

**EXXON** COMPANY, U.S.A.

#136  
          

P.O. BOX 4032 • CONCORD, CA 94524-4032  
MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER  
SENIOR ENGINEER  
(925) 246-8776  
(925) 246-8798 FAX

**FEB 10 1999**

Mr. Barney Chan  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502

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

Dear Mr. Chan:

Attached for your review and comment is a report entitled *Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1998*, dated February 2, 1999, for the above referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the results of groundwater monitoring and sampling and remedial activities at the subject site.

If you have any questions or comments, please contact me at (925) 246-8776.

Sincerely,

  
Marla D. Guensler  
Senior Engineer

MDG/tjm

Attachment: ERI's Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1998, dated February 2, 1999

cc:

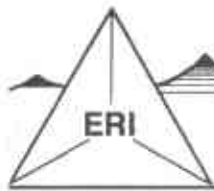
w/ attachment

Mr. Stephen Hill - California Regional Water Quality Control Board-San Francisco Bay Region

w/o attachment

Mr. Peter A. Petro - Environmental Resolutions, Inc.





**ENVIRONMENTAL RESOLUTIONS, INC.**

February 2, 1999  
ERI 201011.R18

Ms. Marla D. Guensler  
Exxon Company, U.S.A.  
P.O. Box 4032  
Concord, California 94524-4032

Subject: Quarterly Groundwater Monitoring and Remediation Status Report, Fourth Quarter 1998, Former Exxon Service Station 7-3006, 720 High Street, Oakland, California.

Ms. Guensler:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) performed remedial activities and groundwater monitoring for the fourth quarter 1998, at the subject site. The location of the site is shown on the Site Vicinity Map (Plate 1). The purpose of ongoing remedial activities is to remove residual hydrocarbons from soil and dissolved hydrocarbons from groundwater. The purpose of quarterly monitoring is to evaluate concentrations of dissolved hydrocarbons in groundwater and the effectiveness of remedial actions. The location of selected site features are shown on the Generalized Site Plan (Plate 2).

### **GROUNDWATER MONITORING AND SAMPLING**

On December 30, 1998, ERI measured the depth to water (DTW) and collected groundwater samples for laboratory analysis from monitoring wells MW1 through MW4, and MW6 through MW15. Work was performed in accordance with ERI's groundwater sampling protocol (Attachment A).

Due to ongoing air sparge/soil vapor extraction (AS/SVE) remediation activities, groundwater elevations and gradient may not be indicative of actual conditions. Therefore, a gradient and flow direction have not been calculated.

### **Laboratory Analyses and Results**

Groundwater samples were submitted to Sequoia Analytical (California State Certification Number 1210) in Redwood City, California, under chain of custody protocol. The samples were analyzed for total purgeable petroleum hydrocarbons as gasoline (TPPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), and total extractable petroleum hydrocarbons as diesel (TEPHd). The specific methods of analysis are listed in the notes in Table 1. The results of analyses are tabulated in Table 1 and are shown on Plate 2. The laboratory analysis reports and chain of custody records are attached (Attachment B).

## SOIL AND GROUNDWATER REMEDIATION

### Air Sparging/Soil Vapor Extraction

ERI initiated operation of the AS/SVE system in August 1996, utilizing the thermal/catalytic oxidizer. Cumulative operational and performance data are presented in Table 2. Copies of the Reports of Laboratory Analysis and Chain of Custody Records for soil vapor extraction system samples collected during the reporting period are attached (Attachment B).

The AS/SVE system currently consists of six AS wells for air injection and six vadose wells for SVE within 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. The AS/SVE system is operated in a continuous mode within the trench.

### Groundwater Extraction and Treatment

The groundwater remediation system (GRS) is designed to treat separate-phase and dissolved hydrocarbons in groundwater extracted from the interceptor trench beneath the site. Pneumatic pumps are installed in extraction wells RW2 and RW5 to recover groundwater from the interceptor trench. Subsurface and above-ground collection piping are used to transfer extracted groundwater to a holding tank. A transfer pump and polyvinyl chloride (PVC) piping are 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 is discharged to the sanitary sewer regulated by East Bay Municipal Utilities District (EBMUD).

Between September 3, 1998, and December 23, 1998, the system recovered 35,294 gallons of groundwater from beneath the site. System flow rates, total volume extracted, and influent, intermediate, and effluent sample concentrations are presented in Table 3.

## SUMMARY AND STATUS OF INVESTIGATION

Based on data collected to date, it appears the AS/SVE system and GRS are removing residual hydrocarbons in soil and dissolved hydrocarbons in groundwater. ERI estimates that approximately 64 pounds (approximately 11 gallons) of residual hydrocarbons were removed by the AS/SVE system during the reporting period, and approximately 5,041 pounds (approximately 828 gallons) since start-up. The estimated amount of hydrocarbons removed by the system was performed according to ERI's standard operation procedures (SOP-25 "Hydrocarbons Removed from a Vadose Well") included in Attachment C. ERI estimates that less than 1 pound of dissolved hydrocarbons were removed by the GRS from September 3, 1998 to December 23, 1998, and approximately 10 pounds (approximately 2 gallons) since start-up. ERI will continue to operate the remedial systems, monitor, and sample groundwater at the site during the first quarter 1999.

## LIMITATIONS

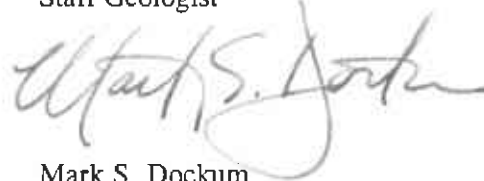
This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for Exxon Company, U.S.A. and any reliance on this report by third parties shall be at such party's sole risk.

If you have any questions or comments regarding this report, please call (415) 382-5989.

Sincerely,  
Environmental Resolutions, Inc.



Scott R. Graham  
Staff Geologist



Mark S. Dockum  
R.G. 4412  
C.E.G. 1675

- Enclosures:
- 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 Reports and Chain of Custody Records  
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 8)

Well ID #	Sampling	SUBJ	DTW	Elev.	TEPHd	TPPhg	MTBE	B	T	E	X	VOCs
(TOC)	Date	<	feet	>	<	>			ug/L			>
MW1	1/20/94	NLPH	9.25	3.62	---	---	---	---	---	---	---	---
(12.87)	02/02-03/94	NLPH	8.60	4.27	70	<50	NA	<0.5	<0.5	<0.5	0.7	NA
	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	NA	<0.5	<0.5	<0.5	1.6	NA
	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	NA	<0.5	<0.5	<0.5	<0.5	NA
	10/25/94	NLPH	10.19	2.68	NA	<50	<50	<0.5	<0.5	<0.5	<0.5	NA
	11/30/94	NLPH	8.97	3.90	---	---	---	---	---	---	---	---
	12/27/94	NLPH	7.44	5.43	---	---	---	---	---	---	---	---
	2/6/95	NLPH	5.71	7.16	NA	<50	100	0.52	<0.5	<0.5	<0.5	NA
	6/7/95	NLPH	7.62	5.25	81	<50	3.5	<0.5	<0.5	<0.5	<0.5	NA
	9/18/95	NLPH	10.02	2.85	82	<50	6	<0.5	<0.5	<0.5	<0.5	NA
	11/1/95	NLPH	10.74	2.13	160	<50	8.9	<0.5	<0.5	<0.5	<0.5	NA
	2/14/96	NLPH	7.81	5.06	100	<50	7.8	<0.5	<0.5	<0.5	<0.5	NA
	6/19/96	NLPH	7.47	5.40	93	<50	7.1	<0.5	<0.5	<0.5	<0.5	NA
		Additional EHCss					<50					
	9/24/96	NLPH	10.42	2.45	83	<50	9.5	<0.5	<0.5	<0.5	<0.5	NA
	12/11/96	NLPH	8.50	4.37	81	<50	7.2	<0.5	<0.5	<0.5	<0.5	NA
	3/19/97	NLPH	9.14	3.73	78	<50	6.4	<0.5	<0.5	<0.5	<0.5	NA
	6/4/97	NLPH	9.82	3.05	58	<50	6.0	<0.5	<0.5	<0.5	<0.5	NA
	9/2/97	NLPH	10.26	2.61	150	<50	5.4	<0.5	<0.5	<0.5	<0.5	NA
	12/2/97	NLPH	9.32	3.55	88	<50	5.1	<0.5	<0.5	<0.5	<0.5	NA
	3/24/98	NLPH	6.44	6.43	58	<50	5.6	<0.5	<0.5	<0.5	<0.5	NA
	6/23/98	NLPH	9.23	3.64	84	<50	3.8	<0.5	<0.5	<0.5	<0.5	NA
	9/29/98	NLPH	9.91	2.96	61	<50	2.6	<0.5	<0.5	<0.5	<0.5	NA
	12/30/98	NLPH	9.21	3.66	80	<50	4.1	<0.5	<0.5	<0.5	<0.5	NA
MW2	1/20/94	NM [NR]	NM	---	---	---	---	---	---	---	---	---
(12.98)	02/02-03/94	NM [NR]	NM	---	---	---	---	---	---	---	---	---
	3/10/94	[8 c.]	6.96	6.02	---	---	---	---	---	---	---	---
	4/22/94	[10 c.]	NM	---	---	---	---	---	---	---	---	---
	05/10-11/94	[5 c.]	NM	---	---	---	---	---	---	---	---	---
	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	NM	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	NA
	3/27/98	NLPH	6.06	6.92	2,000	7,400	<50	1,400	350	490	1,500	NA
	6/23/98	Sheen	11.06	1.92	2,900	180	9.5	3.2	0.55	0.92	1.3	NA
	9/29/98	NLPH	10.51	2.47	180	290	9.3	<0.50	0.65	1.5	1.5	NA
	12/30/98	NLPH	9.83	3.15	700	520	16	17	0.96	2.6	3.5	NA

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 2 of 8)

Well ID # (TOC)	Sampling Date	SUBJ <.....>	DTW feet	Elev. >	TEPHd <.....>	TPPHg >	MTBE >	B >	T ug/L	E >	X >	VOCs >
MW3 (12.92)	1/20/94	Sheen	8.24	4.68	---	---	---	---	---	---	---	---
	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	NM	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	NA
	3/19/97	NLPH	9.83	3.09	3,000	1,900	80	160	11	5.6	10	NA
6/4/97	NLPH	10.43	2.49	8,000	920	11	15	2.8	2.4	<2.0	NA	
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	NA	
3/24/98	NLPH	5.93	6.99	4,600	1,500	25	5,500	<5.0	<5.0	<5.0	NA	
6/23/98	NLPH	11.13	1.79	39,000	1,300	9.4	53	<1.0	<1.0	<1.0	NA	
9/29/98	Sheen	10.46	2.46	2,600	540	<5.0	6.8	1.9	1.4	2.3	NA	
12/30/98	NLPH	9.72	3.20	11,000	4,000	<50	74	<10	<10	<10	NA	
MW4 (12.77)	1/20/94	NM [NR]	NM	---	---	---	---	---	---	---	---	---
	02/02-03/94	NM [1 c.]	NM	---	---	---	---	---	---	---	---	---
	3/10/94	[8 c.]	7.12	5.65	---	---	---	---	---	---	---	---
	4/22/94	[10 c.]	NM	---	---	---	---	---	---	---	---	---
	05/10-11/94	[5 c.]	NM	---	---	---	---	---	---	---	---	---
	6/27/94	0.01 [NR]	6.50	6.27	---	---	---	---	---	---	---	---
	8/31/94	0.02 [NR]	7.84	4.93	---	---	---	---	---	---	---	---
	9/29/94	0.03 [NR]	8.43	4.34	---	---	---	---	---	---	---	---
	10/25/94	Sheen	9.24	3.53	---	---	---	---	---	---	---	---
	11/30/94	NM	6.77	6.00	---	---	---	---	---	---	---	---
	12/27/94	Sheen	6.14	6.63	---	---	---	---	---	---	---	---
	2/6/95	Sheen	4.87	7.90	---	---	---	---	---	---	---	---
	6/7/95	Sheen	6.91	5.86	---	---	---	---	---	---	---	---
	9/18/95	Sheen	9.59	3.18	---	---	---	---	---	---	---	---
	11/1/95	Sheen	11.52	1.25	---	---	---	---	---	---	---	---
	2/14/96	Sheen	8.56	4.21	---	---	---	---	---	---	---	---
	6/19/96	Sheen	6.09	6.68	---	---	---	---	---	---	---	---
	9/24/96	Sheen	10.20	2.57	---	---	---	---	---	---	---	---
	12/11/96	Sheen	7.78	4.99	---	---	---	---	---	---	---	---
	3/19/97	Sheen	8.56	4.21	---	---	---	---	---	---	---	---
6/4/97	Sheen	9.31	3.46	---	---	---	---	---	---	---	---	
9/2/97	Sheen	10.00	2.77	---	---	---	---	---	---	---	---	
12/2/97	NLPH	8.72	4.05	15,000	1,500	50	<2.5	9.7	3.0	10	NA	
3/24/98	NLPH	5.79	6.98	6,400	540	38	<0.5	4.4	1.6	5.4	NA	
6/23/98	Sheen	8.50	4.27	7,500	1,000	25	3.3	<2.0	<2.0	<2.0	NA	
9/29/98	Sheen	9.77	3.00	65,000	7,300	<50	<10	<10	<10	<10	NA	
12/30/98	Sheen	8.54	4.23	12,000	1,000	170	3.8	5.1	<2.5	4.1	NA	
MW5	7/18/89	Well Destroyed										

TABLE I  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 3 of 8)

Well ID #	Sampling	SUBJ	DTW	Elev.	TEPHd	TPPHg	MTBE	B	T	E	X	VOCs	
(TOC)	Date	<.....>	feet.....>	<.....>	.....ug/L.....>								
MW6	1/20/94	NM [NR]	NM	---	---	---	---	---	---	---	---	---	
(14.27)	02/02-03/94	NM [NR]	NM	---	---	---	---	---	---	---	---	---	
	3/10/94	[¼ c.]	7.82	6.45	---	---	---	---	---	---	---	---	
	4/22/94	[10 c.]	NM	---	---	---	---	---	---	---	---	---	
	05/10-11/94	[3 c.]	NM	---	---	---	---	---	---	---	---	---	
	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	NM	8.05	6.22	---	---	---	---	---	---	---	---	
	12/27/94	NM	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	NA	
	3/19/97	NLPH	10.14	4.13	3,800	24,000	250	5,800	91	1,300	1,900	NA	
	6/4/97	NLPH	10.58	3.69	3,300	20,000	270	4,400	<50	540	480	NA	
	9/2/97	NLPH	11.02	3.25	2,100	8,100	<25	1,800	<25	140	170	NA	
	12/2/97	NLPH	10.45	3.82	2,300	6,800	<100	1,100	<20	77	74	NA	
	3/24/98	NLPH	7.09	7.18	3,800	20,000	<250	4,300	<50	2,200	1,500	NA	
	6/23/98	Sheen	9.79	4.48	4,100	19,000	<500	3,400	<100	1,800	1,100	NA	
	9/29/98	NLPH	10.56	3.71	2,300	8,600	<100	2,100	25	300	260	NA	
	12/30/98	NLPH	9.97	4.30	2,700	6,800	<125	1,600	<25	84	200	NA	
MW7	1/20/94	NLPH	8.67	6.17									
(14.84)	02/02-03/94	NLPH	8.47	6.37	1,300	2,900	NA	79	5	8.2	21	NA	
			Additional Analysis TOG:			4,701							
	3/10/94	NLPH	8.24	6.60									
	4/22/94	NLPH	7.95	6.89									
	05/10-11/94	NLPH	7.53	7.31	1,300	2,400	NA	88	5.6	5.2	15	NA	
			Additional Analysis TOG:			1,400							
	6/27/94	NLPH	8.01	6.83									
	8/31/94	NLPH	9.19	5.65									
	9/29/94	NLPH	9.65	5.19	56	1,900	NA	71	3.1	3.5	7.8	NA	
	10/25/94	NLPH	9.96	4.88	89	1,400	NA	51	1.5	24	6.8	NA	
	11/30/94	NM	7.78	7.06			NA						
	12/27/94	NM	7.51	7.33									
	2/6/95	NLPH	5.79	9.05	1,300	2,500	NA	130	<10	<10	<10	ND	
			Additional Analysis EHCss			1,100							
	6/7/95	NLPH	7.73	7.11	1,200	2,400	39	91	5	7.6	14	NA	
			Additional Analysis EHCss			1,000							
	9/18/95	NLPH	9.81	5.03	1,100	1,800	<25	17	<5.0	<5.0	<5.0	NA	
			Additional Analysis EHCss			870							
	11/1/95	NLPH	10.56	4.28	1,700	3,000	<13	2.7	11	25	<2.5	NA	
			Additional Analysis EHCss			1,400							
	2/14/96	NLPH	8.04	6.80	1,200	1,900	<25	59	<5.0	<5.0	<5.0	NA	
			Additional Analysis EHCss			940							
	6/19/96	NLPH	7.33	7.51	1,400	2,000	<25	96	<5.0	<5.0	5.6	ND	
			Additional Analysis EHCss			1,000							
	9/24/96	NLPH	10.10	4.74	1,100	950	<25	6.8	<5.0	<5.0	<5.0	ND	
			Additional Analysis EHCss			910							
	12/11/96	NLPH	8.50	6.34	1,600	2,500	<10	50	<2.0	6.4	30	ND	
			Additional Analysis EHCss			1,100							
	3/19/97	NLPH	8.88	5.96	840	2,700	<25	61	8.0	21	68	ND	
			Additional Analysis EHCss			580							

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	SUBJ	DTW	Elev.	TEPHd	TPPHg	MTBE	B	T	E	X	VOCs
(TOC)	Date	<.....>	feet.....>	<.....>	ug/L.....>							
MW7 (cont.) (14.84)	6/4/97	NLPH	9.38	5.46	1,000	1,900	<2.5	45	<2.0	5.3	13	ND
			Additional Analysis EHCss			780						
	9/2/97	NLPH	9.69	5.15	790	1,700	<2.5	28	2.2	<2.0	5.9	ND
			Additional Analysis EHCss			740						
	12/2/97	NLPH	8.65	6.19	1,100	2,000	14	33	2.2	2.0	5.8	NA
	3/24/98	NLPH	6.40	8.44	950	2,300	<25	73	<5.0	<5.0	22	NA
	6/23/98	NLPH	8.34	6.50	1,600	4,700	140	50	<5.0	12	20	NA
	9/29/98	NLPH	9.76	5.08	630	700	<5.0	2.7	1.3	2.4	5.3	NA
12/30/98	NLPH	8.86	5.98	1,700	1,400	<5.0	17	7.7	2.8	16	NA	
MW8 (13.45)	1/20/94	Sheen	8.90	4.55	---	---	---	---	---	---	---	---
	02/02-03/94	Sheen	8.58	4.87	---	---	---	---	---	---	---	---
	3/10/94	Sheen	7.16	6.29	---	---	---	---	---	---	---	---
	4/22/94	Sheen	7.34	6.11	---	---	---	---	---	---	---	---
	05/10-11/94	Sheen	7.04	6.41	---	---	---	---	---	---	---	---
	6/27/94	Sheen	6.01	7.44	---	---	---	---	---	---	---	---
	8/31/94	Sheen	9.26	4.19	---	---	---	---	---	---	---	---
	9/29/94	Sheen	9.76	3.69	---	---	---	---	---	---	---	---
	10/25/94	Sheen	10.05	3.40	---	---	---	---	---	---	---	---
	11/30/94	NM	7.68	5.77	---	---	---	---	---	---	---	---
	12/27/94	Sheen	7.11	6.34	---	---	---	---	---	---	---	---
	2/6/95	Sheen	5.39	8.06	---	---	---	---	---	---	---	---
	6/7/95	Sheen	7.53	5.92	---	---	---	---	---	---	---	---
	9/18/95	Sheen	9.84	3.61	---	---	---	---	---	---	---	---
	11/1/95	Sheen	10.47	2.98	---	---	---	---	---	---	---	---
	2/14/96	Sheen	8.27	5.18	---	---	---	---	---	---	---	---
	6/19/96	Sheen	6.88	6.57	---	---	---	---	---	---	---	---
	9/24/96	Sheen	10.13	3.32	---	---	---	---	---	---	---	---
	12/11/96	Sheen	8.53	4.92	---	---	---	---	---	---	---	---
	3/19/97	Sheen	9.09	4.36	---	---	---	---	---	---	---	---
	6/4/97	Sheen	9.52	3.93	---	---	---	---	---	---	---	---
9/2/97	NLPH	9.72	3.73	8,000	20,000	<50	57	<50	850	660	ND	
12/2/97	NLPH	8.83	4.62	2,700	6,900	130	83	<10	<10	100	NA	
3/24/98	NLPH	6.52	6.93	2,900	10,000	<125	190	<25	470	330	NA	
6/23/98	NLPH	9.02	4.43	3,700	10,000	<50	140	<10	460	260	NA	
9/29/98	NLPH	9.72	3.73	3,600	12,000	130	46	<10	340	190	NA	
12/30/98	NLPH	9.06	4.39	3,000	11,000	140	170	<25	230	160	NA	
MW9 (14.64)	1/20/94	NM	NM	---	---	---	---	---	---	---	---	---
	02/02-03/94	NM	NM	---	---	---	---	---	---	---	---	---
	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	NA	<0.5	<0.5	<0.5	<0.5	NA
	10/25/94	NLPH	9.66	4.98	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	11/30/94	NM	8.38	6.26	---	---	---	---	---	---	---	---
	12/27/94	NLPH	7.29	7.35	---	---	---	---	---	---	---	---
	2/6/95	NLPH	5.74	8.90	56	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	6/7/95	NLPH	8.33	6.31	72	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	9/18/95	NLPH	9.28	5.36	60	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	11/1/95	NLPH	10.09	4.55	61	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	2/14/96	NLPH	6.26	8.38	83	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	6/19/96	NLPH	6.68	7.96	68	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
			Additional Analysis EHCss			<50						
	9/24/96	NLPH	9.72	4.92	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	12/11/96	NLPH	8.11	6.53	91	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	3/19/97	NLPH	7.72	6.92	140	<50	<2.5	0.83	<0.5	<0.5	<0.5	NA
6/4/97	NLPH	8.87	5.77	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
9/2/97	NLPH	9.44	5.20	140	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	



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. >.....<	TEPHd <.....>	TPPHg <.....>	MTBE <.....>	B <.....>	T ug/L	E <.....>	X <.....>	VOCs >.....<	
MW9 (cont.) (14.64)	12/2/97	NLPH	8.43	6.21	71	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	3/24/98	NLPH	5.84	8.80	62	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	6/23/98	NLPH	7.81	6.83	69	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	9/29/98	NLPH	9.26	5.38	52	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	12/30/98	NLPH	8.28	6.36	74	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
MW10 (14.05)	1/20/94	NLPH	8.40	5.65	---	---	---	---	---	---	---	---	
	02/02-03/94	NLPH	8.00	6.05	<50	<50	NA	<0.5	1	<0.5	1.8	NA	
	3/10/94	NLPH	7.56	6.49	---	---	---	---	---	---	---	---	
	4/22/94	NLPH	7.35	6.70	---	---	---	---	---	---	---	---	
	05/10-11/94	NLPH	7.06	6.99	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
	6/27/94	NLPH	7.59	6.46	---	---	---	---	---	---	---	---	
	8/31/94	NLPH	8.73	5.32	---	---	---	---	---	---	---	---	
	9/29/94	NLPH	9.07	4.98	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
	10/25/94	NLPH	9.41	4.64	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
	11/30/94	NM	7.62	6.43	---	---	---	---	---	---	---	---	
	12/27/94	NLPH	7.01	7.04	---	---	---	---	---	---	---	---	
	2/6/95	NLPH	5.60	8.45	NA	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	
	6/7/95	NLPH	7.12	6.93	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	9/18/95	NLPH	8.54	5.51	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	11/1/95	NLPH	9.44	4.61	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	2/14/96	NLPH	9.36	4.69	64	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	6/19/96	NLPH	7.32	6.73	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
		Additional Analysis EHCss		<50									
		9/24/96	NLPH	9.07	4.98	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
		12/11/96	NLPH	7.73	6.32	67	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
		3/19/97	NLPH	7.62	6.43	51	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
		6/4/97	NLPH	8.38	5.67	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
		9/2/97	NLPH	8.64	5.41	120	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	12/2/97	NLPH	7.22	6.83	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	3/24/98	NLPH	5.71	8.34	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	6/23/98	NLPH	7.23	6.82	90	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	9/29/98	NLPH	8.39	5.66	<50	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
	12/30/98	NLPH	7.74	6.31	58	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA	
MW11 (13.55)	1/20/94	NLPH	9.61	3.94	---	---	---	---	---	---	---	---	
	02/02-03/94	NLPH	9.56	3.99	160	<50	NA	<0.5	1	<0.5	0.9	NA	
	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	NA	<0.53	<0.5	<0.5	3.2	NA	
	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	NA	<0.5	<0.5	<0.5	<0.5	NA	
	10/25/94	NLPH	10.48	3.07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
	11/30/94	NM	8.55	5.00	---	---	---	---	---	---	---	---	
	12/27/94	NLPH	7.98	5.57	---	---	---	---	---	---	---	---	
	2/6/95	NLPH	6.49	7.06	160	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	
	6/7/95	NLPH	7.98	5.57	50	<50	42	<0.5	<0.5	<0.5	<0.5	NA	
	9/18/95	NLPH	10.12	3.43	56	<50	32	<0.5	<0.5	<0.5	<0.5	NA	
	11/1/95	NLPH	10.75	2.80	170	<50	35	<0.5	<0.5	<0.5	<0.5	NA	
	2/14/96	NLPH	8.03	5.52	76	<50	37	<0.5	<0.5	<0.5	<0.5	NA	
	6/19/96	NLPH	7.85	5.70	92	<50	33	<0.5	<0.5	<0.5	<0.5	NA	
		Additional Analysis EHCss		<50									
		9/24/96	NLPH	10.45	3.10	58	<50	40	<0.5	<0.5	<0.5	<0.5	NA
		12/11/96	NLPH	9.02	4.53	110	<50	10	<0.5	<0.5	<0.5	<0.5	NA
		3/19/97	NLPH	9.16	4.39	100	<50	6.9	<0.5	<0.5	<0.5	<0.5	NA
		6/4/97	NLPH	9.91	3.64	<50	<50	5.6	<0.5	<0.5	<0.5	<0.5	NA
		9/2/97	NLPH	10.25	3.30	150	<50	4.5	<0.5	<0.5	<0.5	<0.5	NA
	12/2/97	NLPH	9.33	4.22	70	<50	3.8	<0.5	<0.5	<0.5	<0.5	NA	

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. >.....<	TEPHd <.....>	TPPHg <.....>	MTBE <.....>	B ug/L	T ug/L	E ug/L	X ug/L	VOCs >.....<
MW11 (cont.) (13.55)	3/24/98	NLPH	6.77	6.78	<50	<50	4.1	<0.5	<0.5	<0.5	<0.5	NA
	6/23/98	NLPH	8.99	4.56	70	<50	<2.5	<0.5	<0.5	<0.5	<0.5	NA
	9/29/98	NLPH	9.89	3.66	76	<50	7.7	<0.5	<0.5	<0.5	<0.5	NA
	12/30/98	NLPH	9.17	4.38	71	<50	3.5	<0.5	<0.5	<0.5	<0.5	NA
MW12 (12.61)	1/20/94	NLPH	7.81	4.80	---	---	---	---	---	---	---	---
	02/02-03/94	NLPH	7.22	5.39	18,000	48,000	NA	4,000	2,700	2,900	9,900	NA
	3/10/94	NLPH	6.16	6.45	---	---	---	---	---	---	---	---
	4/22/94	NLPH	6.31	6.30	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	6.16	6.45	8,200	46,000	NA	30,003	1,600	2,900	9,100	NA
	6/27/94	NLPH	6.55	6.06	---	---	---	---	---	---	---	---
	8/31/94	NLPH	7.97	4.64	---	---	---	---	---	---	---	---
	9/29/94	Sheen	8.52	4.09	---	---	---	---	---	---	---	---
	10/25/94	Sheen	8.74	3.87	---	---	---	---	---	---	---	---
	11/30/94	NM	8.73	3.88	---	---	---	---	---	---	---	---
	12/30/94	NLPH	6.17	6.44	---	---	---	---	---	---	---	---
	2/6/95	Sheen	4.44	8.17	---	---	---	---	---	---	---	---
	6/7/95	Sheen	6.59	6.02	---	---	---	---	---	---	---	---
	9/18/95	Sheen	8.96	3.65	---	---	---	---	---	---	---	---
	11/1/95	Sheen	10.75	1.86	---	---	---	---	---	---	---	---
	2/14/96	Sheen	7.73	4.88	---	---	---	---	---	---	---	---
	6/19/96	Sheen	5.80	6.81	---	---	---	---	---	---	---	---
	9/24/96	Sheen	9.14	3.47	---	---	---	---	---	---	---	---
	12/11/96	Sheen	7.31	5.30	---	---	---	---	---	---	---	---
	3/19/97	Sheen	9.96	2.65	---	---	---	---	---	---	---	---
	6/4/97	Sheen	8.81	3.80	---	---	---	---	---	---	---	---
	9/2/97	Sheen	8.93	3.68	---	---	---	---	---	---	---	---
	12/2/97	NLPH	8.41	4.20	3,900	45,000	<250	1,800	560	3,100	8,700	NA
3/24/98	NLPH	5.37	7.24	8,800	42,000	<250	820	280	2,800	6,800	NA	
6/23/98	Sheen	8.43	4.18	7,800	39,000	560	1,000	200	2,300	4,900	NA	
9/29/98	Sheen	8.94	3.67	21,000	40,000	<500	1,100	150	2,200	3,100	NA	
12/30/98	Sheen	8.47	4.14	49,000	79,000	<500	1,400	400	3,300	8,500	NA	
MW13 (14.20)	1/20/94	NLPH	9.08	5.12	---	---	---	---	---	---	---	---
	02/02-03/94	NLPH	8.75	5.45	8,100	41,000	NA	3,800	1,500	2,700	9,500	NA
	3/10/94	Sheen	7.46	6.74	---	---	---	---	---	---	---	---
	4/22/94	Sheen	7.78	6.42	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	7.61	6.59	15,000	39,000	NA	3,400	930	2,400	8,900	NA
	6/27/94	NLPH	7.97	6.23	---	---	---	---	---	---	---	---
	8/31/94	NLPH	9.21	4.99	---	---	---	---	---	---	---	---
	9/29/94	NLPH	9.61	4.59	320	57,000	NA	2,100	470	2,600	8,100	NA
	10/25/94	Sheen	9.93	4.27	---	---	---	---	---	---	---	---
	11/30/94	NM	8.16	6.04	---	---	---	---	---	---	---	---
	12/27/94	NM	7.61	6.59	---	---	---	---	---	---	---	---
	2/6/95	Sheen	5.89	8.31	---	---	---	---	---	---	---	---
	6/7/95	Sheen	8.05	6.15	---	---	---	---	---	---	---	---
	9/18/95	Sheen	9.94	4.26	---	---	---	---	---	---	---	---
	11/1/95	Sheen	10.48	3.72	---	---	---	---	---	---	---	---
	2/14/96	Sheen	8.88	5.32	---	---	---	---	---	---	---	---
	6/19/96	Sheen	7.22	6.98	---	---	---	---	---	---	---	---
	9/24/96	Sheen	10.27	3.93	---	---	---	---	---	---	---	---
	12/11/96	Sheen	8.77	5.43	---	---	---	---	---	---	---	---
	3/19/97	Sheen	9.46	4.74	---	---	---	---	---	---	---	---
	6/4/97	Sheen	9.59	4.61	---	---	---	---	---	---	---	---
	9/2/97	Sheen	9.68	4.52	---	---	---	---	---	---	---	---
	12/2/97	NLPH	9.16	5.04	16,000	14,000	<250	210	<50	920	1,000	NA
3/24/98	NLPH	6.71	7.49	1,700	5,600	55	110	6.0	420	330	NA	
6/23/98	NLPH	8.87	5.33	3,800	12,000	200	120	<20	300	300	NA	
9/29/98	NLPH	9.79	4.41	2,400	4,900	130	130	12.0	410	200	NA	
12/30/98	NLPH	9.03	5.17	2,000	6,700	520	100	11	400	250	NA	



**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 <.....feet.....>	DTW	Elev.	TEPHd <.....ug/L.....>	TPPHg	MTBE	B	T	E	X	VOCs
MW15 (cont.) (13.73)	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	NA
	12/2/97	NLPH	8.43	5.30	600	1,700	58	20	<5.0	11	<5.0	NA
	3/24/98	NLPH	6.35	7.38	450	2,100	<100	570	<20	<20	<20	NA
	6/23/98	NLPH	7.79	5.94	570	2,300	<25	440	<5.0	30	<5.0	NA
	9/29/98	Not Accessible										
	12/30/98	NLPH	8.42	5.31	510	900	14	6.2	1.5	5.8	3.4	NA

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
- TEPHd = Total extractable petroleum hydrocarbons as diesel analyzed using EPA method 3510/8015 (modified).
- TPPHg = Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 5030/8015 (modified).
- MTBE = Methyl tertiary butyl ether analyzed using EPA method 5030/8020.
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA method 5030/8020.
- VOCs = Volatile organic compounds/purgeable halocarbons analyzed using EPA method 601.
- TOG = Total oil and grease analyzed using Standard Method 5520.
- EHCss = Extractable Hydrocarbons as Stoddard Solvent analyzed using EPA method 8015.
- NR = No liquid-phase hydrocarbons removed from well
- NM = Not Measured
- NA = Not Analyzed
- = Not Applicable
- < = Less than the indicated detection limit shown by the laboratory
- 1 = A peak eluting earlier than benzene and suspected to be methyl tertiary butyl ether was present
- \* = TEPH note: Analyst notes samples resemble paint thinner more than Stoddard Solvent

TABLE 2  
 CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR  
 SOIL VAPOR EXTRACTION SYSTEM  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 1 of 6)

DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	H/C Inf ppmv	H/C Eff ppmw	H/C Inf Conc* mg/cu M	LB H/C for Period	LB H/C Cumulative	Benzene Inf Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
1/9/95	A-INF	70		160			210			39			
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			
1/10/95	A-INF	70		160			110	2.30	2.3	22	0.438	0.44	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/11/95	A-INF	70		160			70	1.29	3.6	12	0.244	0.68	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/12/95	A-INF	70		160			< 10	< 0.57	4.2	< 0.1	< 0.087	< 0.77	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/13/95	A-INF	70		160			< 10	< 0.14	4.3	< 0.1	< 0.001	< 0.77	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/14/95	A-INF	70		160			< 10	< 0.14	4.5	< 0.1	< 0.001	< 0.77	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/15/95	A-INF	70		158			< 10	< 0.14	4.6	< 0.1	< 0.001	< 0.77	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/16/95	A-INF	70		151			< 10	< 0.14	4.7	< 0.1	< 0.001	< 0.77	
	A-INT						10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/17/95	A-INF	70		155			< 10	< 0.14	4.9	0.13	0.002	< 0.78	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/18/95	A-INF	70		155			100	0.77	5.6	12	0.084	< 0.86	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/19/95		70		155	15	0	68	1.17	6.8				
1/20/95		70		155	14.4	0	66	0.93	7.7				
2/1/95	A-INF	70		147			39	13.19	20.9	3.5	1.471	< 2.33	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0013
2/14/95		70		147									
2/17/95		70		155	9	0	41	8.67	29.6				
2/27/95		70		151									
3/13/95	A-INF	70		176			< 10	< 14.21	43.8	0.42	1.137	< 3.47	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0016
3/31/95		70		116	2.3	0	10	2.01	45.8				
4/4/95		70		84	129	0.8	587	76.68	122.5				
4/12/95	A-INF	70		176			95	24.88	147.4	6.4	1.616	< 5.08	
	A-INT						< 10			0.38			
	A-EFF						< 10			< 0.1			< 0.0016
4/19/95	A-INF	70		109			210	13.65	161.0	7.6	0.627	< 5.71	
	A-INT						47			12			
	A-EFF						< 10			< 0.1			< 0.0010
4/20/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of Carbon												

**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
(Page 2 of 6)

DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HC Inf ppmv	HC Eff ppmv	HC Inf Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Inf Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
4/26/95	A-INF	70		84			400	18.49	179.5	9.1	0.640	< 6.35	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0008
5/1/95	Installed third 500 lb canister in series												
5/1/95	A-INF	70		168			Insufficient sample for analyses						
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0015
5/15/95		70		84									
5/19/95	A-INF	70		105			140	52.68	232.2	3.5	1.229	< 7.58	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0009
6/6/95	A-INF	70		178			36	20.12	252.3	0.22	0.535	< 8.11	
	A-INT						< 10			0.1			
	A-EFF						< 10			< 0.1			< 0.0016
6/8/95		70		164									
6/23/95	System Down - hydrocarbon vapor detector shut down												
6/27/95	Replaced one 500 lb carbon canister - restarted system												
6/27/95	A-INF	70		164			440	62.10	314.4	4.9	0.668	< 8.78	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0015
7/3/95	A-EFF						< 10			< 0.1			
7/10/95	Replaced one 500 lb carbon canister												
7/10/95	A-INF	70		168			230	61.89	379.3	2.8	0.746	< 9.53	
	A-INT						120			2.8			
	A-EFF						< 10			< 0.1			< 0.0015
7/19/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of Carbon												
7/25/95	Collect samples and shut system down pending results												
7/25/95	A-INF	70		205			67	37.29	416.6	< 0.5	< 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												
7/31/95	A-INF	70		164			500	18.78	435.4	14	< 0.480	< 10.42	
	A-INT						12			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0015
8/9/95	Replaced one 500 lb carbon canister												
8/15/95	System down - Remove hydrocarbon vapor detector and send to manufacture for calibration												
9/11/95	Replaced hydrocarbon vapor detector - Restarted system												
9/13/95	System Down - hydrocarbon vapor detector shut down												
9/18/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
9/18/95	A-INF	70		164			980	196.08	631.5	13	3.577	< 14.00	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0015
9/20/95	System Down - hydrocarbon vapor detector shut down												
9/25/95	Restarted system												
9/25/95	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												

TABLE 2  
 CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR  
 SOIL VAPOR EXTRACTION SYSTEM  
 Former Exxon Service Station 7-3006  
 720 High Street  
 Oakland, California  
 (Page 3 of 6)

DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HIC Inf ppmv	HIC Eff ppmv	HIC Inf Conc* ng/cu M	LB HIC for Period	LB HIC Cumulative	Benzene Inf Conc* ng/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
10/13/95	A-INF	70		168			2000	444.01	1,075.5	100	16.838	< 30.84	
	A-INF						< 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				
11/6/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon												
11/20/95	A-INF1	70		170			180	176.60	1,521.8	3.6	1.038	< 31.88	
11/20/95	A-INF2						82			2			
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0015
11/26/95	System down												
12/4/95	Restart system												
12/18/95	A-INF	70		151	18.5	0.5	84	469.45	2,003.3	50	10.105	< 41.98	
	A-INT						< 10			< 0.1			
	A-EFF						< 10			< 0.1			< 0.0014
1/2/96		70		147	51.7	8.2	235	485.04	2,488.3				
1/3/96	Shut system down, pending carbon change out												
1/8/96	changed out three carbon beds, #1, #2, #3												
1/8/96		70		151.2	105.4	0	480	28.72	2,517.0				
1/16/96	A-INF	70		142.8	62.3	0	180	7.50	2,524.5	< 0.1	< 0.000	< 41.98	
	A-EFF									< 0.1			< 0.0013
1/30/96		70		147	50.4	0	230	37.28	2,561.8				
2/14/96	A-INF	72		147	39.7	0	< 10	< 0.49	2,562.3	0.16	0.049	< 42.03	
	A-EFF						< 10			< 0.1			< 0.0013
2/27/96		70		136.5	1	0	5	1.20	2,563.5				
3/12/96	A-INF	70		136.5	2.2	0	< 10	< 1.25	2,564.8	< 0.1	< 0.045	< 42.07	
	A-EFF						< 10			< 0.1			< 0.0012
3/25/96	A-INF	70		147	2.4	0	< 10	< 1.65	2,566.4	< 0.1	< 0.017	< 42.09	
	A-EFF						< 10			< 0.1			< 0.0013
3/25/96	System shutdown to install Thermtech VAC-25 thermal/catalytic oxidizer												
8/5/96	Start-up system utilizing Thermtech VAC-25 thermal/catalytic oxidizer												
8/15/96	A-INF			110			410			4.7			
	A-EFF						< 10			< 0.05			< 0.0005
8/29/96				176	45.8	1.1	191	54.26	2,620.7				
9/6/96	A-INF			176			150	21.73	2,642.4	< 0.1	< 0.678	< 42.77	
	A-EFF						< 10			< 0.1			< 0.0016
9/9/96				176	96	4.4	406	13.18	2,655.6				
9/24/96				184.8	141	5.1	597	121.82	2,777.4				
10/3/96	A-INF			176			1300	138.22	2,915.6	< 1	< 0.235	< 43.00	
	A-EFF						< 10			< 0.1			< 0.0016
10/9/96				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				
11/6/96	System down, unable to restart due to reset failure												
1/17/97	Replaced Thermocouple, restarted unit												
1/31/97	A-INF			44			< 10	0.55	3,151.1	0.14	0.008	< 43.01	
	A-EFF						< 10			< 0.05			< 0.0002
2/6/97	A-INF			176			86	2.84	3,153.9	2.2	0.069	< 43.08	
	A-EFF						< 10			< 0.10			< 0.0016
2/14/97				176	25	2	106	12.12	3,166.0				

**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 11th Street  
Oakland, California  
(Page 4 of 6)

DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HC Inf ppmv	HC Eff ppmv	HC Inf Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Inf Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
2/18/97				176	95	0.8	402	16.05	3,182.1				
2/28/97				176	53	0	224	49.48	3,231.6				
3/5/97	A-INF			176			210	17.15	3,248.7	< 0.10	< 0.491	< 43.57	< 0.0016
	A-EFF						< 10			< 0.10			
3/12/97				211.2	62	0.7	262						
3/19/97				220	33	1	140						
3/26/97				211.2	35	1	148						
4/2/97	A-INF			220			170	94.55	3,343.3	4.0	< 1.020	< 44.59	
	A-EFF						< 10			< 0.10			< 0.0020
4/9/97				220	40	1	169						
4/16/97				220	58	3	245						
4/23/97				220	30	1	127						
4/30/97				220	30	2	127						
5/8/97	A-INF			193.6			340	170.41	3,513.7	4.8	2.940	< 47.53	
	A-EFF						< 10			< 0.10			< 0.0017
5/14/97				193.6	80	1	339						
5/21/97				193.6	20	1	85						
5/28/97				176	42	0	178						
6/4/97	A-INF			176			360	156.76	3,670.4	2.9	1.724	< 49.26	
	A-EFF						< 10			< 0.10			< 0.0016
6/11/97				176	40	0	169						
6/18/97				158.4	38	0	161						
6/25/97				167.2	36	0	152						
7/2/97	A-INF			167.2			350	153.11	3,823.5	5.4	1.790	< 51.04	
	A-EFF						< 10			< 0.10			< 0.0015
7/9/97				202.4	29.4	0	124						
7/18/97				246.4	14.7	0	62						
7/22/97				246.4	54.2	0	229						
7/30/97				220	36.1	0	153						
8/7/97	A-INF			220			160	159.53	3,983.1	< 0.50	< 1.846	< 52.89	
	A-EFF						13			< 0.10			< 0.0020
8/11/97				220	19.1	0	81						
8/20/97				167.2	13.1	0	55						
8/27/97				158.4	20.0	0	85						
9/3/97	A-INF			158.4			400	128.39	4,111.5	< 1.0	< 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						
10/8/97	A-INF			176			200	157.59	4,269.1	3.1	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	298.58	4,567.6	< 0.10	< 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						
12/3/97	A-INF			220			NA			NA	NA	NA	
	A-EFF						< 10			< 0.10			< 0.0020
12/10/97				176	19	0.5	80						



**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
(Page 5 of 6)

DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HC Inf ppmv	HC Eff ppmv	HC Inf Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Inf Conc* ng/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emittted per Day
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	345.64	4,913.3	< 0.10	< 0.074	< 55.27	
	A-EFF						< 10			< 0.10			< 0.0016
1/6/98	A-INF			176			70	7.65	4,920.9	2.1	< 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						
2/3/98	System down due to chart recorder problem												
2/10/98	Restart system												
2/10/98	A-INF			132			< 10	< 15.48	< 4,936.4	1.1	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							
3/11/98	A-INF			193.6			< 10	< 4.24	< 4,940.6	1.5	0.551	< 56.58	
	A-EFF						< 10			< 0.1			< 0.0017
3/17/98				167.2	1.6	3.4							
3/20/98	System down due to control fault												
3/23/98	Restart system												
3/23/98				176	6.2	1.9							
3/30/98				167.2	0.4	0.8							
4/7/98				176	1.4	1.1							
4/17/98				123.2	1.4	1.7							
4/21/98	A-INF			88			10	< 5.18	< 4,945.8	0.26	0.456	< 57.04	
	A-EFF						< 10			< 0.1			< 0.0008
4/28/98				88	2.3	1.6							
5/12/98	A-INF			88			< 10	< 1.66	< 4,947.5	< 0.1	< 0.032	< 57.07	
	A-EFF						< 10			< 0.1			< 0.0008
5/19/98				88	1.8	1.2							
5/28/98				88	1.7	1.2							
6/2/98	A-INF			88	4.3	2.1	18	< 2.32	< 4,949.8	< 0.1	< 0.017	< 57.08	
	A-EFF						< 10			< 0.1			< 0.0008
6/9/98				88	1.9	1.1							
6/17/98				96.8	1.7	0.9							
6/24/98				96.8	2.1	0.8							
7/8/98	A-INF			96.8	3.4	0.8	< 10	< 4.18	< 4,954.0	< 0.1	< 0.030	< 57.11	
	A-EFF						< 10			< 0.1			< 0.0009
7/14/98	A-INF			132	3.1	0.0	39	< 1.51	< 4,955.5	0.91	< 0.031	< 57.15	
	A-EFF						< 10			< 0.1			< 0.0012
7/14/98	Shut down vapor extraction system upon departure. One process blower not operating												
7/16/98	System inspection, vapor extraction system still down.												
7/21/98	System down on arrival due to blown process blower fuse. Restarted system												
7/21/98				46.2	2.5	1.1							
7/27/98	System operated for 11 hours prior to samples being collected.												
7/27/98	A-INF			176	0.3	0.1	13	< 0.16	< 4,955.7	< 0.10	< 0.003	< 57.15	
	A-EFF						< 10			< 0.10			< 0.0016
8/5/98	System down on arrival due to combustion blower problems. System ran for one hour. Restarted system												
8/5/98	A-INF			184.8	4.1	0.0	90	0.02	< 4,955.7	2.50	< 0.001	< 57.15	
	A-EFF						< 10			< 0.1			< 0.0017
8/11/98	A-INF			193.6	2.7	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	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HC Inf ppmv	HC Eff ppmv	HC Inf Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Inf Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
8/18/98	A-INF			202.4	3.1	0.3							
8/25/98				193.6	1.8	0.3							
9/3/98	System down upon arrival due to propane tank running empty. System operated for 16 days. Restarted system.												
9/3/98	A-INF			184.8	4.4	0.2	68	20.97	< 4,976.6	1.00	0.464	< 57.61	
	A-EFF						< 10			< 0.10			< 0.0017
9/8/98				202.4	1.8	0.2							
9/22/98	System down upon arrival due to low gas pressure control fault. Restarted system. down 14 days												
9/22/98					2.7	0.3							
9/29/98				176	20.4	1.8							
10/6/98	A-INF			202.4	13.0	1.3	56	20.38	4,997.0	1.70	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							
10/27/98				193.6	219.0	6.2							
11/4/98	A-INF			193.6	42.1	3.3	150	44.30	5,041.3	5.00	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.												
12/2/98	System down upon arrival due to propane tank running empty. System remained down no propane in the tank												
12/9/98				184.8	10.0	0.6							
12/9/98	System down upon arrival due to propane tank running empty. System down for 269 hours.												
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												

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	Analytical Data						TPHg Removed		Benzene Removed	
				TPHg [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
1/9/95	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				
1/10/95	--	--	--	--	--	--	--	--	--				
1/11/95	795	398	--	--	--	--	--	--	--				
1/13/95	1,065	135	System shut down pending EBMUD arsenic revision (discharge limit of 0.0012 ppm)										
1/23/95	1,065	0	--	--	--	--	--	--	--				
2/13/95	1,065	0	--	--	--	--	--	--	--				
2/14/95	1,065	0	--	--	--	--	--	--	--				
2/17/95	1,065	0	--	--	--	--	--	--	--				
2/27/95	1,065	0	--	--	--	--	--	--	--				
3/7/95	1,065	0	EBMUD arsenic revision (discharge limit of 0.05 ppm)										
3/13/95	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				
3/21/95	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)										
3/30/95	11,760	11	Replaced one 55-gallon liquid phase carbon canister (leak)										
4/4/95	11,760		Replaced one 55-gallon liquid phase carbon canister (leak) - Started system										
4/4/95	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				
4/12/95	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				
4/19/95	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				
4/26/95	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				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	0.008				
5/9/95	83,750	72	Replaced two 55-gallon liquid phase carbon canisters (leaks)										

**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	Analytical Data						TPHg Removed		Benzene Removed	
				TPHg [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
5/26/95	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				
6/6/95	Added two 55-gallon liquid phase carbon canisters in series												
6/6/95	Replaced one 55-gallon liquid phase carbon canister (leak)												
6/8/95			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				
6/27/95	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				
7/10/95	131,370	489	Replaced two 55-gallon liquid phase carbon canisters										
7/11/95	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										
7/25/95	141,550	704	System down pending results of air samples										
7/28/95	System Down - Could not Restart												
7/31/95	Restart System												
8/15/95	System Down - Remove hydrocarbon vapor detector and send to manufacturer for calibration												
9/11/95	Replaced hydrocarbon vapor detector - Restarted System												
9/13/95	System Down - hydrocarbon vapor detector shut down												
9/18/95	Restart System												
9/18/95	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				
9/20/95	System Down - hydrocarbon vapor detector shut down												
9/25/95	Restart 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 Flow [gal]	Average Flowrate [gpd]	Sample ID	Analytical Data						TPHg Removed		Benzene Removed	
				TPHg [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
9/28/95	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											
11/6/95	157,906	342											
11/20/95	159,664	126	W-INF1	630	140	<5.0	6.9	22	NA	0.1911	1.9108	0.0532	0.5404
			W-INF2	230	36	1.6	2.2	7.6	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
11/27/95	System Down												
11/29/95	160,361	77	Restart System										
12/4/95	161,442	216											
12/18/95	168,304	490	W-INF1	8900	1100	240	130	2200	NA	0.3435	2.2543	0.0447	0.5851
			W-INF2	3900	380	85	60	890	NA				
			W-INT	<50	1.3	<0.5	<0.5	5.1	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
1/2/96	171,770	231											
1/8/96	173,707	323											
1/16/96	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				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
1/30/96	190,030	818											
2/14/96	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				
2/27/96	216,100	1,038											
3/12/96	System down upon arrival												

**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	Analytical Data						TPHg Removed		Benzene Removed	
				TPHg [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
3/12/96	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				
3/25/96	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				
3/25/96	System shutdown, removal of blower/carbon to thermal oxidizer												
7/22/96	Start-up remediation system												
7/22/96	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				
8/1/96	System down on arrival, unable to obtain emission flow rate and samples. Notified BAAQMD												
8/1/96	247,305	2,750											
8/9/96			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				
8/15/96	252,600	378											
8/29/96	256,508	279											
9/6/96	258,828	290	W-INF1	<50	<0.5	<0.5	<0.5	<0.5	NA	0.5128	3.4887	0.0538	0.7573
			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										
1/2/97	263,232		Replaced compressor, restarted unit										
1/31/97	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				









**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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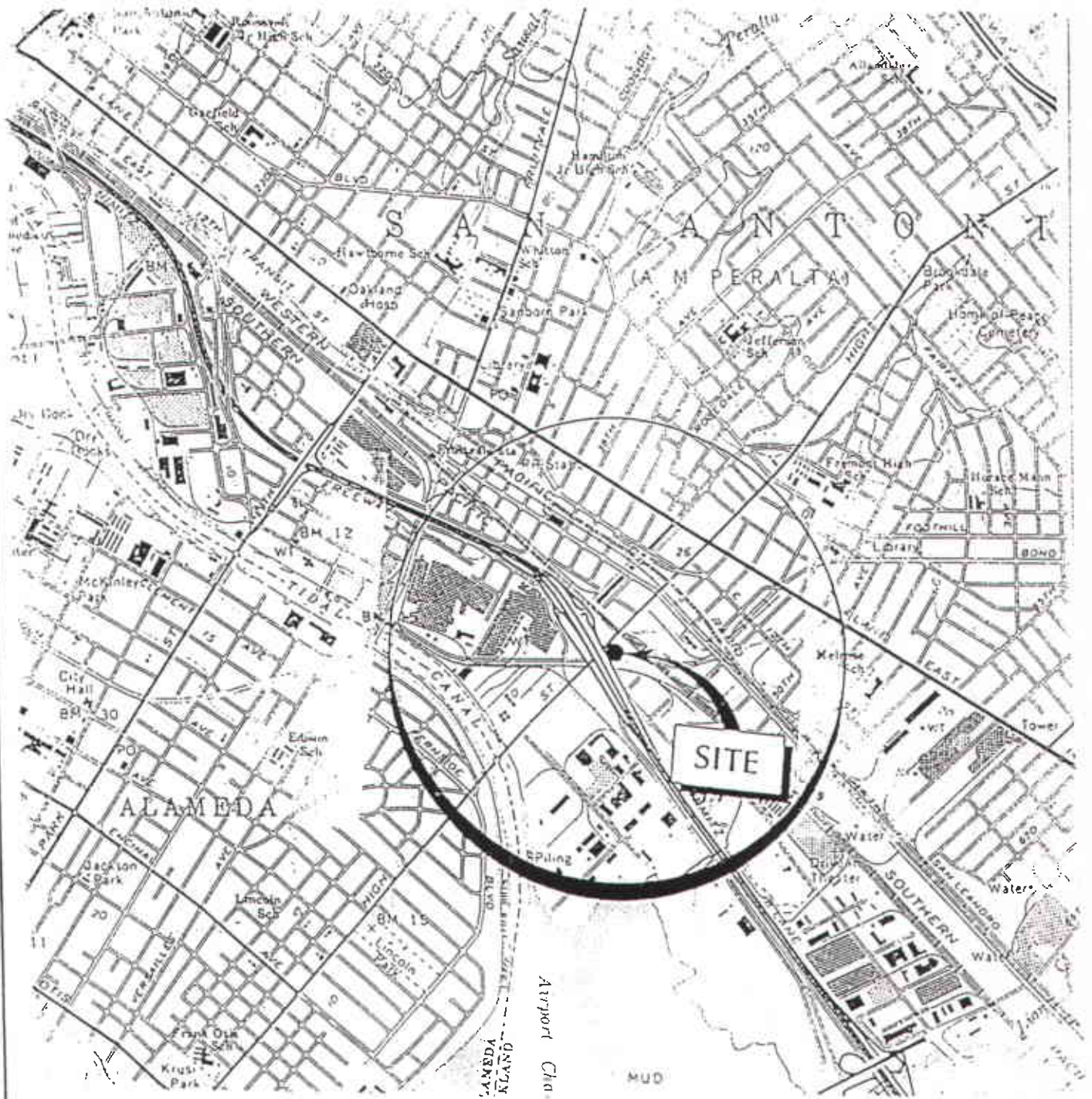
Date	Total Flow [gal]	Average Flowrate [gpd]	Sample ID	Analytical Data						TPHg Removed		Benzene Removed	
				TPHg [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
6/2/98	634,760	1,236	Samples were collected but inadvertently not analyzed by the laboratory.										
6/9/98	635,740	140											
6/17/98	642,810	884											
6/24/98	645,760	421											
7/8/98	645,800	3											
7/14/98	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				
7/14/98	649,980	System down on departure											
7/16/98	System run manually for the East Bay Municipal Utility District Inspection, effluent split samples taken. System still down.												
7/16/98			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
7/21/98	650,180	29											
7/27/98	655,260	847											
7/27/98	System shutdown until propane can be refilled to restart the Thermtech Vac 25.												
8/5/98	Restarted system												
8/5/98	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				
8/11/98	657,650	398											
8/18/98	662,740	727											
8/25/98	665,330	370											
9/3/98	System was down upon arrival due to low propane. System was restarted.												
9/3/98	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				
9/8/98	System down upon arrival due to a failed sump pump. System was restarted.												
9/8/98	669,720	404											
9/22/98	673,870	296											
9/29/98	673,940	10											
10/6/98	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.										
10/20/98	679,330	0	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  
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Date	Total Flow [gal]	Average Flowrate [gpd]	Sample ID	Analytical Data						TPHg Removed		Benzene Removed	
				TPH <sub>g</sub> [ug/l]	B [ug/l]	T [ug/l]	E [ug/l]	X [ug/l]	Arsenic [mg/l]	Per Period [lb]	Cumulative [lb]	Per Period [lb]	Cumulative [lb]
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				
11/4/98	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				
12/2/98	689,150	52	System down upon arrival. System restarted on departure.										
12/9/98	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.										

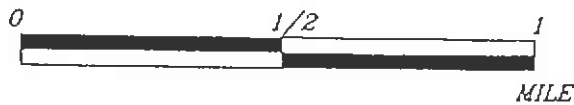
W-INF1	= water influent before stripper or before tank	B	= Benzene	NA	= Not applicable
W-INF2	= water influent after stripper or after filters	T	= Toluene	NS	= Not sampled
W-INT	= water intermediate samples	E	= Ethylbenzene		
W-EFF	= water effluent samples	X	= Total Xylenes		
TPH <sub>g</sub>	= Total purgeable 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		



2010001



APPROXIMATE SCALE



Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland/San Leandro, California Photorevised 1980

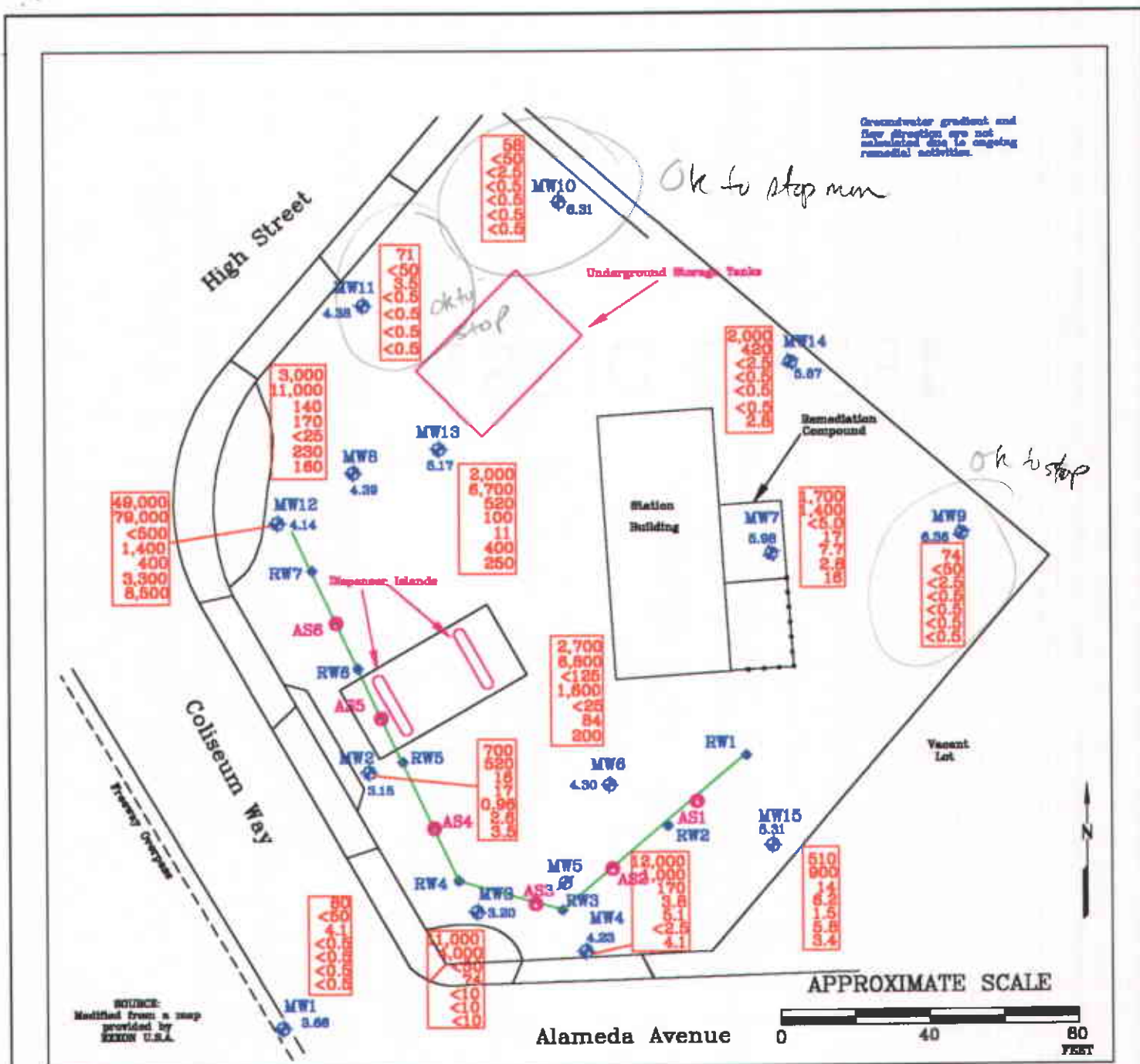


PROJECT ERI 2010

**SITE VICINITY MAP**  
 FORMER EXXON SERVICE STATION 7-3006  
 720 High Street  
 Oakland, California

PLATE

1



FN 20100002

**EXPLANATION**

- MW15 Groundwater Monitoring Well
- 5.31 Groundwater Elevation in feet above mean sea level
- MW5 Groundwater Monitoring Well (Destroyed)
- RW7 Recovery Monitoring Well

- Interceptor Trench
- AS6 Air-Sparging/Vapor-Extraction Well

Groundwater Concentrations in ug/L  
Sampled December 9, 1998

- 49,000 Total Extractable Petroleum Hydrocarbons as diesel
- 79,000 Total Purgeable Petroleum Hydrocarbons as gasoline
- <500 Methyl Tertiary Butyl Ether
- 1,400 Benzene
- 400 Toluene
- 3,300 Ethylbenzene
- 8,500 Xylenes

< Less Than the Stated Laboratory Detection Limit  
ug/L Micrograms per Liter



**GENERALIZED SITE PLAN**

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

PROJECT NO.

2010

PLATE

2

January 18, 1999

**ATTACHMENT A**  
**GROUNDWATER SAMPLING PROTOCOL**

## 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<sup>®</sup> 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. 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 =  $\pi r^2 h (7.48)$  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
- $\pi$  = 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<sup>®</sup> 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<sup>®</sup> 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 REPORTS**  
**AND CHAIN OF CUSTODY RECORDS**





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: EXXON 7-3006, 201011X Sample Descript: W-INF1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810534-01	Sampled: 10/06/98 Received: 10/07/98  Analyzed: 10/08/98 Reported: 10/15/98
--	--	---

QC Batch Number: GC100898BTEX03A  
Instrument ID: GCHP03

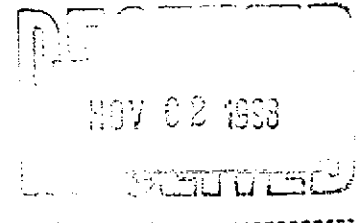
**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	990
Benzene	5.0	300
Toluene	5.0	N.D.
Ethyl Benzene	5.0	7.2
Xylenes (Total)	5.0	24
Chromatogram Pattern:		GAS
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	12

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
  
Attention: PETER PETRO

Client Proj. ID: EXXON 7-3006, 201011X  
Sample Descript: W-INF2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810534-02

Sampled: 10/06/98  
Received: 10/07/98  
  
Analyzed: 10/09/98  
Reported: 10/15/98

QC Batch Number: GC100998BTEX30A  
Instrument ID: GCHP30

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
<b>Benzene</b>	<b>0.50</b>	<b>0.60</b>
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: EXXON 7-3006, 201011X Sample Descript: W-INT Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810534-03	Sampled: 10/06/98 Received: 10/07/98 Analyzed: 10/08/98 Reported: 10/15/98
Attention: PETER PETRO		

QC Batch Number: GC100898BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: EXXON 7-3006, 201011X  
Sample Descript: W-EFF  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810534-04

Sampled: 10/06/98  
Received: 10/07/98  
Analyzed: 10/08/98  
Reported: 10/15/98

Attention: PETER PETRO

QC Batch Number: GC100898BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: EXXON 7-3006, 201011X  
Sample Descript: A-INF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9810534-05

Sampled: 10/06/98  
Received: 10/07/98  
Analyzed: 10/08/98  
Reported: 10/15/98

Attention: PETER PETRO

QC Batch Number: GC100898BTEX06A  
Instrument ID: GCHP06

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	56
Benzene	0.10	1.7
Toluene	0.10	0.12
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	0.21
Chromatogram Pattern: Unidentified HC		C6-C8
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recover</b>
Trifluorotoluene	70 130	100

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: EXXON 7-3006, 201011X Sample Descript: A-EFF Matrix: AIR Analysis Method: 8015Mod/8020 Lab Number: 9810534-06	Sampled: 10/06/98 Received: 10/07/98 Analyzed: 10/08/98 Reported: 10/15/98
--	--	---

QC Batch Number: GC100898BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	82

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Mei Shin  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
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ENVIRONMENTAL RESOLUTIONS  
74 Digital Dr., Ste.6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: EXXON 7-3006, 2010-11X

QC Sample Group: 9810534

Reported: Oct 27, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: MM

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC100898BTEX03A

Sample No.: GW9809H47-2

Date Prepared:	10/8/98	10/8/98	10/8/98	10/8/98
Date Analyzed:	10/8/98	10/8/98	10/8/98	10/8/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	10	10	10	32
% Recovery:	100	100	100	107
<b>Matrix</b>				
Spike Duplicate, ug/L:	9.7	9.7	9.9	30
% Recovery:	97	97	99	100
Relative % Difference:	3.0	3.0	1.0	6.8
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS100898A

Date Prepared:	10/8/98	10/8/98	10/8/98	10/8/98
Date Analyzed:	10/8/98	10/8/98	10/8/98	10/8/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	11	11	34
LCS % Recovery:	110	110	110	113

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager



**Sequoia  
Analytical**

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ENVIRONMENTAL RESOLUTIONS  
74 Digital Dr., Ste.6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: EXXON 7-3006, 2010-11X

QC Sample Group: 9810534

Reported: Oct 27, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: G.PESHINA

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC1008988BTEX06A

Sample No.: 9809H47-1

Date Prepared:	10/8/98	10/8/98	10/8/98	10/8/98
Date Analyzed:	10/8/98	10/8/98	10/8/98	10/8/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	11	12	11	34
% Recovery:	110	120	110	113
Matrix Spike Duplicate, ug/L:	11	11	11	31
% Recovery:	110	110	110	103
Relative % Difference:	0.0	8.7	0.0	9.3
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC1008988BTEX06A

Date Prepared:	10/8/98	10/8/98	10/8/98	10/8/98
Date Analyzed:	10/8/98	10/8/98	10/8/98	10/8/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	12	12	12	37
LCS % Recovery:	120	120	120	123

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.





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FAX (707) 792-0342

ENVIRONMENTAL RESOLUTIONS  
74 Digital Dr., Ste.6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: EXXON 7-3006, 2010-11X

QC Sample Group: 9810534

Reported: Oct 27, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: MM

ANALYTE Gasoline

QC Batch #: GC100998BTEX30A

Sample No.: GW9809115-2

Date Prepared: 10/9/98

Date Analyzed: 10/9/98

Instrument I.D.#: GCHP30

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 290

% Recovery: 117

Matrix

Spike Duplicate, ug/L: 280

% Recovery: 110

Relative % Difference: 6.2

RPD Control Limits: 0-25

LCS Batch#: GWLCS100998A

Date Prepared: 10/9/98

Date Analyzed: 10/9/98

Instrument I.D.#: GCHP30

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 280

LCS % Recovery: 110

Percent Recovery Control Limits:

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



Sequoia  
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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: PETER PETRO

Client Proj. ID: EXXON 7-3006, 201011X  
Lab Proj. ID: 9810534

Received: 10/07/98  
Reported: 10/15/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 10 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager



Sequoia Analytical  
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Redwood City, CA 94063  
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# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

9810534

Page 1 of 1

Consultant's Name: <u>Environmental Resolutions Inc</u>		Site Location: <u>7-3006</u>
Address: <u>74 Digital Dr Suite 6 Newark, CA 94949</u>		Consultant Work Release #: <u>19432503</u>
Project #: <u>201011X</u>	Consultant Project #: <u>201011X</u>	Laboratory Work Release #:
Project Contact: <u>Peter Petro</u>	Phone #: <u>(415)382-9105</u>	EXXON RAS #: <u>7-3006</u>
EXXON Contact: <u>Mark Guenster</u>	Phone #: <u>(925)246-8776</u>	
Sampled by (print): <u>DAVID ARDOR</u>	Sampler's Signature:	
Shipment Method:	Air Bill #:	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day)

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	ANALYSIS REQUIRED			Temperature: _____	Inbound Seal: Yes No		Outbound Seal: Yes No	
							TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520					
W-INF1	10/6/98	14:55	Water	HCL	3		X							01
W-INF2	10/6/98	15:00	Water	HCL	3		X							02
W-INT	10/6/98	15:05	Water	HCL	3		X							03
W-EFF	10/6/98	15:10	Water	HCL	3		X							04
A-INF	10/6/98	15:00	Air		1		X							05
A-EFF	10/6/98	14:55	Air		1		X							06

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
ERI	10-7-98	10:55	Sequoia	10/7/98	10:55	
	10-7-98			10/7	10:47	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Inf 1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810188-01

Sampled: 10/27/98  
Received: 10/28/98  
  
Analyzed: 10/29/98  
Reported: 11/10/98

QC Batch Number: GC102998BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	1600
Benzene	10	510
Toluene	10	N.D.
Ethyl Benzene	10	10
Xylenes (Total)	10	62
Chromatogram Pattern:		GAS

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	ξ

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Inf 2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810188-02

Sampled: 10/27/98  
Received: 10/28/98  
Analyzed: 11/02/98  
Reported: 11/10/98

GC Batch Number: GC110298BTEX30A  
Instrument ID: GCHP30

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
<b>Benzene</b>	<b>0.50</b>	<b>4.6</b>
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	111

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201011X Sample Descript: W-Int Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810188-03	Sampled: 10/27/98 Received: 10/28/98  Analyzed: 10/29/98 Reported: 11/10/98
--	---	---

C Batch Number: GC102998BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	90

analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL - ELAP #1210**

Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Eff  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810188-04

Sampled: 10/27/98  
Received: 10/28/98  
Analyzed: 10/29/98  
Reported: 11/10/98

QC Batch Number: GC102998BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	f

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Lab Proj. ID: 9810188

Sampled: 10/27/98  
Received: 10/28/98  
Analyzed: see below

Attention: Peter Petro

Reported: 11/10/98

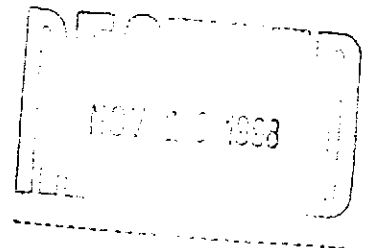
LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9810188-04 Sample Desc: LIQUID, W-Eff				
Arsenic by AA	mg/L	10/29/98	0.025	0.19

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager







ENVIRONMENTAL RESOLUTIONS

74 Digital Dr. Ste.6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: EXXON 7-3006, 201011X

QC Sample Group: 9810I88

Reported: Nov 10, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: GR/MM

**ANALYTE**    Benzene    Toluene    Ethylbenzene    Xylenes

QC Batch #: GC1029988TEX17A

Sample No.: GW9810D28-1

Date Prepared:	10/29/98	10/29/98	10/29/98	10/29/98
Date Analyzed:	10/29/98	10/29/98	10/29/98	10/29/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	8.4	8.1	8.5	23
% Recovery:	84	81	85	78
<b>Matrix</b>				
Spike Duplicate, ug/L:	9.1	8.8	9.1	25
% Recovery:	91	88	91	84
Relative % Difference:	8.0	8.3	6.8	7.4
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS102998A

Date Prepared:	10/29/98	10/29/98	10/29/98	10/29/98
Date Analyzed:	10/29/98	10/29/98	10/29/98	10/29/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	8.9	8.6	9.0	25
LCS % Recovery:	89	86	90	83

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager



# Sequoia Analytical

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ENVIRONMENTAL RESOLUTIONS  
74 Digital Dr. Ste.6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: EXXON 7-3006, 201011X

QC Sample Group: 9810I88

Reported: Nov 10, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: MM

ANALYTE Gasoline

QC Batch #: GC110298BTEX30A

Sample No.: GW9810E04-8  
Date Prepared: 11/2/98  
Date Analyzed: 11/2/98  
Instrument I.D.#: GCHP30

Sample Conc., ug/L: N.D.  
Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 250  
% Recovery: 101

Matrix  
Spike Duplicate, ug/L: 230  
% Recovery: 91

Relative % Difference: 10

RPD Control Limits: 0-25

LCS Batch#: GC110298BTEX30A

Date Prepared: 11/2/98  
Date Analyzed: 11/2/98  
Instrument I.D.#: GCHP30

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 260  
LCS % Recovery: 105

Percent Recovery Control Limits:

MS/MSD 60-140  
LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



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EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

CHAIN OF CUSTODY

9810I88

Consultant's Name: Environmental Resolutions, Inc. Page 1 of 1

Address: 74 Digital Dr. Suite 6 Novato Ca 94949 Site Location: 720 High St. Oakland

Project #: 201011X Consultant Project #: 2010 11X Consultant Work Release #: 19432503

Project Contact: Peter Petro Phone #: (415) 382-9105 Laboratory Work Release #:

EXXON Contact: Marla Gunster Phone #: (925) 246-8776 EXXON RAS #: 7-3006

Sampled by (print): Joel Dyer Sampler's Signature: [Signature]

Shipment Method: Air Bill #:

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day)

ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel/ EPA 8015	TRPH S.M. 5520	263	Temperature: _____
W-Inf 1 ✓	10/27/98	5:25	water	HCl	3		X				01
W-Inf 2 ✓	10/27/98	5:20	water	HCl	3		X				02
W-Int ✓	10/27/98	5:15	water	HCl	3		X				03
W-Eff ✓	10/27/98	5:10	water	HCl	3		X				04
W-Eff ✓	10/27/98	5:10	water	<del>HCl</del>	1					X	Arsenic only

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> SEQUOIA	10/28/98	1015	<u>[Signature]</u> SEQUOIA	10/28	1015	
<u>[Signature]</u>	10/28/98					
			<u>[Signature]</u>	10/28/98	10:07	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Environmental Resolutions  
74 Digital Drive, Ste. 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201011X  
Matrix: Liquid

Work Order #: 9810188 04

Reported: Nov 11, 1998

**QUALITY CONTROL DATA REPORT**

**Analyte:** Arsenic  
**QC Batch#:** ME1028987000MDA  
**Analy. Method:** EPA 206.2  
**Prep. Method:** EPA 3020

**Analyst:** J. Jencks  
**MS/MSD #:** 981018804  
**Sample Conc.:** 0.190  
**Prepared Date:** 10/28/98  
**Analyzed Date:** 10/29/98  
**Instrument I.D.#:** MTAJ3  
**Conc. Spiked:** 0.050 mg/L

**Result:** 0.25  
**MS % Recovery:** 120

**Dup. Result:** 0.25  
**MSD % Recov.:** 120

**RPD:** 0.0  
**RPD Limit:** 0-20

**LCS #:** BLK102898  
**Prepared Date:** 10/28/98  
**Analyzed Date:** 10/29/98  
**Instrument i.D.#:** MTAJ3  
**Conc. Spiked:** 0.050 mg/L

**LCS Result:** 0.049  
**LCS % Recov.:** 98

**MS/MSD** 75-125  
**LCS** 80-120  
**Control Limits**

**SEQUOIA ANALYTICAL**

*Mel Mei Shin*  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9810188 EEE <1>





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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X

Lab Proj. ID: 9810188

Received: 10/28/98

Reported: 11/10/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 10 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Inf1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9811H38-01

Sampled: 11/24/98  
Received: 11/25/98  
Analyzed: 12/07/98  
Reported: 12/09/98

GC Batch Number: GC120798BTEX30A  
Instrument ID: GCHP30

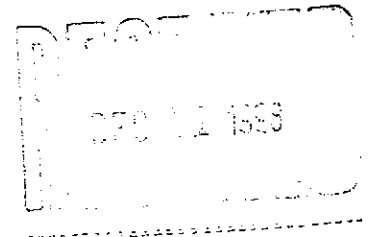
**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	420
Benzene	1.0	100
Toluene	1.0	3.8
Ethyl Benzene	1.0	2.7
Xylenes (Total)	1.0	3.3
Chromatogram Pattern:		gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	11

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

*Rebecca B. Shin*  
\_\_\_\_\_  
Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Inf2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9811H38-02

Sampled: 11/24/98  
Received: 11/25/98  
Analyzed: 12/07/98  
Reported: 12/09/98

GC Batch Number: GC120798BTEX02A  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	78
Benzene	0.50	3.3
Toluene	0.50	8.6
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	0.51
Chromatogram Pattern:		gas
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

*Mei Mei Shin*

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Int  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9811H38-03

Sampled: 11/24/98  
Received: 11/25/98  
Analyzed: 12/05/98  
Reported: 12/09/98

QC Batch Number: GC120598BTEX02A  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	8

analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

*Miecca K. Shin*

Miecca K. Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Eff  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9811H38-04

Sampled: 11/24/98  
Received: 11/25/98  
Analyzed: 12/05/98  
Reported: 12/09/98

Attention: Peter Petro

QC Batch Number: GC120598BTEX02A  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	7

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Riverca A. Strait*

Mei Mei Shin  
Project Manager



Sequoia  
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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X

Received: 11/25/98

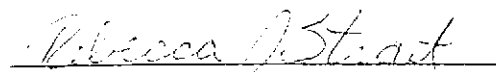
Lab Proj. ID: 9811H38

Reported: 12/09/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of \_\_\_\_\_ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL



Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006,201011X

QC Sample Group: 9811H38-01

Reported: Dec 9, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: MM

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC120798BTEX30A

Sample No.: GW9811I58-2

Date Prepared:	12/7/98	12/7/98	12/7/98	12/7/98
Date Analyzed:	12/7/98	12/7/98	12/7/98	12/7/98
Instrument I.D.#:	GCHP30	GCHP30	GCHP30	GCHP30
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	11	11	10	31
% Recovery:	110	110	100	103
Matrix Spike Duplicate, ug/L:	12	11	11	32
% Recovery:	120	110	110	107
Relative % Difference:	8.7	0.0	9.5	3.8
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC120798BTEX30A

Date Prepared:	12/7/98	12/7/98	12/7/98	12/7/98
Date Analyzed:	12/7/98	12/7/98	12/7/98	12/7/98
Instrument I.D.#:	GCHP30	GCHP30	GCHP30	GCHP30
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	10	10	30
LCS % Recovery:	110	100	100	100

Percent Recovery Control Limits:

MS/MSD	80-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Rebecca Strait*

Rebecca Strait  
Project Manager



# Sequoia Analytical

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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006,201011X

QC Sample Group: 9811H38-02-04

Reported: Dec 9, 1998

## QUALITY CONTROL DATA REPORT

Matrix:	Liquid			
Method:	EPA 8020			
Analyst:	TLP			
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes

QC Batch #: GC120798BTEX02A

Sample No.: GW9811161-02

Date Prepared:	12/7/98	12/7/98	12/7/98	12/7/98
Date Analyzed:	12/7/98	12/7/98	12/7/98	12/7/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	9.0	9.0	9.1	27
% Recovery:	90	90	91	91
Matrix Spike Duplicate, ug/L:	9.1	9.1	9.2	28
% Recovery:	91	91	92	92
Relative % Difference:	1.1	1.1	1.1	1.1
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC120798BTEX02A

Date Prepared:	12/7/98	12/7/98	12/7/98	12/7/98
Date Analyzed:	12/7/98	12/7/98	12/7/98	12/7/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.2	9.3	9.3	28
LCS % Recovery:	92	93	93	93
Percent Recovery Control Limits:				
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Rebecca Strait*

Rebecca Strait  
Project Manager



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32  
01  
23

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

Page 1 of 1

Consultant's Name: <u>Environmental Resolutions Inc.</u>		Site Location: <u>720 High St. Oakland Ca</u>
Address: <u>74 Digital Dr Suite 6 Novato Ca 94949</u>		Consultant Work Release #: <u>19432503</u>
Project #: <u>2010HX</u>	Consultant Project #: <u>2010HX</u>	Laboratory Work Release #:
Project Contact: <u>Peter Petro</u>	Phone #: <u>(415) 382-9105</u>	EXXON RAS #: <u>7-3006</u>
EXXON Contact: <u>Marla Gunster</u>	Phone #: <u>(925) 246-8776</u>	
Sampled by (print): <u>Joel Dyer</u>	Sampler's Signature: <u>Joel Dyer</u>	
Shipment Method:	Air Bill #:	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day)

ANALYSIS REQUIRED 9811 H38

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No		Outbound Seal: Yes No	
W - Inf 1	11/24/98	4:15	water	HCl	3		X							01
W - Inf 2	11/24/98	4:20	water	HCl	3		X							02
W - Int	11/24/98	4:25	water	HCl	3		X							03
W - Eff	11/24/98	4:30	water	HCl	3		X							04

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Joel Dyer / ERI</u>	<u>11/25/98</u>	<u>1646</u>	<u>Deo / seq.</u>	<u>11/25</u>	<u>1640</u>	
<u>Joel Dyer / seq.</u>	<u>11/25/98</u>		<u>Noelle Lane / Sequoia</u>	<u>11/25/98</u>	<u>1825</u>	

Pink - Client

Yellow - Sequoia

White - Sequoia



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-Eff  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9811H33-01

Sampled: 11/25/98  
Received: 11/25/98  
Analyzed: 12/05/98  
Reported: 12/11/98

GC Batch Number: GC120598BTEX03A  
Instrument ID: GCHP03

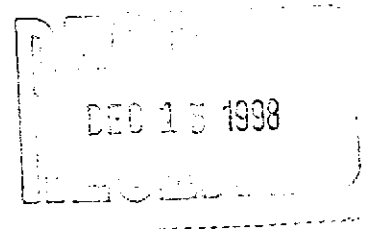
**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006,201011X

QC Sample Group: 9811H33-01

Reported: Dec 9, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8015  
Analyst: MM

**ANALYTE** Gasoline

QC Batch #: GC120598BTEX03A

Sample No.: GWLCS120598AD

Date Prepared: 12/5/98

Date Analyzed: 12/5/98

Instrument I.D.#: GCHP03

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 260

% Recovery: 104

**Matrix**

Spike Duplicate, ug/L: 260

% Recovery: 104

Relative % Difference: 0.0

RPD Control Limits: 0-25

LCS Batch#: GC120598BTEX03A

Date Prepared: 12/5/98

Date Analyzed: 12/5/98

Instrument I.D.#: GCHP03

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 260

LCS % Recovery: 104

**Percent Recovery Control Limits:**

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Rebecca Strait*

Rebecca Strait  
Project Manager





Sequoia  
Analytical

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(707) 792-1865

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FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X

Received: 11/25/98

Lab Proj. ID: 9811H33

Reported: 12/11/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 4 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager





Sequoia Analytical  
680 Chesapeake Dr.  
Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

**EXXON COMPANY, U.S.A.**  
P.O. Box 2180, Houston, TX 77002-7426  
**CHAIN OF CUSTODY**

25  
61  
28

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC

Address: 74 Digital Drive, Suite 6, Novato CA 94949 Site Location: 720 High St Oakland

Project #: 202011A Consultant Project #: 202011A Consultant Work Release #: 19432503

Project Contact: PETER PESTRO Phone #: 415 386 9105 Laboratory Work Release #:

EXXON Contact: MARIA GUENSTER Phone #: EXXON RAS #: 73006

Sampled by (print): PETER PESTRO Sampler's Signature: [Signature]

Shipment Method: Air Bill #: [Signature]

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day)

ANALYSIS REQUIRED 9811H33

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No		Outbound Seal: Yes No	
<u>W-5ff</u>	<u>11/25/98</u>	<u>11 AM</u>	<u>W20</u>	<u>16/100</u>	<u>3</u>	<u>01</u>	<u>X</u>							

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	<u>11/25/98</u>	<u>1640</u>	<u>[Signature] / Seq.</u>	<u>11/25</u>	<u>1640</u>	
<u>[Signature] / Seq.</u>	<u>11/25/98</u>		<u>NOELLE LANE / Sequoia</u>	<u>11/25/98</u>	<u>1823</u>	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011x  
Sample Descript: A-EFF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9812742-02

Sampled: 12/09/98  
Received: 12/10/98  
Analyzed: 12/12/98  
Reported: 12/29/98

Attention: Peter Petro

GC Batch Number: GC121298BTEX02A  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	91

Analyses reported as N.D. were not present above the stated limit of detection.

EQUOIA ANALYTICAL - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011x

Received: 12/10/98

Lab Proj. ID: 9812742

Reported: 12/29/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 6 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

EQUOIA ANALYTICAL

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011x  
Sample Descript: W-Inf1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9812742-03

Sampled: 12/09/98  
Received: 12/10/98  
Analyzed: 12/23/98  
Reported: 12/29/98

Attention: Peter Petro

GC Batch Number: GC122398BTEX06A  
Instrument ID: GCHP06

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1500
Benzene	5.0	480
Toluene	5.0	19
Ethyl Benzene	5.0	49
Xylenes (Total)	5.0	120
Chromatogram Pattern:		gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	113

analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL - ELAP #1210**

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011x  
Sample Descript: W-Inf2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9812742-04

Sampled: 12/09/98  
Received: 12/10/98  
Analyzed: 12/23/98  
Reported: 12/29/98

Attention: Peter Petro

GC Batch Number: GC122398BTEX06A  
Instrument ID: GCHP06

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	310
Benzene	1.0	95
Toluene	1.0	3.1
Ethyl Benzene	1.0	3.9
Xylenes (Total)	1.0	32
Chromatogram Pattern:		gas
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	96

Analyses reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions  
 4 Digital Drive, Suite 6  
 Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011x  
 Sample Descript: W-Int  
 Matrix: LIQUID  
 Analysis Method: 8015Mod/8020  
 Lab Number: 9812742-05

Sampled: 12/09/98  
 Received: 12/10/98  
 Analyzed: 12/21/98  
 Reported: 12/29/98

Attention: Peter Petro

Batch Number: GC122198BTEX03A  
 Instrument ID: GCHP03

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70                      130	89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Pei Mei Shin  
 Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011x  
Sample Descript: W-Eff  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9812742-06

Sampled: 12/09/98  
Received: 12/10/98  
Analyzed: 12/21/98  
Reported: 12/29/98

Attention: Peter Petro

GC Batch Number: GC122198BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	89

analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



Sequoia Environmental  
 680 Chesapeake Dr.  
 Redwood City, CA 94063  
 (650) 364-9600 • FAX (650) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

Consultant's Name: <u>Environmental Resolutions Inc.</u>							Page <u>1</u> of <u>1</u>					
Address: <u>714 Digital Dr. Suite #6 Novato Ca 94949</u>							Site Location: <u>720 High St. Oakland, Ca</u>					
Project #: <u>201011</u>			Consultant Project #: <u>201011A</u>				Consultant Work Release #: <u>19432503</u>					
Project Contact: <u>Peter Petro</u>			Phone #: <u>(415) 382-9105</u>				Laboratory Work Release #:					
EXXON Contact: <u>Mark Gansler</u>			Phone #: <u>(925) 246-8776</u>				EXXON RAS #: <u>7-3006</u>					
Sampled by (print): <u>Jack Dyar</u>			Sampler's Signature: <u>Jack Dyar</u>									
Shipment Method:			Air Bill #:									
TAT: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> 96 hr <input checked="" type="checkbox"/> Standard (10 day)							<b>ANALYSIS REQUIRED</b>					
Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520			Temperature: _____
A-Inf	12/19/98	4:51	Air		1		X					Inbound Seal: Yes No Outbound Seal: Yes No
A-Eff	12/19/98	4:49	Air		1		X					
W-Inf 1	12/19/98	3:10	Water	HCl	3		X					
W-Inf 2	12/19/98	3:12	Water	HCl	3		X					
W-Inf	12/19/98	3:14	Water	HCl	3		X					
W-Eff	12/19/98	3:17	Water	HCl	3		X					
<b>RELINQUISHED BY / AFFILIATION</b>			<b>Date</b>	<b>Time</b>	<b>ACCEPTED / AFFILIATION</b>			<b>Date</b>	<b>Time</b>	<b>Additional Comments</b>		
<u>Jack Dyar / ERT</u>					<u>C. M. ...</u>			12/10/98	11:19			

Pink - Client  
Yellow - Sequoia  
White - Sequoia





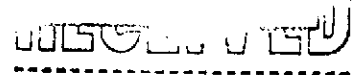
**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
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(916) 921-9600 FAX (916) 921-0100  
(707) 792-1865 FAX (707) 792-0342

NOV 18 1998



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: A-Inf  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9811287-01

Sampled: 11/04/98  
Received: 11/05/98  
Analyzed: 11/07/98  
Reported: 11/14/98

GC Batch Number: GC110798BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	150
Benzene	0.10	5.0
Toluene	0.10	N.D.
Ethyl Benzene	0.10	0.22
Xylenes (Total)	0.10	0.21
Chromatogram Pattern: Unidentified HC		C6-C10
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	252

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: A-Eff  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9811287-02

Sampled: 11/04/98  
Received: 11/05/98  
Analyzed: 11/07/98  
Reported: 11/14/98

GC Batch Number: GC110798BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	N.D.
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	100

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949 Attention: Peter Petro	Client Project ID: Exxon 7-3006, 201011X
QC Sample Group: 9811287	Reported: Nov 14, 1998

**QUALITY CONTROL DATA REPORT**

Matrix:	Liquid
Method:	EPA 8015
Analyst:	TP/GR
<b>ANALYTE</b>	<b>Gasoline</b>

QC Batch #: GC110798BTEX17A

Sample No.: GW9810L11-5

Date Prepared: 11/6/98

Date Analyzed: 11/6/98

Instrument I.D.#: GCHP17

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 200

% Recovery: 81

Matrix

Spike Duplicate, ug/L: 160

% Recovery: 63

Relative % Difference: 25

RPD Control Limits: 0-25

LCS Batch#: GC110798BTEX17A

Date Prepared: 11/7/98

Date Analyzed: 11/7/98

Instrument I.D.#: GCHP17

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 250

LCS % Recovery: 100

Percent Recovery Control Limits:

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:  
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Dave Velasquez*  
Dave Velasquez  
Project Manager





Sequoia  
Analytical

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Petaluma, CA 94954

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(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006, 201011X

Received: 11/05/98

Lab Proj. ID: 9811287

Reported: 11/14/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 5 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Lei Mei Shin  
Project Manager





Sequoia Analytical  
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 Redwood City, CA 94063  
 (415) 364-9600 • FAX (415) 364-9233

5 1 34

**EXXON COMPANY, U.S.A.**

P.O. Box 2180, Houston, TX 77002-7426

**CHAIN OF CUSTODY**

Consultant's Name: <u>Environ Mental Resolutions</u>		Site Location: <u>720 High St. Oakland</u>	
Address: <u>24 Digital Dr #6 Novato Ca 94949</u>		Consultant Work Release #: <u>19432503</u>	
Project #: <u>2010 11x 7-3006</u>	Consultant Project #: <u>2010 11x 7-3006</u>	Laboratory Work Release #:	
Project Contact: <u>Peter Petro</u>	Phone #: <u>(415) 382 9105</u>	EXXON RAS #: <u>7-3006</u>	
EXXON Contact: <u>Marla Gruenster</u>	Phone #: <u>(510) 246-8716</u>	Sampler's Signature: <u>Joel Dyer</u>	
Sampled by (print): <u>Joel Dyer</u>	Air Bill #:		
Shipment Method:			

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) **ANALYSIS REQUIRED**

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No
<u>98-11-287</u>												
<u>A-Inf</u>	<u>11/04/98</u>	<u>3:30</u>	<u>Air</u>		<u>1</u>	<u>-1</u>	<u>X</u>					
<u>A-Eff</u>	<u>11/04/98</u>	<u>3:29</u>	<u>Air</u>		<u>1</u>	<u>02</u>	<u>X</u>					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Joel Dyer</u>	<u>11/5/98</u>	<u>1136</u>	<u>[Signature]</u>	<u>11/5</u>	<u>1136</u>	
<u>[Signature] / seq.</u>	<u>11/5/98</u>		<u>W Jones</u>	<u>11/5</u>	<u>1230</u>	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Environmental Resolutions  
74 Digital Drive , Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Proj. ID: Exxon 7-3006,201013X

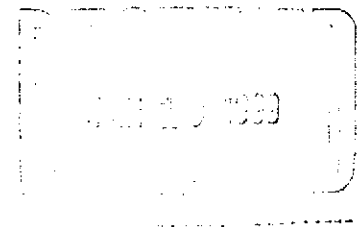
Lab Proj. ID: 9901017

Received: 12/31/98

Reported: 01/12/99

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 14 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).



SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Attention: Peter Petro

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-14-MW-4  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901017-12

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105980HBPEXA  
Instrument ID: GCHP5B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	400	12000
Chromatogram Pattern: Weathered Diesel	C9-C24	C9-C24+
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	124

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-14-MW-4  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901017-12

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/08/99  
Reported: 01/12/99

QC Batch Number: GC010899BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	1000
Methyl t-Butyl Ether	12	170
Benzene	2.5	3.8
Toluene	2.5	5.1
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	4.1
Chromatogram Pattern:		GAS

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	9

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager







Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-17-MW-8 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9901017-13	Sampled: 12/30/98 Received: 12/31/98 Extracted: 01/05/99 Analyzed: 01/07/99 Reported: 01/12/99
--	--	--

QC Batch Number: GC0105990HBPEXA  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	3000 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-17-MW-8  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901017-13

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/06/99  
Reported: 01/12/99

QC Batch Number: GC010699BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2500	11000
Methyl t-Butyl Ether	125	140
Benzene	25	170
Toluene	25	N.D.
Ethyl Benzene	25	230
Xylenes (Total)	25	160
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	6

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Attention: Peter Petro

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-8-MW-12  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901017-14

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105990HBPEXA  
Instrument ID: GCHP4A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	1000	49000 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 596 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-8-MW-12 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9901017-14	Sampled: 12/30/98 Received: 12/31/98  Analyzed: 01/06/99 Reported: 01/12/99
--	--	---

QC Batch Number: GC010699BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	79000
Methyl t-Butyl Ether	500	N.D.
Benzene	100	1400
Toluene	100	400
Ethyl Benzene	100	3300
Xylenes (Total)	100	8500
Chromatogram Pattern:		GAS

Surrogates	Control Limits %	% Recovered
Trifluorotoluene	70      130	

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager





# Sequoia Analytical

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FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949 Attention: Peter Petro	Client Project ID: Exxon 7-3006, 201013X	QC Sample Group: 9901017	Reported: Jan 12, 1999
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## QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015A
Analyst: A. PORTER
<b>ANALYTE Diesel</b>

QC Batch #: GC0105990HBPEXA

Sample No.: 9812G76-03

Date Prepared: 1/5/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP5B

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 650

% Recovery: 65

**Matrix**

Spike Duplicate, ug/L: 780

% Recovery: 78

Relative % Difference: 18

RPD Control Limits: 0-50

LCS Batch#: BLK010599AS

Date Prepared: 1/5/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP5B

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 760

LCS % Recovery: 76

Percent Recovery Control Limits:

MS/MSD 50-150

LCS 60-140

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Ronald M. Chew  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901017

Reported: Jan 12, 1999

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8015A  
Analyst: A. PORTER

ANALYTE Diesel

QC Batch #: GC0105990HBPEXA

Sample No.: 9812G76-03

Date Prepared: 1/5/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP5B

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 650

% Recovery: 65

Matrix

Spike Duplicate, ug/L: 780

% Recovery: 78

Relative % Difference: 18

RPD Control Limits: 0-50

LCS Batch#: BLK010599AS

Date Prepared: 1/5/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP5B

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 760

LCS % Recovery: 76

Percent Recovery Control Limits:

MS/MSD 50-150

LCS 60-140

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Ronald M. Chew  
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901017

Reported: Jan 12, 1999

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8015  
Analyst: BTF

**ANALYTE** Gasoline

QC Batch #: GC010899BTEX17A

Sample No.: GW9901279-1MS

Date Prepared: 1/8/99

Date Analyzed: 1/8/99

Instrument I.D.#: GCHP17

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 240

% Recovery: 98

Matrix

Spike Duplicate, ug/L: 240

% Recovery: 96

Relative % Difference: 2.1

RPD Control Limits: 0-25

LCS Batch#: GC010899BTEX17A

Date Prepared: 1/8/99

Date Analyzed: 1/8/99

Instrument I.D.#: GCHP17

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 250

LCS % Recovery: 101

Percent Recovery Control Limits:

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949 Attention: Peter Petro	Client Project ID: Exxon 7-3006, 201013X	QC Sample Group: 9901017 Reported: Jan 12, 1999
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**QUALITY CONTROL DATA REPORT**

Matrix:	Liquid
Method:	EPA 8015
Analyst:	MM
<b>ANALYTE</b>	<b>Gasoline</b>

QC Batch #: GC010699BTEX03A

Sample No.: GW9812131-2

Date Prepared: 1/6/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP03

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 260

% Recovery: 106

**Matrix**

Spike Duplicate, ug/L: 270

% Recovery: 108

Relative % Difference: 1.9

RPD Control Limits: 0-25

LCS Batch#: GC010699BTEX03A

Date Prepared: 1/6/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP03

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 270

LCS % Recovery: 108

**Percent Recovery Control Limits:**

MS/MSD	60-140
LCS	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

Ronald M. Chew  
Project Manager







Sequoia Analytical  
680 Chesapeake Dr.  
Redwood City, CA 94063  
(650) 364-9600 • FAX (650) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC.		Page 1 of 4
Address: 74 DIGITAL DR SUITE 6 NOVAE CA 94949		Site Location: 720 HIGH ST
Project #:	Consultant Project #: 201019X	Consultant Work Release #:
Project Contact: PETER PETRO	Phone #: 1 415 352 9105	Laboratory Work Release #: 1943 2503
EXXON Contact: MARLA GUENSLER	Phone #: 1 925 246 8776	EXXON RAS #: 7-3006
Sampled by (print): CARL MICKLICH	Sampler's Signature: <i>[Signature]</i>	OAKLAND CA
Shipment Method:	Air Bill #:	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 990144/017

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	ANALYSIS REQUIRED				Temperature: _____	
							TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	MTOE		Inbound Seal: Yes No
W- 8 - MW 10	12-30-98	1450	WATER	HCL	3	01	X					
W- 4 - MW 9	<i>[Large handwritten bracket]</i>	1520	<i>[Large handwritten bracket]</i>	<i>[Large handwritten bracket]</i>	<i>[Large handwritten bracket]</i>	02	X					
W- 9 - MW 1		1525				03	X					
W- 9 - MW 11		1540				04	X					
W- 10 - MW 2		1550				05	X					
W- 9 - MW 3		1605				06	X					
W- 11 - MW 14		1700				07	X					
W- 10 - MW 7		1605				08	X					
W- 9 - MW 15		1625				09	X					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<i>[Signature]</i>	12/30-98	1900	C. Guenther Sequoia	12/31/98	1053	
C. Guenther Sequoia	12/31/98		<i>[Signature]</i>	12/31/98	1320	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Sequoia Analytical  
680 Chesapeake Dr.  
Redwood City, CA 94063  
(650) 364-9600 • FAX (650) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

2

Consultant's Name: ENVIRONMENTAL RESOLUTIONS, Inc.		Page 2 of 4
Address: 74 DIGITAL DR SUITE 6 NOVATO CA 94949		Site Location: 720 HIGH ST
Project #:	Consultant Project #: 201013X	Consultant Work Release #: 19432503
Project Contact: PETER PETRO	Phone #: 1 415 382 9105	Laboratory Work Release #:
EXXON Contact: MARLA GUENSER	Phone #: 1 925 246 8776	EXXON RAS #: 7-3066
Sampled by (print): <i>[Signature]</i>	Sampler's Signature: <i>[Signature]</i>	OAKLAND CA
Shipment Method:	Air Bill #:	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 990104/17

### ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	MTOR 8020	Temperature: _____	
X W- 9-mw 13	12-30-98	1625	WATER	HLL	3	10	X			X		
X W- 25-mw 6	12-30-98	1705	WATER	HLL	3	11	X			X		
X W- 14-mw 4		1645		HLL	3	12	X			X		
X W- 17-mw 8		1720		HLL	3	13	X			X		
X W- 8-mw 12		1645		HLL	3	14	X			X		
+ 11 W- 8-mw 10		1455		NONE	2				X			
+ 11 W- 11-mw 9		1515		NONE	2				X			
+ 11 W- 9-mw 1		1530		NONE	2				X			
+ 11 W- 9-mw 11	1535	NONE	2				X					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<i>[Signature]</i>	12-30-98	1900	C. Armstrong Sequoia	12/31/98	1053	
C. Armstrong Sequoia	12-31-98					
			E. P. P. P.	12/31/98	1320	

Pink - Client  
Yellow - Sequoia  
White - Sequoia

DE 31 20



Sequoia Analytical  
680 Chesapeake Dr.  
Redwood City, CA 94063  
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# EXXON COMPANY, U.S.A.

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## CHAIN OF CUSTODY

3

Consultant's Name: <u>ENVIRONMENTAL RESOLUTIONS INC</u>		Page <u>3</u> of <u>4</u>
Address: <u>74 DIGITAL DR SUITE 6 NOVATO CA 94979</u>		Site Location: <u>720 HIGH ST</u>
Project #: _____	Consultant Project #: <u>201013X</u>	Consultant Work Release #: <u>1943 2503</u>
Project Contact: <u>PETER PETRO</u>	Phone #: <u>1 415 382 9125</u>	Laboratory Work Release #: _____
EXXON Contact: <u>MARLA GUENSLEK</u>	Phone #: <u>1 925 246 8726</u>	EXXON RAS #: <u>7-3006</u>
Sampled by (print): <u>CARL MIKICIC</u>	Sampler's Signature: <u>[Signature]</u>	<u>OAKLAND CA</u>
Shipment Method: _____	Air Bill #: _____	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 9901014/017

### ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No
+ (1) W-10-mw 2	12/30/98	1555	WATER	None	2			X				
+ (1) W-9-mw 3	[Large Handwritten Mark]	1600	[Large Handwritten Mark]	[Large Handwritten Mark]	[Large Handwritten Mark]			X				
+ (1) W-11-mw 4		1705						X				
+ (1) W-10-mw 7		1610						X				
+ (1) W-9-mw 15		1620						X				
+ (1) W-9-mw 13		1630						X				
+ (1) W-25-mw 6		1710						X				
+ (1) W-14-mw 4		1650						X				
+ (1) W-17-mw 8		1725						X				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	12/30/98	1900	<u>C. Constantiney Sequoia</u>	12/31/98	1053	
<u>C. Constantiney Sequoia</u>	12/31/98		<u>[Signature]</u>	12/31/98	1320	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



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## CHAIN OF CUSTODY

Page 4 of 4

Consultant's Name: <u>ENVIRONMENTAL RESOLUTIONS, INC.</u>		Site Location: <u>720 HIGH ST</u>
Address: <u>74 DIGITAL DR SUITE 6 HOUSTON CA 94949</u>		Consultant Work Release #: <u>19432503</u>
Project #:	Consultant Project #: <u>201013X</u>	Laboratory Work Release #:
Project Contact: <u>PETER PETKO</u>	Phone #: <u>1 415 382 2105</u>	EXXON RAS #: <u>7-3006</u>
EXXON Contact: <u>MARLA GUCHSLER</u>	Phone #: <u>1 925 246 8776</u>	Sampler's Signature: <u>[Signature]</u>
Sampled by (print): <u>CARL MULLICH</u>	Air Bill #:	<u>OAKLAND, CA</u>
Shipment Method:		

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 9901014/017

### ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No
<u>W- 8-mw 12</u>	<u>12/30/98</u>	<u>1650</u>	<u>WATER</u>	<u>NONE</u>	<u>2</u>			<u>X</u>				

DEC 31 1 20

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	<u>12/30/98</u>	<u>1900</u>	<u>C. Gustafson Sequoia</u>	<u>12/31/98</u>	<u>1053</u>	
<u>C. Gustafson Sequoia</u>	<u>12/31/98</u>		<u>[Signature]</u>	<u>12/31</u>	<u>1370</u>	

+11

Pink - Client  
 Yellow - Sequoia  
 White - Sequoia



**Sequoia  
Analytical**

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Walnut Creek, CA 94598  
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Petaluma, CA 94954

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(916) 921-9600  
(707) 792-1865

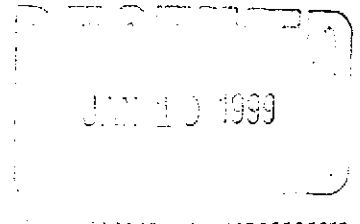
FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949 Attention: Peter Petro	Client Proj. ID: Exxon 7-3006,201013X  Lab Proj. ID: 9901016	Received: 12/31/98  Reported: 01/12/99
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**LABORATORY NARRATIVE**

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 34 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

Sample W-9-MW15(9901016-09) surrogate outside limits due to matrix interference.



SEQUOIA ANALYTICAL

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-8-MW-10  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-01

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	58 C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	97

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-8-MW-10  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-01

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/06/99  
Reported: 01/12/99

QC Batch Number: GC010699BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovered</b>
Trifluorotoluene	70 130	66

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-11-MW-9  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-02

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	74 C9-C24
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50 150	<b>% Recovery</b> 91

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

lei Mei Shin  
Project Manager





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-11-MW-9 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9901016-02	Sampled: 12/30/98 Received: 12/31/98  Analyzed: 01/06/99 Reported: 01/12/99
Attention: Peter Petro		

QC Batch Number: GC010699BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovered</b>
Trifluorotoluene	70                      130	66

analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

  
Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-1  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-03

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	80
		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	95

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006.201013X  
Sample Descript: W-9-MW-1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-03

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/06/99  
Reported: 01/12/99

Attention: Peter Petro

QC Batch Number: GC010699BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	4.1
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recove</b>
Trifluorotoluene	70 130	

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-9-MW-11 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9901016-04	Sampled: 12/30/98 Received: 12/31/98 Extracted: 01/05/99 Analyzed: 01/07/99 Reported: 01/12/99
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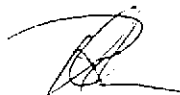
QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	71
		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	102

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
\_\_\_\_\_  
Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Attention: Peter Petro

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-11  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-04

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/06/99  
Reported: 01/12/99

QC Batch Number: GC010699BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	3.5
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovered</b>
Trifluorotoluene	70 130	- 2

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-10-MW-2 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9901016-05	Sampled: 12/30/98 Received: 12/31/98 Extracted: 01/05/99 Analyzed: 01/07/99 Reported: 01/12/99
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QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	700  C9-C24
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50	<b>% Recovery</b> 101

Analyses reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-10-MW-2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-05

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/06/99  
Reported: 01/12/99

Attention: Peter Petro

QC Batch Number: GC010699BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	520
Methyl t-Butyl Ether	2.5	16
Benzene	0.50	17
Toluene	0.50	0.96
Ethyl Benzene	0.50	2.6
Xylenes (Total)	0.50	3.5
Chromatogram Pattern:		CAS
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	110

analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Attention: Peter Petro

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-3  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-06

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/08/99  
Reported: 01/12/99

GC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Weathered Diesel	500	11000 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 109

analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006.201013X  
Sample Descript: W-9-MW-3  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-06

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/07/99  
Reported: 01/12/99

Attention: Peter Petro

GC Batch Number: GC010799BTEX02A

Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	4000
Methyl t-Butyl Ether	50	N.D.
Benzene	10	74
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	N.D.
Chromatogram Pattern: Unidentified HC		c6-c12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovered</b>
Trifluorotoluene	70 130	83

Analytics reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-11-MW-14  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-07

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/08/99  
Reported: 01/12/99

Attention: Peter Petro

GC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP4B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	100	2000
Chromatogram Pattern: Unidentified HC		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	111

Analyses reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions 1455 Digital Drive, Suite 6 Petaluma, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-11-MW-14 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9901016-07	Sampled: 12/30/98 Received: 12/31/98 Analyzed: 01/06/99 Reported: 01/12/99
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Batch Number: GC010699BTEX30A  
Instrument ID: GCHP30

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	420
Diethyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Aromatics (Total)	0.50	2.8
Chromatogram Pattern: Unidentified HC		C6-C12
Surrogates	Control Limits %	% Recovery
1,2-Dichlorotoluene	70	130
		83

Values reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-10-MW-7 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9901016-08	Sampled: 12/30/98 Received: 12/31/98 Extracted: 01/05/99 Analyzed: 01/07/99 Reported: 01/12/99
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QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	1700
		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	112

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006.201013X  
Sample Descript: W-10-MW-7  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-08

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/07/99  
Reported: 01/12/99

Attention: Peter Petro

QC Batch Number: GC010799BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	1400
Methyl t-Butyl Ether	5.0	N.D.
Benzene	1.0	17
Toluene	1.0	7.7
Ethyl Benzene	1.0	2.8
Xylenes (Total)	1.0	16
Chromatogram Pattern: Gas & Unidentified HC		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	100

Analyses reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-15  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-09

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

Attention: Peter Petro

GC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	510
		C5-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	93

analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-9-MW-15 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9901016-09	Sampled: 12/30/98 Received: 12/31/98  Analyzed: 01/06/99 Reported: 01/12/99
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QC Batch Number: GC010699BTEX30A  
Instrument ID: GCHP30

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	900
Methyl t-Butyl Ether	2.5	14
Benzene	0.50	6.2
Toluene	0.50	1.5
Ethyl Benzene	0.50	5.8
Xylenes (Total)	0.50	3.4
Chromatogram Pattern: Gas & Unidentified HC		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	137 Q

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
\_\_\_\_\_  
Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-13  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9901016-10

Sampled: 12/30/98  
Received: 12/31/98  
Extracted: 01/05/99  
Analyzed: 01/07/99  
Reported: 01/12/99

QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	2000
Chromatogram Pattern: Unidentified HC		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	100

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-9-MW-13  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-10

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/07/99  
Reported: 01/12/99

GC Batch Number: GC010799BTEX03A  
Instrument ID: GCHP03

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	6700
Methyl t-Butyl Ether	25	520
Benzene	5.0	100
Toluene	5.0	11
Ethyl Benzene	5.0	400
Xylenes (Total)	5.0	250
Chromatogram Pattern:		GAS
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	103

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mei Shin  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006,201013X Sample Descript: W-25-MW-6 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9901016-11	Sampled: 12/30/98 Received: 12/31/98 Extracted: 01/05/99 Analyzed: 01/07/99 Reported: 01/12/99
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QC Batch Number: GC0105990HBPEXZ  
Instrument ID: GCHP19B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	2700 C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	89

analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Mei Mei Shin  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949

Client Proj. ID: Exxon 7-3006,201013X  
Sample Descript: W-25-MW-6  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9901016-11

Sampled: 12/30/98  
Received: 12/31/98  
Analyzed: 01/08/99  
Reported: 01/12/99

GC Batch Number: GC010899BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2500	6800
Methyl t-Butyl Ether	125	N.D.
Benzene	25	1600
Toluene	25	N.D.
Ethyl Benzene	25	84
Xylenes (Total)	25	200
Chromatogram Pattern:		gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	106

analytes reported as N.D. were not present above the stated limit of detection.

**EQUOIA ANALYTICAL** - ELAP #1210

Mei Shin  
Project Manager



# Sequoia Analytical

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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: BTF

ANALYTE Gasoline

QC Batch #: GC010899BTEX17A

Sample No.: GW9901279-1MS

Date Prepared: 1/8/99

Date Analyzed: 1/8/99

Instrument I.D.#: GCHP17

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 240

% Recovery: 98

### Matrix

Spike Duplicate, ug/L: 240

% Recovery: 96

Relative % Difference: 2.1

RPD Control Limits: 0-25

LCS Batch#: GC010899BTEX17A

Date Prepared: 1/8/99

Date Analyzed: 1/8/99

Instrument I.D.#: GCHP17

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 250

LCS % Recovery: 101

### Percent Recovery Control Limits:

MS/MSD 60-140

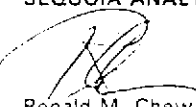
LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

#### Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North. Ste. D

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(925) 988-9600 FAX (925) 988-9673  
(916) 921-9600 FAX (916) 921-0100  
(707) 792-1865 FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: MM

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC010799BTEX03A

Sample No.: GW9901218-2

Date Prepared:	1/7/99	1/7/99	1/7/99	1/7/99
Date Analyzed:	1/7/99	1/7/99	1/7/99	1/7/99
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	9.8	10	10	32
% Recovery:	98	100	100	107
Matrix				
Spike Duplicate, ug/L:	10	11	11	34
% Recovery:	100	110	110	113
Relative % Difference:	2.0	9.5	9.5	5.5
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC010799BTEX03A

Date Prepared:	1/7/99	1/7/99	1/7/99	1/7/99
Date Analyzed:	1/7/99	1/7/99	1/7/99	1/7/99
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.1	9.3	9.5	29
LCS % Recovery:	91	93	95	97

Percent Recovery Control Limits:

MS-MSD	60-140	60-140	60-140	50-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: BTF

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC0107998TEX17A

Sample No.: GW9901105-3MS

Date Prepared:	1/7/99	1/7/99	1/7/99	1/7/99
Date Analyzed:	1/7/99	1/7/99	1/7/99	1/7/99
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	9.9	9.9	10	30
% Recovery:	99	99	104	102
<b>Matrix</b>				
Spike Duplicate, ug/L:	9.8	9.8	10	30
% Recovery:	98	98	103	101
Relative % Difference:	1.0	1.0	0.97	0.99
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC0107998TEX17A

Date Prepared:	1/7/99	1/7/99	1/7/99	1/7/99
Date Analyzed:	1/7/99	1/7/99	1/7/99	1/7/99
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	10	10	11	32
LCS % Recovery:	101	105	108	107

Percent Recovery Control Limits:

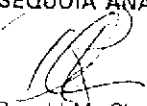
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager





# Sequoia Analytical

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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: MM

**ANALYTE** Gasoline

QC Batch #: GC010699BTEX30A

Sample No.: GW9812H79-1

Date Prepared: 1/6/99  
Date Analyzed: 1/6/99  
Instrument I.D.#: GCHP30

Sample Conc., ug/L: N.D.  
Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 270  
% Recovery: 107

Matrix  
Spike Duplicate, ug/L: 260  
% Recovery: 105

Relative % Difference: 1.9

RPD Control Limits: 0-25

LCS Batch#: GC010699BTEX30A

Date Prepared: 1/6/99  
Date Analyzed: 1/6/99  
Instrument I.D.#: GCHP30

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 280  
LCS % Recovery: 112

Percent Recovery Control Limits:

MS MSD 60-140  
LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Ronald M. Chew  
Project Manager



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FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949 Attention: Peter Petro	Client Project ID: Exxon 7-3006, 201013X	QC Sample Group: 9901016	Reported: Jan 12, 1999
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## QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	MM
<b>ANALYTE</b>	<b>Gasoline</b>

QC Batch #: GC010699BTEX17A

Sample No.: GW9812H09-1

Date Prepared: 1/6/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP17

Sample Conc., ug/L: N.D.

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 240

% Recovery: 98

Matrix

Spike Duplicate, ug/L: 240

% Recovery: 98

Relative % Difference: 0.0

RPD Control Limits: 0-25

LCS Batch#: GC010699BTEX17A

Date Prepared: 1/6/99

Date Analyzed: 1/6/99

Instrument I.D.#: GCHP17

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 250

LCS % Recovery: 100

Percent Recovery Control Limits:

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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SEQUOIA ANALYTICAL

Ronald M. Chew  
Project Manager





# Sequoia Analytical

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FAX (650) 364-9233  
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FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: BTF

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC0107998TEX02A

Sample No.: GW9812102-07MS

Date Prepared: 1/7/99 1/7/99 1/7/99 1/7/99

Date Analyzed: 1/7/99 1/7/99 1/7/99 1/7/99

Instrument I.D.#:

Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30

Matrix Spike, ug/L:	9.9	11	11	33
% Recovery:	99	107	110	110

Matrix				
Spike Duplicate, ug/L:	9.5	10	10	32
% Recovery:	95	104	105	106

Relative % Difference:	4.1	2.8	4.7	3.7
------------------------	-----	-----	-----	-----

RPD Control Limits:	0-25	0-25	0-25	0-25
---------------------	------	------	------	------

LCS Batch#: GC0107998TEX02A

Date Prepared: 1/7/99 1/7/99 1/7/99 1/7/99

Date Analyzed: 1/7/99 1/7/99 1/7/99 1/7/99

Instrument I.D.#:

Conc. Spiked, ug/L:	10	10	10	30
---------------------	----	----	----	----

LCS Recovery, ug/L:	10	11	11	34
LCS % Recovery:	101	111	112	112

Percent Recovery Control Limits:


MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager



Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Peter Petro

Client Project ID: Exxon 7-3006, 201013X

QC Sample Group: 9901016

Reported: Jan 12, 1999

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8015A  
Analyst: A. PORTER

ANALYTE Diesel

QC Batch #: GC0105990HBPEXZ

Sample No.: 9901016-04

Date Prepared: 1/5/99

Date Analyzed: 1/7/99

Instrument I.D.#: GCHP19B

Sample Conc., ug/L: 71

Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 970

% Recovery: 90

Matrix

Spike Duplicate, ug/L: 930

% Recovery: 86

Relative % Difference: 4.5

RPD Control Limits: 0-50

LCS Batch#: BLK010599ZS

Date Prepared: 1/5/99

Date Analyzed: 1/7/99

Instrument I.D.#: GCHP19B

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 860

LCS % Recovery: 86

Percent Recovery Control Limits:

MS/MSD 50-150

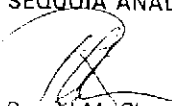
LCS 60-140

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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SEQUOIA ANALYTICAL

  
Ronald M. Chew  
Project Manager



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Redwood City, CA 94063  
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EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

CHAIN OF CUSTODY

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC. Page 1 of 4

Address: 74 DIGITAL DR SUITE 6 MOUNTAIN VIEW CA 94949 Site Location: 720 HIGH ST

Project #: \_\_\_\_\_ Consultant Project #: 201013X Consultant Work Release #: \_\_\_\_\_

Project Contact: PETER PETRO Phone #: 1 415 352 9125 Laboratory Work Release #: 1943 2503

EXXON Contact: MARLA GUNSLER Phone #: 1 925 246 8276 EXXON RAS #: 7-3006

Sampled by (print): CARL MICKLICH Sampler's Signature: [Signature] OAKLAND CA

Shipment Method: \_\_\_\_\_ Air Bill #: \_\_\_\_\_

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 990114/017

ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	MTOE	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No	
W- 8 - MW10	12-30-98	1450	WATER	HEL	3	01	X			X				
W- 4 - MW 9	[Large bracket]	1520	[Large bracket]	[Large bracket]	[Large bracket]	02	X			X				
W- 9 - MW 1		1525				03	X			X				
W- 9 - MW 11		1540				04	X			X				
W- 10 - MW 2		1550				05	X			X				
W- 9 - MW 3		1605				06	X			X				
W- 11 - MW 14		1700				07	X			X				
W- 10 - MW 7		1605				08	X			X				
W- 9 - MW 15		1625				09	X			X				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	12/30-98	1900	<u>C. Gunstang Sequoia</u>	12/31/98	1053	
<u>C. Gunstang Sequoia</u>	12/31/98		<u>[Signature]</u>	12/31/98	1320	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Sequoia Analytical  
680 Chesapeake Dr.  
Redwood City, CA 94063  
(650) 364-9600 • FAX (650) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

2

Consultant's Name: ENVIRONMENTAL RESOLUTIONS, INC.

Page 2 of 4

Address: 74 DIGITAL DR SUITE 6 NOVATO CA 94949

Site Location: 720 HIGH ST

Project #:

Consultant Project #: 201013X

Consultant Work Release #: 19432523

Project Contact: PETER PETRO

Phone #: 1 415 382 9105

Laboratory Work Release #:

EXXON Contact: MARLA GUENSER

Phone #: 1 925 246 8776

EXXON RAS #: 7-3066

Sampled by (print): *[Signature]*

Sampler's Signature: *[Signature]*

OAKLAND CA

Shipment Method:

Air Bill #:

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 990104/17

### ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	MTOR 8020	Temperature: _____ Inbound Seal: Yes No Outbound Seal: Yes No	
W- 9-mw 13	12-30-98	1625	WATER	HLL	3	10	X			X		
W- 25-mw 6	}	1705	}	HLL	3	11	X			X		
W- 14-mw 4		1645		HLL	3	12	X			X		
W- 17-mw 8		1720		HLL	3	13	X			X		
W- 8-mw 12		1645		HLL	3	14	X			X		
W- 9-mw 10		1455		NONE	2				X			
W- 11-mw 9		1515		NONE	2				X			
W- 9-mw 1		1530		NONE	2				X			
W- 9-mw 11	1535	NONE	2				X					

RELINQUISHED BY / AFFILIATION

Date

Time

ACCEPTED / AFFILIATION

Date

Time

Additional Comments

*[Signature]*  
C. Armaso / Sequoia

12-30-98

1900

C. Armaso / Sequoia

12/31/98

1053

*[Signature]*

12/31/98

1320

Pink - Client

Yellow - Sequoia

White - Sequoia

20



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Redwood City, CA 94063  
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EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

CHAIN OF CUSTODY

3

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC Page 3 of 4

Address: 74 DIGITAL DR SUITE 6 NOVATO CA 94949 Site Location: 720 HIGH ST

Project #: \_\_\_\_\_ Consultant Project #: 201013X Consultant Work Release #: 1943 2503

Project Contact: PETER PETRO Phone #: 1 415 582 9105 Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: MARLA GUENGLER Phone #: 1 925 246 8776 EXXON RAS #: 7-3006

Sampled by (print): CARL MIKICIC Sampler's Signature: [Signature] OAKLAND CA

Shipment Method: \_\_\_\_\_ Air Bill #: \_\_\_\_\_

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 9901016/017

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	ANALYSIS REQUIRED			Temperature: _____	
							TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	Inbound Seal: Yes No	Outbound Seal: Yes No
+10 W-10-mw 2	12/30/98	1555	WATER	NONE	2		X				
+11 W-9-mw 3	}	1600	}	}	}		X				
+11 W-11-mw 4		1705					X				
+11 W-16-mw 7		1610					X				
+11 W-9-mw 15		1620					X				
+11 W-9-mw 13		1630					X				
+11 W-25-mw 6		1710					X				
+11 W-14-mw 4		1650					X				
+11 W-17-mw 8		1725					X				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	12/30/98	1900	<u>C. G. Sequoia</u>	12/31/98	1053	
<u>[Signature]</u> Sequoia	12/31/98					
			<u>[Signature]</u>	12/31/98	1320	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Sequoia Environmental  
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Redwood City, CA 94063  
(650) 364-9600 • FAX (650) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC. Page 4 of 4

Address: 74 DIGITAL DR SUITE 6 NOVATO CA 94949 Site Location: 720 HIGH ST

Project #: \_\_\_\_\_ Consultant Project #: 201013X Consultant Work Release #: 19432503

Project Contact: PETER PETRO Phone #: 1 415 382 2105 Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: MARLA GUCHSLER Phone #: 1 925 246 8778 EXXON RAS #: 7-3006

Sampled by (print): CARL MUELLER Sampler's Signature: [Signature] OAKLAND, CA

Shipment Method: \_\_\_\_\_ Air Bill #: \_\_\_\_\_

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 990104/017 ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No		Outbound Seal: Yes No	
<u>W- 8-mw 12</u>	<u>12/30/98</u>	<u>1650</u>	<u>WATER</u>	<u>none</u>	<u>2</u>			<u>X</u>						

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	<u>12/30/98</u>	<u>1900</u>	<u>C. Guchslers Sequoia</u>	<u>12/31/98</u>	<u>1053</u>	
<u>C. Guchslers Sequoia</u>	<u>12/31/98</u>					
			<u>4 employees</u>	<u>12/31</u>	<u>1320</u>	

Pink - Client  
Yellow - Sequoia  
White - Sequoia

11

DE 31 11 20

**ATTACHMENT C**

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

**FROM A VADOSE WELL**  
**SOP-25**  
 Rev: JO'C

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> acfm	Vapor flow lb. rem.	Calc.
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

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

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

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

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)