3000	<200	760	<5.0	<5.0	9.7	<5.0	<5.0	

**Table 2. Summary of Fuel Additives Analytical Data  
Station #11102, 100 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
<b>MW-3 Cont.</b>									
4/10/2007	<3,000	<200	750	<5.0	<5.0	<5.0	<5.0	<5.0	
7/10/2007	<3,000	<200	2,400	<5.0	<5.0	39	<5.0	--	
10/24/2007	<15,000	<1,000	3,500	<25	<25	58	<25	<25	
1/22/2008	<7,500	<500	2,800	<12	<12	34	<12	<12	
4/15/2008	<1,500	<50	960	<2.5	<2.5	9.2	<2.5	<2.5	
7/8/2008	<30,000	<1,000	2,200	<50	<50	<50	<50	<50	
11/19/2008	<30,000	<1,000	2,700	<50	<50	<50	<50	<50	
<b>2/10/2009</b>	<b>&lt;30,000</b>	<b>&lt;1,000</b>	<b>1,800</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	

SYMBOLS & ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available

< = Not detected at or above specified laboratory reporting limit

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

µg/L = Micrograms per Liter

FOOTNOTES:

a = The calibration verification for ethanol was within the method limits but outside the contract limits.

NOTES:

All volatile organic compounds were analyzed using EPA Method 8260B.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.