

ExxonMobil
Refining & Supply Company
Global Remediation

2300 Clayton Road, Suite 1250
Concord, CA 94520
(925) 246-8747 Telephone
(925) 246-8798 Facsimile
gene.n.ortega@exxonmobil.com

Gene N. Ortega
Territory Manager
Global Remediation – US Retail

May 29, 2003

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

ExxonMobil
Refining & Supply

Alameda County
JUN 10 2003
Environmental Health

RE: Former Exxon RAS #7-3006/720 High Street, Oakland, California.

Dear Mr. Gholami:

Attached for your review and comment is a letter report entitled *Quarterly Groundwater Monitoring and Remediation Status Report, First Quarter 2003*, dated May 22, 2003, for the above-referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details groundwater monitoring, sampling, and remedial activities at the subject site.

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

Sincerely,

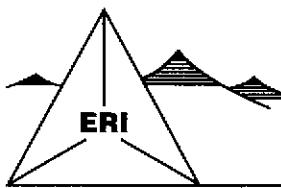


Gene N. Ortega
Territory Manager

Attachment: ERI's Quarterly Groundwater Monitoring and Remediation Status Report, First Quarter 2003, dated May 22, 2003.

cc: w/ attachment
Mr. Chuck Headlee, California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Victor Chu, Law Offices of Gerard Lam

w/o attachment
Mr. James F. Chappell, Environmental Resolutions, Inc.



ENVIRONMENTAL RESOLUTIONS, INC.

May 22, 2003

ERI 201013.Q031

Mr. Gene N. Ortega
ExxonMobil Oil Corporation
2300 Clayton Road, Suite 1250
Concord, California 94520

Alameda County

JUN 10 2003

Environmental Health

Subject: Annual Groundwater Monitoring and Remediation Status Report, First Quarter 2003,
Former Exxon Service Station 7-3006, 720 High Street, Oakland, California.

Mr. Ortega:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. (ERI) performed the first quarter 2003 groundwater monitoring and sampling activities at the subject site. The purpose of annual monitoring and sampling is to evaluate concentrations of dissolved hydrocarbons in groundwater and the effectiveness of remedial actions. The location of the site is shown on the Site Vicinity Map (Plate 1). The locations of select site features are shown on the Generalized Site Plan (Plate 2).

GROUNDWATER MONITORING AND SAMPLING

On March 11, 2003, ERI measured the depth to water (DTW) and collected groundwater samples from select wells for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with ERI groundwater sampling protocol (Attachment A).

The calculated hydraulic gradient and groundwater flow direction are presented on Plate 2. Historical and recent monitoring data are summarized in Table 1.

Laboratory Analyses and Results

ERI submitted groundwater samples to Test America Incorporated (Test America), a California state-certified laboratory, under Chain-of-Custody protocol. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg); total petroleum hydrocarbons as diesel (TPHd); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and methyl tertiary butyl ether (MTBE) using the methods listed in the notes in Table 1. The results of analyses are presented in Table 1 and are shown on Plate 2. The laboratory analysis report and Chain-of-Custody record are attached (Attachment B).

SOIL AND GROUNDWATER REMEDIATION

Air Sparge/Soil Vapor Extraction

ERI initiated operation of an air sparge/soil vapor extraction (AS/SVE) system in January 1995. The AS/SVE system consisted of six AS wells for air injection and six vadose wells for SVE, situated in an on-site interceptor trench; a water knock-out tank; a Thermtech VAC-25 thermal/catalytic oxidizer; a

Gast® air compressor; and a propane tank for supplemental fuel. ERI ceased operation of the AS/SVE system in July 1999. Historical operational and performance data for the AS/SVE system are provided in Table 2.

The following table provides the estimated amounts of hydrocarbons removed by the AS/SVE system during its operational period.

Period	Mass of Hydrocarbons Removed (Pounds)
TO DATE	5,144

Groundwater Extraction and Treatment

ERI initiated operation of the groundwater remediation system (GRS) in January 1995 to treat separate-phase and dissolved hydrocarbons in groundwater. Pneumatic pumps installed in extraction wells RW2 and RW5 recovered groundwater from an interceptor trench beneath the site. Extracted groundwater was transferred to a holding tank through subsurface and above-ground piping. A transfer pump and polyvinyl chloride (PVC) piping directed the water stream from the holding tank through water filters, an air stripper, and liquid-phase granular activated carbon (GAC) canisters connected in series. Treated groundwater was discharged to the sanitary sewer under a permit issued by East Bay Municipal Utilities District (EBMUD). ERI ceased operation of the GRS in December 1998. Historical GRS flow rates, total volume extracted, and influent, intermediate, and effluent sample concentrations are provided in Table 3.

Based on data collected to date, ERI estimates that the GRS removed the following amounts of hydrocarbons during its operational period.

Period	Mass of Hydrocarbons Removed (Pounds)
To Date	10

Biosparge System

ERI has been operating a biosparge system, using an air compressor to inject air into the on-site interceptor trench, to enhance natural attenuation at the site. While on site for recent field activities, ERI noted that the biosparge system is down. The system will remain shut down while ERI assesses the effectiveness of using biosparge technology to remediate the site.

SUMMARY AND STATUS OF INVESTIGATION

At the request of ExxonMobil, ERI is continuing annual groundwater monitoring and sampling at the site. The site is currently an active Texaco service station. Groundwater monitoring wells MW3, MW4, and MW12 were paved over during station remodeling in March 2001. ERI has located and uncovered MW3. ERI attempted on two occasions to locate wells MW4 and MW12 using a metal detector. In January 2003, ERI contracted Nor Cal Geophysical, of Petaluma, California, to locate the wells using ground-penetrating radar (GPR). Nor Cal was unsuccessful in locating the wells using GPR.

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for ExxonMobil, and any reliance on this report by third parties shall be at such party's sole risk.

DOCUMENT DISTRIBUTION

ERI recommends forwarding copies of this report to:

Mr. Amir Gholami
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 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

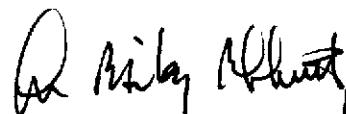
Mr. Victor Chu
c/o Law Offices of Gerard Lam
1407 Webster Street #216
Oakland, California 94612

Please call Paula Sime, ERI's senior staff geologist for this site, at (415) 382-4324 with any questions regarding this project.

Sincerely,
Environmental Resolutions, Inc.



Paula Sime
Senior Staff Geologist



John B. Bobbitt
R.G. 4313



- Attachments:
- Table 1: Cumulative Groundwater Monitoring and Sampling Data
 - Table 2: Cumulative Hydrocarbon Removal and Emissions for Soil Vapor Extraction System
 - Table 3: Operation and Performance Data for Groundwater Remediation System

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

 - Attachment A: Groundwater Sampling Protocol
 - Attachment B: Laboratory Analysis Report and Chain-of-Custody Record
 - Attachment C: ERI SOP-25: "Hydrocarbons Removed from a Vadose Well"

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
(Page 1 of 14)

Well ID # (TOC)	Sampling Date	SUBJ	DTW <.....feet.....>	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
MW1 (12.87)	1/20/94	NLPH	9.25	3.62	---	---	---	---	---	---	---	---	---	---
	02/02-03/94	NLPH	8.60	4.27	70	<50	—	<0.5	<0.5	<0.5	0.7	—	—	—
	3/10/94	NLPH	8.31	4.56	---	---	—	—	—	—	—	—	—	—
	4/22/94	NLPH	7.95	4.92	---	---	—	—	—	—	—	—	—	—
	05/10-11/94	NLPH	7.48	5.39	100	<50	—	<0.5	<0.5	<0.5	1.6	—	—	—
	6/27/94	NLPH	7.65	5.22	—	---	—	—	—	—	—	—	—	—
	8/31/94	NLPH	9.39	3.48	—	---	—	—	—	—	—	—	—	—
	9/29/94	NLPH	9.83	3.04	<50	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/25/94	NLPH	10.19	2.68	—	<50	<50	<0.5	<0.5	<0.5	<0.5	—	—	—
	11/30/94	NLPH	8.97	3.90	—	—	—	—	—	—	—	—	—	—
	12/27/94	NLPH	7.44	5.43	—	—	—	—	—	—	—	—	—	—
	2/6/95	NLPH	5.71	7.16	—	<50	100	0.52	<0.5	<0.5	<0.5	—	—	—
	6/7/95	NLPH	7.62	5.25	81	<50	3.5	<0.5	<0.5	<0.5	<0.5	—	—	—
	9/18/95	NLPH	10.02	2.85	82	<50	6	<0.5	<0.5	<0.5	<0.5	—	—	—
	11/1/95	NLPH	10.74	2.13	160	<50	8.9	<0.5	<0.5	<0.5	<0.5	—	—	—
	2/14/96	NLPH	7.81	5.06	100	<50	7.8	<0.5	<0.5	<0.5	<0.5	—	—	—
	6/19/96	NLPH	7.47	5.40	93	<50	7.1	<0.5	<0.5	<0.5	<0.5	—	<50	—
	9/24/96	NLPH	10.42	2.45	83	<50	9.5	<0.5	<0.5	<0.5	<0.5	—	—	—
	12/11/96	NLPH	8.50	4.37	81	<50	7.2	<0.5	<0.5	<0.5	<0.5	—	—	—
	3/19/97	NLPH	9.14	3.73	78	<50	6.4	<0.5	<0.5	<0.5	<0.5	—	—	—
	6/4/97	NLPH	9.82	3.05	58	<50	6.0	<0.5	<0.5	<0.5	<0.5	—	—	—
	9/2/97	NLPH	10.26	2.61	150	<50	5.4	<0.5	<0.5	<0.5	<0.5	—	—	—
	12/2/97	NLPH	9.32	3.55	88	<50	5.1	<0.5	<0.5	<0.5	<0.5	—	—	—
	3/24/98	NLPH	6.44	6.43	58	<50	5.6	<0.5	<0.5	<0.5	<0.5	—	—	—
	6/23/98	NLPH	9.23	3.64	84	<50	3.8	<0.5	<0.5	<0.5	<0.5	—	—	—
	9/29/98	NLPH	9.91	2.96	61	<50	2.6	<0.5	<0.5	<0.5	<0.5	—	—	—
	12/30/98	NLPH	9.21	3.66	80	<50	4.1	<0.5	<0.5	<0.5	<0.5	—	—	—
	3/24/99	NLPH	5.53	7.34	64.3	<50	4.95	<0.5	<0.5	<0.5	<0.5	—	—	—
	6/22/99	NLPH	7.39	5.48	83.5	<50	3.70	<0.5	<0.5	<0.5	<0.5	—	—	—
	9/29/99	NLPH	8.90	3.97	52.9	<50	4.81	<0.5	<0.5	<0.5	<0.5	—	—	—
	12/21/99	NLPH	8.94	3.93	60	<50	10	<0.5	<0.5	<0.5	<0.5	—	—	—
	3/21/00	NLPH	5.34	7.53	—	<50	4.5	<0.5	<0.5	<0.5	<0.5	—	—	—
	3/30/01	NLPH	5.29	7.58	79	<50	10k	<0.5	<0.5	<0.5	<0.5	—	—	—
(12.79)	11/1/01	Well surveyed in compliance with AB 2886 requirements.												
	3/11/02	NLPH	5.39	7.40	<50.0	116	110/160 k	1.10	<0.50	<0.50	<0.50	—	—	—
	3/11/03	NLPH	6.63	6.16	<50	153	188/179 k	<0.5	<0.5	<0.5	<0.5	—	—	—

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
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Well ID # (TOC)	Sampling Date	SUBJ	DTW <.....feet.....>	Elev. <.....>	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
MW2	1/20/94	--- [NR]	---	---	---	---	---	---	---	---	---	---	---	---
(12.98)	02/02-03/94	--- [NR]	---	---	---	---	---	---	---	---	---	---	---	---
	3/10/94	[8 c.]	6.96	6.02	---	---	---	---	---	---	---	---	---	---
	4/22/94	[10 c.]	---	---	---	---	---	---	---	---	---	---	---	---
	05/10-11/94	[5 c.]	---	---	---	---	---	---	---	---	---	---	---	---
	6/27/94	Sheen	7.10	5.88	---	---	---	---	---	---	---	---	---	---
	8/31/94	Sheen	8.58	4.40	---	---	---	---	---	---	---	---	---	---
	9/29/94	Sheen	9.11	3.87	---	---	---	---	---	---	---	---	---	---
	10/25/94	Sheen	7.76	5.22	---	---	---	---	---	---	---	---	---	---
	11/30/94	---	7.33	5.65	---	---	---	---	---	---	---	---	---	---
	12/27/94	Sheen	6.77	6.21	---	---	---	---	---	---	---	---	---	---
	2/6/95	Sheen	5.00	7.98	---	---	---	---	---	---	---	---	---	---
	6/7/95	Sheen	7.14	5.84	---	---	---	---	---	---	---	---	---	---
	9/18/95	Sheen	10.82	2.16	---	---	---	---	---	---	---	---	---	---
	11/1/95	Sheen	11.65	1.33	---	---	---	---	---	---	---	---	---	---
	2/14/96	Sheen	8.39	4.59	---	---	---	---	---	---	---	---	---	---
	6/19/96	Sheen	6.55	6.43	---	---	---	---	---	---	---	---	---	---
	9/24/96	Sheen	11.56	1.42	---	---	---	---	---	---	---	---	---	---
	12/11/96	Sheen	8.02	4.96	---	---	---	---	---	---	---	---	---	---
	3/19/97	Sheen	8.63	4.35	---	---	---	---	---	---	---	---	---	---
	6/4/97	Sheen	10.57	2.41	---	---	---	---	---	---	---	---	---	---
	9/2/97	Sheen	11.51	1.47	---	---	---	---	---	---	---	---	---	---
	-12/2/97	NLPH	11.24	1.74	820	1,400	57	15	2.8	8.6	<2.5	---	---	---
	3/27/98	NLPH	6.06	6.92	2,000	7,400	<50	1,400	350	490	1,500	---	---	---
	6/23/98	Sheen	11.06	1.92	2,900	180	9.5	3.2	0.55	0.92	1.3	---	---	---
	9/29/98	NLPH	10.51	2.47	180	290	9.3	<0.50	0.65	1.5	1.5	---	---	---
	12/30/98	NLPH	9.83	3.15	700	520	16	17	0.96	2.6	3.5	---	---	---
	3/24/99	NLPH	4.47	8.51	1,440	14,000	<40	1,300	336	786	3,420	---	---	---
	6/22/99	NLPH	6.42	6.56	2,310	1,080	25.2	54.3	14.9	38.8	107	---	---	---
	9/29/99	NLPH	8.00	4.98	2,720f	517	15.4	37.5	7.48	12.9	15.2	---	---	---
	12/21/99	NLPH	8.10	4.88	6,300	3,200	<2	360	5.5	120	106	---	---	---
	3/21/00	j	—	---	---	---	—	---	---	---	---	---	---	---
	3/30/01	NLPH	3.09	9.89	510	200	110k	7.2	<0.5	2.4	2.1	---	---	---
(13.06)	11/1/01	Well surveyed in compliance with AB 2886 requirements.												
n	3/11/02	NLPH	3.78	9.28	293	<1,000	62.0/30 k	<10.0	<10.0	<10.0	<10.0	---	---	---
	3/11/03	NLPH	5.49	7.57	422	1,490	325/428 k	279	3.0	9.8	18.9	---	---	---

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
			<.....feet.....>		<.....>			ug/l.						
MW3 (12.92)	1/20/94 02/02-03/94	Sheen	8.24	4.68	---	---	---	---	---	---	---	---	---	---
	3/10/94	Sheen	7.68	5.24	---	---	---	---	---	---	---	---	---	---
	4/22/94	Sheen	6.79	6.13	---	---	---	---	---	---	---	---	---	---
	05/10-11/94	Sheen	6.43	6.49	---	---	---	---	---	---	---	---	---	---
	6/27/94	0.01 [NR]	6.97	5.95	---	---	---	---	---	---	---	---	---	---
	8/31/94	Sheen	8.41	4.51	---	---	---	---	---	---	---	---	---	---
	9/29/94	Sheen	8.97	3.95	---	---	---	---	---	---	---	---	---	---
	10/25/94	Sheen	9.43	3.49	---	---	---	---	---	---	---	---	---	---
	11/28/94	---	7.19	5.73	---	---	---	---	---	---	---	---	---	---
	12/27/94	Sheen	6.64	6.28	---	---	---	---	---	---	---	---	---	---
	2/6/95	Sheen	4.87	8.05	---	---	---	---	---	---	---	---	---	---
	6/7/95	Sheen	7.05	5.87	---	---	---	---	---	---	---	---	---	---
	9/18/95	Sheen	10.61	2.31	---	---	---	---	---	---	---	---	---	---
	11/1/95	Sheen	11.58	1.34	---	---	---	---	---	---	---	---	---	---
	2/14/96	Sheen	8.34	4.58	---	---	---	---	---	---	---	---	---	---
	6/19/96	Sheen	6.35	6.57	---	---	---	---	---	---	---	---	---	---
	9/24/96	Sheen	11.45	1.47	---	---	---	---	---	---	---	---	---	---
	12/11/96	NLPH	7.89	5.03	17,000*	4,800	30	340	<5.0	8.2	20	---	---	---
	3/19/97	NLPH	9.83	3.09	3,000	1,900	80	160	11	5.6	10	---	---	---
	6/4/97	NLPH	10.43	2.49	8,000	920	11	15	2.8	2.4	<2.0	---	---	---
	9/2/97	Sheen	12.45	0.47	---	---	---	---	---	---	---	---	---	---
	12/2/97	NLPH	11.21	1.71	6,700	920	21	10	2.1	<1.0	2.7	---	---	---
	3/24/98	NLPH	5.93	6.99	4,600	1,500	25	5,500	<5.0	<5.0	<5.0	---	---	---
	6/23/98	NLPH	11.13	1.79	39,000	1,300	9.4	53	<1.0	<1.0	<1.0	---	---	---
	9/29/98	Sheen	10.46	2.46	2,600	540	<5.0	6.8	1.9	1.4	2.3	---	---	---
	12/30/98	NLPH	9.72	3.20	11,000	4,000	<50	74	<10	<10	<10	---	---	---
	3/24/99	Sheen	4.36	8.56	3,850	2,330	<20	<5.0	<5.0	<5.0	<5.0	---	---	---
	6/22/99	NLPH	6.22	6.70	6,860	1,470	<10	492	<2.5	<2.5	<2.5	---	---	---
	9/29/99	NLPH	8.10	4.82	2,290f	315	<5.0	11.5	3.07	<1.0	2.54	---	---	---
	12/21/99	NLPH	7.99	4.93	37,000	6,600	4	22	5	5.1	31.4	---	---	---
	1/26/00	NLPH	5.48	7.44	2,600h	---	---	---	---	---	---	---	---	---
	3/21/00	j	---	---	---	---	---	---	---	---	---	---	---	---
	3/30/01	NLPH	4.02	8.90	2,000	880	300 k	130	<0.5	1.2	2.4	---	---	---
(13.71)	11/1/01	Well surveyed in compliance with AB 2886 requirements.												---
n	3/11/02	NLPH	4.72	8.99	19,100	<2,500	130/175 k	165	<25.0	<25.0	<25.0	---	---	---
	3/11/03	NLPH	6.23	7.48	1,190	887	122/119 k	71.9	0.8	1.1	2.0	---	---	---

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
 (Page 4 of 14)

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
 (Page 5 of 14)

Well ID # (TOC)	Sampling Date	SUBJ <.....feet.....>	DTW	Elev.	TPHd	TPHg	MTBE	B	T ug/l	E	X	VOCs	EHCss	TOG >
MW5	7/18/89	Well Destroyed												
MW6														
(14.27)	1/20/94	--- [NR]	---	---	---	---	---	---	---	---	---	---	---	---
	02/02-03/94	--- [NR]	---	---	---	---	---	---	---	---	---	---	---	---
	3/10/94	[¼ c.]	7.82	6.45	---	---	---	---	---	---	---	---	---	---
	4/22/94	[10 c.]	---	---	---	---	---	---	---	---	---	---	---	---
	05/10-11/94	[3 c.]	---	---	---	---	---	---	---	---	---	---	---	---
	6/27/94	Sheen	7.77	6.50	---	---	---	---	---	---	---	---	---	---
	8/31/94	Sheen	9.02	5.25	---	---	---	---	---	---	---	---	---	---
	9/29/94	Sheen	9.51	4.76	---	---	---	---	---	---	---	---	---	---
	10/25/94	Sheen	9.93	4.34	---	---	---	---	---	---	---	---	---	---
	11/30/94	---	8.05	6.22	---	---	---	---	---	---	---	---	---	---
	12/27/94	---	7.54	6.73	---	---	---	---	---	---	---	---	---	---
	2/6/95	Sheen	5.86	8.41	---	---	---	---	---	---	---	---	---	---
	6/7/95	Sheen	8.07	6.20	---	---	---	---	---	---	---	---	---	---
	9/18/95	Sheen	10.54	3.73	---	---	---	---	---	---	---	---	---	---
	11/1/95	Sheen	11.41	2.86	---	---	---	---	---	---	---	---	---	---
	2/14/96	Sheen	9.17	5.10	---	---	---	---	---	---	---	---	---	---
	6/19/96	Sheen	7.13	7.14	---	---	---	---	---	---	---	---	---	---
	9/24/96	Sheen	11.24	3.03	---	---	---	---	---	---	---	---	---	---
	12/11/96	NLPH	9.20	5.07	2,900	9,100	<100	2,100	22	160	260	---	---	---
	3/19/97	NLPH	10.14	4.13	3,800	24,000	250	5,800	91	1,300	1,900	---	---	---
	6/4/97	NLPH	10.58	3.69	3,300	20,000	270	4,400	<50	540	480	---	---	---
	9/2/97	NLPH	11.02	3.25	2,100	8,100	<25	1,800	<25	140	170	---	---	---
	12/2/97	NLPH	10.45	3.82	2,300	6,800	<100	1,100	<20	77	74	---	---	---
	3/24/98	NLPH	7.09	7.18	3,800	20,000	<250	4,300	<50	2,200	1,500	---	---	---
	6/23/98	Sheen	9.79	4.48	4,100	19,000	<500	3,400	<100	1,800	1,100	---	---	---
	9/29/98	NLPH	10.56	3.71	2,300	8,600	<100	2,100	25	300	260	---	---	---
	12/30/98	NLPH	9.97	4.30	2,700	6,800	<125	1,600	<25	84	200	---	---	---
	3/24/99	Sheen	5.02	9.25	2,670	12,600	<20	3,380	16.5	221	190	---	---	---
	6/22/99	NLPH	6.91	7.36	5,670	6,720	<40	2,400	<10	767	14.4	---	---	---
	9/29/99	NLPH	8.66	5.61	1,370g	6,310d	<250	<25	<25	133	<25	---	---	---
	12/21/99	NLPH	8.57	5.70	2,300	3,800	12	890	3.3	94	95	---	---	---
	3/21/00	j	—	---	—	—	—	—	—	—	—	—	—	—
	3/30/01	NLPH	3.66	10.61	2,000	9,200	<5k	3100	9.1	130	31	---	---	---
(14.23) n	11/1/01	Well surveyed in compliance with AB 2886 requirements.												---
	3/11/02	NLPH	4.55	9.68	1,460	7,660	45.0/<5.0 k	2,200	25.0 m	410	285	---	---	---
	3/11/03	NLPH	5.79	8.44	1,100	5,120	15.7/1.80 k	920	3.2	36.0	19.4	---	---	---

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Former Exxon Service Station 7-3006
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TABLE 1
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CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3006
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Well ID # (TOC)	Sampling Date	SUBJ	DTW <.....feet.....>	Elev.	TPHd	TPHg	MTBE	B	T ug/l	E	X	VOCs	EHCss	TOG
MW9 (cont.)	05/10-11/94	NLPH	6.96	7.68	--	--	--	--	--	--	--	--	--	--
(14.64)	6/27/94	NLPH	7.65	6.99	--	--	--	--	--	--	--	--	--	--
	8/31/94	NLPH	8.87	5.77	--	--	--	--	--	--	--	--	--	--
	9/29/94	NLPH	9.19	5.45	<50	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--
	10/25/94	NLPH	9.66	4.98	<50	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--
	11/30/94	--	8.38	6.26	--	--	--	--	--	--	--	--	--	--
	12/27/94	NLPH	7.29	7.35	--	--	--	--	--	--	--	--	--	--
	2/6/95	NLPH	5.74	8.90	56	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--
	6/7/95	NLPH	8.33	6.31	72	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	9/18/95	NLPH	9.28	5.36	60	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	11/1/95	NLPH	10.09	4.55	61	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	2/14/96	NLPH	6.26	8.38	83	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	6/19/96	NLPH	6.68	7.96	68	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	9/24/96	NLPH	9.72	4.92	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	12/11/96	NLPH	8.11	6.53	91	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	3/19/97	NLPH	7.72	6.92	140	<50	<2.5	0.83	<0.5	<0.5	<0.5	--	--	--
	6/4/97	NLPH	8.87	5.77	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	9/2/97	NLPH	9.44	5.20	140	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	12/2/97	NLPH	8.43	6.21	71	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	3/24/98	NLPH	5.84	8.80	62	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	6/23/98	NLPH	7.81	6.83	69	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	9/29/98	NLPH	9.26	5.38	52	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	12/30/98	NLPH	8.28	6.36	74	<50	<2.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	3/24/99	NLPH	4.74	9.90	71.1	b	--	--	--	--	--	--	--	--
	6/22/99	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/29/99	NLPH	8.41	6.23	--	--	--	--	--	--	--	--	--	--
	12/21/99	NLPH	8.20	6.44	--	--	--	--	--	--	--	--	--	--
	3/21/00	NLPH	4.59	10.05	--	--	--	--	--	--	--	--	--	--
	12/21/00	Well destroyed												
MW10	1/20/94	NLPH	8.40	5.65	--	--	--	--	--	--	--	--	--	--
(14.05)	02/02-03/94	NLPH	8.00	6.05	<50	<50	--	<0.5	1	<0.5	1.8	--	--	--
	3/10/94	NLPH	7.56	6.49	--	--	--	--	--	--	--	--	--	--
	4/22/94	NLPH	7.35	6.70	--	--	--	--	--	--	--	--	--	--
	05/10-11/94	NLPH	7.06	6.99	<50	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--
	6/27/94	NLPH	7.59	6.46	--	--	--	--	--	--	--	--	--	--
	8/31/94	NLPH	8.73	5.32	--	--	--	--	--	--	--	--	--	--
	9/29/94	NLPH	9.07	4.98	<50	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--

TABLE 1
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Former Exxon Service Station 7-3006
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Well ID # (TOC)	Sampling Date	SUBJ	DTW <.....feet.....>	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
MW10 (cont.) (14.05)	10/25/94	NLPH	9.41	4.64	<50	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/30/94	---	7.62	6.43	---	---	---	---	---	---	---	---	---	---
	12/27/94	NLPH	7.01	7.04	---	---	---	---	---	---	---	---	---	---
	2/6/95	NLPH	5.60	8.45	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/7/95	NLPH	7.12	6.93	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/18/95	NLPH	8.54	5.51	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/1/95	NLPH	9.44	4.61	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	2/14/96	NLPH	9.36	4.69	64	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/19/96	NLPH	7.32	6.73	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	<50	---
	9/24/96	NLPH	9.07	4.98	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/11/96	NLPH	7.73	6.32	67	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/19/97	NLPH	7.62	6.43	51	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/4/97	NLPH	8.38	5.67	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/2/97	NLPH	8.64	5.41	120	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/2/97	NLPH	7.22	6.83	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/24/98	NLPH	5.71	8.34	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/23/98	NLPH	7.23	6.82	90	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/29/98	NLPH	8.39	5.66	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/30/98	NLPH	7.74	6.31	58	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/24/99	NLPH	4.74	9.31	<50	<50	<2.0	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/22/99	---	---	---	---	---	---	---	---	---	---	---	---	---
	9/29/99	NLPH	8.17	5.88	---	---	---	---	---	---	---	---	---	---
	12/21/99	NLPH	7.87	6.18	---	---	---	---	---	---	---	---	---	---
	12/21/00	Well destroyed												
MW11 (13.55)	1/20/94	NLPH	9.61	3.94	---	---	---	---	---	---	---	---	---	---
	02/02-03/94	NLPH	9.56	3.99	160	<50	---	<0.5	1	<0.5	0.9	---	---	---
	3/10/94	NLPH	8.59	4.96	---	---	---	---	---	---	---	---	---	---
	4/22/94	NLPH	8.47	5.08	---	---	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	8.12	5.43	1002	<50	---	<0.53	<0.5	<0.5	3.2	---	---	---
	6/27/94	NLPH	8.65	4.90	---	---	---	---	---	---	---	---	---	---
	8/31/94	NLPH	9.80	3.75	---	---	---	---	---	---	---	---	---	---
	9/29/94	NLPH	10.16	3.39	<50	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/25/94	NLPH	10.48	3.07	<50	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/30/94	---	8.55	5.00	---	---	---	---	---	---	---	---	---	---
	12/27/94	NLPH	7.98	5.57	---	---	---	---	---	---	---	---	---	---
	2/6/95	NLPH	6.49	7.06	160	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/7/95	NLPH	7.98	5.57	50	<50	42	<0.5	<0.5	<0.5	<0.5	---	---	---

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TABLE I
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-306
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
			<.....feet.....>		<.....			ug/l						>
MW13 (cont.)	3/19/97	Sheen	9.46	4.74	---	---	---	---	---	---	---	---	---	---
(14.20)	6/4/97	Sheen	9.59	4.61	---	---	---	---	---	---	---	---	---	---
	9/2/97	Sheen	9.68	4.52	---	---	---	---	---	---	---	---	---	---
	12/2/97	NLPH	9.16	5.04	16,000	14,000	<250	210	<50	920	1,000	---	---	---
	3/24/98	NLPH	6.71	7.49	1,700	5,600	55	110	6.0	420	330	---	---	---
	6/23/98	NLPH	8.87	5.33	3,800	12,000	200	120	<20	300	300	---	---	---
	9/29/98	NLPH	9.79	4.41	2,400	4,900	130	130	12.0	410	200	---	---	---
	12/30/98	NLPH	9.03	5.17	2,000	6,700	520	100	11	400	250	---	---	---
	3/24/99	Sheen	4.91	9.29	688	3,730	15.5	35.9	1.58	150	112	---	---	---
	6/22/99	Sheen	5.66	8.54	4,090	7,220	56.4	29.0	<5.0	496	318	---	---	---
	9/29/99	NLPH	8.62	5.58	1,060g	5,200	103	83.0	5.90	322	126	---	---	---
	12/21/99	NLPH	8.59	5.61	1,800	4,400	<2	52	1.9	340	115	---	---	---
	3/21/00	j	--	--	--	--	--	--	--	--	--	---	---	---
	12/21/00	Well destroyed												
MW14	1/20/94	--	--	--	--	--	--	--	--	--	--	---	---	---
(15.18)	02/02-03/94	j	--	--	--	--	--	--	--	--	--	---	---	---
	3/10/94	NLPH	7.84	7.34	--	--	--	--	--	--	--	---	---	---
	4/22/94	NLPH	8.00	7.18	--	--	--	--	--	--	--	---	---	---
	05/10-11/94	NLPH	7.93	7.25	11,002	300	--	2.7	7.9	2	27	---	---	---
	6/27/94	NLPH	8.19	6.99	--	--	--	--	--	--	--	---	---	---
	8/31/94	NLPH	9.44	5.74	--	--	--	--	--	--	--	---	---	---
	9/29/94	NLPH	9.82	5.36	NA	300	1,600	<0.5	<0.5	0.9	1.3	---	---	---
	10/25/94	NLPH	9.99	5.19	NA	200	210	<0.5	<0.5	0.8	<0.5	---	---	---
	11/30/94	--	8.16	7.02	--	--	--	--	--	--	--	---	---	---
	12/27/94	Sheen	8.15	7.03	--	--	--	--	--	--	--	---	---	---
	2/6/95	NLPH	7.18	8.00	1,200	360	--	<1.0	<1.0	<1.0	<1.0	---	---	400
	6/7/95	NLPH	7.70	7.48	1,100	670	<2.5	<0.5	<0.5	3.6	<0.5	---	450	---
	9/18/95	NLPH	9.88	5.30	1,900	1,300	<10	<2.0	<2.0	<2.0	3	---	1,200	---
	11/1/95	NLPH	10.56	4.62	2,700	1,100	<13	<2.5	<2.5	3.2	3.1	---	1,600	---
	2/14/96	NLPH	9.08	6.10	1,500	470	<2.5	<0.5	<0.5	1.3	<0.5	ND	680	---
	6/19/96	NLPH	8.50	6.68	2,000	610	<12	<2.5	<2.5	<2.5	<2.5	ND	670	---
	9/24/96	NLPH	10.23	4.95	5,100	1,000	<25	<5.0	<5.0	<5.0	<5.0	ND	4,500	---
	12/11/96	NLPH	9.09	6.09	2,100 J	1,100	<10	<2.0	<2.0	<2.0	3.3	ND	750	---
	3/19/97	NLPH	7.99	7.19	1,400	690	<2.5	0.65	1.7	2.5	8.3	ND	470	---
	6/4/97	NLPH	9.30	5.88	1,500	730	<2.5	<1.2	<1.2	3.5	5.3	ND	590	---
	9/2/97	NLPH	9.92	5.26	1,900	910	<5.0	<5.0	<5.0	<5.0	5.9	ND	1,300	---
	12/2/97	NLPH	9.13	6.05	1,200	570	<2.5	0.85	<0.5	<0.5	1.7	---	---	---

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
			<.....feet.....>		<.....			ug/l.....						>
MW14 (cont.)	3/24/98	NLPH	8.52	6.66	1,300	650	5.7	1.7	<1.0	<1.0	2.3	---	---	---
(15.18)	6/23/98	NLPH	8.69	6.49	1,100	470	<2.5	<0.5	1.5	1.1	3.0	---	---	---
	9/29/98	NLPH	9.41	5.77	930	570	<2.5	<0.50	<0.50	2.5	3.5	---	---	---
	12/30/98	NLPH	9.31	5.87	2,000	420	<2.5	<0.5	<0.5	<0.5	2.8	---	---	---
	3/24/99	NLPH	4.23	10.95	936	456	<2.0	<0.5	<0.5	0.685	<0.5	---	---	---
	6/22/99	NLPH	7.24	7.94	1,720	403	<2.0	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/29/99	NLPH	9.41	5.77	927g	388	<2.5	1.31	<0.5	0.864	2.07	---	---	---
	12/21/99	NLPH	8.93	6.25	1,400	420	<2	0.61	<0.5	<0.5	6.3	---	---	---
	3/21/00	NLPH	5.76	9.42	—	390	<2	1.4	<0.5	0.82	4.5	---	---	---
	3/30/01	NLPH	4.21	10.97	980	330	<5k	<0.5	<0.5	1.3	3.03	---	---	---
(15.14)	11/1/01	Well surveyed in compliance with AB 2886 requirements.												
n	3/11/02	NLPH	4.87	10.27	954	146	1.40/0.6 k	<0.50	<0.50	0.90	5.70	---	---	---
	3/11/03	NLPH	6.99	8.15	1,020	331	<0.5	<0.50	<0.5	<0.5	<0.5	---	---	—
MW15	1/20/94	NLPH	7.48	6.25	—	—	—	—	—	—	—	—	—	—
(13.73)	02/02-03/94	NLPH	7.30	6.43	1,200	4,300	—	24	6.7	170	26	—	—	—
	3/10/94	NLPH	7.32	6.41	—	—	—	—	—	—	—	—	—	—
	4/22/94	NLPH	6.67	7.06	—	—	—	—	—	—	—	—	—	—
	05/10-11/94	NLPH	5.81	7.92	1,400	3,900	—	16	<0.5	150	13	—	—	—
	6/27/94	NLPH	6.14	7.59	—	—	—	—	—	—	—	—	—	—
	8/31/94	NLPH	7.20	6.53	—	—	—	—	—	—	—	—	—	—
	9/29/94	NLPH	7.76	5.97	420	2,500	—	51	15	48	3.6	—	—	—
	10/25/94	Sheen	8.19	5.54	—	—	—	—	—	—	—	—	—	—
	11/30/94	—	8.57	5.16	—	—	—	—	—	—	—	—	—	—
	12/27/94	NLPH	6.49	7.24	—	—	—	—	—	—	—	—	—	—
	2/6/95	Sheen	4.97	8.76	—	—	—	—	—	—	—	—	—	—
	6/7/95	Sheen	7.14	6.59	—	—	—	—	—	—	—	—	—	—
	9/18/95	Sheen	9.00	4.73	—	—	—	—	—	—	—	—	—	—
	11/1/95	Sheen	10.67	3.06	—	—	—	—	—	—	—	—	—	—
	2/14/96	Sheen	7.27	6.46	—	—	—	—	—	—	—	—	—	—
	6/19/96	Sheen	6.65	7.08	—	—	—	—	—	—	—	—	—	—
	9/24/96	Sheen	9.45	4.28	—	—	—	—	—	—	—	—	—	—
	12/11/96	Sheen	7.77	5.96	—	—	—	—	—	—	—	—	—	—
	3/19/97	Sheen	8.15	5.58	—	—	—	—	—	—	—	—	—	—
	6/4/97	Sheen	8.62	5.11	—	—	—	—	—	—	—	—	—	—
	9/2/97	NLPH	9.04	4.69	480	1,100	23	19	<2.0	11	4.9	—	—	—
	12/2/97	NLPH	8.43	5.30	600	1,700	58	20	<5.0	11	<5.0	—	—	—
	3/24/98	NLPH	6.35	7.38	450	2,100	<100	570	<20	<20	<20	—	—	—

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
			<.....feet.....>		<.....			ug/l.....>					
MW15 (cont.)	6/23/98	NLPH	7.79	5.94	570	2,300	<25	440	<5.0	30	<5.0	---	---	---
(13.73)	9/29/98	j	--	--	--	--	--	--	--	--	--	---	---	---
	12/30/98	NLPH	8.42	5.31	510	900	14	6.2	1.5	5.8	3.4	---	---	---
	3/24/99	NLPH	4.69	9.04	346	1,480	12.7	181	1.15	29.8	<1.0	---	---	---
	6/22/99	NLPH	5.42	8.31	558	864	6.49	12.7	<0.5	3.28	1.38	---	---	---
	9/29/99	NLPH	7.08	6.65	306g	316	<5.0	1.44	7.51	1.60	3.21	---	---	---
	12/21/99	NLPH	7.51	6.22	300	1,500	21	21	1.6	0.67	5.9	---	---	---
	3/21/00	NLPH	3.61	10.12	220	680	<2	10	<0.5	<0.5	4.5	---	---	---
	12/21/00	Well destroyed												

Notes:

- SUBJ = Results of subjective evaluation, liquid-phase hydrocarbon thickness in feet.
- NLPH = No liquid-phase hydrocarbons present in well.
- TOC = Elevation of top of well casing; relative to mean sea level.
- DTW = Depth to water.
- Elev. = Elevation of groundwater. If liquid-phase hydrocarbons present, elevation adjusted using TOC - [DTW - (PT x 0.8)].
- [] = Amount recovered.
- gal. = Gallons.
- TPHd = Total petroleum hydrocarbons as diesel analyzed using EPA Method 3510/8015 (modified).
- TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 5030/8015 (modified).
- MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8021B.
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
- VOCs = Volatile organic compounds/purgeable halocarbons analyzed using EPA Method 601.
- TOG = Total oil and grease analyzed using Standard Method 5520.
- EHCss = Extractable Hydrocarbons as Stoddard Solvent analyzed using EPA Method 8015.
- = Not measured/not analyzed.
- < = Less than the indicated detection limit shown by the laboratory.
- a = A peak eluting earlier than benzene, suspected to be MTBE, was present.
- b = Sample containers for TPHg, BTEX, and MTBE were broken in transit.
- c = Chromatogram pattern: unidentified hydrocarbons C6 - C12.
- d = Chromatogram pattern: weathered gasoline C6 - C12.
- e = Chromatogram pattern: weathered gasoline C6 - C12 and unidentified hydrocarbons C6 - C12.
- f = Chromatogram pattern: weathered diesel C9 - C24 and unidentified hydrocarbons C9 - C36.
- g = Chromatogram pattern: unidentified hydrocarbons C9 - C24.
- h = Total petroleum hydrocarbons as diesel analyzed using EPA Method 3510/8015 (modified), with silica gel cleanup.
- j = Well inaccessible.
- k = MTBE analyzed using EPA Method 8260B.
- l = TPHd note: Analyst notes samples resemble paint thinner more than Stoddard Solvent.
- m = Analyte detected in trip blank and/or bailed blank; result is suspect.
- n = Higher reported TPH concentrations in groundwater may be due to different laboratory quantitation procedures.

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
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DATE	SAMPLE	Field Measurements				Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene		
		ID	TEMP F	PRESS in H ₂ O	FLOW cfm	INF ppmv	EFF	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
01/09/95	A-INF	70			160			210	39					
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					
01/10/95	A-INF	70			160			110	22	2.30	2.3	0.438	0.44	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/11/95	A-INF	70			160			70	12	1.29	3.6	0.244	0.68	
	A-INT							< 10	< 0.1					< 0.0014
	A-EFF							< 10	< 0.1					
01/12/95	A-INF	70			160			< 10	< 0.1	< 0.57	4.2	< 0.087	< 0.77	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/13/95	A-INF	70			160			< 10	< 0.1	< 0.14	4.3	< 0.001	< 0.77	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/14/95	A-INF	70			160			< 10	< 0.1	< 0.14	4.5	< 0.001	< 0.77	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/15/95	A-INF	70			158			< 10	< 0.1	< 0.14	4.6	< 0.001	< 0.77	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/16/95	A-INF	70			151			< 10	< 0.1	< 0.14	4.7	< 0.001	< 0.77	
	A-INT							10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/17/95	A-INF	70			155			< 10	0.13	< 0.14	4.9	0.002	< 0.78	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/18/95	A-INF	70			155			100	12	0.77	5.6	0.084	< 0.86	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0014
01/19/95		70			155	15	0	68		1.17	6.8			
01/20/95		70			155	14.4	0	66		0.93	7.7			
02/01/95	A-INF	70			147			39	3.5	13.19	20.9	1.471	< 2.33	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0013
02/14/95		70			147									
02/17/95		70			155	9	0	41		8.67	29.6			
02/27/95		70			151									
03/13/95	A-INF	70			176			< 10	0.42	< 14.21	43.8	1.137	< 3.47	
	A-INT							< 10	< 0.1					
	A-EFF							< 10	< 0.1					< 0.0016
03/31/95		70			116	2.3	0	10		2.01	45.8			
04/04/95		70			84	129	0.8	587		76.68	122.5			
04/12/95	A-INF	70			176			95	6.4	24.88	147.4	1.616	< 5.08	
	A-INT							< 10	0.38					

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
(Page 3 of 8)

DATE	SAMPLE	Field Measurements				Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene	
		ID	F in H ₂ O	PRESS cfm	FLOW ppmv	INF	EFF	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds
09/18/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon							980	13	196.08	631.5	3.577	< 14.00
09/18/95	A-INF	70		164				< 10	< 0.1				
	A-INT							< 10	< 0.1				
	A-EFF							< 10	< 0.1				< 0.0015
09/20/95	System Down - hydrocarbon vapor detector shut down												
09/25/95	Restarted system												
09/25/95	A-INF	70		164				NA					
	A-INT							NA	< 0.1				
	A-EFF							NA	< 0.1				
10/13/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
10/13/95	A-INF	70		168				2000	100	444.04	1,075.5	16.838	< 30.84
	A-INT							< 10	< 0.05				
	A-EFF							< 10	< 0.05				< 0.0008
10/26/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
10/26/95		70		168	165	0	751			269.69	1,345.2		
11/06/95													
11/20/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
11/20/95	A-INF1	70		170				180	3.6	176.60	1,521.8	1.038	< 31.88
	A-INF2							82	2				
	A-INT							< 10	< 0.1				
	A-EFF							< 10	< 0.1				< 0.0015
11/26/95	System down												
12/04/95	Restart system	70		168	18.5	0.5	84			12.03	1,533.8		
12/18/95	A-INF	70		151				4600	50	469.45	2,003.3	10.105	< 41.98
	A-INT							< 10	< 0.1				
	A-EFF							< 10	< 0.1				< 0.0014
01/02/96		70		147	51.7	8.2	235			485.04	2,488.3		
01/03/96	Shut system down, pending carbon change out												
01/08/96	changed out three carbon beds, #1, #2 & Carbon beds in-line												
01/08/96		70		151.2	105.4	0	480			28.72	2,517.0		
01/16/96	A-INF	70		142.8	62.3	0	180		< 0.1	7.50	2,524.5	< 0.000	< 41.98
	A-EFF								< 0.1				< 0.0013
01/30/96		70		147	50.4	0	230			37.28	2,561.8		
02/14/96	A-INF	72		147	39.7	0	< 10		0.16	< 0.49	2,562.3	0.049	< 42.03
	A-EFF								< 0.1				< 0.0013
02/27/96		70		136.5	1	0	5			1.20	2,563.5		
03/12/96	A-INF	70		136.5	2.2	0	< 10		< 0.1	< 1.25	2,564.8	< 0.045	< 42.07
	A-EFF								< 0.1				< 0.0012
03/25/96	A-INF	70		147	2.4	0	< 10		< 0.1	< 1.65	2,566.4	< 0.017	< 42.09
	A-EFF								< 0.1				< 0.0013
03/25/96	System shutdown to install Thermtech VAC-25 thermal/catalytic oxidizer												
08/05/96	Start-up system utilizing Thermtech VAC-25 thermal/catalytic oxidizer												
08/15/96	A-INF			110				410	4.7				
	A-EFF							< 10	< 0.05				< 0.0005
08/29/96				176	45.8	1.1	194			54.26	2,620.7		

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
 Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
 (Page 4 of 8)

DATE	SAMPLE	Field Measurements				Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene
		TEMP	PRESS	FLOW	INF	EFF	TPHg	Benzene	Per Period	Cumulative	Per Period	Cumulative
	ID	F	in H ₂ O	cfm	ppmv		mg/m ³	mg/m ³	Pounds	Pounds	Pounds	Pounds
09/06/96	A-INF			176			150	< 0.1	21.73	2,642.4	< 0.678	< 42.77
	A-EFF						< 10	< 0.1				
09/09/96				176	96	4.4	406		13.18	2,655.6		
09/24/96				184.8	141	5.1	597		121.82	2,777.4		
10/03/96	A-INF			176			1300	< 1	138.22	2,915.6	< 0.235	< 43.00
	A-EFF						< 10	< 0.1				
10/09/96				176	173	4.5	732		96.31	3,011.9		
10/14/96				184.8	105	4.4	444		47.63	3,059.6		
10/21/96				176	89.2	4.5	378		46.58	3,106.1		
10/30/96				176	58.3	0.7	247		44.38	3,150.5		
11/06/96	System down, unable to restart due to reset failure											
01/17/97	Replaced Thermalcouple, restarted unit											
01/31/97	A-INF			44			< 10	0.14	0.55	3,151.1	0.008	< 43.01
	A-EFF						< 10	< 0.05				
02/06/97	A-INF			176			86	2.2	2.84	3,153.9	0.069	< 43.08
	A-EFF						< 10	< 0.10				
02/14/97				176	25	2	106		12.12	3,166.0		
02/18/97				176	95	0.8	402		16.05	3,182.1		
02/28/97				176	53	0	224		49.48	3,231.6		
03/05/97	A-INF			176			210	< 0.10	17.15	3,248.7	< 0.491	< 43.57
	A-EFF						< 10	< 0.10				
03/12/97				211.2	62	0.7	262					
03/19/97				220	33	1	140					
03/26/97				211.2	35	1	148					
04/02/97	A-INF			220			170	4.0	94.55	3,343.3	< 1.020	< 44.59
	A-EFF						< 10	< 0.10				
04/09/97				220	40	1	169					
04/16/97				220	58	3	245					
04/23/97				220	30	1	127					
04/30/97				220	30	2	127					
05/08/97	A-INF			193.6			340	4.8	170.41	3,513.7	2.940	< 47.53
	A-EFF						< 10	< 0.10				
05/14/97				193.6	80	1	339					
05/21/97				193.6	20	1	85					
05/28/97				176	42	0	178					
06/04/97	A-INF			176			360	2.9	156.76	3,670.4	1.724	< 49.26
	A-EFF						< 10	< 0.10				
06/11/97				176	40	0	169					
06/18/97				158.4	38	0	161					
06/25/97				167.2	36	0	152					
07/02/97	A-INF			167.2			350	5.4	153.11	3,823.5	1.790	< 51.04
	A-EFF						< 10	< 0.10				
07/09/97				202.4	29.4	0	124					
07/18/97				246.4	14.7	0	62					
07/22/97				246.4	54.2	0	229					

**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM**
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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DATE	SAMPLE ID	Field Measurements				Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene
		TEMP F	PRESS in H ₂ O	FLOW cfm	INF ppmv	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
07/30/97				220	36.1	0	153					
08/07/97	A-INF			220			160	< 0.50	159.53	3,983.1	< 1.846	< 52.89
	A-EFF						13	< 0.10				< 0.0020
08/11/97				220	19.1	0	81					
8/20/97				167.2	13.1	0	55					
8/27/97				158.4	20.0	0	85					
09/03/97	A-INF			158.4			400	< 1.0	128.39	4,111.5	< 0.344	< 53.23
	A-EFF						< 10	< 0.10				< 0.0014
9/10/97				123.2	800	4.0	3386					
9/17/97				158.4	131	1.1	554					
9/24/97				176	40	0	169					
10/08/97	A-INF			176			200	3.1	157.59	4,269.1	1.077	< 54.31
	A-EFF						< 10	< 0.10				< 0.0016
10/15/97				193.6	50	0.9	212					
10/22/97				176	50	1.5	212					
10/30/97				158.4	30	0	127					
11/05/97				167.2	65	7.6	275					
11/12/97	A-INF			176			880	< 0.10	298.58	4,567.6	< 0.885	< 55.20
	A-EFF						< 10	< 0.10				< 0.0016
11/20/97				158.4	33	3.2	138					
11/25/97				123.2	56	3.0	237					
12/03/97	A-INF			220			NA	NA		NA	NA	
	A-EFF						< 10	< 0.10				< 0.0020
12/10/97				176	19	0.5	80					
12/17/97				193.6	16	0.6	68					
12/23/97				193.6	13	0.0	55					
12/29/97	A-INF			176			51	< 0.10	345.64	4,913.3	< 0.074	< 55.27
	A-EFF						< 10	< 0.10				< 0.0016
01/06/98	A-INF			176			70	2.1	7.65	4,920.9	< 0.139	< 55.41
	A-EFF						< 10	< 0.1				< 0.0016
1/13/98				211.2	6	1.0	25					
1/20/98				184.8	4	1.3	17					
02/03/98	System down due to chart recorder problem											
02/10/98	Restart system											
02/10/98	A-INF			132			< 10	1.1	< 15.48	< 4,936.4	0.619	< 56.03
	A-EFF						< 10	< 0.1				< 0.0012
2/18/98				132.15	0.5	0.0						
2/23/98				158.4	0.6	0.1						
03/11/98	A-INF			193.6			< 10	1.5	< 4.24	< 4,940.6	0.551	< 56.58
	A-EFF						< 10	< 0.1				< 0.0017
3/17/98				167.2	1.6	3.4						
03/20/98	System down due to control fault											
03/23/98	Restart system											
03/23/98				176	6.2	1.9						
03/30/98				167.2	0.4	0.8						

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM

Former Exxon Service Station 7-3006
 720 High Street
 Oakland, California
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results			TPHg Removal		Benzene Removal		Benzene	
		TEMP F	PRESS in H ₂ O	FLOW cfm	INF ppmv	EFF	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
04/07/98				176	1.4	1.1							
04/17/98				123.2	1.4	1.7							
04/21/98	A-INF			88			10	0.26	< 5.18	< 4,945.8	0.456	< 57.04	
	A-EFF						< 10	< 0.1					< 0.0008
04/28/98				88	2.3	1.6							
05/12/98	A-INF			88			< 10	< 0.1	< 1.66	< 4,947.5	< 0.032	< 57.07	
	A-EFF						< 10	< 0.1					< 0.0008
05/19/98				88	1.8	1.2							
05/28/98				88	1.7	1.2							
06/02/98	A-INF			88	4.3	2.1	18	< 0.1	< 2.32	< 4,949.8	< 0.017	< 57.08	
	A-EFF						< 10	< 0.1					< 0.0008
06/09/98				88	1.9	1.1							
06/17/98				96.8	1.7	0.9							
06/24/98				96.8	2.1	0.8							
07/08/98	A-INF			96.8	3.4	0.8	< 10	< 0.1	< 4.18	< 4,954.0	< 0.030	< 57.11	
	A-EFF						< 10	< 0.1					< 0.0009
07/14/98	A-INF			132	3.1	0.0	39	0.91	< 1.51	< 4,955.5	< 0.031	< 57.15	
	A-EFF						< 10	< 0.1					< 0.0012
07/14/98	Shut down vapor extraction system upon departure. One process blower not operating												
07/16/98	System Inspection, vapor extraction system still down.												
07/21/98	System down on arrival due to blown process blower fuse. Restarted system												
07/21/98				46.2	2.5	1.1							
07/27/98	System operated for 11 hours prior to samples being collected.												
	A-INF			176	0.3	0.1	13	< 0.10	< 0.16	< 4,955.7	< 0.003	< 57.15	
	A-EFF						< 10	< 0.10					< 0.0016
08/05/98	System down on arrival due to combustion blower problems. System ran for one hour. Restarted system												
	A-INF			184.8	4.1	0.0	90	2.50	0.02	< 4,955.7	< 0.001	< 57.15	
	A-EFF						< 10	< 0.1					< 0.0017
08/11/98	A-INF			193.6	2.7	0.3							
08/18/98	A-INF			202.4	3.1	0.3							
08/25/98				193.6	1.8	0.3							
09/03/98	System down upon arrival due to propane tank running empty. System operated for 16 days. Restarted system.												
	A-INF			184.8	4.4	0.2	68	1.00	20.97	< 4,976.6	0.464	< 57.61	
	A-EFF						< 10	< 0.10					< 0.0017
09/08/98				202.4	1.8	0.2							
09/22/98	System down upon arrival due to low gas pressure control failure 14 days												
							2.7	0.3					
09/29/98				176	20.4	1.8							
10/06/98	A-INF			202.4	13.0	1.3	56	1.70	20.38	< 4,997.0	0.444	< 58.06	
	A-EFF						< 10	< 0.10					0.0018
10/15/98	System down upon arrival due to propane tank running empty. System down for 115.5 hours.												
				191.84	1.1	0.2							
10/20/98				193.6	78.6	0.3							

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results			TPHg Removal		Benzene Removal		Benzene	
		TEMP F	PRESS in H ₂ O	FLOW cfm	INF ppmv	EFF	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
10/27/98				193.6	219.0	6.2							
11/04/98	A-INF			193.6	42.1	3.3	150	5.00	44.30	< 5,041.3	1.727	< 59.78	
	A-EFF						< 10	< 0.10					0.0017
11/12/98				184.8	32.4	3.7							
11/17/98				180.4	97.4	7.5							
11/17/98	System down upon arrival due to propane tank running empty. System down for 82 hours.												
12/02/98	System down upon arrival due to propane tank running empty. System down on departure.												
12/09/98	Restarted system												
12/09/98	A-INF			184.8	10.0	0.6	Bag flat						
	A-EFF						< 10	< 0.10					
12/16/98				184.8	8.5	0.0							
12/23/98	System down upon arrival due to propane tank running empty. System remained down												
01/06/99	Restarted system												
01/06/99	A-INF			281.6	61.6	2.8	63	0.15	< 47.70	< 5,089.0	< 1.153	< 60.94	
	A-EFF						< 10	< 0.1					< 0.0025
01/12/99	A-INF			264	2.8	0.0							
	A-EFF												
01/18/99	A-INF			220	100.8	6.4							
	A-EFF												
01/26/99	A-INF			184.8	32.0	5.6							
	A-EFF												
02/04/99	A-INF			176	12.5	6.7	< 50	< 0.5	< 33.65	< 5,122.7	< 0.076	< 61.01	
	A-EFF						< 50	< 0.5					< 0.0079
02/12/99	A-INF			132	15.2	0.8							
	A-EFF												
02/12/99	System down on departure, compound full with rain water.												
03/18/99	Pumped containment rain water into storage tank, restarted system.												
03/18/99	A-INF			246.4	16.2	0	< 10	< 0.5	< 4.55	< 5,127.2	< 0.076	< 61.09	
	A-EFF						< 10	< 0.5					< 0.0111
03/30/99	A-INF			132	11.5	0							
	A-EFF												
04/09/99	A-INF			154	2.4	0							
	A-EFF												
04/16/99	A-INF			140.8	0	0.9	< 10	< 0.1	< 5.04	< 5,132.3	< 0.151	< 61.24	
	A-EFF						< 10	< 0.1					< 0.0013
04/21/99	A-INF			123.2	5.5	0							
	A-EFF												
04/28/99	A-INF			123.2	10.1	0							
	A-EFF												
05/04/99	A-INF			132	0	0							
	A-EFF												
05/13/99	A-INF			176	1.3	0	< 10	< 0.1	< 3.84	5,136.1	< 0.038	< 61.28	
	A-EFF						< 10	< 0.1					< 0.0016
05/18/99	A-INF			176	1.3	0							

TABLE 2
CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR
SOIL VAPOR EXTRACTION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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DATE	SAMPLE ID	Field Measurements				Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene	
		TEMP F	PRESS in H ₂ O	FLOW cfm	INF ppmv	EFF	TPHg mg/m ³	Benzene mg/m ³	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
05/25/99	A-EFF												
05/25/99	A-INF			167.2	0	0							
05/25/99	A-EFF												
06/11/99	System down upon arrival, emergency stop button was activated.												
06/11/99	A-INF			167.2	4.9	4.5							
06/11/99	A-EFF												
06/17/99	System operated for 24.3 day for removal calculations.												
06/17/99	A-INF			167.2	1.3	1	< 10	< 0.1	< 3.74	5,139.9	< 0.037	< 61.32	
06/17/99	A-EFF						< 10	< 0.1					< 0.0015
06/17/99	System shut down for pulsing												
06/25/99	System restarted												
06/25/99	A-INF			176	3.3	0							
06/25/99	A-EFF												
06/29/99	A-INF			176	2.9	0							
06/29/99	A-EFF												
07/06/99	A-INF			123.2	0	0	< 10	< 0.1	< 1.43	5,141.3	< 0.014	< 61.33	
07/06/99	A-EFF						< 10	< 0.1					< 0.0011
07/16/99	A-INF			158.4	1.6	0.3							
07/16/99	A-EFF												
07/16/99	System shut down for pulsing												
07/22/99	System restarted												
07/22/99	A-INF			176	0	0.7							
07/22/99	A-EFF												
07/28/99	A-INF			167.2	5.4	0	15.5	< 0.1	< 2.66	5,143.9	< 0.018	< 61.35	
07/28/99	A-EFF						< 10	< 0.1					< 0.0015
07/28/99	System shut down for pulsing												

Notes:

A-INF = Air influent.
A-INT = Air intermediate.
A-EFF = Air effluent.
NA = Not analyzed.
cu. ft/min = Cubic feet per minute.
ppmv = Parts per million by volume.

HC ug/l mg/cuM lb acfm <

= Hydrocarbons measured as total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015 (modified).
= Micrograms per liter.
= Milligrams per cubic meter.
= Pounds.
= Actual cubic feet per minute.
= Less than the laboratory method detection limit.

*If value is below laboratory detection limit, detection limit value is used.

**Values calculated using ERI SOP-25: "Hydrocarbons Removed from a Vadose Well" (Attachment C)

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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Date	Total	Average	Laboratory Analytical Results						TPHg Removal		Benzene Removal		
	Flow gal	Flowrate gpd	Sample ID	TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs
01/09/95	0		W-INF	3400	630	190	100	460	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	0.0076				
01/10/95													
01/11/95	795	398											
01/13/95	1,065	135	System shut down pending EBMUD arsenic revision (discharge limit of 0.0012 ppm)										
01/23/95	1,065	0											
02/13/95	1,065	0											
02/14/95	1,065	0											
02/17/95	1,065	0											
02/27/95	1,065	0											
03/07/95	1,065	0	EBMUD arsenic revision (discharge limit of 0.05 ppm)										
03/13/95	10,800	1,623	W-INF	110	7.4	0.5	0.53	6	NA	0.1581	0.1581	0.0287	0.0287
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	<0.005				
03/21/95	11,660	108	W-INF	<50	4.5	<0.5	<0.5	5.5	NA	0.0006	0.1587	0.0000	0.0288
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	0.0059				
System shut down - 55-gallon liquid phase carbon canister (leak)													
03/30/95	11,760	11	Replaced one 55-gallon liquid phase carbon canister (leak)										
04/04/95	11,760		Replaced one 55-gallon liquid phase carbon canister (leak) - Started system										
04/04/95	12,660	180	W-INF	220	66	11	4.8	16	NA	0.0011	0.1598	0.0003	0.0291
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	<0.0096				
04/12/95	53,200	5,068	W-INF	770	110	19	<5.0	160	NA	0.1674	0.3273	0.0298	0.0588
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	<0.005				
04/19/95	73,710	2,930	W-INF	400	47	5.4	<0.5	40	NA	0.1001	0.4274	0.0134	0.0723
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	0.0055				
04/26/95	82,820	1,301	W-INF	1500	190	44	12	150	NA	0.0722	0.4996	0.0090	0.0813
			W-INT	200	31	3.2	<0.5	15	NA				

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
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720 High Street
Oakland, California
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TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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Date	Total	Average	Laboratory Analytical Results						TPHg Removal		Benzene Removal		
	Flow gal	Flowrate gpd	Sample ID	TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs
09/13/95 System Down - hydrocarbon vapor detector shut down													
9/18/95 Restart System													
09/18/95	148,550	244	W-INF1	1900	590	33	16	120	NA	0.2462	1.6395	0.0788	0.4637
			W-INF2	490	150	7.6	3.1	30	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
09/20/95 System Down - hydrocarbon vapor detector shut down													
09/25/95 Restart System													
09/28/95 System Down - hydrocarbon vapor detector shut down													
10/13/95	151,380	113	W-INF1	4900	1400	310	120	480	NA	0.0803	1.7197	0.0235	0.4872
			W-INF2	780	230	49	15	72	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	0.0079				
Additional Analyses: ND Purgeable Volatile Organics													
10/26/95	154,143	213											
11/06/95	157,906	342											
11/20/95	159,664	126	W-INF1	630	140	<5.0	6.9	22	NA	0.1911	1.9108	0.0532	0.5404
			W-INF2	230	36	1.6	2.2	7.6	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
11/27/95 System Down													
11/29/95	160,361	77	Restart System										
12/4/95	161,442	216											
12/18/95	168,304	490	W-INF1	8900	1100	240	130	2200	NA	0.3435	2.2543	0.0447	0.5851
			W-INF2	3900	380	85	60	890	NA				
			W-INT	<50	1.3	<0.5	<0.5	5.1	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
01/02/96	171,770	231											
01/08/96	173,707	323											
01/16/96	178,573	608	W-INF	490	53	1.8	3.9	35	NA	0.4023	2.6566	0.0494	0.6345
			W-INF2	150	8.1	<0.5	0.61	6.8	NA				

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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Date	Total	Average	Sample ID	Laboratory Analytical Results					TPHg Removal		Benzene Removal		
	Flow gal	Flowrate gpd		TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
01/30/96	190,030	818											
02/14/96	202,610	839	W-INF1	840	220	25	<2.5	36	NA	0.1334	2.7900	0.0274	0.6619
			W-INF2	410	96	10	1.1	23	NA				
			W-INT	<50	0.58	1.8	<0.5	2.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
02/27/96	216,100	1,038											
03/12/96	System down upon arrival												
03/12/96	216,590	35	W-INF1	1700	410	110	26	130	NA	0.1481	2.9381	0.0367	0.6986
			W-INF2	420	94	24	5.9	33	NA				
			W-INT	<50	0.53	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
03/25/96	217,460	67	W-INF1	100	6.6	<0.5	<0.5	7	NA	0.0065	2.9446	0.0015	0.7002
			W-INF2	<50	3.9	<0.5	<0.5	1.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
03/25/96	System shutdown, removal of blower/carbon to thermal oxidizer												
07/22/96	Start-up remediation system												
07/22/96	219,802	20	W-INF1	3100	330	53	180	630	NA	0.0313	2.9759	0.0033	0.7034
			W-INF2	2500	330	41	140	480	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
08/01/96	System down on arrival, unable to obtain emission flow rate and samples. Notified BAAQMD												
08/01/96	247,305	2,750											
08/09/96			W-INF1	1500	550	6.0	12	69	NA				
			W-INF2	240	71	0.91	1.3	9.2	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
08/15/96	252,600	378											
08/29/96	256,508	279											
09/06/96	<258,828	290	W-INF1	<50	<0.5	<0.5	<0.5	<0.5	NA	0.5128	3.4887	0.0538	0.7573

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
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Date	Total	Average		Laboratory Analytical Results					TPHg Removal		Benzene Removal		
	Flow gal	Flowrate gpd	Sample ID	TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs
4/30/97	361,241	182											
5/8/97	365,440	525											
5/14/97	368,270	472	System down, bad float on air stripper										
05/21/97	370,444	311	W-INF	1,300	360	<5.0	16	21	NA	0.1351	6.0320	0.0375	1.3653
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
System down, bad float on air stripper													
5/28/97	372,219	254	System down, bad float on air stripper										
06/04/97			Replaced float, restarted system										
06/04/97	375,230	430	W-INF1	1,600	510	5.8	17	16	NA	0.0579	6.0899	0.0174	1.3827
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
6/11/97	378,550	474	System down, faulty transfer pump										
07/22/97	Restarted system												
07/22/97	379,120	14	W-INF1	1,300	520	6.2	6.2	34	NA	0.0466	6.1365	0.0165	1.3992
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
07/29/97	379,315	28											
08/07/97	385,510	688	W-INF1	1,400	400	13	21	52	NA	0.0720	6.2085	0.0245	1.4238
			W-INF2	<50	2.0	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
08/13/97	388,390	480											
08/20/97	391,380	427											
08/27/97	393,545	309											
09/03/97	395,744	314											
09/10/97	397,402	237	W-INF1	<50	<0.5	<0.5	<0.5	<0.5	NA	0.0719	6.2804	0.0199	1.4436
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
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Date	Total Flow gal	Average Flowrate gpd	Sample ID	Laboratory Analytical Results					TPHg Removal		Benzene Removal			
				TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs	
09/17/97	399,232	261												
09/24/97	400,746	216												
10/08/97	403,527	199	W-INF1	<50	0.53	<0.5	<0.5	<0.5	NA	0.0026	6.2829	0.00003	1.4437	
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA					
10/15/97	403,935	58												
10/22/97	406,161	318												
10/30/97	407,795	204												
11/05/97	408,668	146												
11/12/97	410,116	207												
11/20/97	413,391	409												
11/25/97	415,500	422												
12/02/97	421,667	881	W-INF1	660	180	10	8.2	13	NA	0.0537	6.3367	0.0137	1.4573	
			W-INF2	410	110	5.3	5.3	8.9	NA					
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-INT2	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA					
12/03/97	422,595	928												
12/10/97	429,205	944												
12/17/97	436,179	996												
12/23/97	441,533	892												
12/29/97	445,796	711												
01/06/98	System down, high water. Restarted system													
01/06/98	449,395	450	W-INF1	1,600	640	25	<10	36	NA	0.2614	6.5981	0.0949	1.5522	
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-INT2	<50	<0.5	<0.5	<0.5	<0.5	NA					
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA					
01/13/98	455,054	808												
01/20/98	463,576	1,217												
02/03/98	478,169	1,042	W-INF1	1,800	400	780	66	40	580	NA	0.4381	7.0062	0.1705	1.7226

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
 Former Exxon Service Station 7-3006
 720 High Street
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TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM

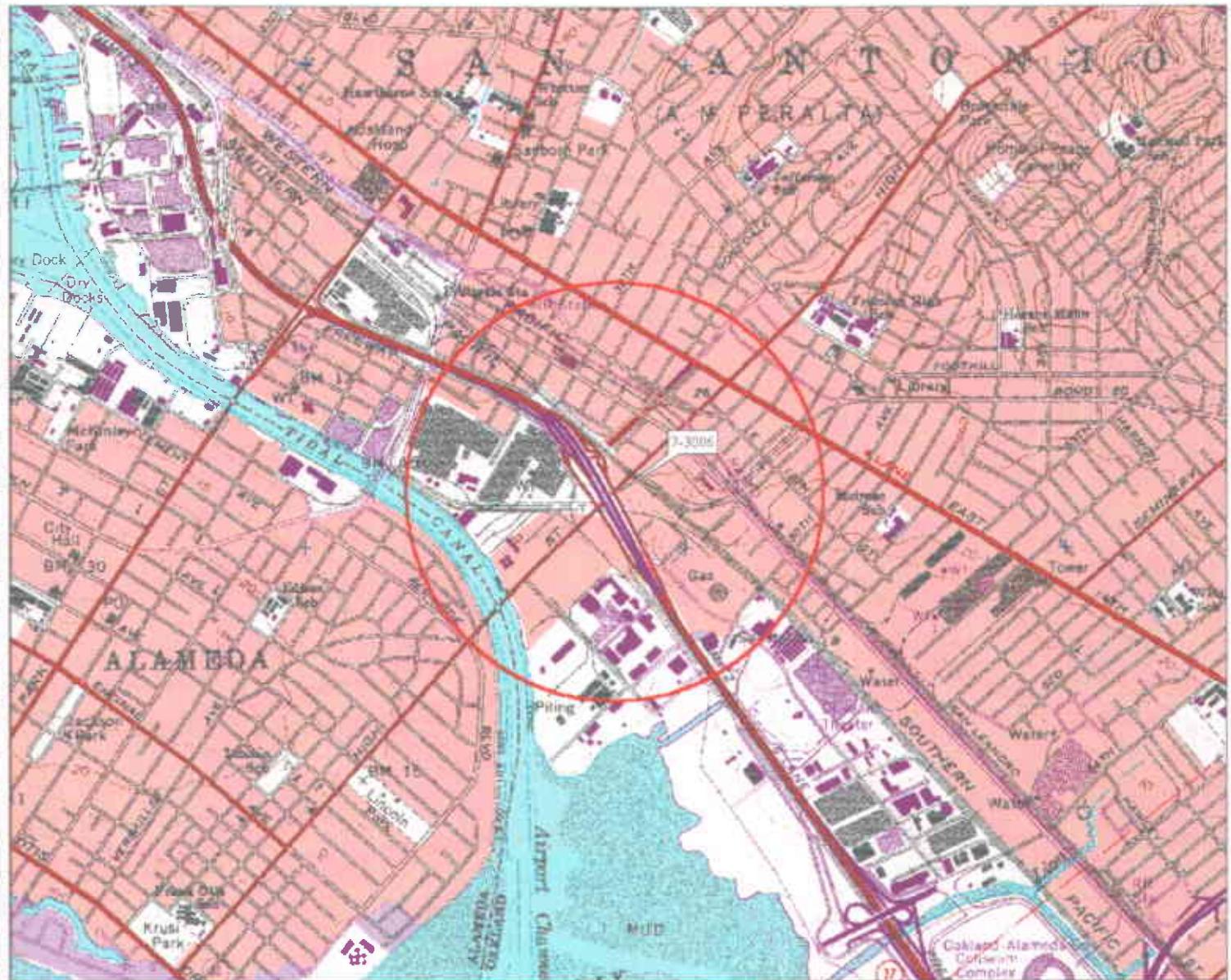
TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
(Page 10 of 11)

TABLE 3
OPERATION AND PERFORMANCE DATA FOR
GROUNDWATER REMEDIATION SYSTEM
Former Exxon Service Station 7-3006
720 High Street
Oakland, California
(Page 11 of 11)

Date	Total	Average		Laboratory Analytical Results					TPHg Removal		Benzene Removal			
	Flow gal	Flowrate gpd	Sample ID	TPHg ug/L	B ug/L	T ug/L	E ug/L	X ug/L	Arsenic mg/l	Per Period lbs	Cumulative lbs	Per Period lbs	Cumulative lbs	
05/04/99	702,994													
				System down for the month of May. No Permit renewal from EBMUD.										
06/11/99	702,994													
				System down for the month of June. No Permit renewal from EBMUD.										
07/28/99	702,994													
				System shutdown pending closure.										

Notes:

W-INF1	= Water influent before stripper or before tank.	B	= Benzene.
W-INF2	= Water influent after stripper or after filters.	T	= Toluene.
W-INT	= Water intermediate samples.	E	= Ethylbenzene.
W-EFF	= Water effluent samples.	X	= Total xylenes.
TPHg	= Total petroleum hydrocarbons as gasoline.	<	= Less than the laboratory method detection limit as indicated.
gpd	= Gallons per day.	ug/L	= Micrograms per liter.
gal	= Gallons.	mg/L	= Milligrams per liter.
NA	= Not applicable.		
NS	= Not sampled.		



FN 2010

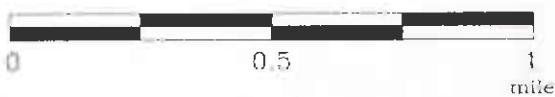
EXPLANATION



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 7-3006
720 High Street
Oakland, California

PROJECT NO.	2010
PLATE	1



Analyte Concentrations in ug/L
Sampled March 11, 2003

1,100 Total Petroleum Hydrocarbons as diesel

5,120 Total Petroleum Hydrocarbons as gasoline

15.7/180k Methyl Tertiary Butyl Ether

920 Benzene

3.2 Toluene

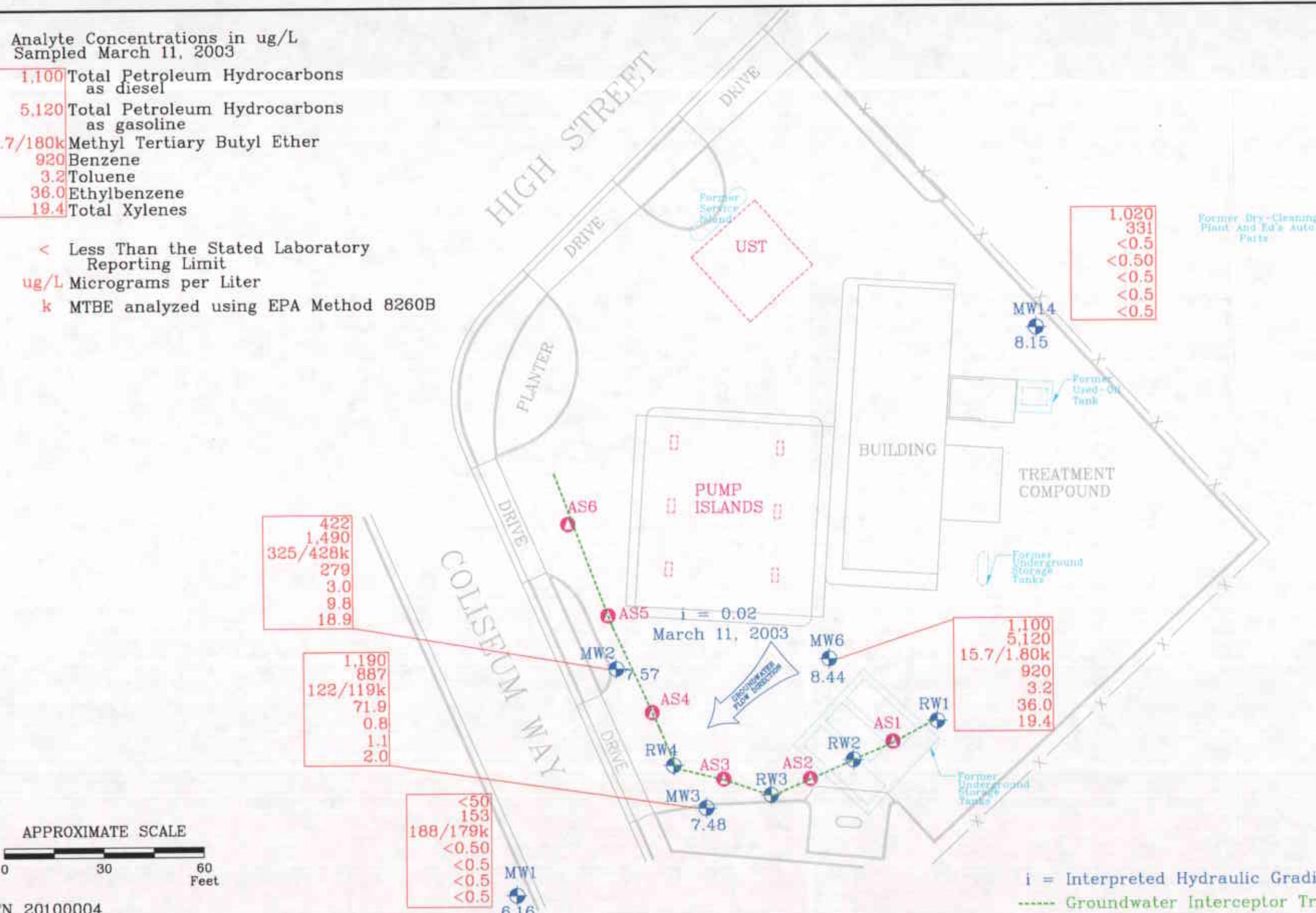
36.0 Ethylbenzene

18.4 Total Xylenes

< Less Than the Stated Laboratory Reporting Limit

ug/L Micrograms per Liter

k MTBE analyzed using EPA Method 8260B



SOURCE:
Modified from a map
provided by
Morrow Surveying

FN 20100004



GENERALIZED SITE PLAN

FORMER
EXXON SERVICE STATION 7-3006
720 High Street
Oakland, California

EXPLANATION

MW14

Groundwater Monitoring Well

8.15 Groundwater elevation in feet;
datum is mean sea level

AS6

Air Sparge Well

PROJECT NO.

2010

PLATE

2

ATTACHMENT A

GROUNDWATER SAMPLING PROTOCOL

GROUNDWATER SAMPLING PROTOCOL

The static water level and separate-phase product level, if present, in each well that contains water and/or separate-phase product are measured with an ORS Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater gradient, depth to water (DTW) levels are subtracted from top of casing elevations.

Groundwater samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® or polypropylene bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples are checked for measurable free-phase hydrocarbons or sheen. If appropriate, free-phase hydrocarbons are removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until a minimum of three well casing volumes is purged and stabilization of the temperature, pH, and conductivity is obtained. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". The quantity of water purged from each well is calculated as follows:

$$1 \text{ well casing volume} = \pi r^2 h (7.48) \text{ where:}$$

r	=	radius of the well casing in feet
h	=	column of water in the well in feet (depth to bottom - depth to water)
7.48	=	conversion constant from cubic feet to gallons
π	=	ratio of the circumference of a circle to its diameter

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well is allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples are collected with a new, disposable Teflon® or polypropylene bailer. The groundwater is carefully poured into selected sample containers (40-milliliter (ml) glass vials, 1,000 ml glass amber bottles, etc.), which are filled so as to produce a positive meniscus.

Depending on the required analysis, each sample container is preserved with hydrochloric acid, nitric acid, etc., or it is preservative free. The type of preservative used for each sample is specified on the chain of custody form.

Each vial and glass amber bottle is sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain-of-Custody Record, to a California state-certified laboratory.

ATTACHMENT B

**LABORATORY ANALYSIS REPORT AND
CHAIN-OF-CUSTODY RECORDS**

2960 FOSTER CREIGHTON DRIVE • NASHVILLE, TENNESSEE 37204
800-765-0980 • 615-726-3404 FAX

3/26/03

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

BY:
MAR 31 2003
RECEIVED

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EKKONMOBIL 7-3006

Project Number: 201013X.

Laboratory Project Number: 323666.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

Page 1

Sample Identification	Lab Number	Collection Date
MW1	03-A37350	3/11/03
MW2	03-A37351	3/11/03
MW3	03-A37352	3/11/03
MW6	03-A37353	3/11/03
MW14	03-A37354	3/11/03

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Sample Identification

Lab Number Collection Date

These results relate only to the items tested.
This report shall not be reproduced except in full and with
permission of the laboratory.

Report Approved By:

Roxanne Connor

Report Date: 3/24/03

Paul E. Lane, Jr., Lab Director

Gail A. Lage, Technical Serv.

Michael H. Dunn, M.S., Technical Director

Glenn L. Norton, Technical Serv.

Johnny A. Mitchell, Dir. Technical Serv.

Kelly S. Comstock, Technical Serv.

Eric S. Smith, Assistant Technical Director

Pamela A. Langford, Technical Serv.

Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

2960 FOSTER CREIGHTON DRIVE • NASHVILLE, TENNESSEE 37204
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ANALYTICAL REPORT

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

Lab Number: 03-A37350
Sample ID: MW1
Sample Type: Water
Site ID: 7-3006

Project: 201013X
Project Name: EXXONMOBIL 7-3006
Sampler: VICKI BURNS

Date Collected: 3/11/03
Time Collected: 16:13
Date Received: 3/13/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<hr/>									
ORGANIC PARAMETERS									
Benzene	ND	ug/L	0.50	1.0	3/15/03	16:48	D.Ramey	8021B	6351
Ethylbenzene	ND	ug/L	0.5	1.0	3/15/03	16:48	D.Ramey	8021B	6351
Toluene	ND	ug/L	0.5	1.0	3/15/03	16:48	D.Ramey	8021B	6351
Xylenes (Total)	ND	ug/L	0.5	1.0	3/15/03	16:48	D.Ramey	8021B	6351
Methyl-t-butylether	188.	ug/L	0.5	1.0	3/15/03	16:48	D.Ramey	8021B	6351
TPH (Gasoline Range)	153.	ug/L	50.0	1.0	3/15/03	16:48	D.Ramey	8015B	6351
TPH (Diesel Range)	ND	ug/L	50.	1.0	3/20/03	22:48	M.Jarrett	8015B/3510	7659

VOLATILE ORGANICS

Methyl-t-butyl ether	179.	ug/L	0.50	1.0	3/26/03	2:51	B.Herford	8260B	4090
----------------------	------	------	------	-----	---------	------	-----------	-------	------

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/14/03		M. Cauthen	3510

Surrogate % Recovery Target Range

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A37350
Sample ID: MW1
Project: 201013X
Page 2

Surrogate	# Recovery	Target Range
TPH Hi Surr., o-Terphenyl	107.	41. - 155.
BTEX/GRO Surr., a,a,a-TFT	97.	69. - 132.
VOA Surr 1,2-DCA-d4	106.	73. - 133.
VOA Surr Toluene-d8	97.	80. - 121.
VOA Surr, 4-BFB	101.	80. - 128.
VOA Surr, DBPM	108.	81. - 121.

LABORATORY COMMENTS:

- ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
= Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

ANALYTICAL REPORT

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

Lab Number: 03-A37351
Sample ID: MW2
Sample Type: Water
Site ID: 7-3006

Project: 201013X
Project Name: EXXONMOBIL 7-3006
Sampler: VICKI BURNS

Date Collected: 3/11/03
Time Collected: 15:38
Date Received: 3/13/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<hr/>									
ORGANIC PARAMETERS									
Benzene	279.	ug/L	1.00	2.0	3/16/03	8:57	F.Gundi	8021B	9520
Ethylbenzene	9.8	ug/L	0.5	1.0	3/15/03	17:20	D.Ramey	8021B	6351
Toluene	3.0	ug/L	0.5	1.0	3/15/03	17:20	D.Ramey	8021B	6351
Xylenes (Total)	18.9	ug/L	0.5	1.0	3/15/03	17:20	D.Ramey	8021B	6351
Methyl-t-butylether	325.	ug/L	1.0	2.0	3/16/03	8:57	F.Gundi	8021B	9520
TPH (Gasoline Range)	1490	ug/L	50.0	1.0	3/15/03	17:20	D.Ramey	8015B	6351
TPH (Diesel Range)	422.	ug/L	50.	1.0	3/19/03	6:50	M.Jarrett	8015B/3510	7659
<hr/>									
VOLATILE ORGANICS									
Methyl-t-butyl ether	428.	ug/L	2.50	5.0	3/26/03	3:21	B.Herford	8260B	4090

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/14/03		M. Cauthen	3510

Surrogate	* Recovery	Target Range

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A37351
Sample ID: MW2
Project: 201013X
Page 2

Surrogate	* Recovery	Target Range
TPH Hi Surr., o-Terphenyl	98.	41. - 155.
BTEX/GRO Surr., a,a,a-TFT	79.	69. - 132.
VOA Surr 1,2-DCA-d4	105.	73. - 133.
VOA Surr Toluene-d8	97.	80. - 121.
VOA Surr, 4-BFB	99.	80. - 128.
VOA Surr, DBFM	108.	81. - 121.

LABORATORY COMMENTS:

- ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
= Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

ANALYTICAL REPORT

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

Lab Number: 03-A37352
Sample ID: MW3
Sample Type: Water
Site ID: 7-3006

Project: 201013X
Project Name: EXXONMOBIL 7-3006
Sampler: VICKI BURNS

Date Collected: 3/11/03
Time Collected: 16:34
Date Received: 3/13/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<hr/>									
ORGANIC PARAMETERS									
Benzene	71.9	ug/L	0.50	1.0	3/15/03	17:52	D.Ramey	8021B	6351
Ethylbenzene	1.1	ug/L	0.5	1.0	3/15/03	17:52	D.Ramey	8021B	6351
Toluene	0.8	ug/L	0.5	1.0	3/15/03	17:52	D.Ramey	8021B	6351
Xylenes (Total)	2.0	ug/L	0.5	1.0	3/15/03	17:52	D.Ramey	8021B	6351
Methyl-t-butylether	122.	ug/L	0.5	1.0	3/15/03	17:52	D.Ramey	8021B	6351
TPH (Gasoline Range)	887.	ug/L	50.0	1.0	3/15/03	17:52	D.Ramey	8015B	6351
TPH (Diesel Range)	1190	ug/L	50.	1.0	3/19/03	7:10	M.Jarrett	8015B/3510	7659
<hr/>									
VOLATILE ORGANICS									
Methyl-t-butyl ether	119.	ug/L	0.50	1.0	3/26/03	3:50	B.Herford	8260B	4090

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/14/03		M. Cauthen	3510

Surrogate	% Recovery	Target Range

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A37352
Sample ID: MW3
Project: 201013X
Page 2

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	89.	41. - 155.
ETEX/GRO Surr., a,a,a-TFT	98.	69. - 132.
VOA Surr 1,2-DCA-d4	104.	73. - 133.
VOA Surr Toluene-d8	97.	80. - 121.
VOA Surr, 4-BFB	100.	80. - 128.
VOA Surr, DBFM	107.	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

Lab Number: 03-A37353
Sample ID: MW6
Sample Type: Water
Site ID: 7-3006

Project: 201013X
Project Name: EXXONMOBIL 7-3006
Sampler: VICKI BURNS

Date Collected: 3/11/03
Time Collected: 15:54
Date Received: 3/13/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	920.	ug/L	2.50	5.0	3/16/03	9:29	F.Gundi	8021B	9520
Ethylbenzene	36.0	ug/L	0.5	1.0	3/15/03	18:24	D.Ramey	8021B	6351
Toluene	3.2	ug/L	0.5	1.0	3/15/03	18:24	D.Ramey	8021B	6351
Xylenes (Total)	19.4	ug/L	0.5	1.0	3/15/03	18:24	D.Ramey	8021B	6351
Methyl-t-butylether	15.7	ug/L	0.5	1.0	3/15/03	18:24	D.Ramey	8021B	6351
TPH (Gasoline Range)	5120	ug/L	50.0	1.0	3/15/03	18:24	D.Ramey	8015B	6351
TPH (Diesel Range)	1100	ug/L	50.	1.0	3/19/03	7:30	M.Jarrett	8015B/3510	7659
VOLATILE ORGANICS									
Methyl-t-butyl ether	1.80	ug/L	0.50	1.0	3/26/03	9:02	B.Herford	8260B	4090

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/14/03		M. Cauthen	3510

Surrogate	% Recovery	Target Range

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A37353
Sample ID: MW6
Project: 201013X
Page 2

Surrogate	Recovery	Target Range
TPH Hi Surr., o-Terphenyl	110.	41. - 155.
BTEX/GRO Surr., a,a,a-TFT	86.	69. - 132.
VOA Surr 1,2-DCA-d4	102.	73. - 133.
VOA Surr Toluene-d8	96.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.
VOA Surr, DBFM	108.	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 FOSTER CREIGHTON DRIVE • NASHVILLE, TENNESSEE 37204
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ANALYTICAL REPORT

ERI - NORTHERN CA 3876
PAULA SIME
73 DIGITAL DRIVE, SUITE 100
NOVATO, CA 94949

Lab Number: 03-A37354
Sample ID: MW14
Sample Type: Water
Site ID: 7-3006

Project: 201013X
Project Name: EXXONMOBIL 7-3006
Sampler: VICKI BURNS

Date Collected: 3/11/03
Time Collected: 15:17
Date Received: 3/13/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<hr/>									
ORGANIC PARAMETERS									
Benzene	ND	ug/L	0.50	1.0	3/16/03	2:14	D.Ramey	8021B	6351
Ethylbenzene	ND	ug/L	0.5	1.0	3/16/03	2:14	D.Ramey	8021B	6351
Toluene	ND	ug/L	0.5	1.0	3/16/03	2:14	D.Ramey	8021B	6351
Xylenes (Total)	ND	ug/L	0.5	1.0	3/16/03	2:14	D.Ramey	8021B	6351
Methyl-t-butylether	ND	ug/L	0.5	1.0	3/16/03	2:14	D.Ramey	8021B	6351
TPH (Gasoline Range)	331.	ug/L	50.0	1.0	3/16/03	2:14	D.Ramey	8015B	6351
TPH (Diesel Range)	1020	ug/L	50.	1.0	3/19/03	7:50	M.Jarrett	8015B/3510	7659

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/14/03		M. Cauthen	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	88.	41. - 155.
BTEX/GRO Surr., a,a,a-TFT	102.	69. - 132.

Sample report continued . . .

2960 FOSTER CREIGHTON DRIVE • NASHVILLE, TENNESSEE 37204

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ANALYTICAL REPORT

Laboratory Number: 03-A37354

Sample ID: MW14

Project: 201013X

Page 2

LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

= Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA

Project Number: 201013X

Project Name: EXXONMOBIL 7-3006

Page: 1

Laboratory Receipt Date: 3/13/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C.	Batch	Sample
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

UST ANALYSIS

Benzene	mg/l	< 0.00050	0.0515	0.0500	103	74. - 129.	6351	03-A36058
Toluene	mg/l	< 0.0005	0.0498	0.0500	100	74. - 128.	6351	03-A36058
Ethylbenzene	mg/l	< 0.0005	0.0484	0.0500	97	75. - 128.	6351	03-A36058
Xylenes (Total)	mg/l	< 0.0005	0.0928	0.100	93	72. - 126.	6351	03-A36058
Methyl-t-butylether	mg/l	< 0.0005	0.0520	0.0500	104	64. - 133.	6351	03-A36058
TPH (Gasoline Range)	mg/l	< 0.0500	1.08	1.00	108	59. - 128.	6351	03-A36058
TPH (Diesel Range)	mg/l	< 0.050	0.569	1.00	57	23. - 120.	7659	blank
BTEX/GRO Surr., a,a,a-TFT	* Recovery				96	69 - 132	6351	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
-----	-----	-----	-----	-----	-----	-----

UST PARAMETERS

Benzene	mg/l	0.0515	0.0537	4.18	15.	6351
Toluene	mg/l	0.0498	0.0514	3.16	15.	6351
Ethylbenzene	mg/l	0.0484	0.0496	2.45	15.	6351
Xylenes (Total)	mg/l	0.0928	0.0963	3.70	19.	6351
Methyl-t-butylether	mg/l	0.0520	0.0576	10.22	23.	6351
TPH (Gasoline Range)	mg/l	1.08	0.942	13.65	22.	6351
TPH (Diesel Range)	mg/l	0.569	0.451	23.14#	20.	7659
BTEX/GRO Surr., a,a,a-TFT	* Recovery		95.			6351

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA**Project Number:** 201013X**Project Name:** EXXONMOBIL 7-3006**Page:** 2**Laboratory Receipt Date:** 3/13/03**Laboratory Control Data**

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
UST PARAMETERS						
Benzene	mg/l	0.100	0.0952	95	74 - 124	6351
Benzene	mg/l	0.100	0.0911	91	74 - 124	9520
Toluene	mg/l	0.100	0.0920	92	74 - 121	6351
Ethylbenzene	mg/l	0.100	0.0907	91	75 - 123	6351
Xylenes (Total)	mg/l	0.200	0.180	90	72 - 120	6351
Methyl-t-butylether	mg/l	0.100	0.0979	98	64 - 128	6351
Methyl-t-butylether	mg/l	0.100	0.0979	98	64 - 128	9520
TPH (Gasoline Range)	mg/l	1.00	1.08	108	61 - 139	6351
TPH (Diesel Range)	mg/l	1.00	0.747	75	42 - 115	7659
BTEX/GRO Surr., a,a,a-TFT	% Recovery			93	69 - 132	6351
BTEX/GRO Surr., a,a,a-TFT	% Recovery			96	69 - 132	9520

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Methyl-t-butyl ether	mg/l	0.0500	0.0537	107	66 - 137	4090
VOA Surr 1,2-DCA-d4	% Rec			106	73 - 133	4090
VOA Surr Toluene-d8	% Rec			98	80 - 121	4090
VOA Surr, 4-BFB	% Rec			98	80 - 128	4090
VOA Surr, DBFM	% Rec			110	81 - 121	4090

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA**Project Number:** 201013X**Project Name:** EXXONMOBIL 7-3006

Page: 3

Laboratory Receipt Date: 3/13/03

Blank Data

Analyte	Blank Value	Units	Q.C.	Batch	Analysis Date	Analysis Time
-----	-----	-----	-----	-----	-----	-----

Blank Data

Analyte	Blank Value	Units	Q.C.	Batch	Date Analyzed	Time Analyzed
-----	-----	-----	-----	-----	-----	-----

****UST PARAMETERS****

Benzene	< 0.00050	mg/l	6351	3/15/03	16:16
Benzene	< 0.00050	mg/l	9520	3/16/03	8:10
Toluene	< 0.0005	mg/l	6351	3/15/03	16:16
Ethylbenzene	< 0.0005	mg/l	6351	3/15/03	16:16
Xylenes (Total)	< 0.0005	mg/l	6351	3/15/03	16:16
Methyl-t-butylether	< 0.0005	mg/l	6351	3/15/03	16:16
Methyl-t-butylether	< 0.0005	mg/l	9520	3/16/03	8:10
TPH (Gasoline Range)	< 0.0500	mg/l	6351	3/15/03	16:16
TPH (Diesel Range)	< 0.050	mg/l	7659	3/20/03	13:49

Blank Data

Analyte	Blank Value	Units	Q.C.	Batch	Date Analyzed	Time Analyzed
-----	-----	-----	-----	-----	-----	-----

****UST PARAMETERS****

BTEX/GRO Surr., a,a,a-TFT	101.	% Recovery	6351	3/15/03	16:16
BTEX/GRO Surr., a,a,a-TFT	99.	% Recovery	9520	3/16/03	8:10

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA

Project Number: 201013X
Project Name: EXXONMOBIL 7-3006
Page: 4
Laboratory Receipt Date: 3/13/03

Blank Data

Analyte	Blank Value	Units	Q.C.	Batch	Analysis Date	Analysis Time
-----	-----	-----	-----	-----	-----	-----

Blank Data

Analyte	Blank Value	Units	Q.C.	Batch	Date Analyzed	Time Analyzed
-----	-----	-----	-----	-----	-----	-----

VOA PARAMETERS

Methyl-t-butyl ether	< 0.00014	mg/l	4090	3/25/03	13:29
VOA Surr 1,2-DCA-d4	106.	# Rec	4090	3/25/03	13:29
VOA Surr Toluene-d8	97.	# Rec	4090	3/25/03	13:29
VOA Surr, 4-BFB	99.	# Rec	4090	3/25/03	13:29
VOA Surr, DBFM	107.	# Rec	4090	3/25/03	13:29

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 323666

**TEST AMERICA ANALYTICAL
TESTING CORP.-NASHVILLE**



COOLER RECEIPT FORM

BC#

323666

Client:

Cooler Received On: 3/13/03 And Opened On: 3/13/03 By: Shawn Gracey

(Signature)

1. Temperature of Cooler when opened 27 Degrees Celsius
2. Were custody seals on outside of cooler?.....YES...NO...NA
- a. If yes, how many, what kind and where: 1 (Front/Back/Side)
3. Were custody seals on containers and intact?.....NO...YES...NA
4. Were the seals intact, signed, and dated correctly?.....YES...NO...NA
5. Were custody papers inside cooler?.....YES...NO...NA
6. Were custody papers properly filled out (ink,signed,etc)?.....YES...NO...NA
7. Did you sign the custody papers in the appropriate place?.....YES...NO...NA
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None
9. Was sufficient ice used (if appropriate)?.....YES...NO...NA
10. Did all bottles arrive in good condition(unbroken)?.....YES...NO...NA
11. Were all bottle labels complete (#,date,signed,pres,etc)?.....YES...NO...NA
12. Did all bottle labels and tags agree with custody papers?.....YES...NO...NA
13. Were correct bottles used for the analysis requested?.....YES...NO...NA
14. a. Were VOA vials received?.....YES...NO...NA
- b. Was there any observable head space present in any VOA vial?.....NO...YES...NA
15. Was sufficient amount of sample sent in each bottle?.....YES...NO...NA
16. Were correct preservatives used?.....YES...NO...NA
If not, record standard ID of preservative used here _____
17. Was residual chlorine present?.....NO...YES...NA
18. See attached for resolution of non-conformance:

Fed-Ex

UPS

Velocity

Airborne

Route

Off-street

Misc.

ATTACHMENT C

**ERI SOP-25: "HYDROCARBONS REMOVED
FROM A VADOSE WELL"**

**HYDROCARBONS REMOVED
FROM A VADOSE WELL
SOP 25**

Rev. JOG

Rev. 4/29/97

**POUNDS OF HYDROCARBON IN AN VAPOR
STREAM**

INPUT DATA:

- 1) Vapor flow rate acfm (usually by Pitot tube)
- 2) Vapor pressure at the flow measuring device (in inches of H₂O) (use {-} for vacuum)
- 3) Vapor temperature at the flow measuring device.
- 4) Hydrocarbon content of vapor (usually in mg/M³) for ppmv you need molecular weight.
- 5) Length of time (usually hours) over which flow rate occurred)

From periodic measurements, a calculation of total pounds of hydrocarbons removed from a well or from a system are calculated. The input data listed above are measured at a point in time. To calculate quantities removed, some assumptions must be made about what was happening between measurements. The following assumptions will be used for the sake of consistency:

ASSUMPTIONS:

- 1) Vapor flow for the period equals the average of the initial and final reading for the period.
- 2) Pressure and temperature for the entire period will be the final reading.
- 3) Hydrocarbon concentration for the period equals the average of the initial and final reading.
- 4) The hours of operation can be taken from an hour meter, an electric meter or will be assumed to be equal to the time between measurements.
- 5) If the unit is found down - try to determine how many hours it did operate and use the data taken for the previous period to make the calculations. Restart the unit and then take data to start the next period.

SAMPLE DATA AND CALCULATIONS

Date	Time	Temp deg F	Press in H ₂ O	HC conc mg/M ³	Vapor flow acf m	Calc. lb. rem.
1/6/95	11:00	70	-46	2000	120	
1/7/95	13:00	55	-50	1350	90	
1/8/95	10:00	80	-13	750	100	7.4

Calculate the pounds of hydrocarbon removed from the system during the basis period from 13:00 (1:00 pm) on the 7th to 10 am on the 8th. Pressure and temperature of the measurements (at the flow meter) must be corrected to the P and T used to report the HC concentration (which are P = 1 atm and T = 70 deg F). 1 atm = 14.7 psia, 760 mm Hg, or 407 in H₂O. T_{abs} = 460 + T deg F

$$\text{Hours of operation} = 21, T = 80, P = -13, \quad HC = (1350+750)/2 = 1050 \text{ mg/M}^3, \text{ Flow} = 95$$

$$21 \times 60 \times 95 \times \frac{(460+70)}{(460+80)} \times \frac{(407-13)}{407} \times \frac{28.3}{1000} \times \frac{1050}{1000} \times \frac{1}{454} = 7.4 \text{ lb}$$

$$\begin{array}{ccccccccc} \text{hr} & \text{min} & \text{cu ft} & & M^3 & g & \text{lb} & \text{lb} \\ \hline \text{-----} & \text{-----} & \text{-----} & \times & \text{-----} & \text{-----} & \text{-----} & \text{-----} \\ \text{basis} & \text{hr} & \text{min} & \times & T_{\text{corr}} & \times & P_{\text{corr}} & \text{basis} \\ & & & & & & & \end{array}$$

$$21 \times 60 \times 95 \times 0.98 \times 0.97 \times 0.0283 \times 1.050 \times 1/454 = 7.4 \text{ lb.}$$

cumulative lbs. (the running total) = the sum of all the previous periods.

Note: If results are given in ppm, an assumption about the molecular weight of the hydrocarbon must be made to get mg/M³. ppmv x molecular wt. /24.1 = mg/M³. (Use 102 for gasoline)