

ExxonMobil
Refining & Supply Company
Global Remediation

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ExxonMobil
Refining & Supply

December 8, 2003

Mr. Don Hwang
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

Alameda County
DEC 11 2003
Environmental Health

RE: Former Exxon RAS #7-0235/2225 Telegraph Avenue, Oakland California.

Dear Mr. Hwang:

Attached for your review and comment is a letter report entitled *Response to Agency Comments and Addendum to Preferential Pathway Study and Work Plan*, dated December 8, 2003, for the above-referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and responds to comments regarding the subject site.

If you have any questions or comments, please contact me at (925) 246-8747.

Sincerely,

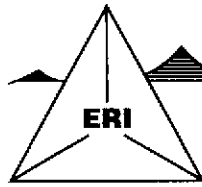


Gene N. Ortega
Project Manager

Attachment: ERI's Response to Agency Comments and Addendum to Preferential Pathway Study and Work Plan, dated December 8, 2003.

cc: w/ attachment
Mr. Chuck Headlee, California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Joseph A. Aldridge, Valero Energy Corporation

w/o attachment
Mr. Rob A. Saur, Environmental Resolutions, Inc.



ENVIRONMENTAL RESOLUTIONS, INC.

December 8, 2003

ERI 222903.W03

Mr. Gene N. Ortega
ExxonMobil Refining & Supply - Global Remediation
25A Crescent Drive, #407
Pleasant Hill, California 94523

Alameda County
DEC 11 2003
Environmental Health

Subject: Reponse to Agency Comments and Addendum to Preferential Pathway Study and Work Plan for Off-Site Delineation, Former Exxon Service Station 7-0235, 2225 Telegraph Avenue, Oakland, California.

Mr. Ortega:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. (ERI) has prepared this Response to Comments and Addendum to the *Preferential Pathway Study and Work Plan for Off-Site Delineation* (Work Plan) dated November 25, 2002, in response to a directive from the Alameda County Health Care Services Agency (the County) dated October 10, 2003 (Attachment A).

BACKGROUND

The site is located on the southwestern corner of Telegraph Avenue and West Grand Avenue in Oakland, California, as shown on the Site Vicinity Map (Plate 1). The locations of existing underground storage tanks (USTs), dispenser islands, and other select site features are shown on the Generalized Site Plan (Plate 2).

ExxonMobil acquired the site upon from Texaco Refining and Marketing, Inc. (Texaco) in March 1998. Groundwater monitoring wells MW6A through MW6I were installed by Texaco prior to ExxonMobil's purchase of the site. MW6A was destroyed in 1992. Wells MW6C and MW6D were converted to groundwater recovery wells RW3 and RW2, respectively, in 1990. Well RW3 was destroyed in 1991 and replaced in 1992 with RW3A. ERI installed monitoring well MW6J in April 2001. The locations of the current monitoring wells are shown on Plate 2.

RESPONSE TO AGENCY COMMENTS

In the October 10, 2003 letter, the County requested the following specific information. The County's requests are paraphrased in bold text, and ERI's responses follow.

Preferential Pathway Study – Please submit map(s) and cross section showing the location and depth of all utility lines and trenches within and near the site plume area(s). Evaluate the probability of the contaminant plumes encountering preferential pathways and conduits that could spread the contamination, particularly in the vertical direction to deeper water aquifers. If so, propose a sampling plan for the trenches.

The locations of the underground gas, electric, sewer, water, and storm drain utilities identified during ERI's Preferential Pathway Study (ERI, November 15, 2002) are shown on Plate 3. Geologic cross sections

depicting ERI's interpretation of the geology beneath and in the vicinity of the site parallel to groundwater flow (A-A') and perpendicular to groundwater flow (B-B') are shown on plates 4 and 5, respectively. In addition, cross sections A-A' and B-B' show the locations and estimated depths of the underground utilities identified beneath and in the vicinity of the site. Based on the depths of the underground utilities versus the historic highest and lowest groundwater levels, it appears that groundwater does not intersect the utility trenches. Therefore, it does not appear that sampling the underground utility trenches is warranted.

Proposed Groundwater Monitoring Well – The nearly nondetectable concentrations (in well MW6K and boring GP1 and GP2) makes the proposed well location (MW6K) undesirable because it may indicate the that the location is beyond the limits of the plume or that the plume flow is in a different direction. Please propose additional grab groundwater sampling to determine the location of the plume for optimal well locations.

ERI's response to the County's request is described the following section.

DPE Interim Remediation – "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001, determined that DPE was effective at this site. We have not received your recommendations and specifications for DPE on a full scale as previously requested. Instead, you propose a Corrective Action Plan (CAP), which will evaluate remedial alternatives, including DPE, at this site. Please indicate the elements and the other remedial alternatives that you plan to include in your evaluation.

ERI will prepare a CAP, which will contain a summary of site activities summarizing assessment and remedial efforts performed to date, a detailed reflection of the site geology and hydrogeology, a summary of the sensitive receptor survey (SRS), evaluation of remedial alternatives, and proposed corrective action. ERI will evaluate natural attenuation, air sparge/soil vapor extraction (AS/SVE), vacuum-enhanced groundwater extraction, and DPE as remedial alternatives.

ADDENDUM TO WORK PLAN FOR OFF-SITE DELINEATION

Quarterly groundwater monitoring and sampling data collected since 1996 indicate that the groundwater flow direction at the site is consistently towards the southeast. A rose diagram depicting historical groundwater flow directions at the site is provided on Plate 2. In addition, it appears dissolved hydrocarbons are not currently delineated to the east and southeast of the site. Cumulative groundwater monitoring and sampling results are summarized in Table 1. Per the County's request, ERI proposes to advance three off-site soil borings to evaluate the location of the dissolved-hydrocarbon plume southeast of the site. The locations of the proposed soil borings are contingent on approval of an encroachment permit by the City of Oakland (the City).

Advancement of Three Off-Site Soil Borings

ERI will perform field work in accordance with ERI's standard field protocol (Attachment B), and ERI's site-specific health and safety plan.

ERI will perform the following summarized work:

- Obtain a drilling permit from the Alameda County Public Works Department, Water Resources Division (Public Works), to advance three off-site soil borings (B5 through B7).
- Obtain an encroachment permit from the City to advance boring B5 through B7 in the City right-of-way.
- Contact Underground Service Alert (USA) and a private utility locating company to locate underground utilities, in accordance with ExxonMobil pre-drilling protocol.
- Obtain the services of a licensed well driller and observe the advancement of three off-site soil borings (B5 through B7) using direct-push technology. The proposed soil boring locations are shown on Plate 2. The borings will be advanced to just below first-encountered groundwater. ERI anticipates groundwater will be encountered between 11 and 14 feet below ground surface (bgs) across the site. ERI will screen soil for the presence of volatile organic compounds (VOCs) in the field using a photo-ionization detector (PID) during drilling activities.
- Collect soil samples from the borings at 5-foot intervals to evaluate sediment composition. ERI will identify the sediment using visual and manual methods, and compile field boring logs during drilling.
- Collect groundwater samples from first-encountered groundwater using a discrete groundwater sampling device, for laboratory analyses.
- Submit groundwater samples and select soil samples to a California state-certified laboratory, under Chain-of-Custody protocol, for analysis of total petroleum hydrocarbons as gasoline (TPHg) using EPA Method 8015B; total petroleum hydrocarbons as motor oil (TPHmo) and total petroleum hydrocarbons as diesel (TPHd) using EPA Method 8015B with silica gel cleanup; benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8021B; and fuel oxygenates and lead scavengers by EPA Method 8260.
- Stockpile soil cuttings generated during drilling activities on the service station site pending characterization and disposal. ERI will collect one composite sample (four brass sleeves) from the soil stockpile for laboratory analysis. The composite sample from the stockpiled soil will be analyzed for TPHg, TPHmo, and BTEX using the previously listed methods, and total lead using EPA Method 6010. Upon receipt of analytical laboratory results for the stockpiled soil, ERI will coordinate the removal, transport, and disposal of the soil to a facility selected by ExxonMobil.

- Backfill the soil borings with neat cement grout and finish to match the surrounding surface.
- Prepare and submit a report detailing the results of the field investigation. The report will include a description of field activities, laboratory analytical results of soil and groundwater samples collected during the investigation, and interpretation of analytical results and field activities. In addition, the report will provide a work plan for the installation of additional groundwater monitoring wells, if warranted.

DOCUMENT DISTRIBUTION

ERI recommends this Work Plan Addendum be forwarded to the following:

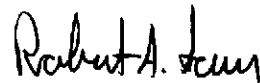
Mr. Don Hwang
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Chuck Headlee
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Joseph A. Aldridge
Valero Energy Corporation
685 West Third Street
Hanford, California 93230

Please contact Mr. Rob Saur, ERI's project manager for this site, at (415) 382-9105 with any questions regarding this Addendum.

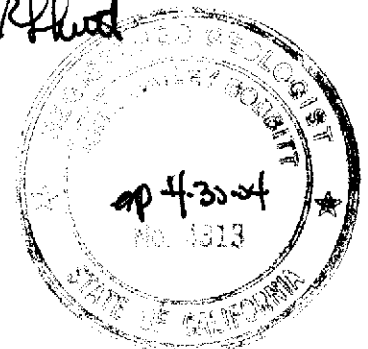
Sincerely,
Environmental Resolutions, Inc.



Robert A. Saur
Project Manager



John B. Bobbitt
R.G. 4313



Attachments: Table 1: Cumulative Groundwater Monitoring and Sampling Data

Plate 1: Site Vicinity Map
Plate 2: Generalized Site Plan
Plate 3: Utility Map
Plate 4: Cross Section A-A'
Plate 5: Cross Section B-B'

Attachment A: Regulatory Correspondence

Attachment B: Standard Field Protocol

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
(Page 1 of 8)

Well ID #	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE		B	T	E	X	TPHmo	Oxygenates
						EPA 8260B	EPA 8021B						
			←-----feet----->		←-----ug/L----->								
(TOC)	Date												
MW6B	11/26/96	NLPH	12.26	5.22	<50	---	<30	<0.5	<0.5	<0.5	<0.5	---	---
(17.48)	02/27/97	NLPH	11.73	5.75	<50	---	<30	<0.5	<0.5	<0.5	0.80	---	---
	05/21/97	NLPH	12.70	4.78	<50	---	<30	<0.5	<0.5	<0.5	<0.5	---	---
	08/18/97	NLPH	12.89	4.59	380	---	<30	4.3	<0.5	1.2	1.5	---	---
	03/13/98	NLPH	11.15	6.33	360	---	<6.2	93	4.9	4.1	12	---	---
(21.37)	04/20/98	NLPH	11.49	5.99	110	---	5.5	19	1.3	1.5	3.9	---	---
	07/21/98	NLPH	12.18	9.19	<50	---	8.7	0.84	0.59	<0.5	<0.5	---	---
	10/06/98	NLPH	12.70	8.67	190	---	6.0	2.4	0.56	0.51	1.2	---	---
	01/11/99	NLPH	12.48	8.89	50	---	3.9	1.2	<0.5	<0.5	0.95	---	---
	04/08/99	NLPH	11.52	9.85	85	---	14.0	4.4	<0.5	<0.5	<0.5	---	---
	07/19/99	NLPH	11.39	9.98	<50	---	<2.50	<0.5	<0.5	<0.5	<0.5	---	---
	07/27/99	NLPH	12.71	8.66	---	---	---	---	---	---	---	---	---
	10/25/99	NLPH	12.49	8.88	260	---	<2	2.3	<0.5	<0.5	<0.5	---	---
	01/27/00	NLPH	11.80	9.57	770	---	13	210	4.8	4.9	13	---	---
	04/03/00	NLPH	11.61	9.76	670	---	3.4	110	6.6	3.8	9.45	---	---
	07/05/00	NLPH	12.27	9.10	<50	---	2.1	0.89	<0.5	<0.5	<0.5	---	---
	10/04/00	NLPH	12.67	8.70	<50	---	54	<0.5	<0.5	<0.5	2	---	---
	10/05/00	---	---	---	---	---	---	---	---	---	---	<1,000	---
	01/04/01	NLPH	12.47	8.90	<50	---	35	<0.5	<0.5	<0.5	<0.5	---	---
	04/03/01	NLPH	11.81	9.56	<50	---	7.8	<0.5	<0.5	<0.5	<0.5	---	---
	07/05/01	NLPH	12.44	8.93	<50	---	3	<0.5	<0.5	<0.5	<0.5	---	---
	10/03/01	NLPH	12.52	8.85	310	---	10	2.1	<0.5	6.5	11.6	---	---
(21.09)	Nov-01	Well surveyed in compliance with AB 2886 requirements.											
	01/02/02	NLPH	11.25	9.84	710	---	21.8	99.5	4.40	3.30	7.40	---	---
	04/02/02	NLPH	11.72	9.37	<50.0	---	12.2	0.60	<0.50	<0.50	<0.50	<100	---
	07/01/02	NLPH	12.34	8.75	<50	---	10.7	<0.5	<0.5	<0.5	<0.5	<100a	---
	10/02/02	NLPH	12.71	8.38	<50.0	---	10.9	<0.5	<0.5	<0.5	<0.5	<100	---
	01/07/03	NLPH	11.65	9.44	82.5	27.8	20.8	3.7	0.5	<0.5	0.8	<50	ND
	06/17/03	NLPH	12.09	9.00	<50.0	6.10 a	7.3	0.50	<0.5	<0.5	<0.5	<100	ND
	07/16/03	NLPH	12.29	8.80	<50.0	8.5	11.0	<0.50	<0.5	<0.5	<0.5	<100	ND
MW6E	11/26/96	NLPH	12.94	4.69	<50	---	<30	1.1	<0.5	<0.5	<0.5	---	---
(17.63)	02/27/97	NLPH	12.28	5.35	<50	---	<30	<0.5	<0.5	<0.5	<0.5	---	---
	05/21/97	NLPH	13.60	4.03	160	---	<5	10	1.4	5.5	4.8	---	---
	08/18/97	NLPH	13.75	3.88	66	---	<30	<0.5	<0.5	<0.5	<0.5	---	---
	03/13/98	NLPH	11.36	6.27	<50	---	<2.5	<0.5	<0.5	<0.5	<0.5	---	---
	04/20/98	NLPH	11.88	5.75	<50	---	<2.5	<0.5	<0.5	<0.5	<0.5	---	---
(21.58)	07/21/98	NLPH	13.10	8.48	1,200	---	<10	81	3.1	28	77	---	---
	10/06/98	NLPH	13.55	8.03	<50	---	6.6	1.4	0.51	<0.5	0.97	---	---
	01/11/99	NLPH	13.40	8.18	<50	---	5.1	<0.5	<0.5	<0.5	<0.5	---	---
	04/08/99	NLPH	12.04	9.54	<50	---	4.7	<0.5	<0.5	<0.5	<0.5	---	---

TABLE I
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-0235
 2225 Telegraph Avenue
 Oakland, California
 (Page 2 of 8)

Well ID #	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE		B	T	E	X	TPHmo	Oxygenates	
						EPA 8260B	EPA 8021B							
(TOC)			<-----feet----->			<-----ug/L----->								
MW6E (cont.) (21.58)	07/19/99	NLPH	11.59	9.99	---	---	---	---	---	---	---	---	---	
	07/27/99	NLPH	13.65	7.93	---	---	---	---	---	---	---	---	---	
	10/25/99	NLPH	13.52	8.06	<50	---	2.5	<0.5	<0.5	<0.5	<0.5	---	---	
	01/27/00	NLPH	11.71	9.87	<50	---	2.3	<0.5	<0.5	<0.5	<0.5	---	---	
	04/03/00	NLPH	12.11	9.47	<50	---	<2	0.51	<0.5	<0.5	<0.5	---	---	
	07/05/00	NLPH	12.91	8.67	<50	---	<2	3.7	<0.5	<0.5	<0.5	---	---	
	10/04/00	NLPH	13.35	8.23	<50	---	<2	4.1	<0.5	<0.5	<0.5	---	---	
	10/05/00	---	---	---	---	---	---	---	---	---	---	<1,000	---	
	01/04/01	NLPH	13.09	8.49	61	---	<2	11	<0.5	<0.5	<0.5	---	---	
	04/03/01	NLPH	12.39	9.19	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
	07/05/01	NLPH	13.21	8.37	210	---	<2	80	<0.5	0.94	2.3	---	---	
	10/03/01	NLPH	13.30	8.28	<50	---	<2	2.8	<0.5	<0.5	<0.5	---	---	
	(21.24)	Nov-01	Well surveyed in compliance with AB 2886 requirements.											
		01/02/02	NLPH	10.11	11.13	<100	---	<0.5	<0.50	<0.50	<0.50	<0.50	---	---
	04/02/02	NLPH	12.11	9.13	<50.0	---	0.70	<0.50	<0.50	<0.50	<0.50	<100	---	
	07/01/02	NLPH	12.46	8.78	56.0	---	<0.5	19.9	<0.5	<0.5	<0.5	<100a	---	
	10/02/02	NLPH	13.48	7.76	<50.0	---	0.8	0.5	<0.5	<0.5	<0.5	<100	---	
	01/07/03	NLPH	11.81	9.43	<50.0	<0.50	<0.5	0.5	<0.5	<0.5	<0.5	<50	ND	
	06/17/03	NLPH	12.72	8.32	<50.0	<0.50	<0.5	<0.50	<0.5	<0.5	<0.5	153	ND	
	07/16/03	NLPH	12.92	8.32	<50.0	<0.50	<0.5	4.50	<0.5	<0.5	<0.5	<100	ND	
MW6F (18.58)	11/26/96	NLPH	13.29	5.29	<50	---	<30	<0.5	<0.5	<0.5	<0.5	---	---	
	02/27/97	---	---	---	---	---	---	---	---	---	---	---	---	
	05/21/97	NLPH	14.18	4.40	---	---	---	---	---	---	---	---	---	
	08/18/97	NLPH	14.69	3.89	---	---	---	---	---	---	---	---	---	
	03/13/98	NLPH	10.93	7.65	<50	---	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	
	04/20/98	NLPH	11.77	6.81	---	---	---	---	---	---	---	---	---	
	(22.51)	07/21/98	NLPH	13.62	8.89	---	---	---	---	---	---	---	---	
		10/06/98	NLPH	13.52	8.99	---	---	---	---	---	---	---	---	
		01/11/99	NLPH	14.06	8.45	---	---	---	---	---	---	---	---	
		04/08/99	NLPH	11.86	10.65	---	---	---	---	---	---	---	---	
		07/19/99	---	---	---	---	---	---	---	---	---	---	---	
		07/27/99	Well Inaccessible											
		10/25/99	NLPH	12.63	9.88	---	---	---	---	---	---	---	---	---
		01/27/00	NLPH	12.23	10.28	---	---	---	---	---	---	---	---	---
	04/03/00	NLPH	12.11	10.40	---	---	---	---	---	---	---	---	---	
	07/05/00	NLPH	13.38	9.13	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
	10/04/00	NLPH	14.02	8.49	<50	---	<2	<0.5	<0.5	<0.5	0.7	---	---	
	10/05/00	---	---	---	---	---	---	---	---	---	---	<1,000	---	
	01/04/01	NLPH	13.69	8.82	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
	04/03/01	NLPH	12.55	9.96	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	

TABLE I
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Former Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
(Page 3 of 8)

Well ID #	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE		B	T	E	X	TPHmo	Oxygenates	
						EPA 8260B	EPA 8021B							
			<-----feet----->		<-----ug/L----->									
MW6F (cont.) (22.17)	07/05/01	NLPH	13.74	8.77	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
	10/03/01	NLPH	13.82	8.69	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
	Nov-01	Well surveyed in compliance with AB 2886 requirements.												
	01/02/02	NLPH	9.16	13.01	<100	---	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
	04/02/02	NLPH	12.14	10.03	<50.0	---	<0.50	<0.50	<0.50	<0.50	<0.50	<100	---	
	07/01/02	NLPH	13.46	8.71	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<100a	---	
	10/02/02	NLPH	14.19	7.98	<50.0	---	<0.5	<0.5	<0.5	<0.5	<0.5	<100	---	
	01/07/03	NLPH	11.73	10.44	<50.0	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	ND	
	06/17/03	NLPH	13.13	9.04	<50.0	<0.50	<0.5	<0.50	<0.5	<0.5	<0.5	<100	ND	
	07/16/03	NLPH	13.51	8.66	<50.0	<0.50	<0.5	<0.50	<0.5	<0.5	<0.5	<100	ND	
	MW6G (16.82)	11/26/96	NLPH	11.12	5.70	<50	---	<30	<0.5	<0.5	<0.5	<0.5	---	---
		02/27/97	---	---	---	---	---	---	---	---	---	---	---	---
		05/21/97	NLPH	11.76	5.06	---	---	---	---	---	---	---	---	---
08/18/97		NLPH	12.23	4.59	---	---	---	---	---	---	---	---	---	
03/13/98		NLPH	9.13	7.69	<50	---	4.4	<0.5	<0.5	<0.5	<0.5	---	---	
04/20/98		NLPH	9.73	7.09	---	---	---	---	---	---	---	---	---	
07/21/98		NLPH	11.15	9.57	---	---	---	---	---	---	---	---	---	
10/06/98		NLPH	11.91	8.81	---	---	---	---	---	---	---	---	---	
01/11/99		NLPH	12.00	8.72	---	---	---	---	---	---	---	---	---	
04/08/99		NLPH	10.04	10.68	---	---	---	---	---	---	---	---	---	
07/19/99		---	---	---	---	---	---	---	---	---	---	---	---	
07/27/99		NLPH	11.75	8.97	---	---	---	---	---	---	---	---	---	
10/25/99		NLPH	11.76	8.96	---	---	---	---	---	---	---	---	---	
01/27/00		NLPH	11.46	9.26	---	---	---	---	---	---	---	---	---	
04/03/00		NLPH	10.00	10.72	---	---	---	---	---	---	---	---	---	
07/05/00		NLPH	11.24	9.48	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
10/04/00		NLPH	11.88	8.84	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
10/05/00		---	---	---	---	---	---	---	---	---	---	<1,000	---	
01/04/01		NLPH	11.56	9.16	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
04/03/01		NLPH	10.45	10.27	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
07/05/01		NLPH	11.51	9.21	<50	---	<2	0.75	<0.5	<0.5	<0.5	---	---	
10/03/01		NLPH	11.63	9.09	<50	---	<2	<0.5	<0.5	<0.5	<0.5	---	---	
Nov-01		Well surveyed in compliance with AB 2886 requirements.												
01/02/02	NLPH	9.15	11.31	<100	---	1.8	<0.50	<0.50	<0.50	<0.50	---	---		
04/02/02	NLPH	10.19	10.27	<50.0	---	1.10	<0.50	<0.50	<0.50	<0.50	<100	---		
07/01/02	NLPH	11.35	9.11	<50	---	1.3	<0.5	<0.5	<0.5	<0.5	<100a	---		
10/02/02	NLPH	11.99	8.47	<50.0	---	0.7	<0.5	<0.5	<0.5	<0.5	<100	---		
01/07/03	NLPH	9.97	10.49	<50.0	2.0	1.3	<0.5	<0.5	<0.5	<0.5	<50	ND		
06/17/03	NLPH	10.98	9.48	<50.0	1.6	1.5	<0.50	<0.5	<0.5	<0.5	<100	ND		
07/16/03	NLPH	11.37	9.09	<50.0	0.9	1.2	<0.50	<0.5	<0.5	<0.5	<100	ND		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
(Page 6 of 8)

Well ID #	Sampling	SUBJ	DTW	Elev.	TPHg	MTBE EPA 8260B	MTBE EPA 8021B	B	T	E	X	TPHmo	Oxygenates
(TOC)	Date	-----feet----->		<-----ug/L----->									
RW1 (20.24)	04/03/00	NLPH	12.07	8.17	---	---	---	---	---	---	---	---	---
	07/05/00	---	---	---	---	---	---	---	---	---	---	---	---
	10/04/00	---	---	---	---	---	---	---	---	---	---	---	---
	10/05/00	---	---	---	---	---	---	---	---	---	---	---	---
	01/04/01	NLPH	13.90	6.34	8,000	---	2,500	1,200	65	250	258	---	---
	04/03/01	NLPH	11.92	8.32	4,100	---	610	62	<2.5	18	61	---	---
	07/05/01	Not sampled: inaccessible				---	---	---	---	---	---	---	---
	10/03/01	NLPH	12.32	7.92	11,000	---	4,100	1,900	780	150	700	---	---
	(20.43)	Nov-01	Well surveyed in compliance with AB 2886 requirements.										
	01/02/02	NLPH	10.85	9.58	32,000	---	7,760	358	2,270	894	4,820	---	---
	04/02/02	NLPH	11.72	8.71	4,220	---	922	172	22.5	106	340	<500	---
	07/01/02	NLPH	12.17	8.26	2,500	---	986	176	8.0	71.0	75.0	<100a	---
	10/02/02	NLPH	12.44	7.99	2,970	---	1,310	197	11.0	70.0	69.0	1,720	---
	01/07/03	NLPH	11.64	8.79	2,210	1,010	747	134	12.0	33.0	53.0	1,340	ND
	06/17/03	NLPH	11.98	8.45	3,850	847	645	48.9	38.7	46.1	197	316	324 b
	07/16/03	NLPH	12.11	8.32	2,640	615	730	78.5	20.0	47.5	166	2,080	110 b, 1.10 c 1.70 d
RW2 (20.44)	Not Monitored 6/16/92 through 4/20/98.												
	07/21/98	NLPH	12.65	7.79	3,500	---	170	240	100	41	96	---	---
	10/06/98	NLPH	13.06	7.38	3,200	---	200	120	48	56	120	---	---
	01/11/99	NLPH	12.88	7.56	3,300	---	350	150	17	35	40	---	---
	04/08/99	sheen	11.76	8.68	---	---	---	---	---	---	---	---	---
	07/19/99	NLPH	11.61	8.83	1,980	499	160	44	4.16	22.3	11.6	---	---
	07/27/99	NLPH	13.26	7.18	---	---	---	---	---	---	---	---	---
	10/25/99	NLPH	12.96	7.48	1,800	---	440	51	<0.5	4.7	9.5	---	---
	01/27/00	NLPH	12.70	7.74	1,900	---	750	38	<2.5	4.8	10.4	---	---
	04/03/00	NLPH	11.97	8.47	2,100	---	300	28	2.4	1.4	0.73	---	---
	07/05/00	NLPH	12.50	7.94	2,300	---	230	20	<2.5	5.3	8	---	---
	10/04/00	NLPH	12.97	7.47	1,300	---	570	42	<2.5	15	17.7	---	---
	10/05/00	---	---	---	---	---	---	---	---	---	---	<1,000	---
	01/04/01	NLPH	13.71	6.73	1,000	---	380	33	<2.5	13	17.7	---	---
	04/03/01	NLPH	12.10	8.34	1,300	---	99	18	2.1	16	19.4	---	---
	07/05/01	Not sampled: inaccessible				---	---	---	---	---	---	---	---
	10/03/01	NLPH	12.8	7.64	1,900	---	240	35	4.4	34	105	---	---
	(20.64)	Nov-01	Well surveyed in compliance with AB 2886 requirements.										
	01/02/02	NLPH	10.22	10.42	2,440	---	76.0	24.4	6.20	26.2	83.0	---	---
	04/02/02	NLPH	12.02	8.62	1,460	---	47.5	8.60	3.30	5.30	29.1	260	---
07/01/02	NLPH	12.51	8.13	1,380	---	39.9	11.0	1.8	17.9	45.0	<100a	---	
10/02/02	NLPH	12.91	7.73	720	---	46.9	5.5	1.7	3.7	11.9	<100	---	
01/07/03	NLPH	11.61	9.03	1,180	56.0	48.0	12.3	3.6	12.2	25.6	197	ND	

TABLE I
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
(Page 7 of 8)

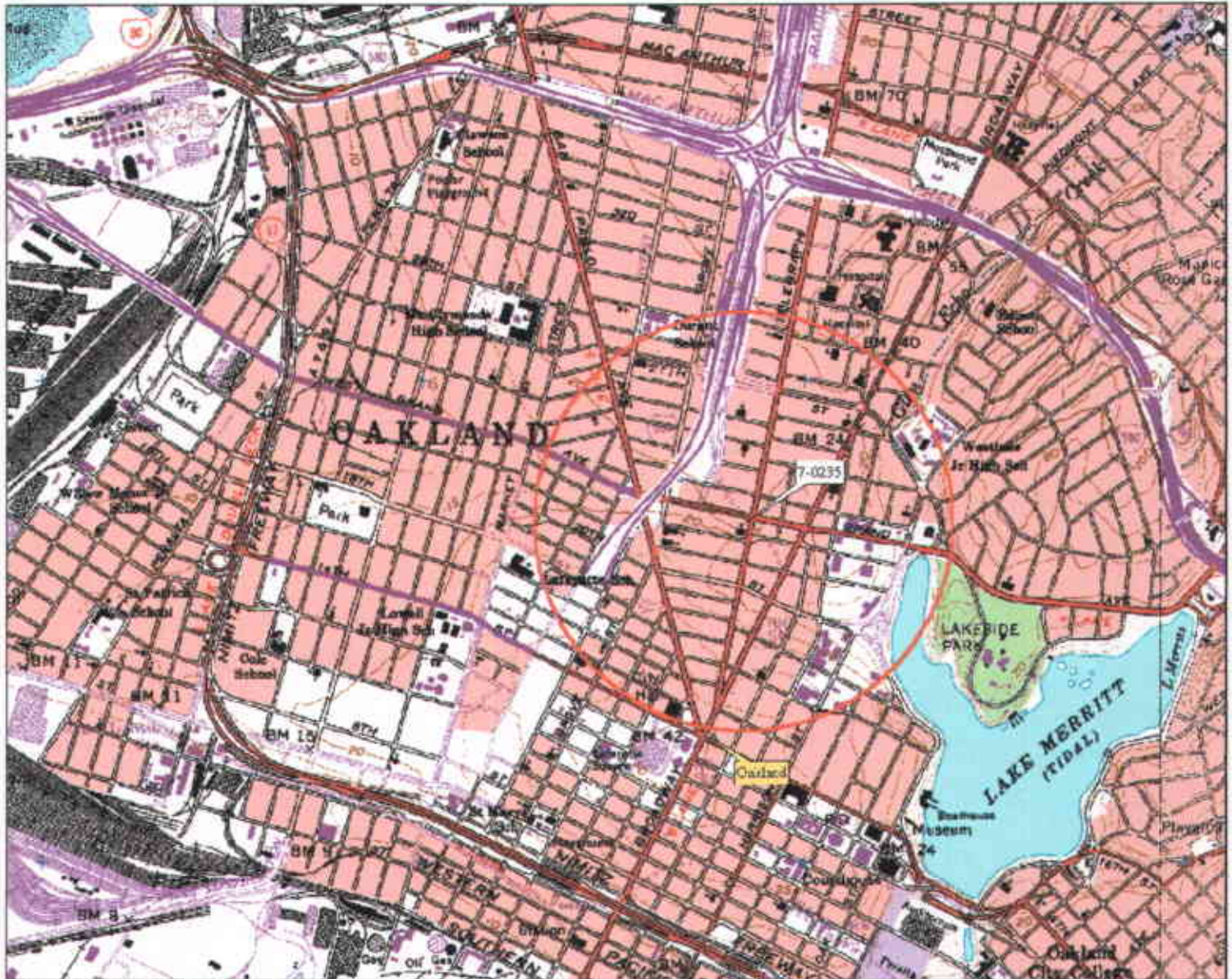
Well ID #	Sampling	SUBJ	DTW	Elev.	TPHg	MTBE EPA 8260B	MTBE EPA 8021B	B	T	E	X	TPHmo	Oxygenates
(TOC)	Date	<-----feet----->			<-----ug/L----->								
RW2 (cont.)	06/17/03	NLPH	12.32	8.32	1,070	26.4	29.7	13.9	4.4	11.8	16.9	<100	ND
(20.64)	07/16/03	NLPH	12.51	8.13	1,200	19.3	32.9	6.60	4.1	10.9	12.3	295	ND
RW3A	Not Monitored 6/16/92 through 4/20/98.												
(21.75)	07/21/98	NLPH	13.08	8.67	280	---	16	97	<1.2	<1.2	<1.2	---	---
	10/06/98	NLPH	13.72	8.03	78	---	26	26	0.89	<0.5	<0.5	---	---
	01/11/99	NLPH	12.00	9.75	1,000	---	230	490	5.0	<5.0	7.4	---	---
	04/08/99	NLPH	11.90	9.85	130	---	11	70	<1.0	<1.0	<1.0	---	---
	07/19/99	NLPH	11.75	10.00	989	---	16.4	393	6.40	5.70	15.0	---	---
	07/27/99	NLPH	13.68	8.07	---	---	---	---	---	---	---	---	---
	10/25/99	NLPH	13.61	8.14	150	---	19	53	<0.5	<0.5	<0.5	---	---
	01/27/00	NLPH	12.22	9.53	500	---	12	210	0.59	1.40	2.29	---	---
	04/03/00	NLPH	12.00	9.75	1,100	---	16	420	1.6	1.8	1.4	---	---
	07/05/00	NLPH	13.01	8.74	1,200	---	16	440	1.4	2.5	1.9	---	---
	10/04/00	NLPH	13.60	8.15	390	---	8.3	160	1.1	1.5	2.6	---	---
	10/05/00	---	---	---	---	---	---	---	---	---	---	<1,000	---
	01/04/01	NLPH	13.65	8.10	500	---	12	230	0.97	1.1	1.4	---	---
	04/03/01	NLPH	12.30	9.45	710	---	7.5	290	<0.5	<0.5	<0.5	---	---
	07/05/01	NLPH	13.28	8.47	640	---	9	280	1.4	1.6	2.7	---	---
	10/03/01	NLPH	13.58	8.17	<50	---	12	21	<0.5	<0.5	<0.5	---	---
(21.89)	Nov-01	Well surveyed in compliance with AB 2886 requirements.											
	01/02/02	NLPH	10.80	11.09	<100	---	11.2	<0.50	<0.50	<0.50	<0.50	---	---
	04/02/02	NLPH	12.03	9.86	55.7	---	11.0	1.30	<0.50	<0.50	<0.50	<100	---
	07/01/02	NLPH	13.13	8.76	275	---	21.7	60.4	<0.5	2.4	4.2	<100a	---
	10/02/02	NLPH	13.70	8.19	138	---	11.1	53.4	<0.5	<0.5	0.7	114	---
	01/07/03	NLPH	11.77	10.12	<50.0	30.9	22.4	1.5	<0.5	<0.5	<0.5	<50	ND
	06/17/03	NLPH	12.82	9.07	54.5	16.0	12.8	7.40	<0.5	<0.5	<0.5	<100	1.20 c
	07/16/03	NLPH	13.40	8.49	112	13.6	18.0	26.0	<0.5	<0.5	<0.5	<100	1.40 c

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA

Former Exxon Service Station 7-0235
2225 Telegraph Avenue
Oakland, California
(Page 8 of 8)

Notes:


SUBJ	=	Results of subjective evaluation.
NLPH	=	No liquid-phase hydrocarbons present in well.
sheen	=	Liquid-phase hydrocarbon present as sheen.
TOC	=	Elevation of top of well casing; relative to mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater surface; relative to mean sea level.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 5030/8015 (modified).
TPHmo	=	Total petroleum hydrocarbons as motor oil using EPA Method 8015B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8021B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
Oxygenates	=	1,2-Dibromoethane, 1,2-Dichloroethane, Diisopropyl Ether, t-Butyl alcohol, tert-Amyl methyl ether, and tert-Butyl ethyl ether analyzed using EPA Method 8260B.
<	=	Less than the indicated reporting limit shown by the laboratory.
---	=	Not measured/Not sampled.
ug/L	=	Micrograms per liter.
a	=	TPHmo analyses performed outside of hold time.
b	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
c	=	Diisopropyl ether analyzed using EPA Method 8260B.
d	=	1,2-Dichloroethane analyzed using EPA Method 8260B.
e	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.



U.S. Topo Quad Copyright © 1999 DeLorme Vermont, NH 05404 Source Title: 11571 1/2 Mile Scale 1:39,168 Tenth 33-8 Contour: 10' 20'

FN 2229Topo

EXPLANATION

 1/2-mile radius circle

APPROXIMATE SCALE



SOURCE:
Modified from a map
provided by
DeLorme 3-D TopoQuads

SITE VICINITY MAP

FORMER EXXON SERVICE STATION 7-0235
2225 Telegraph Avenue
Oakland, California

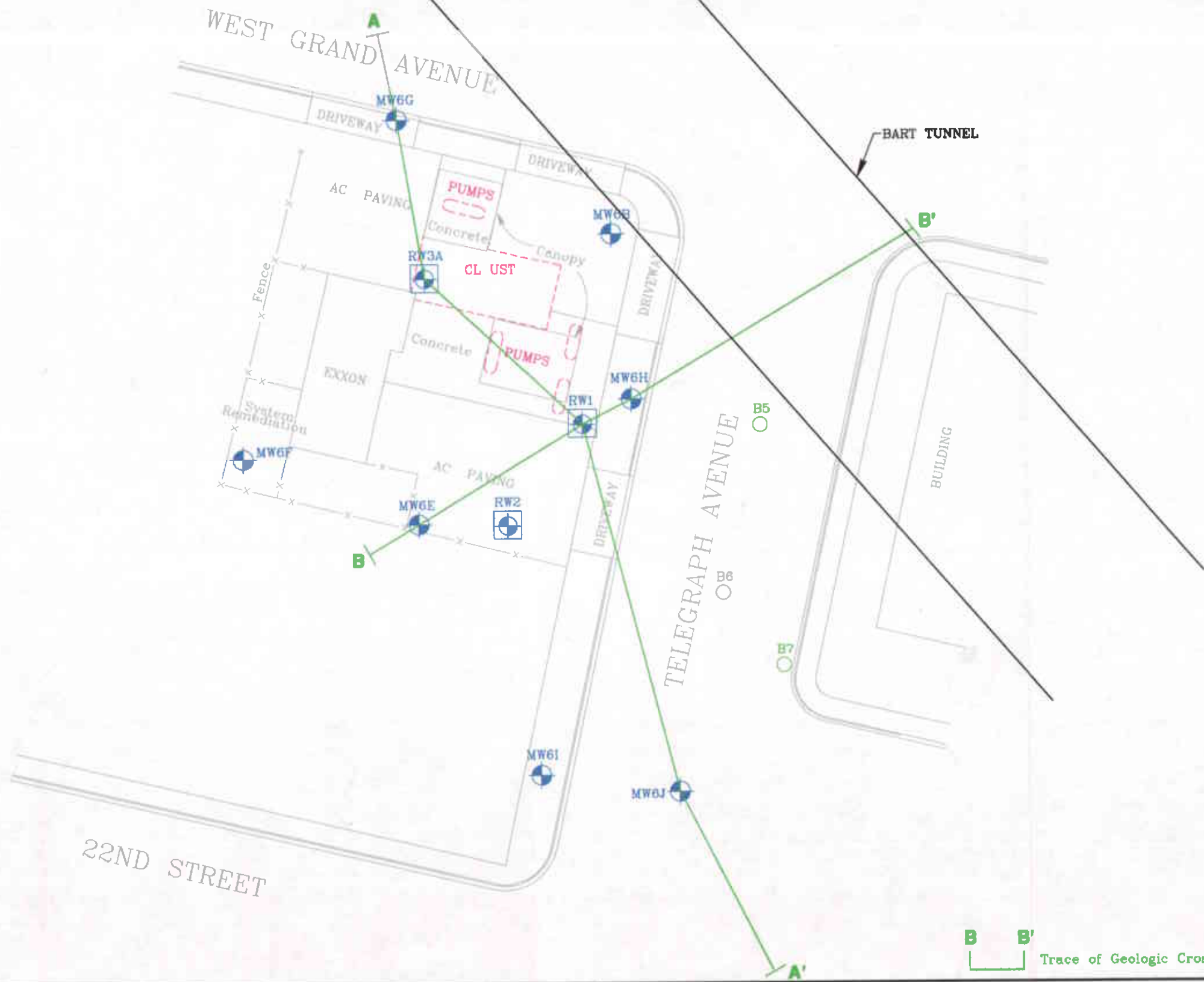
PROJECT NO.

2229

PLATE

1





APPROXIMATE SCALE



FN 2229004a_SP



GENERALIZED SITE PLAN
 FORMER
 EXXON SERVICE STATION 7-0235
 2225 Telegraph Avenue
 Oakland, California

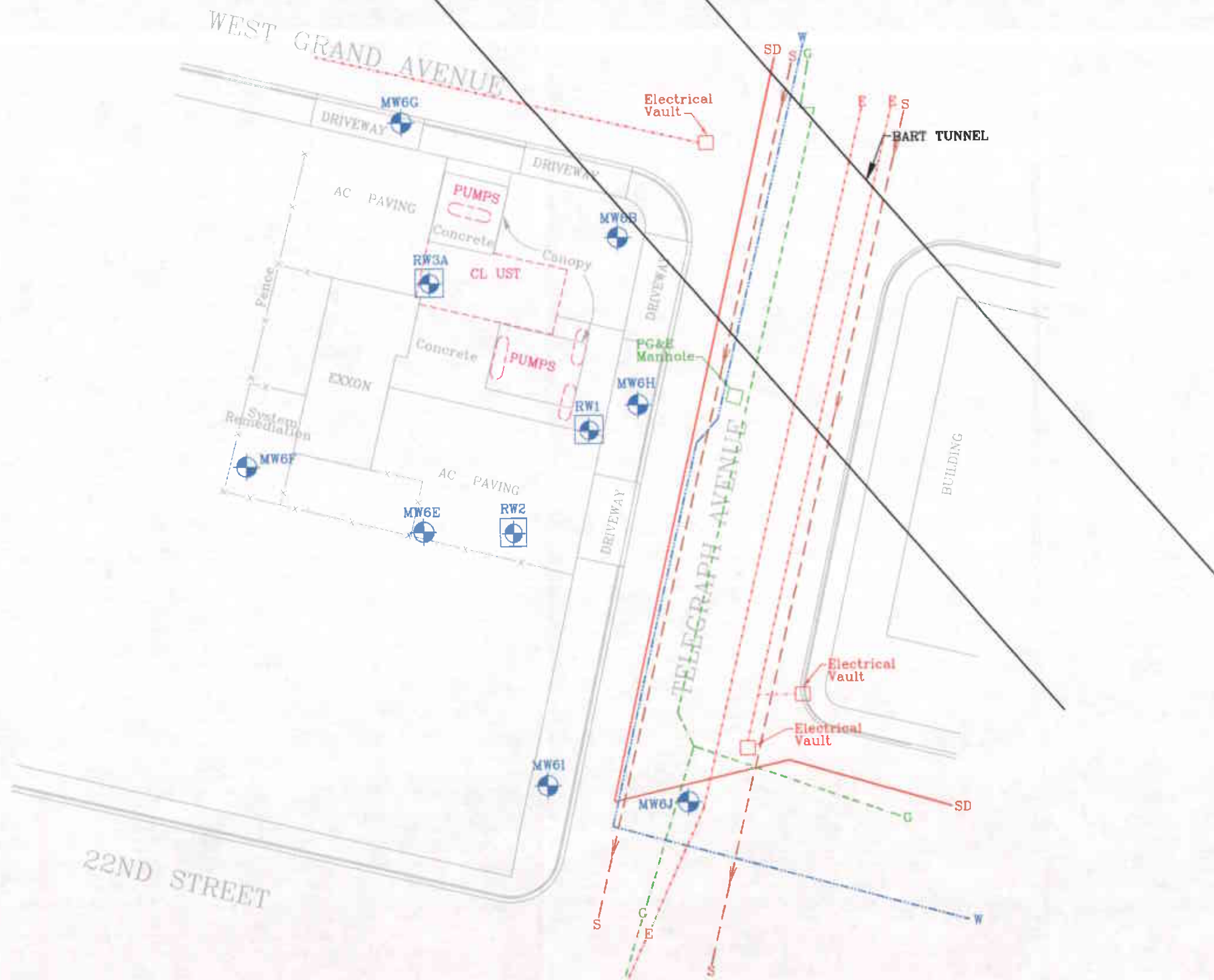
EXPLANATION

- MW6J Groundwater Monitoring Well
- RW3A Recovery Groundwater Monitoring Well

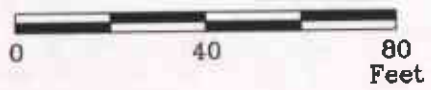
Trace of Geologic Cross Section

- B7 Proposed Soil Boring

PROJECT NO. 2229
PLATE 2



APPROXIMATE SCALE



FN 2229004a_SP

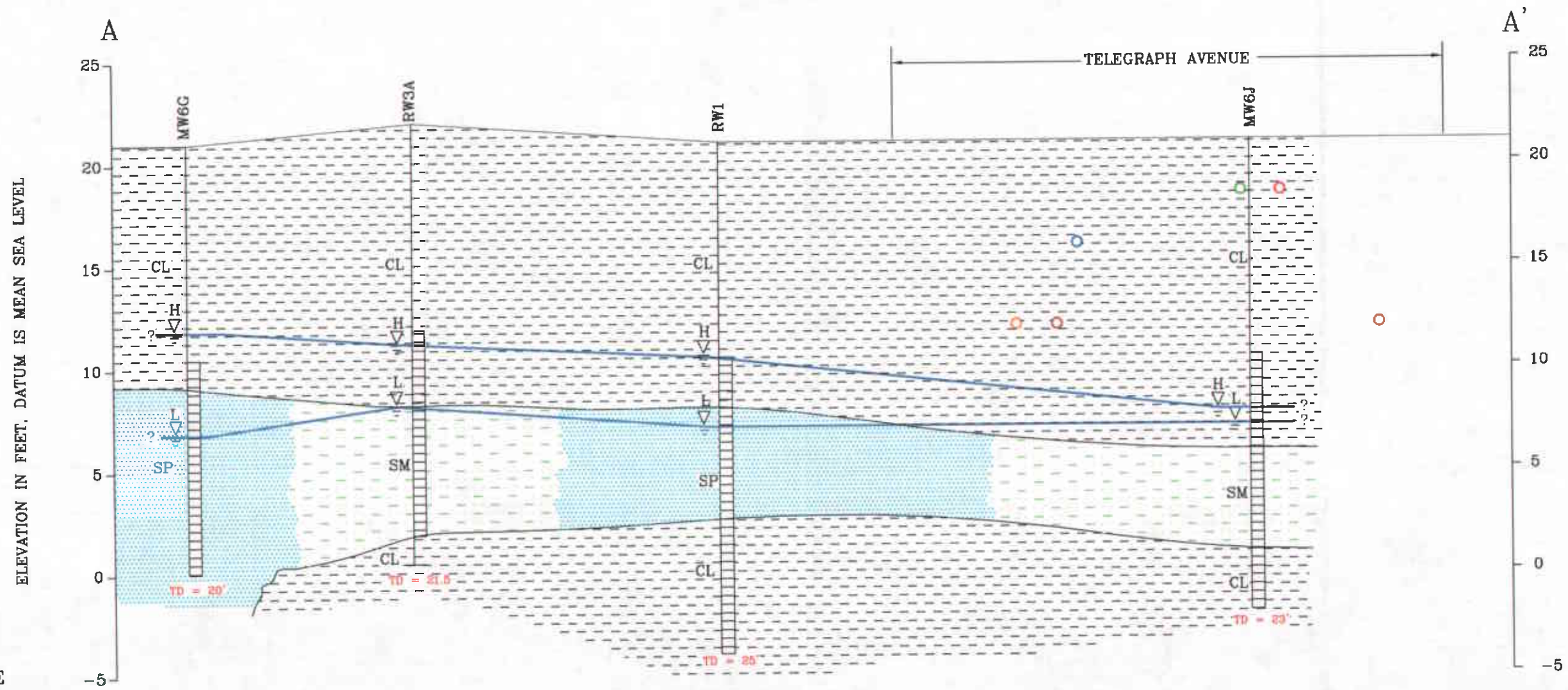
Utility Legend	
	Electric
	Gas
	Sewer
	Storm Drain
	Water



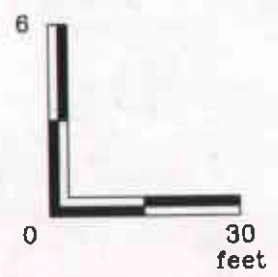
UTILITY MAP
 FORMER
 EXXON SERVICE STATION 7-0235
 2225 Telegraph Avenue
 Oakland, California

EXPLANATION	
	MW6J Groundwater Monitoring Well
	RW3A Recovery Groundwater Monitoring Well

PROJECT NO. 2229
PLATE 3



APPROXIMATE SCALE



Vertical Exaggeration x5

FN 2229 XS B-B'



CROSS SECTION A - A'
 FORMER
 EXXON SERVICE STATION 7-0235
 2225 Telegraph Avenue
 Oakland, California

EXPLANATION

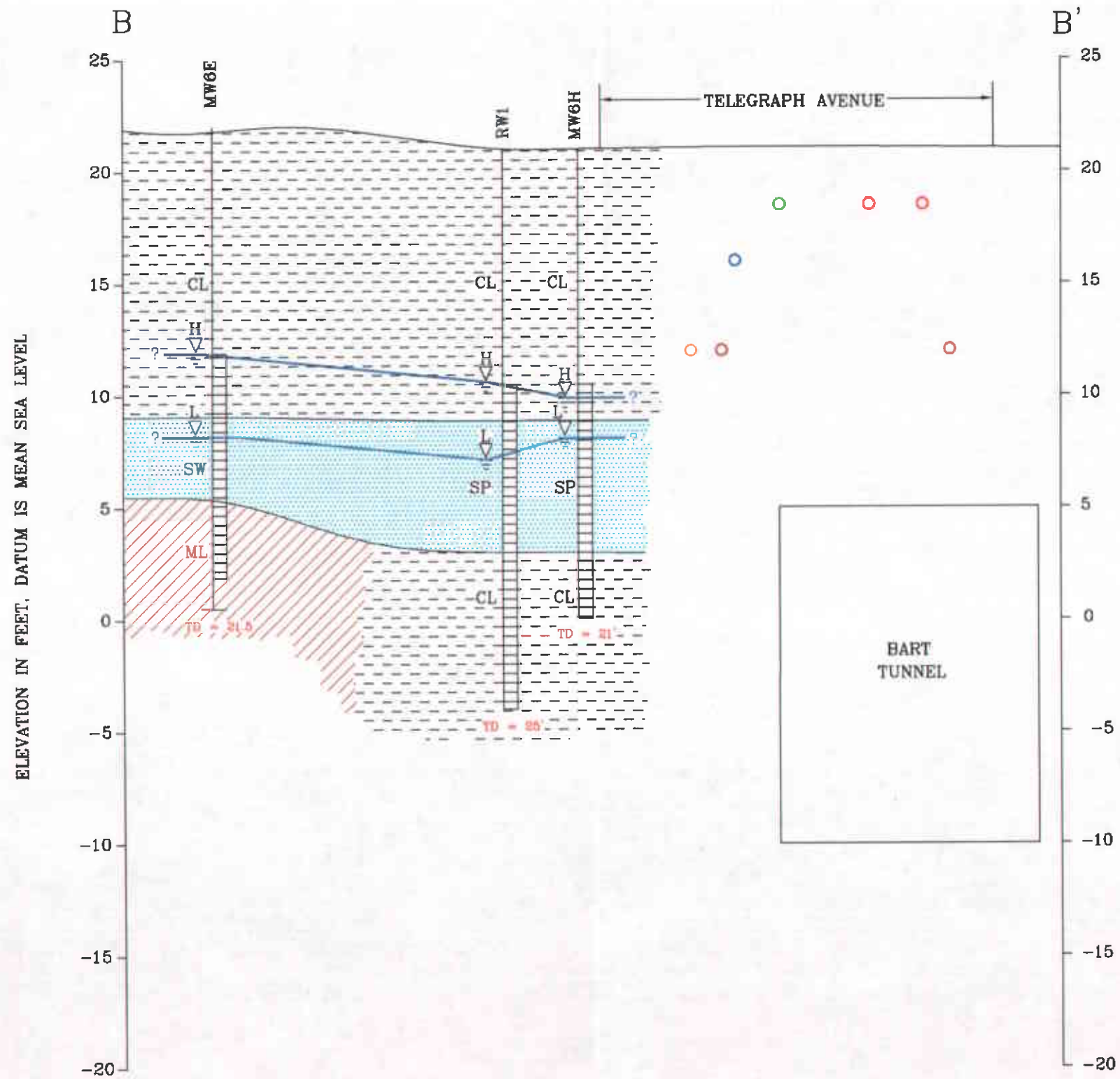
	Silty Sand
	Sand
	Clay

H ▽ ---	Highest Groundwater Level
L ▽ ---	Lowest Groundwater Level
TD = Total Depth	

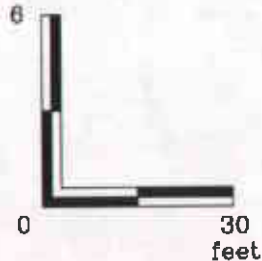
UTILITY LEGEND

	Electricity
	Gas
	Water
	Sewer
	Storm Drain

PROJECT NO. 2229
PLATE 4



APPROXIMATE SCALE



Vertical Exaggeration x5

FN 2229 XS B-B'

CROSS SECTION B - B'

FORMER
EXXON SERVICE STATION 7-0235
2225 Telegraph Avenue
Oakland, California

EXPLANATION

- Sandy or Clayey Silt
- Sand
- Clay

- Highest Groundwater Level
- Lowest Groundwater Level
- TD = Total Depth

UTILITY LEGEND

- Electricity
- Gas
- Water
- Sewer
- Storm Drain

PROJECT NO.

2229

PLATE
5



ATTACHMENT A
REGULATORY CORRESPONDENCE

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



01/01/10/21

October 10, 2003

Gene Ortega, Territory Manager Global Remediation – US Retail
ExxonMobil
Refining & Supply Co.
Global Remediation
2300 Clayton Rd., Suite 1250
Concord, CA 94520

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

RECEIVED
OCT 15 2003

BY:.....

Dear Mr. Ortega:

Subject: Fuel Leak Case No. RO0000358, Exxon #7-0235,
2225 Telegraph Ave., Oakland, CA

Alameda County Environmental Health staff reviewed "Response to Agency Comments and Request for Information, ...", dated May 22, 2003, and "Response to Agency Comments, ..." dated October 29, 2002, both prepared by Environmental Resolutions, Inc. The work plan is disapproved for the reasons stated. We request that you address the following technical comments and send us the technical reports requested below.

TECHNICAL COMMENTS

- 1) Preferential Pathway Study – We received a map showing the locations of utilities on Telegraph Ave. between West Grand Ave. and 22nd St. However, the depths of gas, electric, water, and storm drain trenches were not provided. The depth of the sewer trench was provided and it was indicated that at its depth groundwater could be intercepted. For the other utilities, the estimated depths may be used to determine if be could be intercepted. Please submit map(s) and cross-sections showing the location and depth of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s). Evaluate the probability of the contaminant plumes encountering preferential pathways and conduits that could spread the contamination, particularly in the vertical direction to deeper water aquifers. Please incorporate into the Work Plan requested below. If so, propose a sampling plan for the trenches. Include in the Work Plan Addendum requested below.
- 2) Proposed Groundwater Monitoring Well - The preferential pathway study needs to be done prior to locating the well. Groundwater samples have been collected by the proposed well MW6K. The concentrations were at or below laboratory method reporting limits. Grab groundwater samples were collected from locations GP1 and GP2, on March 29, 2000. Concentrations of dissolved hydrocarbons in both grab groundwater sampling points were below laboratory method reporting limits except 100 ug/l Total Purgeable Petroleum Hydrocarbons as Gasoline (TPPH-G). Monitoring well MW6J has been sampled quarterly since July 5, 2001. MW6J concentrations exceeded laboratory

method reporting limits only on April 2, 2002, 1 ug/l Methyl Tertiary-Butyl Ether (MTBE), 0.8 ug/l benzene, and 0.8 ug/l xylene. The nearly nondetectable concentrations makes the proposed well location undesirable because it may indicate that the location is beyond the limits of the plume or that the plume flow is in a different direction. Please propose additional grab groundwater sampling to determine the location of the plume for optimal well locations. We request that depth discrete grab groundwater sampling be used. Include your proposal in the Work Plan Addendum requested below.

- 3) DPE Interim Remediation - "Dual-Phase Extraction (DPE) Pilot Test" dated October 19, 2001 determined that DPE was effective at this site. We have not received your recommendations and specifications for DPE on a full scale as previously requested. Instead, you propose a Corrective Action Plan (CAP), which will evaluate remedial alternatives, including DPE, at this site. Please indicate the elements and the other remedial alternatives that you plan to include in your evaluation. Include in the Work Plan Addendum requested below.
- 4) Groundwater Monitoring - Your consultant indicated that sampling of the requested fuel oxygenates and lead scavengers would be initiated during the first quarter 2003. We seem to have misplaced that report. Please submit another copy.
- 5) Professional seal - Both reports reviewed were unstamped. All technical reports must contain a statement of professional certification with the appropriate professional signatures and seals.

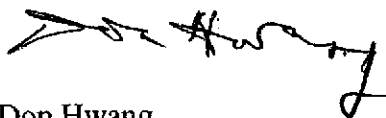
TECHNICAL REPORT REQUEST

Please submit the following technical reports to the Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

October 31, 2003 - Quarterly Groundwater Monitoring Report, 1st Quarter 2003
October 31, 2003 - Quarterly Groundwater Monitoring Report, 2nd Quarter 2003
October 31, 2003 - Quarterly Groundwater Monitoring Report, 3rd Quarter 2003
December 10, 2003 - Work Plan Addendum
January 31, 2004 - Quarterly Groundwater Monitoring Report, 4th Quarter 2003

If you have any questions, you may call me at 510/567-6746.

Sincerely,



Don Hwang
Hazardous Materials Specialist
Local Oversight Program

c: ✓ Paula Sime, Environmental Resolutions, Inc., 73 Digital Dr., Novato, CA 94949-5791
Donna Drogos
File

ATTACHMENT B
STANDARD FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

Field work will be performed by ERI personnel in accordance with a site safety plan developed for the site. This plan describes the basic safety requirements for the subsurface investigation and the drilling of soil borings at the work site. The site safety plan is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the site safety plan before work begins. A copy of the site safety plan is kept at the work site and is available for reference by appropriate parties during the work. The ERI geologist will act as the Site Safety Officer.

Drilling of Soil Borings

Prior to the drilling of soil borings, ERI will acquire necessary permits from the appropriate agency(ies). ERI will also contact Underground Service Alert (USA) and a private underground utility locator (per ExxonMobil protocol) before drilling to help locate public utility lines at the site. ERI will clear the proposed locations to a depth of approximately 4 or 8 feet (depending on the location) before drilling to reduce the risk of damaging underground structures.

The soil borings will be drilled with a B57 (or similar) drill rig with hollow-stem auger. Auger flights and sampling equipment will be steam-cleaned before use to minimize the possibility of crosshole contamination. The rinsate will be containerized and stored on site. ERI will coordinate with ExxonMobil for appropriate disposal of the rinsate.

Drilling will be performed under the observation of a field geologist, and the earth materials in the boring will be identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System. The soil boring will be drilled to a total depth of approximately 50 feet below ground surface (bgs). If an aquitard is encountered, the boring will be terminated and backfilled with bentonite before installing a groundwater monitoring well.

During drilling, soil samples will be continuously sampled. Samples will be collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples will be collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler will be driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to give an indication of soil consistency.

Soil samples will be monitored with a PID, which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis will be sealed promptly with Teflon® tape and plastic caps. The samples will be labeled and placed in iced storage for transport to the laboratory. Chain-of-Custody records will be initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these

records will be in the final report. Cuttings generated during drilling will be placed on plastic sheeting and covered and left at the site. ERI will coordinate with ExxonMobil for the soil to be removed to an appropriate disposal facility. Soil borings will be backfilled with neat cement and topped with black-dyed cement.