ENVIRONMENTAL RESOLUTIONS, INC.

May 19, 2003
ERI 223503.W13

Mr. Dave DeWitt
ConocoPhillips Company
76 Broadway Avenue
Sacramento, California 95818-1105

Subject: Work Plan for Supplemental Evaluation of Groundwater, 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California.

Mr. DeWitt:

At the request of ConocoPhillips Company (ConocoPhillips) (formerly Tosco Corporation), Environmental Resolutions, Inc. (ERI) has prepared this Work Plan describing the proposed scope of work to perform a supplemental evaluation of groundwater. The purpose of the work is to evaluate whether the backfill material in the underground utility trenches beneath and adjacent to the subject site are providing preferential pathways for the migration of hydrocarbon impacted groundwater from beneath the subject site.

BACKGROUND

Site Description

The site is located on the southeastern corner of MacArthur Boulevard and High Street in Oakland, California, as shown on the Site Vicinity Map (Plate 1). Properties in the vicinity of the site are occupied by commercial and residential developments.

The locations of the former underground storage tanks (USTs), associated piping and dispensers, existing USTs and dispensers, existing groundwater monitoring wells, and other site features are shown on the Generalized Site Plan (Plate 2). The site is currently operated as a gasoline service station.

Previous Environmental Work

Environmental assessment activities were initiated at the site in 1998. Previous environmental work completed at the site includes:

- Compliance soil sampling during removal of two 10,000-gallon, single-walled gasoline USTs, one 280-gallon single walled steel used-oil UST, and associated product lines and dispensers (ERI, August 24, 1998);
- Excavation and disposal of approximately 1,350 tons of soil and backfill from the new and former gasoline and used-oil UST cavities and product trenches (ERI, August 24, 1998);
- Installation of four on-site groundwater monitoring wells (MW1 through MW4) (ERI, October 11, 1999);
- Installation of a UST cavity groundwater extraction well (TP1) (ERI, January 4, 2002);

- Installation of three off-site groundwater monitoring wells (MW5 through MW7); (ERI, January 4, 2002);
- The performance of an underground utility survey (ERI, January 4, 2002);
- The performance of a groundwater receptor survey with the California Department of Water Resources (DWR) (ERI, January 4, 2002);
- Initiation of semi-monthly groundwater extraction from the UST cavity groundwater extraction well (ERI, January 4, 2002); and,
- Ongoing quarterly groundwater monitoring and sampling.

Analytical results of soil samples collected during previous environmental work indicate residual hydrocarbons are delineated beneath the site. Analyses of groundwater samples collected during quarterly groundwater monitoring and sampling continue to detect dissolved hydrocarbons beneath and downgradient (southwest) of the site. Cumulative results of groundwater monitoring and sampling data are provided in Attachment A.

Since the initiation of semi-monthly groundwater extraction from the UST cavity groundwater extraction well, ERI calculates that approximately 89 pounds (lbs) of methyl tertiary butyl ether (MTBE) have been removed since July 2001.

PROPOSED WORK

The supplemental evaluation of groundwater is proposed to evaluate whether the backfill material in the underground utility trenches beneath and adjacent to the subject site is providing preferential pathways for the migration of hydrocarbon-impacted groundwater from beneath the subject site. 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 tasks:

- Prepare a permit application and obtain a permit from the Alameda County Public Works Agency (Public Works) to advance eight off-site soil borings (B1 through B8).

- Prepare and obtain an encroachment permit from the City of Oakland Engineering Services Department (the City) to advance soil borings B1 through B8 in the City's MacArthur Boulevard right-of-way.

- Obtain the services of a private underground utility locator to verify the locations of underground utilities beneath the site and beneath MacArthur Boulevard.

- ERI will advance eight off-site soil borings using a hand auger. The 2-inch diameter hand-augered borings will be advanced into the backfill material of the underground utility to first encountered groundwater, the backfill/native soil interface, or to auger refusal, whichever is encountered first. Based on the results of groundwater monitoring at the site, ERI anticipates groundwater to be encountered at approximately 2 to 8 feet below ground surface (bgs). The locations of borings B1 through B4 were selected to evaluate the groundwater conditions in the electric, storm sewer, water, and sanitary sewer utility trenches, respectively. The locations of borings B5 through B8 were selected to evaluate the groundwater conditions in the electric, storm sewer, water and sanitary sewer utility trenches, respectively, down slope (northwest) of borings B1 through B4. The locations of the proposed borings are shown on Plate 2. The proposed

boring locations may change based on field conditions. Cuttings generated during augering will be stored on the 76 Station facility pending characterization and disposal by ConocoPhillips.

- Collect grab samples of first encountered groundwater from the borings.
- Submit the groundwater samples to a California state-certified analytical laboratory for analysis of total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and methyl tertiary butyl ether (MTBE) using EPA Method 8260B.
- Abandon the borings by grouting to ground surface with a neat cement. Each boring location will be resurfaced to match the existing surface.
- Collect a composite soil sample of stockpiled soil generated during soil boring activities. The composite sample will be submitted for laboratory analysis for TPHg, BTEX, and MTBE using the methods listed above, and total lead using EPA Method 6010.
- Prepare a report documenting the procedures and findings of the investigation.

Soil cuttings generated during soil boring activities will be placed on and covered with plastic sheeting, and temporarily stored on site pending receipt of the stockpiled soil analytical results and subsequent disposal and/or recycling by ConocoPhillips.

SCHEDULE OF OPERATIONS

ERI is prepared to implement this Work Plan upon regulatory approval and obtaining the appropriate permits.

ERI recommends a copy of this Work Plan be forwarded to:

Ms. Eva Chu
Alameda County Health Care Services Agency
Department of Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

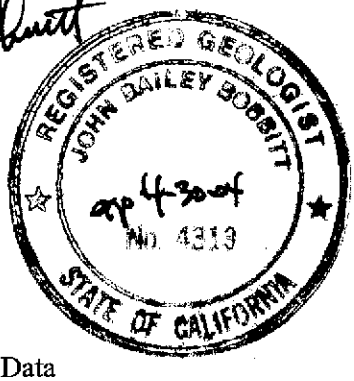
Mr. George Leyva
California Region Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Please call Mr. Robert A. Saur, ERI's project manager for the site, at (415) 382-3591 with any questions regarding this Work Plan.

Sincerely,
Environmental Resolutions, Inc.

Robert A. Saur
Project Manager

John B. Bobbitt
R.G. 4313



Attachments: References

Plate 1: Site Vicinity Map
Plate 2: Generalized Site Plan

Attachment A: Cumulative Groundwater Monitoring and Sampling Data (Gettler-Ryan, Inc., February 10, 2003)
Attachment B: Field Protocol

REFERENCES

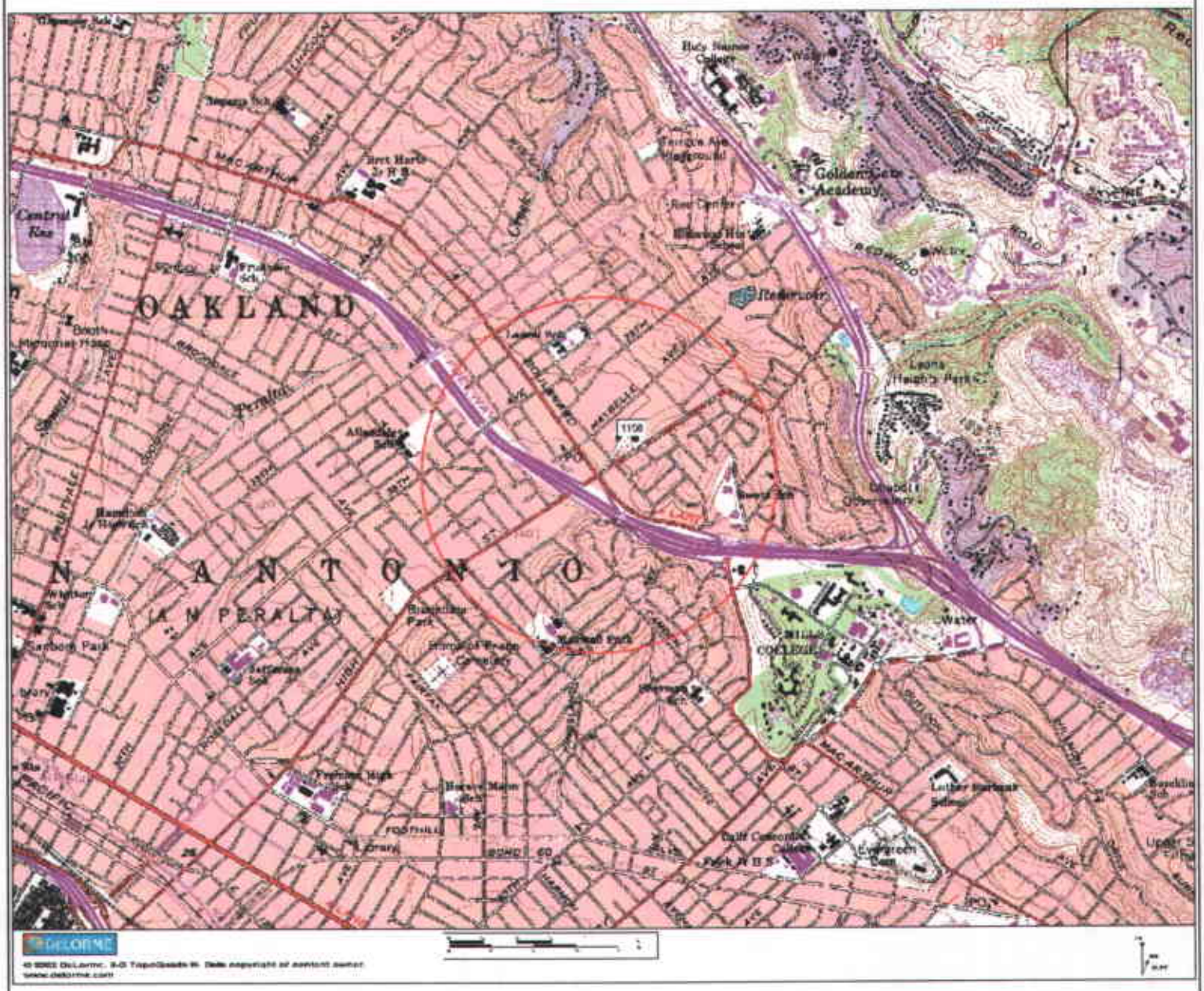
Environmental Resolutions, Inc. August 24, 1998. Underground Storage Tank and Associated Piping and Dispenser Replacement Report. ERI 223532.R01.

Environmental Resolutions, Inc. October 11, 1999. Evaluation of Soil and Groundwater at Tosco 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California. ERI 223503.R01.

Environmental Resolutions, Inc. January 4, 2002. Supplemental Evaluation of Soil and Groundwater and Site Conceptual Model at Tosco 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California. ERI 223503.R02.

Gettler-Ryan, Inc. February 10, 2003. First Quarter Event of January 6, 2003 Groundwater Monitoring & Sampling Report, Tosco 76 Service Station #1156, 4276 MacArthur Boulevard, Oakland, California. G-R Job #180225.

United States Geological Survey (USGS). 1980. 7.5-Minute Topographic Quadrangle Map, Oakland West, California.



FN 2188TOPO

EXPLANATION

1/2–mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

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

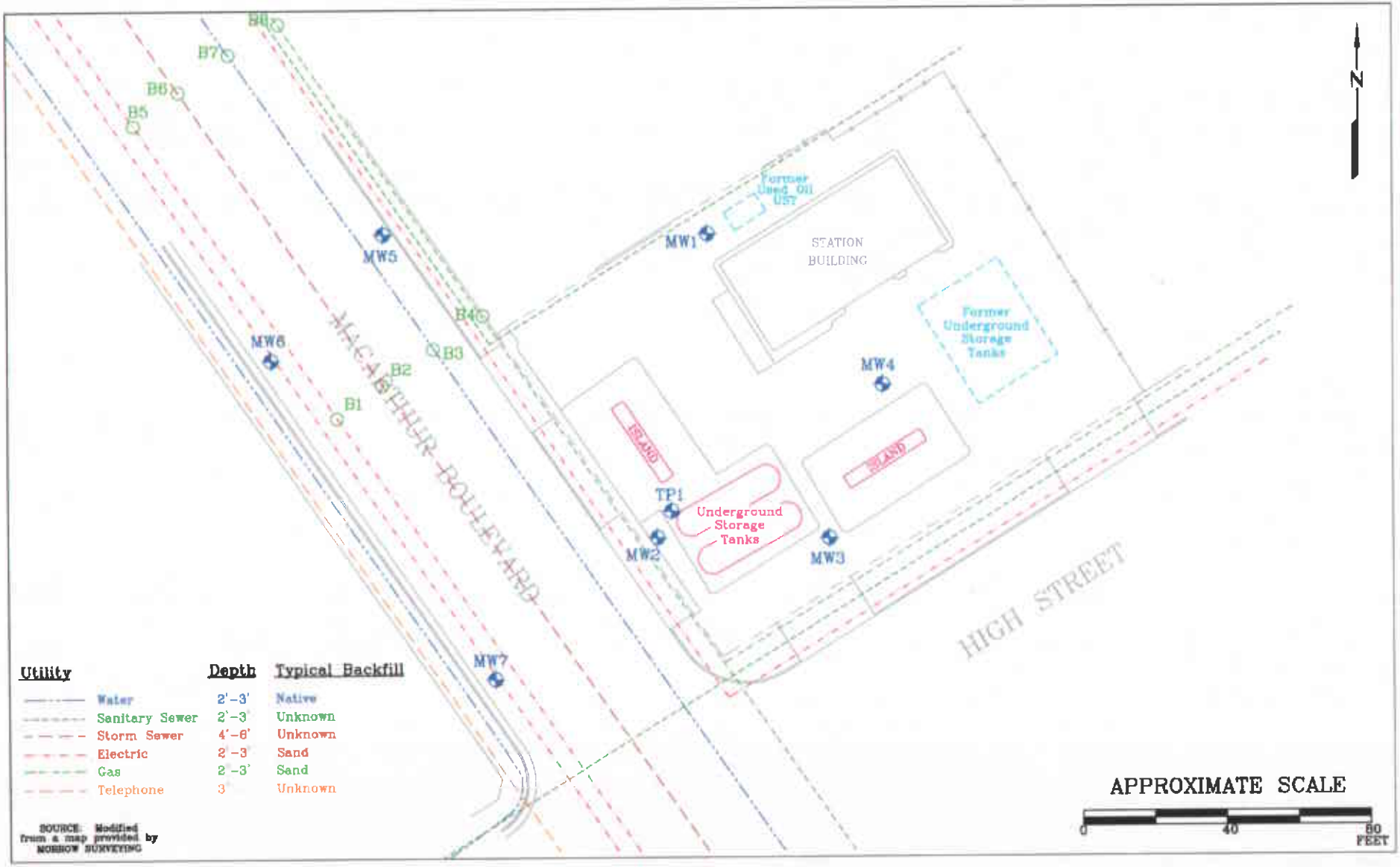
ERI ENVIRONMENTAL RESOLUTIONS, INC.

SITE VICINITY MAP

76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

PROJECT NO. 2235

PLATE 1



Utility	Depth	Typical Backfill
Water	2'-3'	Native
Sanitary Sewer	2'-3'	Unknown
Storm Sewer	4'-6'	Unknown
Electric	2'-3'	Sand
Gas	2'-3'	Sand
Telephone	3'	Unknown

SOURCE: Modified from a map provided by MORROW SURVEYING

FN 2235003A

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATION

MW7 Groundwater Monitoring Well

B8 Proposed Boring

TP1 Tank Pit Backfill Well

PROJECT NO.
2235

PLATE
2

December 19, 2001

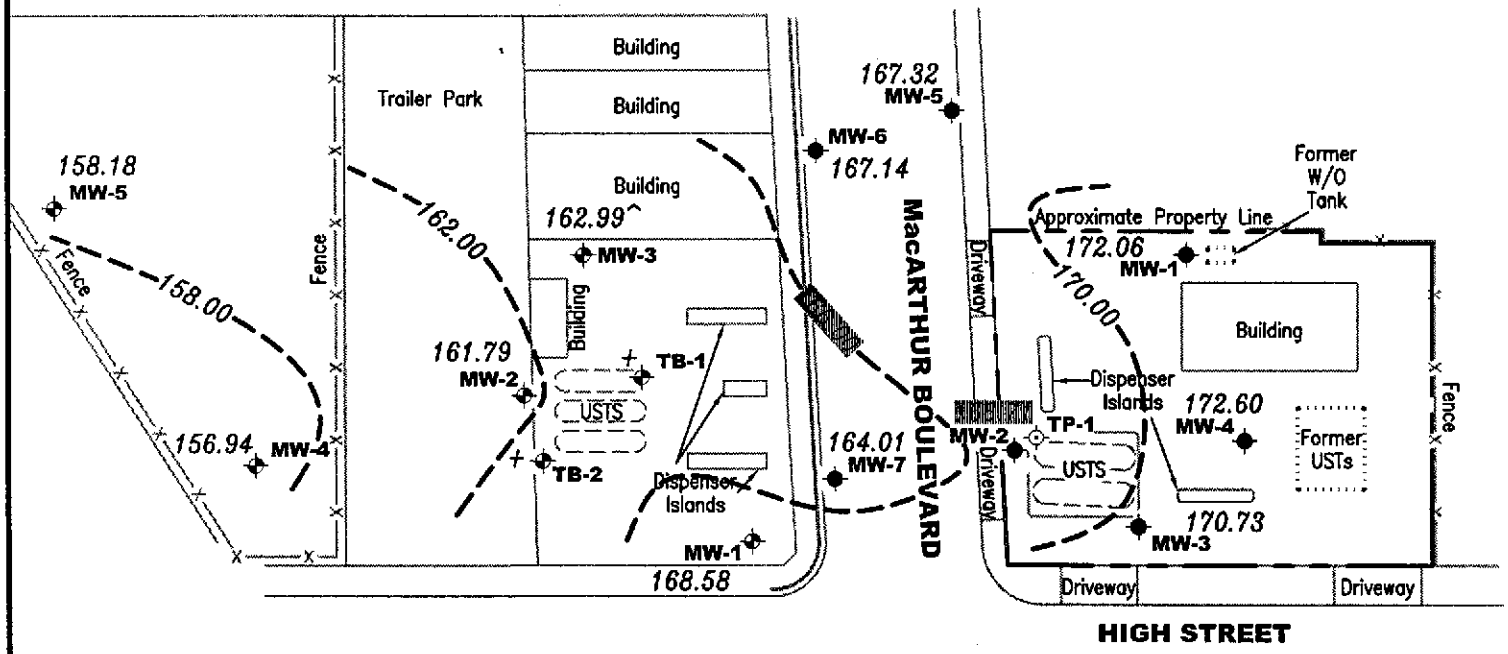
ATTACHMENT A

CUMMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA (Gettler-Ryan, Inc., February 10, 2003)

EXPLANATION

- Groundwater monitoring well (Tosco)
- Groundwater monitoring well (Shell)
- Tank Pit Backfill Well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level
- 99.99 — Groundwater elevation contour, dashed where inferred
- \+ — TOC not available
- ^ — Groundwater elevation corrected for the presence of free product

Approximate groundwater flow direction at a gradient of 0.03 to 0.07 Ft./Ft.



Source: Figure modified from drawing provided by Enviromental Resolutions Inc.

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

POTENTIOMETRIC MAP
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180225		January 6, 2003	

FILE NAME: P:\ENVIRO\TOSCO\1156\Q03-1156.DWG | Layout Tab: Pot1

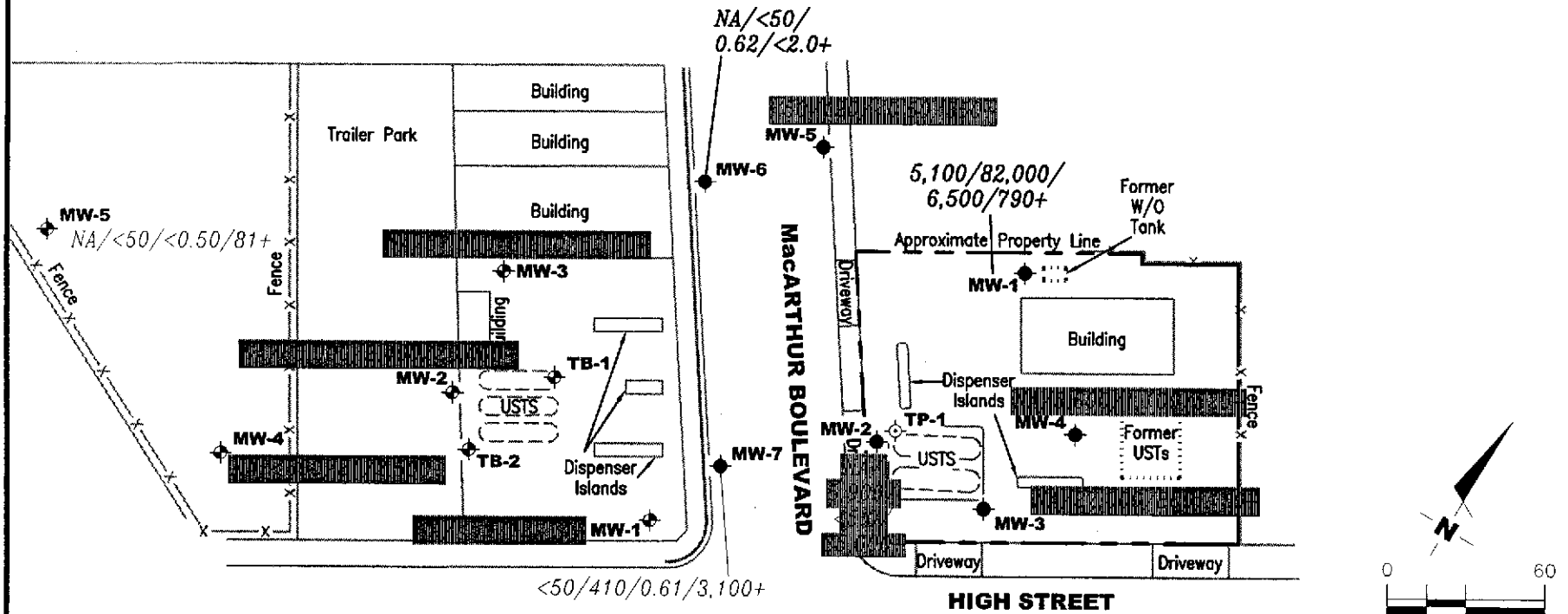
EXPLANATION

- Groundwater monitoring well (Tosco)
- Groundwater monitoring well (Shell)
- Tank Pit Backfill Well

A/B/C/D — Total Petroleum Hydrocarbons (TPH) as Diesel/TPH as Gasoline/Benzene/MTBE concentrations in ppb

+ — MTBE by EPA Method 8260

NA — Not Analyzed



Source: Figure modified from drawing provided by Enviromental Resolutions Inc.

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Dublin, CA 94568 (925) 551-7555

CONCENTRATION MAP
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

FIGURE
2

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180225		January 6, 2003	

FILE NAME: P:\ENVIRO\TOSCO\1156\Q03-1156.DWG | Layout Tab: Con1

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1												
174.86	07/20/99[5]	7.50	5.0-25.0	167.36	--	16,000[2]	120,000	11,000	27,000	3,300	18,000	ND[1]
	09/28/99	8.75		166.11	<0.01	2,410[2]	6,020[6]	1,030	1,040	68.5	412	321/333[3]
	01/07/00	9.05		165.83**	0.02	7,870[2,4]	72,700[6]	7,410	13,900	2,070	9,620	ND[1]
	03/31/00	7.18		167.68	0.00	3,600[2]	92,000[6]	10,000	23,000	3,200	14,000	ND[1]
	07/14/00	7.68		167.18	0.00	8,580[2]	108,000[6]	8,250	18,700	3,750	17,800	ND[1]
	10/03/00	7.99		166.87	0.00	9,260[2]	96,000[6]	8,760	20,000	3,350	15,600	ND[1]
	01/03/01	9.18		165.68	0.00	11,000[8]	37,000[6]	5,800	13,000	1,700	8,100	2,200
	04/04/01	8.05		166.81	0.00	14,000[8]	86,900[6]	7,780	18,500	2,470	11,800	[1]ND/481[3]
	07/17/01	7.01		167.85	0.00	2,200[8]	79,000[6]	5,600	11,000	2,800	12,000	[1]ND/230[3]
177.54	10/03/01	7.89		169.65	0.00	--	99,000[6]	8,200	18,000	3,000	16,000	<2,500
	10/05/01	7.91		169.63	0.00	13,000[2]	--	--	--	--	--	--
	01/28/02	5.98		171.56	0.00	4,400[11]	110,000[12]	8,900	19,000	2,600	12,000	3,000/440[3]
	04/25/02	6.19		171.35	0.00	9,000[13]	93,000	8,100	18,000	3,000	15,000	810/670[3]
	07/18/02	6.99		170.55	0.00	9,200[13]	69,000	5,400	10,000	2,100	10,000	<500/620[3]
	10/07/02	7.73		169.81	0.00	3,400	82,000	9,200	20,000	2,600	13,000	1,300/760[3]
	01/06/03	**5.48**		**172.06**	**0.00**	**5,100[13]**	**82,000**	**6,500**	**18,000**	**2,700**	**11,000**	**<1,000/790[3,4]**
MW-2												
173.01	07/20/99	5.40	5.0-25.0	167.61	--	--	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]	4,500/11,000[3,4]
	09/28/99	5.60		167.41	0.00	--	1,390[6]	124	ND[1]	62.9	43.1	5,280/6,150[3]
	01/07/00	5.92		167.09	0.00	--	1,450[6]	99.0	ND[1]	23.8	16.0	33,100
	03/31/00	5.23		167.78	0.00	--	ND[1]	42	ND[1]	ND[1]	ND[1]	17,000
	07/14/00	5.52		167.49	0.00	--	ND[1]	44.7	ND[1]	ND[1]	ND[1]	66,500
	10/03/00	6.04		166.97	0.00	--	ND[1]	56.7	ND[1]	ND[1]	ND[1]	57,500
	01/03/01	6.42		166.59	0.00	--	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]	49,000

Table 1

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Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2	04/04/01	6.14	5.0-25.0	166.87	0.00	--	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]	38,700/37,800[3]
(cont)	07/17/01	5.30		167.71	0.00	--	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]	65,000/56,000[3]
173.50	10/03/01	7.38		166.12	0.00	--	<250	2.7	<2.5	<2.5	<2.5	14,000/18,000[3]
	01/28/02	5.68		167.82	0.00	--	<250	2.5	4.4	2.8	7.4	11,000/10,000[3]
	04/25/02	5.82		167.68	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	8,400/8,100[3]
	07/18/02	6.90		166.60	0.00	--	<500	<5.0	<5.0	<5.0	<5.0	4,300/8,800[3]
	10/07/02	7.54		165.96	0.00	--	4,300	<10	27	21	75	7,100/5,900[3]
	01/06/03	**6.79**		**166.71**	**0.00**	--	**5,900**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**31,000/35,000[3]**
MW-3												
178.44	07/20/99	8.50	5.0-25.0	169.94	--	--	1,000	76	52	79	76	330
	09/28/99	8.31		170.13	0.00	--	1,860[6]	174	95.4	71.8	135	443/288[3]
	01/07/00	8.56		169.88	0.00	--	28,400[6]	2,450	3,090	1,560	3,910	1,940
	03/31/00	8.42		170.02	0.00	--	26,000[6]	1,300	2,900	2,600	3,500	2,800
	07/14/00	8.61		169.83	0.00	--	24,500[6]	1,850	2,630	2,750	3,900	548
	10/03/00	9.14		169.30	0.00	--	22,000[6]	1,910	2,020	2,400	2,680	965
	01/03/01	9.06		169.38	0.00	--	14,000[6]	1,600	1,100	2,300	1,400	3,300
	04/04/01	8.98		169.46	0.00	--	19,600[6]	1,150	1,470	2,100	1,820	1,050/450[3]
	07/17/01	7.46		170.98	0.00	--	26,000[6]	1,500	2,100	2,100	3,400	[1]ND/350[3]
178.13	10/03/01	9.81		168.32	0.00	--	22,000[6]	830	1,900	1,700	3,000	<1,000
	01/28/02	7.39		170.74	0.00	--	30,000[12]	880	2,600	1,800	4,300	3,200/210[3]
	04/25/02	7.86		170.27	0.00	--	18,000	500	2,000	1,300	3,800	500/260[3]
	07/18/02	8.83		169.30	0.00	--	37,000	1,800	3,800	2,200	8,000	<250/270[3]
	10/07/02	9.71		168.42	0.00	--	26,000	600	2,000	1,800	6,400	<120/<200[3]
	01/06/03	**7.40**		**170.73**	**0.00**	--	**27,000**	**800**	**2,100**	**2,000**	**6,400**	**440/110[3]**

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4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4												
179.10	07/20/99	7.40	5.0-25.0	171.70	--	--	69	2.7	0.77	ND	7.1	100
	09/28/99	7.19		171.91	0.00	--	4,050[6]	1,250	72.0	51.3	133	416/459[3]
	01/07/00	8.98		170.12	0.00	--	7,010[6]	2,260	167	271	276	764
	03/31/00	7.26		171.84	0.00	--	5,500[6]	1,800	230	330	400	1,000
	07/14/00	7.67		171.43	0.00	--	7,940[6]	2,810	332	450	247	1,530
	10/03/00	8.12		170.98	0.00	--	11,400[6]	3,110	437	519	816	1,040
	01/03/01[7]	9.10		170.00	0.00	--	8,600[6]	2,500	340	480	960	850
	04/04/01	8.63		170.47	0.00	--	9,950[6]	2,380	126	416	725	1,140/819[3]
	07/17/01	6.49		172.61	0.00	--	10,000[6]	2,300	110	410	800	1,200/900[3]
178.96	10/03/01	7.01		171.95	0.00	--	7,800[6]	2,100	85	380	390	580/820[3]
	01/28/02	6.21		172.75	0.00	--	12,000[12]	2,100	130	350	670	1,100/500[3]
	04/25/02	5.49		173.47	0.00	--	3,300	1,300	42	270	250	680/600[3]
	07/18/02	8.28		170.68	0.00	--	4,800	1,300	71	290	220	530/760[3]
	10/07/02	7.49		171.47	0.00	--	5,100	1,400	110	330	380	650/540[3]
	01/06/03	**6.36**		**172.60**	**0.00**	--	**5,600**	**1,100**	**57**	**260**	**320**	**370/520[3]**
MW-5												
169.18	10/03/01[10]	2.81	--	166.37	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	1,800/2,100[3]
	01/28/02	1.88		167.30	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	650/550[3]
	04/25/02	1.99		167.19	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	2,200/2,400[3]
	07/18/02	2.49		166.69	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	530/690[3]
	10/07/02	2.80		166.38	0.00	--	140	<0.50	<0.50	<0.50	<0.50	300/330[3]
	01/06/03	**1.86**		**167.32**	**0.00**	**<50**	**120[13]**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**410/350[3]**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-6												
169.04	10/03/01[10]	2.87	--	166.17	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	200/270[3]
	01/28/02	1.82		167.22	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/25/02	2.01		167.03	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/18/02	2.44		166.60	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0[3]
	10/07/02	2.72		166.32	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0[3]
	01/06/03	**1.90**		**167.14**	**0.00**	**--**	**<50**	**0.62**	**1.2**	**1.2**	**3.5**	**<2.0/<2.0[3]**
MW-7												
171.64	10/03/01[10]	7.62	--	164.02	0.00	--	10,000[9]	210	<50	<50	800	35,000/40,000[3]
	01/28/02	7.21		164.43	0.00	--	<1,000	<10	<10	<10	<10	42,000/38,000[3]
	04/25/02	7.25		164.39	0.00	--	<5,000	660	<50	<50	<50	42,000/45,000[3]
	07/18/02	8.12		163.52	0.00	--	<5,000	130	<50	<50	<50	51,000/53,000[3]
	10/07/02	7.71		163.93	0.00	--	18,000	<50	<50	<50	<50	33,000/38,000[3]
	01/06/03	**7.63**		**164.01**	**0.00**	**<50**	**410**	**0.61**	**1.0**	**0.89**	**2.9**	**3,900/3,100[3]**
Trip Blank												
TB-LB	07/20/99	--	--	--	--	--	--	--	--	--	--	--
	09/28/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/07/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	03/31/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/14/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/03/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/03/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	04/04/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/17/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/03/01	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC* *(ft.)*	DATE	DTW *(ft.)*	S.I. *(ft. bgs)*	GWE *(msl)*	Product Thickness *(ft.)*	TPH-D *(ppb)*	TPH-G *(ppb)*	B *(ppb)*	T *(ppb)*	E *(ppb)*	X *(ppb)*	MTBE *(ppb)*
TB-LB	10/05/01	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
(cont)	01/28/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/25/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/18/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA	10/07/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	01/06/03	--		--	--	--	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.0**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
S.I. = Screen Interval
(ft. bgs) = Feet Below Ground Surface
GWE = Groundwater Elevation
(msl) = Mean sea level

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion
ND = Not Detected
-- = Not Measured/Not Analyzed
QA =Quality Assurance/Trip Blank

* TOC elevations were resurveyed in September 2001, by Morrow Surveying. TOC elevations are based on City of Oakland Benchmark No. 3967, (Elevation = 174.40 feet, msl).

** GWE has been corrected due to the presence of free product; correction factor: [(TOC - DTW) + (Product Thickness x 0.77)].

1 Detection limit raised. Refer to analytical reports.

2 Laboratory report indicates unidentified hydrocarbons C9-C24.

3 MTBE by EPA Method 8260.

4 Laboratory report indicates sample was analyzed past EPA recommended holding time.

5 Total Recoverable Petroleum Oil was ND.

6 Laboratory report indicates gasoline C6-C12.

7 This sample was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.

8 Laboratory report indicates unidentified hydrocarbons <C16.

9 Laboratory report indicates weathered gasoline C6-C12.

10 Well development performed.

11 Laboratory report indicates unidentified hydrocarbons C10-C28.

12 Laboratory report indicates gasoline C6-C10.

13 Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but it does not resemble the pattern of the requested fuel.

Table 2

Groundwater Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-1	07/20/99	--	--	11,000[3]	--	--	--	--	--	ND[1]	ND[2]
	09/28/99	--	ND[6]	333	ND[6]	ND[6]	ND[6]	--	--	ND[4]	ND[5]
	01/07/00	--	--	--	--	--	--	--	--	ND[7,8]	ND[9]
	03/31/00	--	--	--	--	--	--	--	--	--[11]	ND[10]
	07/14/00	--	--	--	--	--	--	--	--	ND[12]	ND[13]
	10/03/00	--	--	--	--	--	--	--	--	ND[15]	ND[14]
	01/03/01	--	--	--	--	--	--	--	--	ND[15]	ND[16]
	04/04/01	ND[6]	ND[6]	481	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	ND[17]	ND[18]
	07/17/01	ND[6]	ND[6]	230	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	ND[20]	ND[19]
	01/28/02	--	--	440	--	--	--	--	--	--	--
	04/25/02	--	--	670	--	--	--	--	--	--	--
	07/18/02	<2,500	<100	620	<10	<10	<10	<10	<10	--	--
	10/07/02	<50,000	<10,000	760	<200	<200	<200	<200	<200	--	--
	01/06/03[3]	**<100,000**	**<20,000**	**790**	**<400**	**<400**	**<400**	**<400**	**<400**	--	--
MW-2	09/28/99	--	ND[6]	6,150	ND[6]	ND[6]	ND[6]	--	--	--	--
	04/04/01	ND[6]	ND[6]	37,800	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--
	07/17/01	ND[6]	ND[6]	56,000	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--
	10/03/01	--	--	18,000	--	--	--	--	--	--	--
	01/28/02	--	--	10,000	--	--	--	--	--	--	--
	04/25/02	--	--	8,100	--	--	--	--	--	--	--
	07/18/02	<25,000	<1,000	8,800	<100	<100	<100	<100	<100	--	--
	10/07/02	<100,000	<20,000	5,900	<400	<400	<400	<400	<400	--	--
	01/06/03	**<250,000**	**<50,000**	**35,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	**<1,000**	--	--
MW-3	09/28/99	--	ND[6]	288	ND[6]	ND[6]	8.80	--	--	--	--
	04/04/01	ND[6]	ND[6]	450	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--
	07/17/01	ND[6]	ND[6]	350	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--

Table 2
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-3	01/28/02	--	--	210	--	--	--	--	--	--	--
(cont)	04/25/02	--	--	260	--	--	--	--	--	--	--
	07/18/02	<1,200	<50	270	<5.0	<5.0	<5.0	<5.0	<5.0	--	--
	10/07/02	<50,000	<10,000	<200	<200	<200	<200	<200	<200	--	--
	01/06/03	**23,000**	**<4,000**	**110**	**<80**	**<80**	**<80**	**<80**	**<80**	**--**	**--**
MW-4	09/28/99	--	ND[6]	459	ND[6]	ND[6]	ND[6]	--	--	--	--
	04/04/01	ND[6]	ND[6]	819	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--
	07/17/01	ND[6]	ND[6]	900	ND[6]	ND[6]	ND[6]	ND[6]	ND[6]	--	--
	10/03/01	--	--	820	--	--	--	--	--	--	--
	01/28/02	--	--	500	--	--	--	--	--	--	--
	04/25/02	--	--	600	--	--	--	--	--	--	--
	07/18/02	<2,500	<100	760	<10	<10	<10	49	<10	--	--
	10/07/02	<50,000	<10,000	540	<200	<200	<200	<200	<200	--	--
	01/06/03	**<5,000**	**<1,000**	**520**	**<20**	**<20**	**<20**	**<20**	**<20**	**--**	**--**
MW-5	10/03/01	--	--	2,100	--	--	--	--	--	--	--
	01/28/02	--	--	550	--	--	--	--	--	--	--
	04/25/02	--	--	2,400	--	--	--	--	--	--	--
	07/18/02	<500	<20	690	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	10/07/02	<500	<100	330	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	01/06/03	**<500**	**<100**	**350**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**--**	**--**
MW-6	10/03/01	--	--	270	--	--	--	--	--	--	--
	07/18/02	<500	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	10/07/02	<500	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	01/06/03	**<500**	**<100**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**--**	**--**

Table 2

Groundwater Analytical Results

Tosco 76 Service Station #1156

4276 MacArthur Boulevard

Oakland, California

WELL ID	DATE	ETHANOL *(ppb)*	TBA *(ppb)*	MTBE *(ppb)*	DIPE *(ppb)*	ETBE *(ppb)*	TAME *(ppb)*	1,2-DCA *(ppb)*	EDB *(ppb)*	HVOCs *(ppb)*	SVOCs *(ppb)*
MW-7	10/03/01	--	--	40,000	--	--	--	--	--	--	--
	01/28/02	--	--	38,000	--	--	--	--	--	--	--
	04/25/02	--	--	45,000	--	--	--	--	--	--	--
	07/18/02	<5,000	33,000	53,000	<20	<20	<20	<20	<20	--	--
	10/07/02	<100,000	26,000	38,000	<400	<400	<400	<400	<400	--	--
	01/06/03	**<50,000**	**<10,000**	**3,100**	**<200**	**<200**	**<200**	**<200**	**<200**	**--**	**--**

Table 2
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TBA = Tertiary butyl alcohol
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
EDB = 1,2-Dibromoethane
HVOCs = Halogenated Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
(ppb) = Parts per billion
ND = Not Detected
-- = Not Analyzed

[1] All HVOCs were ND except for Chlorobenzene at 12 ppb; 1,2-Dichlorobenzene (1,2-DCB) at 3.9 ppb; 1,1-Dichloroethane (1,1-DCA) at 2.0 ppb; 1,2-Dichloroethane (1,2-DCA) at 20 ppb; cis-1,2-Dichloroethene (cis-1,2-DCE) at 3.6 ppb and 1,2-Dichloropropane (1,2-DCP) at 0.92 ppb.

[2] All SVOCs were ND except for Benzyl alcohol at 37 ppb; 2,4-Dimethylphenol at 140 ppb; 2-Methylnaphthalene at 240 ppb; 4-Methylphenol at 27 ppb and Naphthalene at 600 ppb.

[3] Laboratory report indicates sample was analyzed past EPA recommended holding time.

[4] All HVOCs were ND except for Benzene at 6,130 ppb; Ethylbenzene at 1,590 ppb; Naphthalene at 534 ppb; Toluene at 11,900 ppb; 1,2,4-Trimethylbenzene at 1,240 ppb; 1,3,5-Trimethylbenzene at 318 ppb and Total Xylenes at 7,360 ppb.

[5] All SVOCs were ND (with a raised detection limit) except for 2,4-Dimethylphenol at 13.6 ppb; 2-Methylnaphthalene at 87.4 ppb; 2-Methylphenol at 26.4; 4-Methylphenol at 35.6 and Naphthalene at 292 ppb.

[6] Detection limit raised. Refer to analytical reports.

[7] All HVOCs were ND (with a raised detection limit) except for Benzene at 8,380 ppb; Ethylbenzene at 2,380 ppb; Naphthalene at 1,050 ppb; n-Propylbenzene at 371 ppb; Toluene at 17,600 ppb; 1,2,4-Trimethylbenzene at 2,210 ppb; 1,3,5-Trimethylbenzene at 597 ppb and Total Xylenes at 10,800 ppb.

[8] EPA Method 8260 for HVOCs.

[9] All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 315 ppb and Naphthalene at 615 ppb.

[10] All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 10 ppb; 1,2-DCB at 6.2 ppb; 2-Methylnaphthalene at 73 ppb; 2-Methylphenol at 31 ppb; 4-Methylphenol at 18 ppb and Naphthalene at 140 ppb. Laboratory report indicates all SVOCs were analyzed outside the EPA recommended holding time.

[11] Laboratory did not analyze for HVOCs.

[12] All HVOCs were ND (with a raised detection limit) except for Tetrachloroethene at 334 ppb.

[13] All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 300 ppb and Naphthalene at 690 ppb.

[14] All SVOCs were ND (with a raised detection limit) except for Benzoic acid at 362 ppb; Bis(2-ethylhexyl)phthalate at 51.6 ppb; 2-Methylnaphthalene at 98.1 ppb; 4-Methylphenol at 28.9 ppb and Naphthalene at 361 ppb.

[15] All HVOCs were ND (with a raised detection limit).

[16] All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 180 ppb and Naphthalene at 400 ppb.

[17] All HVOCs were ND except for cis-1,2-DCA at 3.4 ppb; 1,2-DCA at 5.7 ppb; Chlorobenzene at 5.6 ppb and 1,2-DCB at 4.6 ppb.

[18] All SVOCs were ND except for Benzoic acid at 28 ppb; Bis(2-ethylhexyl)phthalate at 55 ppb; 2-Methylnaphthalene at 78 ppb and Naphthalene at 490 ppb.

Table 2
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS: (cont)

[19] All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 400 ppb; 1,2-DCB at 18 ppb; 2,4-Dimethylphenol at 16 ppb; 2-Methylnaphthalene at 290 ppb; 2-Methylphenol at 47 ppb; 4-Methylphenol at 25 ppb; Naphthalene at 740 ppb and N-Nitrosodimethylamine at 7.7 ppb.

[20] Volatile Organic Compounds (VOCs) by EPA Method 8021B were ND with a raised detection limit.

ANALYTICAL METHODS:

EPA Method 8260 for Oxygenate Compounds
EPA Method 8010 for HVOCs
EPA Method 8270 for SVOCs

Table 3

Groundwater Analytical Results

Tosco 76 Service Station #1156

4276 MacArthur Boulevard

Oakland, California

WELL ID	DATE	cis-1,2-DCE (ppb)	1,2-DCA (ppb)	PCE (ppb)	Chloro-benzene (ppb)	HVOCs (ppb)	Bis(2-ethylhexyl)phthalate (ppb)	2-Methylnaphthalene (ppb)	2-Methylphenol (ppb)	4-Methylphenol (ppb)	Naphthalene (ppb)	SVOCs (ppb)
MW-1	07/18/02	1.3	<1.6	<0.60	5.9	<0.50-<10[1]	120	420	13	25	910	<5.0-<20[2]
MW-5	01/06/03	<0.50	1.4	<0.50	<0.50	<0.50-<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0-<20
MW-7	01/06/03	<50	<50	<50	<50	<50-<500	<5.0	<5.0	<5.0	<5.0	<10	<5.0-<20

Table 3

Groundwater Analytical Results

Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.
Historical Halogenated and Semi-Volatile Organic Compound data are presented in Table 2.

cis-1,2-DCE = cis-1,2-Dichloroethene

1,2-DCA = 1,2-Dichloroethane

PCE = Tetrachloroethene

HVOCs = Halogenated Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

(ppb) = Parts per billion

[1] All other HVOCs were less than the reporting limit except for Chloroethane was detected at 1.1 ppb, 1,4-Dichlorobenzene was detected at 1.3 ppb and 1,2-Dichlorobenzene was detected at 5.8 ppb.

[2] All other SVOCs were less than the reporting limit except for Phenol was detected at 32 ppb.

ANALYTICAL METHODS:

EPA Method 8010/8021 for HVOCs

EPA Method 8270 for SVOCs

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	11/17/1993	410	21	11	7.9	47	NA	NA	175.79	8.59	NA	167.20	NA	NA	NA
MW-1	1/20/1994	1,200	180	19	48	47	NA	NA	175.79	8.22	NA	167.57	NA	NA	NA
MW-1	4/25/1994	3,100	610	<10	130	27	NA	NA	175.79	7.63	NA	168.16	NA	NA	NA
MW-1	7/7/1994	2,400	1,000	10	250	20	NA	NA	175.79	8.31	NA	167.48	NA	NA	NA
MW-1	10/27/1994	2,200	500	3.1	72	1.8	NA	NA	175.79	8.84	NA	166.95	NA	NA	NA
MW-1	11/17/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.60	NA	168.19	NA	NA	NA
MW-1	11/28/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.56	NA	168.23	NA	NA	NA
MW-1	1/13/1995	570	75	2.5	6.7	11	NA	NA	175.79	7.11	NA	168.68	NA	NA	NA
MW-1	4/12/1995	1,800	480	<5.0	79	<5.0	NA	NA	175.79	7.08	NA	168.71	NA	NA	NA
MW-1	7/25/1995	120	15	1.1	2.1	2.9	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1 (D)	7/25/1995	300	88	2.4	11	6.5	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1	10/18/1995	130	9.5	0.8	1.3	1.7	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1 (D)	10/18/1995	120	11	0.8	1.4	1.8	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1	1/17/1996	250	22	0.9	1.6	2.3	NA	NA	175.79	7.83	NA	167.96	NA	NA	NA
MW-1	4/25/1996	<50	4.6	<0.5	<0.5	0.6	500b	NA	175.79	7.35	NA	168.44	NA	NA	NA
MW-1	7/17/1996	<250	15	<2.5	<2.5	<2.5	540	NA	175.79	7.70	NA	168.09	NA	NA	NA
MW-1	10/1/1996	1,200	500	12	57	82	1,900	NA	175.79	8.07	NA	167.72	NA	NA	NA
MW-1	1/22/1997	640	170	4.3	33	33	1,200	NA	175.79	7.21	NA	168.58	NA	NA	NA
MW-1	4/8/1997	<200	34	<2.0	3.3	4.3	950	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1 (D)	4/8/1997	<200	66	<2.0	6.4	8	740	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1	7/8/1997	190	49	1.2	5.8	8.6	560	NA	175.79	8.01	NA	167.78	NA	NA	NA
MW-1	10/8/1997	<100	7	<1.0	<1.0	<1.0	620	NA	175.79	8.10	NA	167.69	NA	NA	NA
MW-1	1/9/1998	970	390	12	48	71	1,200	NA	175.79	7.14	NA	168.65	NA	NA	NA
MW-1	4/13/1998	<50	136	<0.50	1.5	1.8	170	NA	175.79	6.78	NA	169.01	NA	NA	NA
MW-1	7/17/1998	2,500	750	11	88	67	150	NA	175.79	7.28	NA	168.51	NA	NA	NA
MW-1	10/2/1998	8,000	970	36	270	440	35	NA	175.79	7.77	NA	168.02	NA	NA	NA
MW-1	2/3/1999	210	56	0.82	<0.50	3.2	220	NA	175.79	7.45	NA	168.34	NA	1.4	NA
MW-1	4/29/1999	<50	4.5	<0.50	0.56	<0.50	140	196	175.79	7.58	NA	168.21	NA	1.2	140
MW-1	7/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	120	111*	175.79	8.51	NA	167.28	NA	1.0	NA
MW-1	11/1/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2.90	NA	175.79	8.30	NA	167.49	NA	1.4	-71
MW-1	1/17/2000	<50	<0.50	<0.50	<0.50	<0.50	3.30	NA	175.79	8.04	NA	167.75	NA	16.9	64
MW-1	4/17/2000	<50.0	1.08	<0.500	<0.500	<0.500	<2.50	NA	175.79	8.00	NA	167.79	NA	1.8	112

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	7/26/2000	125	54.3	2.16	5.45	9.86	33.1	NA	175.79	7.52	NA	168.27	NA	13.2	-140
MW-1	10/12/2000	101	40.7	2.68	3.00	5.18	25.0	NA	175.79	7.71	NA	168.08	NA	>20	534
MW-1	1/15/2001	<50.0	0.633	<0.500	0.505	1.74	<2.50	NA	175.79	7.33	NA	168.46	NA	16.9	-127
MW-1	4/9/2001	<50.0	<0.500	<0.500	<0.500	0.927	<2.50	NA	175.79	7.68	NA	168.11	NA	12.8	-117
MW-1	7/24/2001	<50	4.0	0.65	0.53	1.3	NA	<5.0	175.79	8.00	NA	167.79	NA	>20	43
MW-1	10/31/2001	<50	4.4	<0.50	<0.50	0.98	NA	<5.0	175.79	7.94	NA	167.85	NA	13.6	123
MW-1	1/10/2002	<50	2.2	<0.50	<0.50	1.2	NA	6.1	175.79	7.63	NA	168.16	NA	0.1	63
MW-1	4/25/2002	<50	2.0	<0.50	<0.50	<0.50	NA	<5.0	175.79	7.76	NA	168.03	NA	0.3	54
MW-1	7/18/2002	<50	6.1	<0.50	<0.50	0.98	NA	<5.0	175.79	8.29	NA	167.50	NA	1.1	32
MW-1	10/7/2002	500	17	14	11	60	NA	9.0	175.76	8.34	NA	167.42	NA	2.8	-26
MW-1	**1/6/2003**	**<50**	**12**	**<0.50**	**0.73**	**0.58**	**NA**	**14**	**175.76**	**7.18**	**NA**	**168.58**	**NA**	**0.5**	**-22**
MW-2	11/17/1993	31,000	9,400	4,600	1,000	3,900	NA	NA	170.91	12.31	NA	158.60	NA	NA	NA
MW-2	1/20/1994	40,000	6,900	5,600	780	4,100	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2 (D)	1/20/1994	41,000	7,200	6,200	900	4,800	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2	4/25/1994	60,000	9,300	6,100	1,400	6,200	NA	NA	170.91	10.84	NA	160.07	NA	NA	NA
MW-2	7/7/1994	280,000a	40,000	26,000	8,100	32,000	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA
MW-2 (D)	7/7/1994	53,000	13,000	6,600	2,000	8,400	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA
MW-2	10/27/1994	130,000	14,000	12,000	2,400	13,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2 (D)	10/27/1994	390,000	8,800	7,000	1,700	11,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2	11/17/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.11	NA	161.80	NA	NA	NA
MW-2	11/28/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.22	NA	161.69	NA	NA	NA
MW-2	1/13/1995	75,000	5,900	12,000	3,100	17,000	NA	NA	170.91	8.10	NA	162.81	NA	NA	NA
MW-2	4/12/1995	100,000	8,500	11,000	2,400	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2 (D)	4/12/1995	80,000	4,200	9,300	2,500	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2	7/25/1995	NA	NA	NA	NA	NA	NA	NA	170.91	11.53	NA	159.80	0.52	NA	NA
MW-2	10/18/1995	NA	NA	NA	NA	NA	NA	NA	170.91	14.02	NA	156.99	0.13	NA	NA
MW-2	1/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	10.27	NA	160.78	0.17	NA	NA
MW-2	4/25/1996	NA	NA	NA	NA	NA	NA	NA	170.91	11.68	NA	159.25	0.03	NA	NA
MW-2	7/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	12.78	NA	158.81	0.48	NA	NA
MW-2	10/1/1996	NA	NA	NA	NA	NA	NA	NA	170.91	14.21	NA	156.70	0.28	NA	NA
MW-2	1/22/1997	NA	NA	NA	NA	NA	NA	NA	170.91	10.92	NA	160.08	0.11	NA	NA
MW-2	4/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.12	NA	156.95	0.20	NA	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-2	7/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.98	NA	156.08	0.19	NA	NA
MW-2	10/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	12.97	NA	157.98	0.05	NA	NA
MW-2	1/8/1998	NA	NA	NA	NA	NA	NA	NA	170.91	12.54	NA	158.43	0.08	NA	NA
MW-2	4/13/1998	180,000	2,800	5,200	2,400	13,000	71,000	NA	170.91	10.05	NA	160.86	NA	NA	NA
MW-2	7/17/1998	NA	NA	NA	NA	NA	NA	NA	170.91	11.75	NA	159.24	0.10	NA	NA
MW-2	10/2/1998	NA	NA	NA	NA	NA	NA	NA	170.91	16.78	NA	154.22	0.11	NA	NA
MW-2	2/3/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.90	9.82	161.07	0.08	NA	NA
MW-2	4/29/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.86	9.81	161.09	0.05	NA	NA
MW-2	7/23/1999	65,800	6,500	4,480	1,960	8,960	46,600	58,500*	170.91	14.45	NA	156.46	NA	1.4	NA
MW-2	11/1/1999	NA	NA	NA	NA	NA	NA	NA	170.91	11.84	11.81	159.09	0.03	NA	NA
MW-2	1/17/2000	46,000	6,000	2,400	1,500	5,500	50,000	31,000	170.91	11.00	NA	159.91	NA	1.3	-54
MW-2	4/17/2000	96,300	8,150	10,200	2,820	14,900	112,000	108,000	170.91	11.06	NA	159.85	NA	2.6	125
MW-2	7/26/2000	72,400	8,680	5,620	2,810	13,400	66,200	46,300	170.91	12.82	NA	158.09	NA	2.2	113
MW-2	10/12/2000	63,200	5,840	4,180	2,310	11,100	61,200	66,600	170.91	11.32	NA	159.59	NA	0.4	55
MW-2	1/15/2001	59,700	2,630	4,800	2,050	11,500	44,400	5,080	170.91	10.19	NA	160.72	NA	1.1	-22
MW-2	4/9/2001	56,900	1,860	2,550	1,810	9,720	40,000	46,600	170.91	11.15	NA	159.76	NA	1.0	-55
MW-2	7/24/2001	84,000	3,000	4,600	2,500	13,000	NA	41,000	170.91	11.67	NA	159.24	NA	0.2	53
MW-2	10/31/2001	45,000	2,200	3,000	1,500	7,700	NA	29,000	170.91	11.04	NA	159.87	NA	1.2	-17
MW-2	1/10/2002	28,000	840	740	760	3,300	NA	32,000	170.91	9.58	NA	161.33	NA	2.1	-76
MW-2	4/25/2002	41,000	1,900	2,000	1,200	6,900	NA	17,000	170.91	11.40	NA	159.51	NA	0.8	-95
MW-2	7/18/2002	87,000	2,000	2,200	1,400	10,000	NA	19,000	170.91	12.68	NA	158.23	NA	0.7	-34
MW-2	10/7/2002	110,000	3,900	6,700	2,700	15,000	NA	20,000	170.88	11.58	NA	159.30	NA	1.4	-52
MW-2	**1/6/2003**	**65,000**	**2,400**	**3,500**	**1,400**	**8,600**	**NA**	**26,000**	**170.88**	**9.09**	**NA**	**161.79**	**NA**	**0.4**	**40**
MW-3	11/17/1993	18,000	5,400	660	720	2,200	NA	NA	174.61	15.40	NA	159.21	NA	NA	NA
MW-3	1/20/1994	55,000	13,000	2,600	2,200	6,500	NA	NA	174.61	14.61	NA	160.00	NA	NA	NA
MW-3	4/25/1994	96,000	11,000	1,600	3,100	9,900	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3 (D)	4/25/1994	78,000	12,000	1,900	2,600	7,300	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3	7/7/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.54	NA	160.07	0.02	NA	NA
MW-3	10/27/1994	NA	NA	NA	NA	NA	NA	NA	174.61	15.62	NA	159.03	0.05	NA	NA
MW-3	11/17/1994	NA	NA	NA	NA	NA	NA	NA	174.61	13.83	NA	160.78	NA	NA	NA
MW-3	11/28/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.02	NA	160.59	NA	NA	NA
MW-3	1/13/1995	180,000	3,200	2,700	1,700	5,200	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-3 (D)	1/13/1995	23,000	4,000	690	960	3,000	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA
MW-3	4/12/1995	56,000	8,700	1,500	2,100	6,300	NA	NA	174.61	12.96	NA	161.65	NA	NA	NA
MW-3	7/25/1995	NA	NA	NA	NA	NA	NA	NA	174.61	14.28	NA	160.38	0.06	NA	NA
MW-3	10/18/1995	NA	NA	NA	NA	NA	NA	NA	174.61	15.88	NA	158.77	0.05	NA	NA
MW-3	1/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.86	NA	160.94	0.24	NA	NA
MW-3	4/25/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.82	NA	160.81	0.02	NA	NA
MW-3	7/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	16.11	NA	158.52	0.03	NA	NA
MW-3	10/1/1996	46,000	7,300	530	1,700	3,900	3,200	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3 (D)	10/1/1996	47,000	7,100	530	1,700	4,000	2,900	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3	1/22/1997	82,000	5,200	1,300	2,800	8,900	1,100	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3 (D)	1/22/1997	61,000	8,400	1,100	2,300	7,000	2,700	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3	4/8/1997	NA	NA	NA	NA	NA	NA	NA	174.61	17.09	NA	157.54	0.03	NA	NA
MW-3	7/8/1997	56,000	8,800	580	2,000	4,900	2,800	NA	174.61	15.85	NA	158.76	NA	NA	NA
MW-3	10/8/1997	48,000	8,000	590	1,700	3,400	5,100	NA	174.61	16.22	NA	158.39	NA	NA	NA
MW-3	1/8/1998	47,000	9,400	810	2,300	4,700	6,300	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3 (D)	1/8/1998	48,000	8,100	750	2,000	4,100	5,800	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3	4/13/1998	32,000	6,800	540	1,400	3,400	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3 (D)	4/13/1998	36,000	7,300	660	1,600	3,700	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3	7/17/1998	71,000	11,000	590	2,200	6,900	3,900	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3 (D)	7/17/1998	76,000	12,000	700	2,600	8,000	3,000	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3	10/2/1998	66,000	8,900	510	2,000	4,900	4,600	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3 (D)	10/2/1998	59,000	9,400	460	2,000	4,900	4,700	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3	2/3/1999	36,000	6,800	300	1,600	2,900	18,000	NA	174.61	15.21	NA	159.40	NA	1.3	NA
MW-3	4/29/1999	45,000	8,100	580	2,200	5,800	4,700	5,150	174.61	15.43	NA	159.18	NA	1.5	-68
MW-3	7/23/1999	29,400	3,540	215	810	3,800	4,720	6,950*	174.61	14.95	NA	159.66	NA	1.3	NA
MW-3	11/1/1999	20,000	4,190	294	1,060	1,740	5,540	8,590	174.61	14.66	NA	159.95	NA	0.6	-110
MW-3	1/17/2000	17,000	3,900	89	1,100	1,200	7,900	NA	174.61	13.94	NA	160.67	NA	1.3	-40
MW-3	4/17/2000	28,100	5,240	247	1,540	2,750	16,600	NA	174.61	14.00	NA	160.61	NA	1.1	-86
MW-3	7/26/2000	24,300	6,680	159	1,610	1,640	17,100	NA	174.61	13.72	NA	160.89	NA	0.9	-70
MW-3	10/12/2000	14,300	2,630	86.7	241	1,360	16,300	NA	174.61	14.15	NA	160.46	NA	0.9	50
MW-3	1/15/2001	22,100	4,400	266	977	2,990	13,200	NA	174.61	13.05	NA	161.56	NA	1.3	-40
MW-3	4/9/2001	33,800	7,100	147	1,700	2,660	13,000	NA	174.61	13.59	NA	161.02	NA	0.6	-56

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-3	7/24/2001	220,000	5,600	1,900	4,400	19,000	NA	12,000	174.61	14.43	NA	160.18	NA	0.4	29
MW-3	10/31/2001	65,000	2,700	510	1,800	7,200	NA	9,800	174.61	14.59	NA	160.02	NA	0.9	-27
MW-3	1/10/2002	66,000	2,400	490	1,700	6,600	NA	5,500	174.61	12.65	NA	161.96	NA	1.7	-76
MW-3	4/25/2002	55,000	4,600	460	2,400	6,900	NA	8,100	174.61	14.13	NA	160.48	NA	1.2	-96
MW-3	7/18/2002	56,000	3,300	270	1,700	5,000	NA	8,400	174.61	15.48	15.45	159.15	0.03	0.8	-41
MW-3	10/7/2002	NA	NA	NA	NA	NA	NA	NA	174.59	14.60	14.40	160.15	0.20	NA	NA
MW-3	**1/6/2003**	**57,000**	**3,200**	**330**	**1,800**	**5,400**	**NA**	**5,100**	**174.59**	**11.62**	**11.60**	**162.99**	**0.02**	**0.4**	**33**
MW-4	11/17/1994	NA	NA	NA	NA	NA	NA	NA	164.06	6.62	NA	157.44	NA	NA	NA
MW-4	11/28/1994	2,900	200	17	76	260	NA	NA	164.06	6.11	NA	157.95	NA	NA	NA
MW-4	1/13/1995	1,900	130	5.6	13	40	NA	NA	164.06	6.05	NA	158.01	NA	NA	NA
MW-4	4/12/1995	680	150	<2.0	10	13	NA	NA	164.06	6.31	NA	157.75	NA	NA	NA
MW-4	7/25/1995	340	100	0.8	8.8	3	NA	NA	164.06	7.36	NA	156.70	NA	NA	NA
MW-4	10/18/1995	150	31	<0.5	3.5	0.8	NA	NA	164.06	8.54	NA	155.52	NA	NA	NA
MW-4	1/17/1996	290	14	<0.5	1.8	0.8	NA	NA	164.06	8.48	NA	155.58	NA	NA	NA
MW-4	4/25/1996	<500	65	<5	<5	<5	1,700	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4 (D)	4/25/1996	<500	66	<5	8.7	<5	1,500	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4	7/17/1996	<500	84	<5.0	6.5	<5.0	1,500	NA	164.06	7.75	NA	156.31	NA	NA	NA
MW-4 (D)	7/17/1996	<500	54	<5.0	<5.0	<5.0	1,700	2,100	164.06	7.75	NA	156.31	NA	NA	NA
MW-4	10/1/1996	<500	1.9	<5.0	<5.0	<5.0	3,000	NA	164.06	8.82	NA	155.24	NA	NA	NA
MW-4	1/22/1997	580	130	<2.5	18	5.2	1,200	NA	164.06	7.51	NA	156.55	NA	NA	NA
MW-4	4/8/1997	770	200	7	26	55	1,500	8	164.06	7.18	NA	156.88	NA	NA	NA
MW-4	7/8/1997	570	78	<5.0	14	11	1,200	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4 (D)	7/8/1997	640	81	<5.0	16	19	1,600	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4	10/8/1997	<500	40	<5.0	7.4	5.4	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4 (D)	10/8/1997	<500	36	<5.0	5.9	<5.0	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4	1/8/1998	<1,000	55	<10	13	<10	2,000	NA	164.06	7.90	NA	156.16	NA	NA	NA
MW-4	4/13/1998	350	110	2.4	20	26	<2.5	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	7/17/1998	210	66	0.78	5.4	9.8	1,700	NA	164.06	6.95	NA	157.11	NA	NA	NA
MW-4	10/2/1998	<50	0.69	<0.50	<0.50	<0.50	2,900	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	2/3/1999	560	120	2.5	29	34	6,800	NA	164.06	7.71	NA	156.35	NA	0.9	NA
MW-4	4/29/1999	390	80	1.9	13	19	7,000	8,360	164.06	7.83	NA	156.23	NA	1.1	-125
MW-4	7/23/1999	460	93.6	8.40	25.2	28.8	3,760	6,000*	164.06	11.33	NA	152.73	NA	0.9	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-4	11/1/1999	77.3	0.520	<0.500	<0.500	<0.500	539	NA	164.06	10.66	NA	153.40	NA	2.8	3
MW-4	1/17/2000	160	27	<0.50	12	6.3	12,000	NA	164.06	10.15	NA	153.91	NA	3.9	-17
MW-4	4/17/2000	<500	26	6.38	9.35	10.4	9,070	NA	164.06	10.10	NA	153.96	NA	1.7	-129
MW-4	7/26/2000	<500	22.7	<5.00	7.59	6.96	7,660	NA	164.06	10.09	NA	153.97	NA	1.4	-137
MW-4	10/12/2000	172	19.8	<0.500	7.47	4.50	8,290	NA	164.06	9.35	NA	154.71	NA	3.5	529
MW-4	1/15/2001	53.6	1.50	<0.500	2.45	1.80	9,260	NA	164.06	8.77	NA	155.29	NA	2.3	53
MW-4	4/9/2001	<500	<5.00	<5.00	<5.00	5.52	10,300	NA	164.06	7.75	NA	156.31	NA	1.0	-133
MW-4	7/24/2001	58	3.8	<0.50	3.2	2.9	NA	1,700	164.06	10.07	NA	153.99	NA	0.5	106
MW-4	10/31/2001	<1,000	<10	<10	<10	<10	NA	7,400	164.06	9.97	NA	154.09	NA	0.8	22
MW-4	1/10/2002	<2,000	<20	<20	<20	<20	NA	12,000	164.06	8.53	NA	155.53	NA	8.9	224
MW-4	4/25/2002	<2,000	<20	<20	<20	<20	NA	7,900	164.06	7.33	NA	156.73	NA	3.6	-84
MW-4	7/18/2002	<2,000	<20	<20	<20	<20	NA	7,200	164.06	9.05	NA	155.01	NA	1.7	120
MW-4	10/7/2002	<1,000	<10	<10	<10	<10	NA	3,300	164.03	9.06	NA	154.97	NA	2.5	33
MW-4	**1/6/2003**	**<500**	**21**	**<5.0**	**<5.0**	**<5.0**	**NA**	**2,500**	**164.03**	**7.09**	**NA**	**156.94**	**NA**	**0.5**	**55**
MW-5	1/4/2002	NA	NA	NA	NA	NA	NA	NA	NA	5.62	NA	NA	NA	NA	NA
MW-5	1/10/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	110	164.06	5.88	NA	158.18	NA	3.3	172
MW-5	4/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	73	164.06	6.81	NA	157.25	NA	0.3	-44
MW-5	7/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	75	164.06	7.38	NA	156.68	NA	0.4	170
MW-5	10/7/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	41	164.14	6.75	NA	157.39	NA	1.5	16
MW-5	**1/6/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**	**81**	**164.14**	**5.96**	**NA**	**158.18**	**NA**	**0.6**	**166**
TB-1	4/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	6.00	NA	NA	NA	3.8	-132
TB-1	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.65	NA	NA	NA	0.2	-165
TB-1	1/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.72	NA	NA	NA	0.8	-178
TB-1	4/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.65	NA	NA	NA	0.5	-152
TB-1	7/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.13	NA	NA	NA	1.0	-124
TB-1	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.20	NA	NA	NA	0.7	-73
TB-1	1/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	5.09	NA	NA	NA	1.2	-118
TB-1	4/9/2001	NA	NA	NA	NA	NA	NA	NA	NA	4.96	NA	NA	NA	1.0	-72
TB-1	7/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	6.03	NA	NA	NA	1.4	31
TB-1	10/31/2001	1,000	85	<10	<10	42	NA	4,100	NA	5.89	NA	NA	NA	1.8	88
TB-1	1/10/2002	5,000	410	390	65	620	NA	9,000	NA	7.47	NA	NA	NA	2.0	95
TB-1	4/25/2002	5,000	780	60	49	91	NA	6,000	NA	11.71	NA	NA	NA	1.7	-136

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
TB-1	7/18/2002	Insufficient water		NA	NA	NA	NA	NA	NA	13.50	NA	NA	NA	NA	NA
TB-1	10/7/2002	4,600	480	36	98	200	NA	4,000	NA	12.95	NA	NA	NA	1.6	-48
TB-1	**1/6/2003**	**130**	**30**	**<0.50**	**<0.50**	**0.78**	**NA**	**330**	**NA**	**5.56**	**NA**	**NA**	**NA**	**0.4**	**-20**
TB-2	4/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	4.76	NA	NA	NA	4.2	-108
TB-2	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	11.33	NA	NA	NA	0.5	-148
TB-2	1/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.79	NA	NA	NA	0.7	-162
TB-2	4/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.75	NA	NA	NA	0.9	-121
TB-2	7/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.73	NA	NA	NA	0.9	-85
TB-2	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.05	NA	NA	NA	0.6	-47
TB-2	1/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	3.87	NA	NA	NA	0.7	-91
TB-2	4/9/2001	46,600	1,240	1,310	1,110	12,100	31,300	NA	NA	3.76	NA	NA	NA	0.8	-24
TB-2	7/24/2001	11,000	630	<25	310	200	NA	11,000	NA	4.75	NA	NA	NA	0.4	-51
TB-2	10/31/2001	7,500	530	1,500	100	500	NA	2,500	NA	4.24	NA	NA	NA	0.6	-7
TB-2	1/10/2002	<5,000	480	47	34	110	NA	12,000	NA	6.26	NA	NA	NA	1.3	-81
TB-2	4/25/2002	4,700	470	140	<20	80	NA	7,400	NA	11.78	NA	NA	NA	0.9	-107
TB-2	7/18/2002	7,500	630	650	<25	390	NA	44,000	NA	12.34	NA	NA	NA	0.9	-67
TB-2	10/7/2002	<10,000	580	<100	<100	180	NA	30,000	NA	11.62	NA	NA	NA	1.0	-41
TB-2	**1/6/2003**	**120**	**4.8**	**<0.50**	**<0.50**	**2.0**	**NA**	**220**	**NA**	**4.35**	**NA**	**NA**	**NA**	**0.5**	**-515**

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)

Abbreviations:
TPH-G = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8020.
MTBE = Methyl-tertiary-butyl ether
TOC = Top of Casing Elevation
SPH = Separate-Phase Hydrocarbons
GW = Groundwater
µg/L = Parts per billion
MSL = Mean sea level
ft = Feet
<n = Below detection limit
D = Duplicate sample
NA = Not applicable
DO = Dissolved Oxygens
ppm = Parts per million
ORP = Oxidation Reduction Potential
mV = Millivolts

Notes:
Joint Monitoring data and laboratory analytical results provided by Blaine Tech Services, Inc.
* = Sample analyzed outside the EPA recommended holding time.
a = Ground water surface had a sheen when sampled.
b = MTBE value is estimated by Sequoia Analytical of Redwood City, California.
Site surveyed March 14, 2002, by Virgil Chavez Land Surveying of Vallejo, California.
When separate-phase hydrocarbons are present, ground water elevation is adjusted using the relation:
Corrected ground water elevation = Top-of-casing elevation - depth to water + (0.8 x hydrocarbon thickness).

ATTACHMENT B

FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

Field work will be performed by ERI personnel in accordance with a site safety plan (SSP) developed for the site. The SSP describes the basic safety requirements for the subsurface investigation and the drilling of soil borings at the work site. The SSP is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the SSP before work begins. A copy of the SSP 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.

Soil Borings and Sampling

Prior to the drilling of the boring and well construction, ERI will acquire necessary permits from the appropriate agency(ies). ERI will also contact Underground Service Alert (USA) before drilling to help locate public utility lines at the site. ERI will observe the driller hand auger the boring location to a depth of approximately 4 feet before drilling to reduce the risk of damaging underground structures.

The soil boring will be drilled with a B-57 (or similar) drill rig equipped with 10-inch diameter, hollow-stem augers. Auger flights and sampling equipment will be steam-cleaned before use to minimize the possibility of cross-hole contamination. The rinsate will be containerized and stored on site. ERI will coordinate with Tosco for appropriate disposal or recycling of the rinsate.

Drilling will be performed under the observation of a field geologist, and the earth materials in the borings 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 approximately 15 feet below the uppermost zone of saturation or 5 feet into any competent clay layer (aquitard) encountered beneath the water-bearing zone. 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 collected at 5-foot intervals, obvious changes in lithology, and just above the groundwater surface. 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 photoionization device (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, covered, and left at the site. ERI will coordinate with ConocoPhillips for the soil to either be treated on site or removed to an appropriate disposal or recycling facility.

Monitoring Well Construction

A groundwater extraction well will be constructed in the boring using thread-jointed, 4-inch inner diameter, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents will be used in well construction. The screened portion of each well will consist of continually wrapped casing with 0.010-inch wide slots. If unconfined aquifer conditions exist, the well screen will be installed from the total depth of each well to approximately 5 feet above the uppermost water-bearing unit. If confined conditions exist, the uppermost water-bearing unit will be screened exclusively. Unperforated casing will be installed from the top of each screen to the ground surface. The annular space in the well will be packed with 2/12 sand to approximately one foot above the slotted interval and a minimum 5-foot well seal will be provided. A surged and refilled bentonite plug will be added above the sand pack to prevent cement from entering the well pack. The remaining annulus will be backfilled to grade with a slurry of cement and bentonite powder.

The monitoring wells will be protected with a locking cap and a traffic-rated, bolting steel utility box equipped with a galvanized steel skirt. The box has a watertight seal to protect against surface-water infiltration. The design of this box discourages vandalism and reduces the possibility of accidental disturbance of the well.

Well Development and Sampling

ERI will wait a minimum of 24 hours before development of the monitoring wells to allow the grout to seal. Initially, a water sample will be collected for subjective analysis before development of the monitoring wells. This sample will be collected from near the water surface in the well with a new disposable Teflon® bailer. The wells will be developed with a surge block and pump. Well development will continue until the discharge water is clear of silt and sand. Clay-size sediments derived from the screened portion of the formation cannot be eliminated by well development.