

**ExxonMobil**  
**Refining & Supply Company**  
Global Remediation

**Gene N. Ortega**  
Territory Manager  
Global Remediation – US Retail

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

**ExxonMobil**  
*Refining & Supply*

May 17, 2002

Re 491

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

MAY 28 2002


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

Dear Mr. Chan:

Attached for your review and comment is a letter report entitled *Annual Groundwater Monitoring and Remediation Status Report, First Quarter 2002*, dated May 8, 2002, for the above-referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and presents the results of 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,

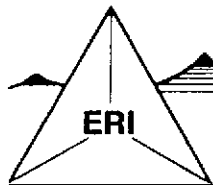


Gene N. Ortega  
Territory Manager

Attachment: ERI's Annual Groundwater Monitoring and Sampling Report, First Quarter 2002, dated May 8, 2002.

cc: w/ attachment  
Mr. Stephen Hill, California Regional Water Quality Control Board, San Francisco Bay Region  
Mr. Victor Chu, C/O Law Offices of Gerald Lam

w/o attachment  
Ms. Paula Sime, Environmental Resolutions, Inc.



**ENVIRONMENTAL RESOLUTIONS, INC.**

May 8, 2002  
ERI 201011.R21

MAY 8 2002

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

Subject: Annual Groundwater Monitoring and Remediation Status Report, First Quarter 2002,  
Former Exxon Service Station 7-3006, 720 High Street, Oakland, California.

Mr. Ortega:

At the request of ExxonMobil Oil Corporation (formerly Exxon Company, U.S.A.) (ExxonMobil), Environmental Resolutions, Inc. (ERI) performed the first quarter 2002 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, 2002, 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).

Toluene was detected in groundwater samples at a maximum concentration of 25.0 micrograms per liter ( $\mu\text{g/L}$ ) during this sampling event. Additionally, toluene was detected in the bailer blank at a concentration of 0.60  $\mu\text{g/L}$ , and in the laboratory method blank at a concentration of 0.60  $\mu\text{g/L}$ , rendering toluene detections in the groundwater samples questionable.

## 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 and ceased operation of the AS/SVE system in July 1999. 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. 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	Pounds of Hydrocarbons Removed	Gallons of Hydrocarbons Removed
TO DATE (1/95 to 7/99)	5,144	845

### 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 extracted from the interceptor trench beneath the site. ERI ceased operation of the GRS in December 1998. Pneumatic pumps installed in extraction wells RW2 and RW5 recovered groundwater from the interceptor trench. Subsurface and aboveground collection piping were used to transfer extracted groundwater to a holding tank. A transfer pump and polyvinyl chloride (PVC) piping were used to direct the water stream from the holding tank through water filters, an air stripper, and subsequently through liquid-phase granular activated carbon (GAC) canisters connected in series. The treated groundwater was discharged to the sanitary sewer under a permit issued by East Bay Municipal Utilities District (EBMUD). 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	Pounds of Hydrocarbons Removed	Gallons of Hydrocarbons Removed
TO DATE (1/95 to 12/98)	10	2

### Biosparge System

ERI is currently operating a biosparge system, using an air compressor to inject air into the on-site interceptor trench, to enhance natural attenuation at the site.

## **SUMMARY AND STATUS OF INVESTIGATION**

ExxonMobil is currently pursuing site closure. Operation of the biosparge system and annual groundwater monitoring and sampling will continue until closure is granted.

## **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:

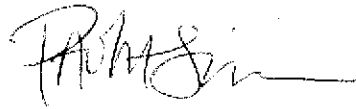
Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

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

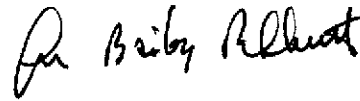
Mr. Victor Chu  
c/o Law Offices of Gerard Lam  
1407 Webster Street #216  
Oakland, California 94612

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

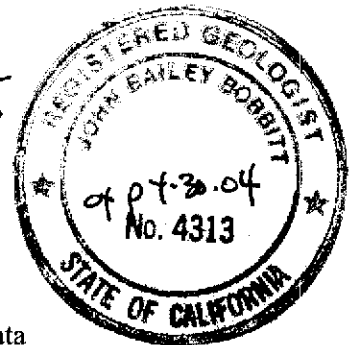
Sincerely,  
Environmental Resolutions, Inc.



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 15)

Well ID # (TOC)	Sampling Date	SUBJ <.....feet.....>	DTW	Elev.	TPHd <.....>	TPHg <.....>	MTBE <.....>	B <.....>	T <.....>	E <.....>	X <.....>	VOCs <.....>	EHCss <.....>	TOG <.....>
ug/l														
MW1	1/20/94	NLPH	9.25	3.62	---	---	---	---	---	---	---	---	---	---
(12.87)	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)	Nov-01	Well surveyed in compliance with AB 2886 requirements.												
n	3/11/02	NLPH	5.39	7.40	<50.0	116	110/160 k	1.10	<0.50	<0.50	<0.50	---	---	---

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 2 of 15)

Well ID #	Sampling	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
(TOC)	Date	<.....>	feet.....>	<.....>	ug/l.....>									
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)	Nov-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	---	---	---

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 3 of 15)

Well ID # (TOC)	Sampling Date	SUBJ <.....>	DTW feet	Elev. >	TPHd <.....>	TPHg <.....>	MTBE <.....>	B <.....>	T <.....>	E <.....>	X <.....>	VOCs <.....>	EHCs <.....>	TOG >
MW3	1/20/94	Sheen	8.24	4.68	---	---	---	---	---	---	---	---	---	---
(12.92)	02/02-03/94	Sheen	7.68	5.24	---	---	---	---	---	---	---	---	---	---
	3/10/94	Sheen	7.24	5.68	---	---	---	---	---	---	---	---	---	---
	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	<5.0	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)	Nov-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	---	---	---





TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 5 of 15)

Well ID # (TOC)	Sampling Date	SUBJ <.....feet.....>	DTW	Elev.	TPHd <.....ug/l.....>	TPHg	MTBE	B	T	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	Nov-01 3/11/02	Well surveyed in compliance with AB 2886 requirements. NLPH	4.55	9.68	1,460	7,660	45.0/<5.0 k	2,200	25.0 m	410	285	---	---	---





TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
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Well ID # (TOC)	Sampling Date	SUBJ <.....>	DTW feet	Elev.	TPHd <.....>	TPHg <.....>	MTBE <.....>	B <.....>	T <.....>	E <.....>	X <.....>	VOCs <.....>	EHCss <.....>	TOG <.....>
MW9	1/20/94	---	---	---	---	---	---	---	---	---	---	---	---	---
(14.64)	02/02-03/94	---	---	---	---	---	---	---	---	---	---	---	---	---
	3/10/94	NLPH	6.90	7.74	---	---	---	---	---	---	---	---	---	---
	4/22/94	NLPH	7.38	7.26	---	---	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	6.96	7.68	---	---	---	---	---	---	---	---	---	---
	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	---	<50	---
	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												



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
MW11	1/20/94	NLPH	9.61	3.94	---	---	---	---	---	---	---	---	---	---
(13.55)	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	---	---	---
	9/18/95	NLPH	10.12	3.43	56	<50	32	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/1/95	NLPH	10.75	2.80	170	<50	35	<0.5	<0.5	<0.5	<0.5	---	---	---
	2/14/96	NLPH	8.03	5.52	76	<50	37	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/19/96	NLPH	7.85	5.70	92	<50	33	<0.5	<0.5	<0.5	<0.5	---	<50	---
	9/24/96	NLPH	10.45	3.10	58	<50	40	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/11/96	NLPH	9.02	4.53	110	<50	10	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/19/97	NLPH	9.16	4.39	100	<50	6.9	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/4/97	NLPH	9.91	3.64	<50	<50	5.6	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/2/97	NLPH	10.25	3.30	150	<50	4.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/2/97	NLPH	9.33	4.22	70	<50	5.8	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/24/98	NLPH	6.77	6.78	<50	<50	4.1	<0.5	<0.5	<0.5	<0.5	---	---	---
	6/23/98	NLPH	8.99	4.56	70	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	9/29/98	NLPH	9.89	3.66	76	<50	7.7	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/30/98	NLPH	9.17	4.38	71	<50	3.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	3/24/99	NLPH	5.79	7.76	58.2	<50	4.51	<0.5	1.20	<0.5	<0.5	---	---	---
	6/22/99	---	---	---	---	---	---	---	---	---	---	---	---	---
	9/29/99	NLPH	9.14	4.41	---	---	---	---	---	---	---	---	---	---
	12/21/99	NLPH	9.01	4.54	---	---	---	---	---	---	---	---	---	---
	3/21/00	NLPH	5.68	7.87	---	---	---	---	---	---	---	---	---	---
	12/21/00	Well destroyed												







**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 #	Sampling Date	SUBJ	DTW	Elev.	TPHd	TPHg	MTBE	B	T	E	X	VOCs	EHCss	TOG
(TOC)	Date	<.....feet.....>			<.....ug/l.....>									
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	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	---	---	---
	3/24/98	NLPH	8.52	6.66	1,300	650	5.7	1.7	<1.0	<1.0	2.3	---	---	---
	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)	Nov-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	---	---	---

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
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Well ID # (TOC)	Sampling Date	SUBJ <.....>	DTW feet.....>	Elev. <.....>	TPHd <.....>	TPHg <.....>	MTBE <.....>	B <.....>	T <.....>	E <.....>	X <.....>	VOCs <.....>	EHCss <.....>	TOG <.....>
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	---	---	---
	6/23/98	NLPH	7.79	5.94	570	2,300	<25	440	<5.0	30	<5.0	---	---	---
	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												

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
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Notes:

SUBJ	=	Results of subjective evaluation, liquid-phase hydrocarbon thickness (HT) 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.
EHCs	=	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 and suspected to be methyl tertiary butyl ether was present.
b	=	Sample containers for TPPHg, 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 bailer blank; result is suspect.
n	=	Higher reported TPH concentrations in groundwater are due in part 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  
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DATE	SAMPLE ID	TEMP F	Field Measurements			Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds
			PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period 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				
	A-EFF						< 10	< 0.1				< 0.0014
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  
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds	
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds		Per Period Pounds
04/19/95	A-EFF						< 10	< 0.1				< 0.0016
	A-INF	70		109			210	7.6	13.65	161.0	0.627	< 5.71
	A-INT						47	12				
	A-EFF						< 10	< 0.1				< 0.0010
04/20/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of Carbon											
04/26/95	A-INF	70		84			400	9.1	18.49	179.5	0.640	< 6.35
	A-INT						< 10	< 0.1				
	A-EFF						< 10	< 0.1				< 0.0008
05/01/95	Installed third 500 lb canister in series											
05/01/95	A-INF	70		168			Insufficient sample for analyses					
	A-INT						< 10	< 0.1				
	A-EFF						< 10	< 0.1				< 0.0015
05/15/95		70		84								
05/19/95	A-INF	70		105			140	3.5	52.68	232.2	1.229	< 7.58
	A-INT						< 10	< 0.1				
	A-EFF						< 10	< 0.1				< 0.0009
06/06/95	A-INF	70		178			36	0.22	20.12	252.3	0.535	< 8.11
	A-INT						< 10	0.1				
	A-EFF						< 10	< 0.1				< 0.0016
06/08/95		70		164								
06/23/95	System Down - hydrocarbon vapor detector shut down											
06/27/95	Replaced one 500 lb carbon canister - restarted system											
06/27/95	A-INF	70		164			440	4.9	62.10	314.4	0.668	< 8.78
	A-INT						< 10	< 0.1				
	A-EFF						< 10	< 0.1				< 0.0015
07/03/95	A-EFF						< 10	< 0.1				
07/10/95	Replaced one 500 lb carbon canister											
07/10/95	A-INF	70		168			230	2.8	64.89	379.3	0.746	< 9.53
	A-INT						120	2.8				
	A-EFF						< 10	< 0.1				< 0.0015
07/19/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of Carbon											
07/25/95	Collect samples and shut system down pending results											
07/25/95	A-INF	70		205			67	< 0.5	37.29	416.6	< 0.414	< 9.94
	A-INT						< 100	< 1				
	A-EFF						< 10	< 0.1				< 0.0018
7/28/95	System down - could not restart											
7/31/95	Restart system											
07/31/95	A-INF	70		164			500	14	18.78	435.4	< 0.480	< 10.42
	A-INT						12	< 0.1				
	A-EFF						< 10	< 0.1				< 0.0015
08/09/95	Replaced one 500 lb carbon canister											
08/15/95	System down - Remove hydrocarbon vapor detector and send to manufacture for calibration											
09/11/95	Replaced hydrocarbon vapor detector - Restarted system											
09/13/95	System Down - hydrocarbon vapor detector shut down											

TABLE 2  
 CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR  
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DATE	SAMPLE ID	Field Measurements					Laboratory Analytical Results		TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	
09/18/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
09/18/95	A-INF	70		164			980	13	196.08	631.5	3.577	< 14.00	
	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												
12/18/95	A-INF	70		151	18.5	0.5	84		12.03	1,533.8			
	A-INT						4600	50	469.45	2,003.3	10.105	< 41.98	
	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, #3 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						< 10	< 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						< 10	< 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						< 10	< 0.1					< 0.0013
03/25/96	System shutdown to install Thermtch VAC-25 thermal/catalytic oxidizer												
08/05/96	Start-up system utilizing Thermtch 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  
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results			TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds	
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period Pounds		Cumulative Pounds
09/06/96	A-INF			176			150	< 0.1	21.73	2,642.4	< 0.678	< 42.77	
	A-EFF						< 10	< 0.1					< 0.0016
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					< 0.0016
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					< 0.0002
02/06/97	A-INF			176			86	2.2	2.84	3,153.9	0.069	< 43.08	
	A-EFF						< 10	< 0.10					< 0.0016
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					< 0.0016
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					< 0.0020
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					< 0.0017
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					< 0.0016
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					< 0.0015
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						



TABLE 2  
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results			TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF ppmv	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period 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					
11/5/97				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						

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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results			TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period 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.											
07/27/98	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											
08/05/98	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.											
09/03/98	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 shutdown 14 days											
09/22/98					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
	System down upon arrival due to propane tank running empty. System down for 115.5 hours.											
10/15/98				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  
 Oakland, California  
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DATE	SAMPLE ID	Field Measurements			Laboratory Analytical Results				TPHg Removal		Benzene Removal		Benzene Emitted per Day pounds	
		TEMP F	PRESS in H <sub>2</sub> O	FLOW cfm	INF ppmv	EFF	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative 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 <sub>2</sub> O	FLOW cfm	INF ppmv	EFF ppmv	TPHg mg/m <sup>3</sup>	Benzene mg/m <sup>3</sup>	Per Period Pounds	Cumulative Pounds	Per Period Pounds	Cumulative Pounds	Emitted per Day pounds
05/25/99	A-EFF			167.2	0	0							
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							
06/29/99	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.	HC	= Hydrocarbons measured as total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015 (modified).
A-INT	= Air intermediate.	ug/l	= Micrograms per liter.
A-EFF	= Air effluent.	mg/cuM	= Milligrams per cubic meter.
NA	= Not analyzed.	lb	= Pounds.
cu. ft/min	= Cubic feet per minute.	acfm	= Actual cubic feet per minute.
ppmv	= Parts per million by volume.	<	= 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 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
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  
 Former Exxon Service Station 7-3006  
 720 High Street  
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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-EFF	< 50	< 0.5	< 0.5	< 0.5	< 0.5	0.008				
05/09/95	83,750	72	Replaced two 55-gallon liquid phase carbon canisters (leaks)										
05/26/95	97,840	829	W-INF	680	210	16	5.8	28	NA	0.1366	0.6362	0.0251	0.1063
			W-INT	< 50	0.94	< 0.5	< 0.5	< 0.5	NA				
			W-EFF	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
06/06/95	Added two 55-gallon liquid phase carbon canisters in series												
06/06/95	Replaced one 55-gallon liquid phase carbon canister (leak)												
06/08/95			W-INF	2800	660	300	54	340	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-EFF1	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
			W-EFF2	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
06/27/95	125,010	849	W-INF1	4500	1700	99	35	220	NA	0.5871	1.2233	0.2165	0.3228
			W-INF2	810	420	20	7.9	58	NA				
			W-INT1	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
			W-INT2	< 50	0.53	< 0.5	< 0.5	< 0.5	NA				
			W-EFF	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
			W-EFF2	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA				
07/10/95	131,370	489	Replaced two 55-gallon liquid phase carbon canisters										
07/11/95	131,690	320	W-INF1	1600	530	15	< 10	59	NA	0.1700	1.3933	0.0621	0.3850
			W-INF2	630	270	7.0	< 5.0	25	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	0.041				
Additional Analyses: ND Purgeable Volatile Organics, ND Priority Pollutant Metals, except for 12 ppb nickel and 8.0 ppb zinc													
07/25/95	141,550	704	System down pending results of air samples										
7/28/95	System Down - Could not Restart												
7/31/95	Restart System												
08/15/95	System Down - Remove hydrocarbon vapor detector and send to manufacturer for calibration												
09/11/95	Replaced hydrocarbon vapor detector - Restarted 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	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
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-BFF	<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 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
			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**

Former Exxon Service Station 7-3006

720 High Street  
Oakland, California

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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
			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				
9/20/96	260,063	88											
9/24/96	262,422	590											
10/3/96	263,150	81											
10/14/96	263,232	7	System down, air compressor, unable to obtain samples. Notified EBMUD										
01/02/97	263,232		Replaced compressor, restarted unit										
01/31/97	290,045	925	W-INF	5,500	1,700	580	120	740	NA	0.6208	4.1095	0.1902	0.9475
			W-INT1	190	39	12	2.1	13	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				
02/06/97	313,800	3,959	W-INF1	5,100	910	160	45	910	NA	1.0504	5.1600	0.2586	1.2061
			W-INT2	570	62	12	2.9	86	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				
2/14/97	323,820	1,253											
2/18/97	327,856	1,009											
2/28/97	335,480	762											
03/05/97	340,178	940	W-INF1	980	100	5.0	2.1	54	NA	0.6690	5.8290	0.1111	1.3172
			W-INF2	<50	0.81	<0.5	<0.5	<0.5	NA				
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
3/12/97	344,977	686											
3/19/97	346,176	171											
3/26/97	346,927	107											
04/02/97	351,729	686	W-INF	430	120	1.8	5.3	19	NA	0.0679	5.8969	0.0106	1.3278
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
4/9/97	356,009	611											
4/16/97	358,700	384											
04/23/97	System down on arrival												

**TABLE 3**  
**OPERATION AND PERFORMANCE DATA FOR**  
**GROUNDWATER REMEDIATION SYSTEM**

Former Exxon Service Station 7-3006

720 High Street

Oakland, California

(Page 6 of 11)

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
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-BFF	<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

Oakland, California

(Page 7 of 11)

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
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-BFF	<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	780	66	40	580	NA	0.4081	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

Oakland, California

(Page 9 of 11)

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
07/14/98	649,980	697	W-INF1	2700	480	<25	92	270	NA	0.9046	10.1015	0.1556	2.5331
			W-INF2	NS	NS	NS	NS	NS	NS				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
07/14/98	649,980	System down on departure											
07/16/98	System run manually for the East Bay Municipal Utility District Inspection, effluent split samples taken. System still down.												
07/16/98			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
07/21/98	650,180	29											
07/27/98	655,260	847											
07/27/98	System shutdown until propane can be refilled to restart the Thermtch Vac 25.												
08/05/98	Restarted system												
08/05/98	655,260	0	W-INF1	510	240	4.7	3.5	27	NA	0.0707	10.1722	0.0159	2.5490
			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				
08/11/98	657,650	398											
08/18/98	662,740	727											
08/25/98	665,330	370											
09/03/98	System was down upon arrival due to low propane. System was restarted.												
09/03/98	667,700	263	W-INF1	400	110	<2.5	<2.5	9.4	NA	0.0472	10.2194	0.0182	2.5671
			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				
09/08/98	System down upon arrival due to a failed sump pump. System was restarted.												
09/08/98	669,720	404											
09/22/98	673,870	296											
09/29/98	673,940	10											
10/06/98	676,292	336	W-INF1	990	300	<5.0	7.2	24	NA	0.0498	10.2692	0.0147	2.5818
			W-INF2	<50	0.6	<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				
10/15/98	679,330	336	System down until carbon change out.										

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)

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
10/20/98	679,330	0	System down until carbon change out.										
10/27/98	679,520		W-INF1	1600	510	< 10	10	62	NA	0.0349	10.3041	0.0109	2.5927
			W-INF2	< 50	4.6	< 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	0.19				
11/04/98	682,780	407	System shutdown on departure due to problems with the feed pump.										
11/12/98	682,810		System restarted upon departure of site.										
11/17/98			Fix problem with float in water stripper. System restarted on departure.										
11/24/98			System running on departure.										
11/24/98	687,980	430	W-INF1	420	100	3.8	2.7	3.3	NA	0.0713	10.3754	0.0215	2.6143
			W-INF2	78	3.3	8.6	< 0.5	0.51	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				
11/25/98			Inspection by EBMUD.										
11/25/98	688,262	646	W-EFF	< 50	< .50	< .50	< .50	< .50	NA				
12/02/98	689,150	52	System down upon arrival. System restarted on departure.										
12/09/98	695,800		W-INF1	1500	480	19	49	120	NA	0.0626	10.4380	0.0189	2.6332
			W-INF2	310	95	3.1	3.9	32	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				
12/16/98	695,800		System down upon arrival. System restarted on departure.										
12/23/98	702,994		System down on departure, pending a permit renewal from EBMUD.										
01/06/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
01/12/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
01/18/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
01/26/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
02/04/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
02/12/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
03/18/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
03/30/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
04/09/99	702,994		System down on departure, pending a permit renewal from EBMUD.										
04/16/99	702,994		System down on departure, pending a permit renewal from EBMUD.										

**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 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
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.

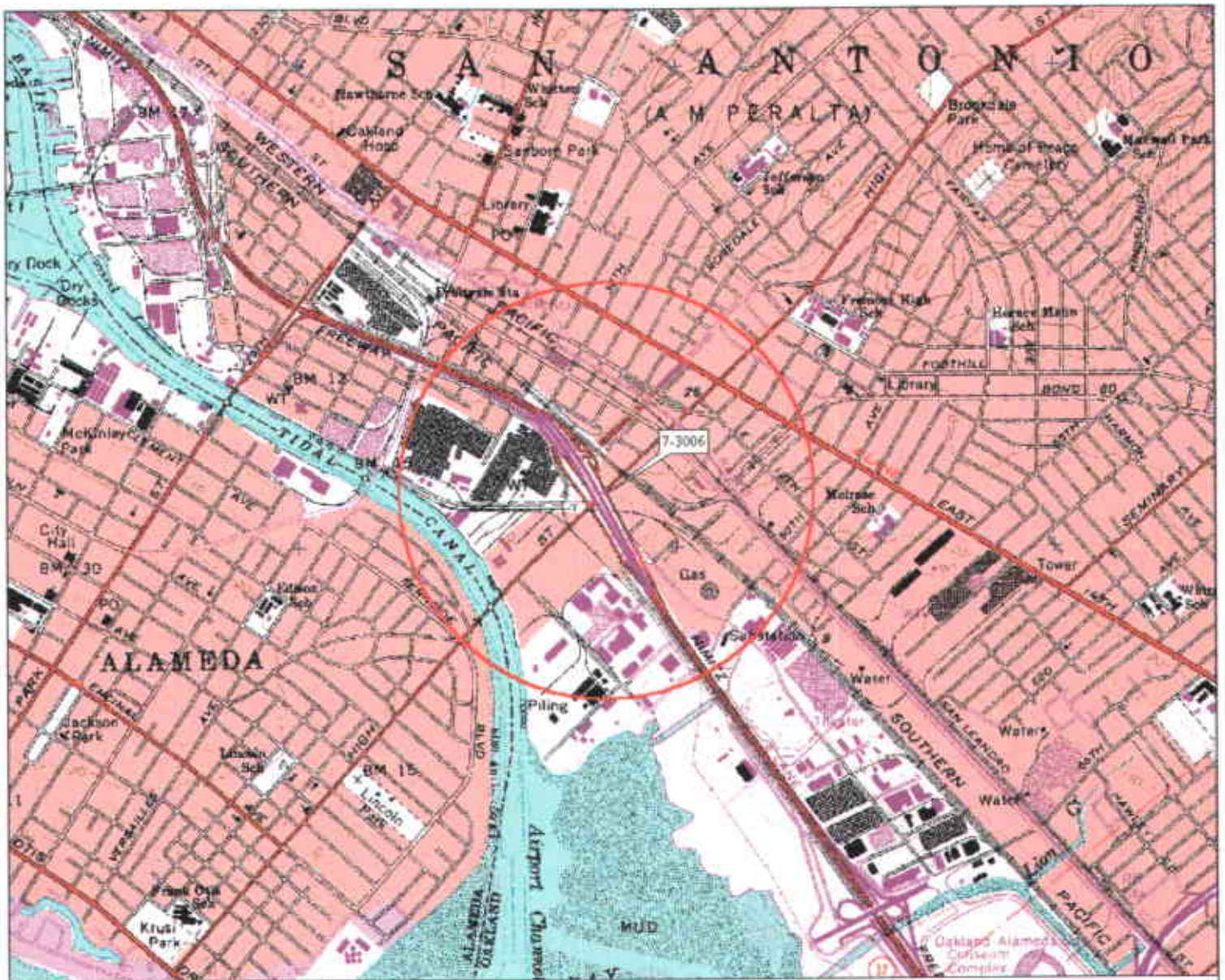
ug/L = Micrograms per liter.

gal = Gallons.

mg/L = Milligrams per liter.

NA = Not applicable.

NS = Not sampled.



3-D TopoQuads Copyright © 1999 DeLorme Vermont, ME 05406 Source Data: NCEC 1:50,000 Scale 1:10,000 Detail 1:4,000 Datum: WGS84

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, 2002

- 19,100 Total Petroleum Hydrocarbons as diesel
- <2,500 Total Petroleum Hydrocarbons as gasoline
- 130/175k Methyl Tertiary Butyl Ether
- 165 Benzene
- <25.0 Toluene
- <25.0 Ethylbenzene
- <25.0 Total Xylenes

< Less Than the Stated Laboratory Detection Limit

ug/L Micrograms per Liter

k MTBE analyzed using EPA Method 8260B

m Analyte detected in trip blank and/or bailer blank; result is suspect

293  
 <1,000  
 82.0/30k  
 <10.0  
 <10.0  
 <10.0  
 <10.0

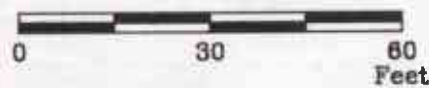
19,100  
 <2,500  
 130/175k  
 165  
 <25.0  
 <25.0  
 <25.0

<50.0  
 118  
 110/160k  
 1.10  
 <0.50  
 <0.50  
 <0.50

954  
 148  
 1.40/0.6k  
 <0.50  
 <0.50  
 0.90  
 5.70

1,460  
 7,660  
 45.0/<5.0k  
 2,200  
 25.0m  
 410  
 285

APPROXIMATE SCALE



FN 20100004



**GENERALIZED SITE PLAN**

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

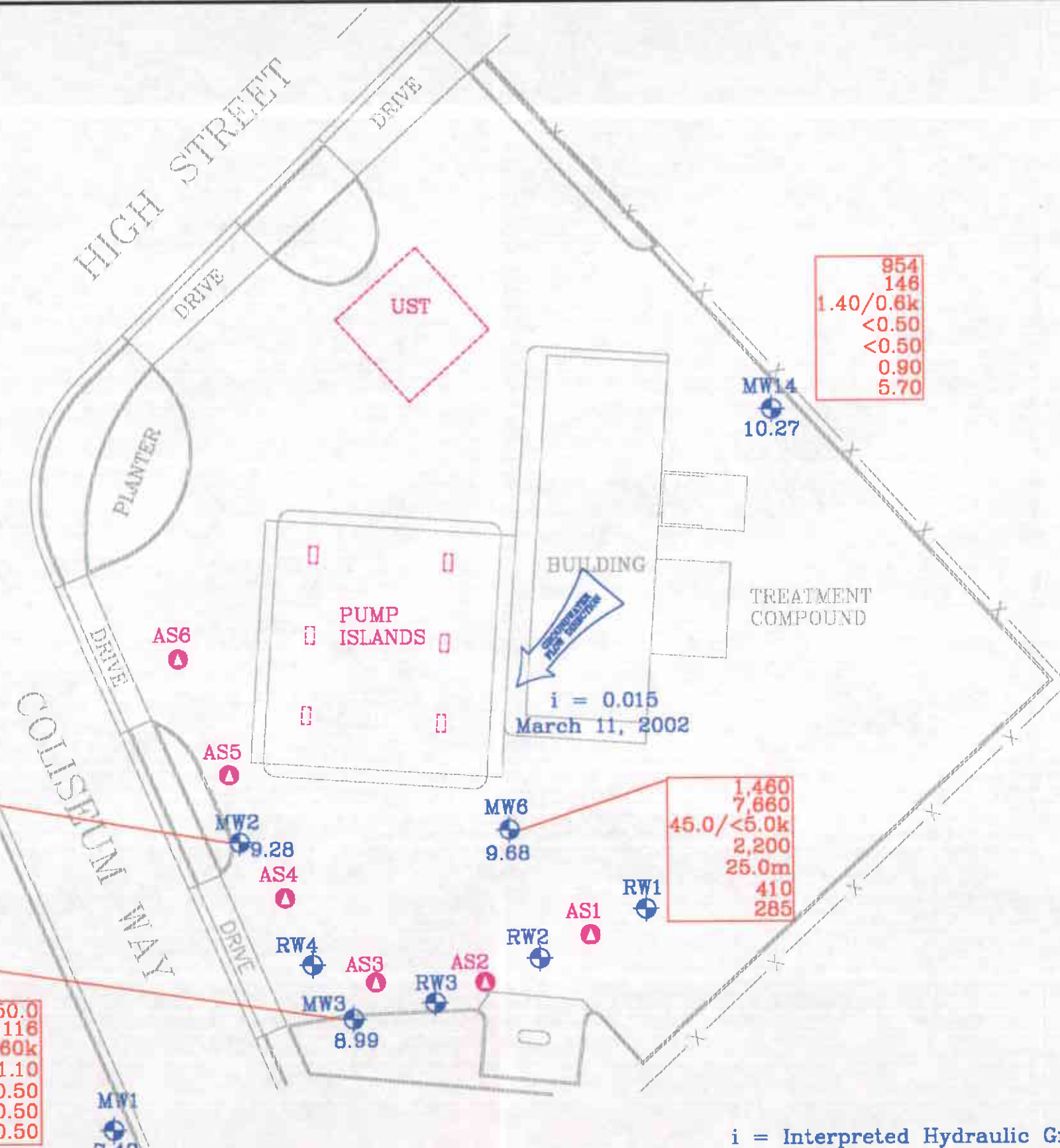
**EXPLANATION**

- MW14 Groundwater Monitoring Well
- 10.27 Groundwater elevation in feet; datum is mean sea level
- AS6 Air Sparging/Vapor Extraction Well

SOURCE:  
 Modified from a map provided by Morrow Surveying

PROJECT NO.  
 2010

PLATE  
 2



i = Interpreted Hydraulic Gradient

**ATTACHMENT A**

**GROUNDWATER SAMPLING PROTOCOL**

**ENVIRONMENTAL RESOLUTIONS, INC.  
GROUNDWATER SAMPLING PROTOCOL**

The static water level and separate-phase product level, if present, in each well that contained water and/or separate-phase product are measured with a MMC Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater flow direction and gradient, depth to water (DTW) levels are subtracted from wellhead elevations.

Water samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable separate-phase hydrocarbon product or sheen. Any separate-phase product is removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until stabilization of the temperature, pH, and conductivity are obtained, or until a minimum of three well casing volumes are purged. 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:

One well casing volume in gallons =  $r^2h(7.48)$  where:

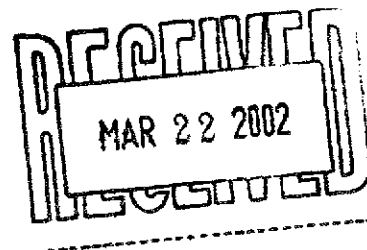
- r = radius of the well casing in feet.
- h = column of water in the well in feet (depth to bottom - depth to water)
- 7.48 = conversion constant from cubic feet to gallons
- = ratio of the circumference of a circle to its diameter

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

After purging, each well was allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover to at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples were collected with a new, disposable Teflon® bailer, and were carefully poured into 40-milliliter (ml) glass vials, which are filled so as to produce a positive meniscus. Each vial is preserved with hydrochloric acid, 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-certified laboratory.

**ATTACHMENT B**

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



3/21/02

ERI - NORTHERN CA 3876  
Paula Sime  
73 DIGITAL DRIVE, SUITE 100  
NOVATO, CA 94949

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project 201013X EXXON 7-3006. The Laboratory Project number is 275874. An executed copy of the chain of custody and the sample receipt form are also included as an addendum to this report.

Page 1

Sample Identification	Lab Number	Collection Date
MW1	02-A40503	3/11/02
MW2	02-A40504	3/11/02
MW3	02-A40505	3/11/02
MW6	02-A40506	3/11/02
MW14	02-A40507	3/11/02
BB	02-A40508	3/11/02

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:

Report Date: 3/20/02

Paul E. Lane, Jr., Lab Director  
Michael H. Dunn, M.S., Technical Director  
Johnny A. Mitchell, Dir. Technical Serv.  
Eric S. Smith, Assistant Technical Director  
Jennifer P. Flynn, Technical Services

Gail A. Lage, Technical Serv.  
Glenn L. Norton, Technical Serv.  
Kelly S. Comstock, Technical Serv.  
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 01168CA

## ANALYTICAL REPORT

ERI - NORTHERN CA 3876  
 Paula Sime  
 73 DIGITAL DRIVE, SUITE 100  
 NOVATO, CA 94949

Lab Number: 02-A40503  
 Sample ID: MW1  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 15:45  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report	Dil	Analysis	Analysis	Analyst	Method	Batch
			Limit	Factor	Date	Time			
*ORGANIC PARAMETERS*									
Benzene	1.10	ug/l	0.50	1	3/20/02	1:34	A. Cobbs	8021B	1067
Ethylbenzene	ND	ug/l	0.50	1	3/20/02	1:34	A. Cobbs	8021B	1067
Toluene	ND	ug/l	0.50	1	3/20/02	1:34	A. Cobbs	8021B	1067
Xylenes (Total)	ND	ug/l	0.50	1	3/20/02	1:34	A. Cobbs	8021B	1067
Methyl-t-butylether	110.	ug/l	0.50	1	3/20/02	1:34	A. Cobbs	8021B	1067
TPH (Gasoline Range)	116.	ug/l	50.0	1	3/20/02	1:34	A. Cobbs	8015B/5030	1067
TPH (Diesel Range)	ND	ug/l	50.0	1	3/19/02	3:04	K. Phelps	8015B/3510	1710

MTBE result confirmed by GC/MS method 8260 @ 160 ug/l

### Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	3/18/02		D. Harris	3510

Surrogate	% Recovery	Target Range
surr-o-Terphenyl	79.	50. - 150.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 02-A40503  
Sample ID: MW1  
Project: 201013X  
Page 2

---

Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	101.	67. - 135.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

# - 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: 02-A40504  
 Sample ID: MW2  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 15:55  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	ND	ug/l	10.0	20	3/20/02	2:05	A. Cobbs	8021B	1067
Ethylbenzene	ND	ug/l	10.0	20	3/20/02	2:05	A. Cobbs	8021B	1067
Toluene	ND	ug/l	10.0	20	3/20/02	2:05	A. Cobbs	8021B	1067
Xylenes (Total)	ND	ug/l	10.0	20	3/20/02	2:05	A. Cobbs	8021B	1067
Methyl-t-butylether	62.0	ug/l	10.0	20	3/20/02	2:05	A. Cobbs	8021B	1067
TPH (Gasoline Range)	ND	ug/l	1000	20	3/20/02	2:05	A. Cobbs	8015B/5030	1067
TPH (Diesel Range)	293.	ug/l	50.0	1	3/19/02	3:25	K.Phelps	8015B/3510	1710

MTBE result confirmed by GC/MS method 8260 @ 30 ug/l

### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/18/02		D. Harris	3510

Surrogate	% Recovery	Target Range
surr-o-Terphenyl	78.	50. - 150.

Sample report continued . . .



## ANALYTICAL REPORT

Laboratory Number: 02-A40504  
Sample ID: MW2  
Project: 201013X  
Page 2

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Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	103.	67. - 135.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

# - 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: 02-A40505  
 Sample ID: MW3  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 16:10  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	165.	ug/l	25.0	50	3/20/02	2:34	A. Cobbs	8021B	1067
Ethylbenzene	ND	ug/l	25.0	50	3/20/02	2:34	A. Cobbs	8021B	1067
Toluene	ND	ug/l	25.0	50	3/20/02	2:34	A. Cobbs	8021B	1067
Xylenes (Total)	ND	ug/l	25.0	50	3/20/02	2:34	A. Cobbs	8021B	1067
Methyl-t-butylether	130.	ug/l	25.0	50	3/20/02	2:34	A. Cobbs	8021B	1067
TPH (Gasoline Range)	ND	ug/l	2500	50	3/20/02	2:34	A. Cobbs	8015B/5030	1067
TPH (Diesel Range)	19100	ug/l	250.	1	3/19/02	3:46	K.Phelps	8015B/3510	1710

MTBE result confirmed by GC/MS method 8260 @ 175 ug/l

### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	5.00 ml	3/18/02		D. Harris	3510

Surrogate	% Recovery	Target Range
surr-o-Terphenyl	85.	50. - 150.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 02-A40505  
Sample ID: MW3  
Project: 201013X  
Page 2

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Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	103.	67. - 135.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

# - 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: 02-A40506  
 Sample ID: MW6  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 15:30  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	2200	ug/l	25.0	50	3/20/02	3:04	A. Cobbs	8021B	1067
Ethylbenzene	410.	ug/l	25.0	50	3/20/02	3:04	A. Cobbs	8021B	1067
Toluene	25.0	ug/l	25.0	50	3/20/02	3:04	A. Cobbs	8021B	1067
Xylenes (Total)	285.	ug/l	25.0	50	3/20/02	3:04	A. Cobbs	8021B	1067
Methyl-t-butylether	45.0	ug/l	25.0	50	3/20/02	3:04	A. Cobbs	8021B	1067
TPH (Gasoline Range)	7660	ug/l	2500	50	3/20/02	3:04	A. Cobbs	8015B/5030	1067
TPH (Diesel Range)	1460	ug/l	500.	10	3/19/02	4:06	K.Phelps	8015B/3510	1710

MTBE result confirmed by GC/MS method 8260 @ >5.0 ug/l

### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	3/18/02		D. Harris	3510

Surrogate	% Recovery	Target Range
surr-o-Terphenyl	140.	50. - 150.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 02-A40506  
Sample ID: MW6  
Project: 201013X  
Page 2

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Surrogate	% Recovery	Target Range
-----	-----	-----
BTEX/GRO Surr., a,a,a-TFT	102.	67. - 135.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

# - 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: 02-A40507  
 Sample ID: MW14  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 15:20  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	ND	ug/l	0.50	1	3/20/02	12:33	A. Cobbs	8021B	2936
Ethylbenzene	0.90	ug/l	0.50	1	3/20/02	12:33	A. Cobbs	8021B	2936
Toluene	ND	ug/l	0.50	1	3/20/02	12:33	A. Cobbs	8021B	2936
Xylenes (Total)	5.70	ug/l	0.50	1	3/20/02	12:33	A. Cobbs	8021B	2936
Methyl-t-butylether	1.40	ug/l	0.50	1	3/20/02	12:33	A. Cobbs	8021B	2936
TPH (Gasoline Range)	146.	ug/l	50.0	1	3/20/02	12:33	A. Cobbs	8015B/5030	2936
TPH (Diesel Range)	954.	ug/l	50.0	1	3/19/02	4:27	K. Phelps	8015B/3510	1710

MTBE result confirmed by GC/MS method 8260 @ 0.6 ug/l

Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	3/18/02		D. Harris	3510

Surrogate	% Recovery	Target Range
surr-o-Terphenyl	89.	50. - 150.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 02-A40507  
Sample ID: MW14  
Project: 201013X  
Page 2

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Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	98.	67. - 135.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

# - 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: 02-A40508  
 Sample ID: BB  
 Sample Type: Water  
 Site ID: 7-3006

Project: 201013X  
 Project Name: EXXON 7-3006  
 Sampler: STEVE BURKE

Date Collected: 3/11/02  
 Time Collected: 15:15  
 Date Received: 3/14/02  
 Time Received: 9:00  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	ND	ug/l	0.50	1	3/20/02	4:04	A. Cobbs	8021B	1067
Ethylbenzene	ND	ug/l	0.50	1	3/20/02	4:04	A. Cobbs	8021B	1067
Toluene	0.60	ug/l	0.50	1	3/20/02	4:04	A. Cobbs	8021B	1067
Xylenes (Total)	ND	ug/l	0.50	1	3/20/02	4:04	A. Cobbs	8021B	1067
Methyl-t-butylether	ND	ug/l	0.50	1	3/20/02	4:04	A. Cobbs	8021B	1067
TPH (Gasoline Range)	ND	ug/l	50.0	1	3/20/02	4:04	A. Cobbs	8015B/5030	1067

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	104.	67. - 135.

**LABORATORY COMMENTS:**

ND - Not detected at the report limit.  
 # - Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.



PROJECT QUALITY CONTROL DATA  
 Project Number: 201013X  
 Page: 1

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
**UST ANALYSIS**								
Benzene	mg/l	< 0.0005	0.0538	0.0500	108	82. - 125.	1067	blank
Benzene	mg/l	< 0.0005	0.0538	0.0500	108	82. - 125.	2936	blank
Toluene	mg/l	0.00060	0.05440	0.05000	108	77. - 121.	1067	blank
Toluene	mg/l	< 0.00050	0.05440	0.05000	109	77. - 121.	2936	blank
Ethylbenzene	mg/l	< 0.00050	0.05540	0.05000	111	76. - 128.	1067	blank
Ethylbenzene	mg/l	< 0.00050	0.05540	0.05000	111	76. - 128.	2936	blank
Xylenes (Total)	mg/l	< 0.00050	0.1127	0.1000	113	79. - 125.	1067	blank
Xylenes (Total)	mg/l	< 0.00050	0.1127	0.1000	113	79. - 125.	2936	blank
Methyl-t-butylether	mg/l	< 0.00050	0.04990	0.05000	100	71. - 128.	1067	blank
Methyl-t-butylether	mg/l	< 0.00050	0.04990	0.05000	100	71. - 128.	2936	blank
TPH (Gasoline Range)	mg/l	< 0.0500	0.950	1.00	95	72. - 126.	1067	blank
TPH (Gasoline Range)	mg/l	< 0.0500	0.950	1.00	95	72. - 126.	2936	blank
TPH (Diesel Range)	mg/l	< 0.050	0.821	1.00	82	41. - 121.	1710	BLANK
BTEX/GRO Surr., a,a,a-TFT	% Recovery				97	67. - 135.	1067	
BTEX/GRO Surr., a,a,a-TFT	% Recovery				97	67. - 135.	2936	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
**UST PARAMETERS**						
Benzene	mg/l	0.0538	0.0544	1.11	13.	1067
Benzene	mg/l	0.0538	0.0544	1.11	13.	2936
Toluene	mg/l	0.05440	0.05460	0.37	13.	1067
Toluene	mg/l	0.05440	0.05460	0.37	13.	2936
Ethylbenzene	mg/l	0.05540	0.05540	0.00	13.	1067
Ethylbenzene	mg/l	0.05540	0.05540	0.00	13.	2936
Xylenes (Total)	mg/l	0.1127	0.1136	0.80	13.	1067
Xylenes (Total)	mg/l	0.1127	0.1136	0.80	13.	2936
Methyl-t-butylether	mg/l	0.04990	0.05230	4.70	12.	1067

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number: 201013X

Page: 2

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Methyl-t-butylether	mg/l	0.04990	0.05230	4.70	12.	2936
TPH (Gasoline Range)	mg/l	0.950	0.965	1.57	20.	1067
TPH (Gasoline Range)	mg/l	0.950	0.965	1.57	20.	2936
TPH (Diesel Range)	mg/l	0.821	0.763	7.32	46.	1710
BTEX/GRO Surr., a,a,a-TFT	% Recovery		96.			1067
BTEX/GRO Surr., a,a,a-TFT	% Recovery		96.			2936

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
<b>**UST PARAMETERS**</b>						
Benzene	mg/l	0.1000	0.1017	102	82 - 122	1067
Benzene	mg/l	0.1000	0.1017	102	82 - 122	2936
Toluene	mg/l	0.1000	0.1020	102	77 - 119	1067
Toluene	mg/l	0.1000	0.1020	102	77 - 119	2936
Ethylbenzene	mg/l	0.1000	0.1021	102	76 - 125	1067
Ethylbenzene	mg/l	0.1000	0.1021	102	76 - 125	2936
Xylenes (Total)	mg/l	0.2000	0.2096	105	73 - 123	1067
Xylenes (Total)	mg/l	0.2000	0.2096	105	73 - 123	2936
Methyl-t-butylether	mg/l	0.1000	0.1048	105	71 - 126	1067
Methyl-t-butylether	mg/l	0.1000	0.1048	105	71 - 126	2936
TPH (Gasoline Range)	mg/l	1.00	0.950	95	75 - 126	1067
TPH (Gasoline Range)	mg/l	1.00	0.950	95	75 - 126	2936
TPH (Diesel Range)	mg/l	1.00	0.686	69	46 - 118	1710
BTEX/GRO Surr., a,a,a-TFT	% Recovery			94	67 - 135	1067
BTEX/GRO Surr., a,a,a-TFT	% Recovery			94	67 - 135	2936

Project QC continued . . .

PROJECT QUALITY CONTROL DATA  
 Project Number: 201013X  
 Page: 3

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
-----					
**UST PARAMETERS**					
Benzene	< 0.0005	mg/l	1067	3/19/02	19:05
Benzene	< 0.0005	mg/l	2936	3/20/02	0:04
Toluene	0.00060	mg/l	1067	3/19/02	19:05
Toluene	< 0.00050	mg/l	2936	3/20/02	0:04
Ethylbenzene	< 0.00050	mg/l	1067	3/19/02	19:05
Ethylbenzene	< 0.00050	mg/l	2936	3/20/02	0:04
Xylenes (Total)	< 0.00050	mg/l	1067	3/19/02	19:05
Xylenes (Total)	< 0.00050	mg/l	2936	3/20/02	0:04
Methyl-t-butylether	< 0.00050	mg/l	1067	3/19/02	19:05
Methyl-t-butylether	< 0.00050	mg/l	2936	3/20/02	0:04
TPH (Gasoline Range)	< 0.0500	mg/l	1067	3/19/02	19:05
TPH (Gasoline Range)	< 0.0500	mg/l	2936	3/20/02	0:04
TPH (Diesel Range)	< 0.050	mg/l	1710	3/19/02	2:43

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
-----					
**UST PARAMETERS**					
BTEX/GRO Surr., a,a,a-TFT	105.	% Recovery	1067	3/19/02	19:05
BTEX/GRO Surr., a,a,a-TFT	103.	% Recovery	2936	3/20/02	0:04

# - Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 275874

# TESTAMERICA, INC.-NASHVILLE

## COOLER RECEIPT FORM

Client: SRI BC# 275874

Cooler Received On: 3.14.02 And Opened On: 3.14.02 By: Chris Wilmoth

C. Wilt  
(Signature)

1. Temperature of Cooler when opened 3° Degrees Celsius
2. Were custody seals on outside of cooler?..... YES...NO
  - a. If yes, how many, what kind and where: 1 Front
3. Were custody seals on containers and intact?.....NO...YES
4. Were the seals intact, signed, and dated correctly?..... YES...NO
5. Were custody papers inside cooler?..... YES...NO
6. Were custody papers properly filled out (ink, signed, etc)?..... YES...NO
7. Did you sign the custody papers in the appropriate place?..... YES...NO
8. What kind of packing material used?  Bubblewrap Peanuts Vermiculite Other None
9. Was sufficient ice used (if appropriate)?..... YES...NO
10. Did all bottles arrive in good condition (unbroken)?..... YES...NO
11. Were all bottle labels complete (#, date, signed, pres, etc)?..... YES...NO
12. Did all bottle labels and tags agree with custody papers?..... YES...NO
13. Were correct bottles used for the analysis requested?..... YES...NO
14. a. Were VOA vials received?..... YES...NO
  - b. Was there any observable head space present in any VOA vial?..... NO...YES
15. Was sufficient amount of sample sent in each bottle?..... YES...NO
16. Were correct preservatives used?..... YES...NO
17. Was residual chlorine present?.....NO...YES
18. Corrective action taken, if necessary:

See attached for resolution



(615) 726-0177

Nashville Division  
2960 Foster Creighton  
Nashville, TN 37204



Consultant Name: Environmental Resolutions, Inc.

Address: 73 Digital Drive, Suite 100

City/State/Zip: Novato, California 94949

Project Manager Paula Sime

Telephone Number: (415) 382-4324

ERI Job Number: 201013X

Sampler Name: (Print) Steve Bunker

Sampler Signature: Steve Bunker

ExxonMobil Engineer Gene N. Ortega

Telephone Number (925) 246-8747

Account #: 3876

275874 PO #: 4501667134

Facility ID # 73006

Global ID# T0600100552

Site Address 720 High Street

City, State Zip Oakland, California 94601

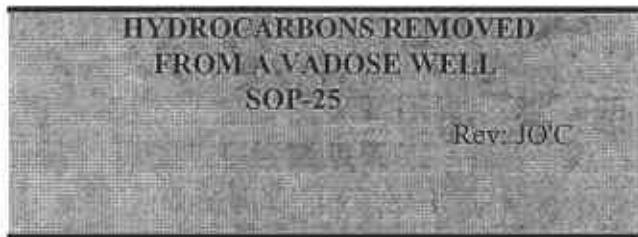
TAT	PROVIDE:	Special Instructions:						Matrix			Analyze For:								
		DATE	TIME	COMP	GRAB	PRESERV	NUMBER	Water	Soil	Vapor	TPHd 8015 (µg/l)	TPHg 8015 (µg/l)	BTEX 8020	MTBE 8020	Confirm MTBE 8260	Oxygenates 8260	VOCs 8260		
<input type="checkbox"/> 24 hour	<input type="checkbox"/> 72 hour	Please confirm any MTBE detections using EPA Method 8260.																	
<input type="checkbox"/> 48 hour	<input type="checkbox"/> 96 hour	<u>EDF Report</u>																	
<input checked="" type="checkbox"/> 8 day		<u>FAX Results</u>																	

Relinquished by: Steve Bunker Date: 3/11/02 Time: 0845 Received by: C. W. A. Time: 0900  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by TestAmerica: \_\_\_\_\_ Time: \_\_\_\_\_

Laboratory Comments:  
 Temperature Upon Receipt: 3  
 Sample Containers Intact?  
 VOAs Free of Headspace?

**ATTACHMENT C**

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



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 H<sub>2</sub>O) (use {-} for vacuum)
- 3) Vapor temperature at the flow measuring device.
- 4) Hydrocarbon content of vapor (usually in mg/M<sup>3</sup>) 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 <sub>2</sub> O	HC conc mg/M <sup>3</sup>	Vapor flow acfm	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 = 14.7psia, 760 mm Hg, or 407 in H<sub>2</sub>O. T<sub>abs</sub> = 460 + T deg F

Hours of operation = 21, T = 80, P = -13, HC = (1350+750)/2 = 1050 mg/M<sup>3</sup>, Flow = 95

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

$$\frac{\text{hr}}{\text{basis}} \times \frac{\text{min}}{\text{hr}} \times \frac{\text{cu ft}}{\text{min}} \times T_{\text{Corr}} \times P_{\text{Corr}} \times \frac{\text{M}^3}{\text{cu ft}} \times \frac{\text{g}}{\text{M}^3} \times \frac{\text{lb}}{\text{g}} \times \frac{\text{lb}}{\text{basis}} = \text{-----}$$

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

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/M<sup>3</sup>. ppmv x molecular wt. /24.1 = mg/M<sup>3</sup>. (Use 102 for gasoline)