

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

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

MARLA D. GUENSLER  
SENIOR ENGINEER  
(925) 246-8776  
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ENVIRONMENTAL  
PROTECTION

98 NOV 23 PM 3:45

#136

**NOV 19 1998**

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

**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, Third Quarter 1998*, dated November 12, 1998, 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, Third Quarter 1998, dated November 12, 1998

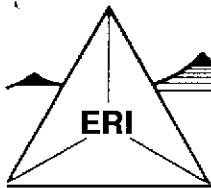
cc:

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.



November 12, 1998  
ERI 201011.R17

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, Third 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 third quarter 1998, at the subject site (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 hydrocarbon concentrations in groundwater, the capture zone caused by groundwater pumping, and the effectiveness of remedial actions.

### **GROUNDWATER MONITORING AND SAMPLING**

On September 29, 1998, ERI measured the depth to water (DTW) and collected groundwater samples for laboratory analysis from monitoring wells MW1 through MW4, and MW6 through MW14. Monitoring well MW5 was previously destroyed. Monitoring well MW15 was obstructed by a parked car. ERI's groundwater sampling protocol is attached (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, ethyl benzene, 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 analysis 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 poly vinyl 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 May 5, 1998, and September 3, 1998, the system recovered 61,090 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. During a recent review of operation and maintenance tables, ERI revised flow measurement calculations to reflect correct flow pipe diameter for the system. The correction more accurately estimates hydrocarbon removal amounts. ERI estimates approximately 23 pounds (approximately 4 gallons) of residual hydrocarbons were removed by the AS/SVE system during the reporting period, and approximately 4,977 pounds (approximately 817 gallons) since start-up. The estimated amount of hydrocarbons removed by the system was performed in accordance with the ERI standard operation procedures included an Attachment C. ERI estimates approximately 1 pound of dissolved hydrocarbons were removed by the GRS from April 7, 1998 to May 5, 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 fourth quarter 1998.

**LIMITATIONS**

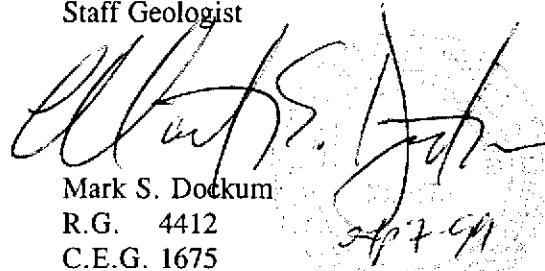
This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for Exxon and any reliance on this report by third parties shall be at such party's sole risk.

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  
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Well ID #	Sampling	SUBJ	DTW	Elev.	TEPHd	TPPHg	MTBE	B	T	E	X	VOCs	
(TOC)	Date	.....feet.....	.....ug/L.....										
MW8 (cont.) (13.45)	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		
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	<0.5	NA
	12/11/96	NLPH	8.11	6.53	91	<50	<2.5	<0.5	<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	<0.5	NA	
6/4/97	NLPH	8.87	5.77	<50	<50	<2.5	<0.5	<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	<0.5	NA	
12/2/97	NLPH	8.43	6.21	71	<50	<2.5	<0.5	<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	<0.5	NA	
6/23/98	NLPH	7.81	6.83	69	<50	<2.5	<0.5	<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	<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		





**TABLE 1**  
**CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**  
Former Exxon Service Station 7-3006  
720 High Street  
Oakland, California  
(Page 6 of 8)

Well ID # (TOC)	Sampling Date	SUBJ feet	DTW	Elev.	TEPHd	TPPHg	MTBE	B	T	E	X	VOCs
			ug/L									
MW12 (cont) (12.61)	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
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	
MW14 (15.18)	1/20/94	NM	NM	---	---	---	---	---	---	---	---	---
	02/02-03/94	Not Accessible			---	---	---	---	---	---	---	---
	3/10/94	NLPH	7.84	7.34	---	---	---	---	---	---	---	---
	4/22/94	NLPH	8.00	7.18	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	7.93	7.25	11,002	300	NA	2.7	7.9	2	27	NA
	6/27/94	NLPH	8.19	6.99	---	---	---	---	---	---	---	---
	8/31/94	NLPH	9.44	5.74	---	---	---	---	---	---	---	---
	9/29/94	NLPH	9.82	5.36	NA	300	1,600	<0.5	<0.5	0.9	1.3	NA
	10/25/94	NLPH	9.99	5.19	NA	200	210	<0.5	<0.5	0.8	<0.5	NA
	11/30/94	NM	8.16	7.02	---	---	---	---	---	---	---	---
	12/27/94	Sheen	8.15	7.03	---	---	---	---	---	---	---	---
	2/6/95	NLPH	7.18	8.00	1,200	360	NA	<1.0	<1.0	<1.0	<1.0	NA
		Additional Analysis TOG			400							
	6/7/95	NLPH	7.70	7.48	1,100	670	<2.5	<0.5	<0.5	3.6	<0.5	NA
		Additional Analysis EHCss			450							
	9/18/95	NLPH	9.88	5.30	1,900	1,300	<10	<2.0	<2.0	<2.0	3	NA
	Additional Analysis EHCss			1,200								
11/1/95	NLPH	10.56	4.62	2,700	1,100	<13	<2.5	<2.5	3.2	3.1	NA	
	Additional Analysis EHCss			1,600								
2/14/96	NLPH	9.08	6.10	1,500	470	<2.5	<0.5	<0.5	1.3	<0.5	ND	
	Additional Analysis EHCss			680								
6/19/96	NLPH	8.50	6.68	2,000	610	<12	<2.5	<2.5	<2.5	<2.5	ND	
	Additional Analysis EHCss			670								
9/24/96	NLPH	10.23	4.95	5,100	1,000	<25	<5.0	<5.0	<5.0	<5.0	ND	

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

Well ID # (TOC)	Sampling Date	SUBJ .....feet.....>	DTW	Elev.	TEPHd	TPPHg	MTBE	B	T	E	X	VOCs
					<.....ug/L.....>							
MW14 (cont.) (15.18)		Additional Analysis EHCs		4,500								
	12/11/96	NLPH	9.09	6.09	2,100*	1,100	<10	<2.0	<2.0	<2.0	3.3	ND
		Additional Analysis EHCs		750								
	3/19/97	NLPH	7.99	7.19	1,400	690	<2.5	0.65	1.7	2.5	8.3	ND
		Additional Analysis EHCs		470								
	6/4/97	NLPH	9.30	5.88	1,500	730	<2.5	<1.2	<1.2	3.5	5.3	ND
		Additional Analysis EHCs		590								
	9/2/97	NLPH	9.92	5.26	1,900	910	<5.0	<5.0	<5.0	<5.0	5.9	ND
		Additional Analysis EHCs		1,300								
	12/2/97	NLPH	9.13	6.05	1,200	570	<2.5	0.85	<0.5	<0.5	1.7	NA
	3/24/98	NLPH	8.52	6.66	1,300	650	5.7	1.7	<1.0	<1.0	2.3	NA
	6/23/98	NLPH	8.69	6.49	1,100	470	<2.5	<0.5	1.5	1.1	3.0	NA
	9/29/98	NLPH	9.41	5.77	930	570	<2.5	<0.50	<0.50	2.5	3.5	NA
MW15 (13.73)	1/20/94	NLPH	7.48	6.25	---	---	---	---	---	---	---	---
	02/02-03/94	NLPH	7.30	6.43	1,200	4,300	NA	24	6.7	170	26	NA
	3/10/94	NLPH	7.32	6.41	---	---	---	---	---	---	---	---
	4/22/94	NLPH	6.67	7.06	---	---	---	---	---	---	---	---
	05/10-11/94	NLPH	5.81	7.92	1,400	3,900	NA	16	<0.5	150	13	NA
	6/27/94	NLPH	6.14	7.59	---	---	---	---	---	---	---	---
	8/31/94	NLPH	7.20	6.53	---	---	---	---	---	---	---	---
	9/29/94	NLPH	7.76	5.97	420	2,500	NA	51	15	48	3.6	NA
	10/25/94	Sheen	8.19	5.54	---	---	---	---	---	---	---	---
	11/30/94	NM	8.57	5.16	---	---	---	---	---	---	---	---
	12/27/94	NLPH	6.49	7.24	---	---	---	---	---	---	---	---
	2/6/95	Sheen	4.97	8.76	---	---	---	---	---	---	---	---
	6/7/95	Sheen	7.14	6.59	---	---	---	---	---	---	---	---
	9/18/95	Sheen	9.00	4.73	---	---	---	---	---	---	---	---
	11/1/95	Sheen	10.67	3.06	---	---	---	---	---	---	---	---
	2/14/96	Sheen	7.27	6.46	---	---	---	---	---	---	---	---
	6/19/96	Sheen	6.65	7.08	---	---	---	---	---	---	---	---
	9/24/96	Sheen	9.45	4.28	---	---	---	---	---	---	---	---
	12/11/96	Sheen	7.77	5.96	---	---	---	---	---	---	---	---
	3/19/97	Sheen	8.15	5.58	---	---	---	---	---	---	---	---
	6/4/97	Sheen	8.62	5.11	---	---	---	---	---	---	---	---
	9/2/97	NLPH	9.04	4.69	480	1,100	23	19	<2.0	11	4.9	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											

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

SUBJ	=	Results of subjective evaluation, liquid-phase hydrocarbon thickness (HT) in feet
NLPH	=	No liquid-phase hydrocarbons present in well
TOC	=	Elevation of top of well casing, relative to mean sea level
DTW	=	Depth to water
Elev.	=	Elevation of groundwater. If liquid-phase hydrocarbons present, elevation adjusted using TOC - [DTW - (PT x 0.8)].
[ ]	=	amount recovered
gal.	=	gallons
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  
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DATE	SAMPLE ID	TEMP deg F	PRESS in H2O	AIR FLOW cu ft/min	HC Int ppmv	HC Eff ppmv	HC Int Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Int Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day
1/9/95	A-INT	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												
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			

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
	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	64.89	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			< 0.1			
	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  
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DATE	SAMPLE ID	TEMP deg F	PRESS in H <sub>2</sub> O	AIR FLOW cu ft/min	HC Int ppmv	HC Eff ppmv	HC Int Conc* mg/cu M	LB HC for Period	LB HC Cumulative	Benzene Int Conc* mg/cu M	LB Benzene per Period	LB Benzene Cumulative	LB Benzene Emitted per Day	
10/13/95	A-INF	70		168			2000	444.04	1,075.5	100	16.838	< 30.84		
	A-INT						< 10			< 0.05				
	A-EFF						< 10			< 0.05			< 0.0008	
10/26/95	Replaced 2 ea x 500 lb canisters = 1000 lbs of carbon													
10/26/95		70		168	165	0	751	269.69	1,345.2					
11/6/95	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	4600	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		two carbon beds in-line				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 Thermtch VAC-25 thermal/catalytic oxidizer													
8/5/96	Start-up system utilizing Thermtch 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	194	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 Thermcouple, 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					
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		
	A-EFF						< 10			< 0.10			< 0.0016	
3/12/97				211.2	62	0.7	262							
3/19/97				220	33	1	140							

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* ng/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
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	< 0.0020
	A-EFF						< 10			< 0.10			
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						
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



**TABLE 2**  
**CUMULATIVE HYDROCARBON REMOVAL AND EMISSIONS FOR**  
**SOIL VAPOR EXTRACTION SYSTEM**  
Former Exxon Service Station 7-3006  
720 High Street  
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DATE	SAMPLE ID	TEMP 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
2/18/98				132.15	0.5	0.0							
2/23/98				158.4	0.6	0.1							
3/11/98	A-INF A-EFF			193.6			< 10 < 10	< 4.24	< 4,940.6	1.5 < 0.1	0.551	< 56.58	< 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 A-EFF			88			10 < 10	< 5.18	< 4,945.8	0.26 < 0.1	0.456	< 57.04	< 0.0008
4/28/98				88	2.3	1.6							
5/12/98	A-INF A-EFF			88			< 10 < 10	< 1.66	< 4,947.5	< 0.1 < 0.1	< 0.032	< 57.07	< 0.0008
5/19/98				88	1.8	1.2							
5/28/98				88	1.7	1.2							
6/2/98	A-INF A-EFF			88	4.3	2.1	18 < 10	< 2.32	< 4,949.8	< 0.1 < 0.1	< 0.017	< 57.08	< 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 A-EFF			96.8	3.4	0.8	< 10 < 10	< 4.18	< 4,954.0	< 0.1 < 0.1	< 0.030	< 57.11	< 0.0009
7/14/98	A-INF A-EFF			132	3.1	0.0	39 < 10	< 1.51	< 4,955.5	0.91 < 0.1	< 0.031	< 57.15	< 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 A-EFF			176	0.3	0.1	13 < 10	< 0.16	< 4,955.7	< 0.10 < 0.10	< 0.003	< 57.15	< 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 A-EFF			184.8	4.1	0.0	90 < 10	0.02	< 4,955.7	2.50 < 0.1	< 0.001	< 57.15	< 0.0017
8/11/98	A-INF			193.6	2.7	0.3							
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 A-EFF			184.8	4.4	0.2	68 < 10	20.97	< 4,976.6	1.00 < 0.10	0.464	< 57.61	< 0.0017
9/18/98				202.4	1.8	0.2							
9/22/98				System down upon arrival due to low gas pressure control fault. Restarted system.									
9/22/98					2.7	0.3							
9/29/98				176	20.4	1.8							

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

Former Exxon Service Station 7-3006

720 High Street

Oakland, California

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Notes:

A-INF = Air Influent  
A-INT = Air Intermediate  
A-EFF = Air Effluent  
NA = Not Analyzed

cu. ft/min = cubic feet per minute  
ppmv = parts per million by volume

\*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)

IIC  
ug/l  
mg/cuM  
lb  
acfm  
<

= Hydrocarbons measured as total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015 (modified)  
= micrograms per liter  
= milligrams per cubic meter  
= pounds  
= actual cubic feet per minute  
= less than the laboratory method detection limit

**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						TPH <sub>g</sub> 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-INF1	5,500	1,700	580	120	710	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				
2/6/97	313,800	3,959	W-INF1	5,100	910	160	45	910	NA	1.0504	5.1600	0.2586	1.2061
			W-INT2	570	62	12	2.9	86	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
2/14/97	323,820	1,253											
2/18/97	327,856	1,009											
2/28/97	335,480	762											
3/5/97	340,178	940	W-INF1	980	100	5.0	2.1	54	NA	0.6690	5.8290	0.1111	1.3172



**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]
9/10/97	397,402	237	W-INF1	<50	<0.5	<0.5	<0.5	<0.5	NA	0.0719	6.2804	0.0199	1.4436
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
9/17/97	399,232	261											
9/24/97	400,746	216											
10/8/97	403,527	199	W-INF1	<50	0.53	<0.5	<0.5	<0.5	NA	0.0026	6.2829	0.00003	1.4437
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
10/15/97	403,935	58											
10/22/97	406,161	318											
10/30/97	407,795	204											
11/5/97	408,668	146											
11/12/97	410,116	207											
11/20/97	413,391	409											
11/25/97	415,500	422											
12/2/97	421,667	881	W-INF1	660	180	10	8.2	13	NA	0.0537	6.3367	0.0137	1.4573
			W-INF2	410	110	5.3	5.3	8.9	NA				
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
12/3/97	422,595	928											
12/10/97	429,205	944											
12/17/97	436,179	996											
12/23/97	441,533	892											
12/29/97	445,796	711											
1/6/98	System down, high water. Restarted system												
1/6/98	449,395	450	W-INF1	1,600	640	25	<10	36	NA	0.2614	6.5981	0.0949	1.5522
			W-INF2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT1	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-INT2	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
1/13/98	455,054	808											
1/20/98	463,576	1,217											
2/3/98	478,169	1,042	W-INF1	1,800	780	66	40	580	NA	0.4081	7.0062	0.1705	1.7226
			W-INF2	530	180	12	6.4	110	NA				
			W-INT	<50	<0.5	<0.5	<0.5	<0.5	NA				
			W-EFF	<50	<0.5	<0.5	<0.5	<0.5	NA				
2/10/98	481,638	496											
2/18/98	497,659	2,003											
2/23/98	499,350	338											
3/11/98	System down, high water. Restarted system												





TABLE 3  
OPERATION AND PERFORMANCE DATA FOR  
GROUNDWATER REMEDIATION SYSTEM

Former Exxon Service Station 7-3006

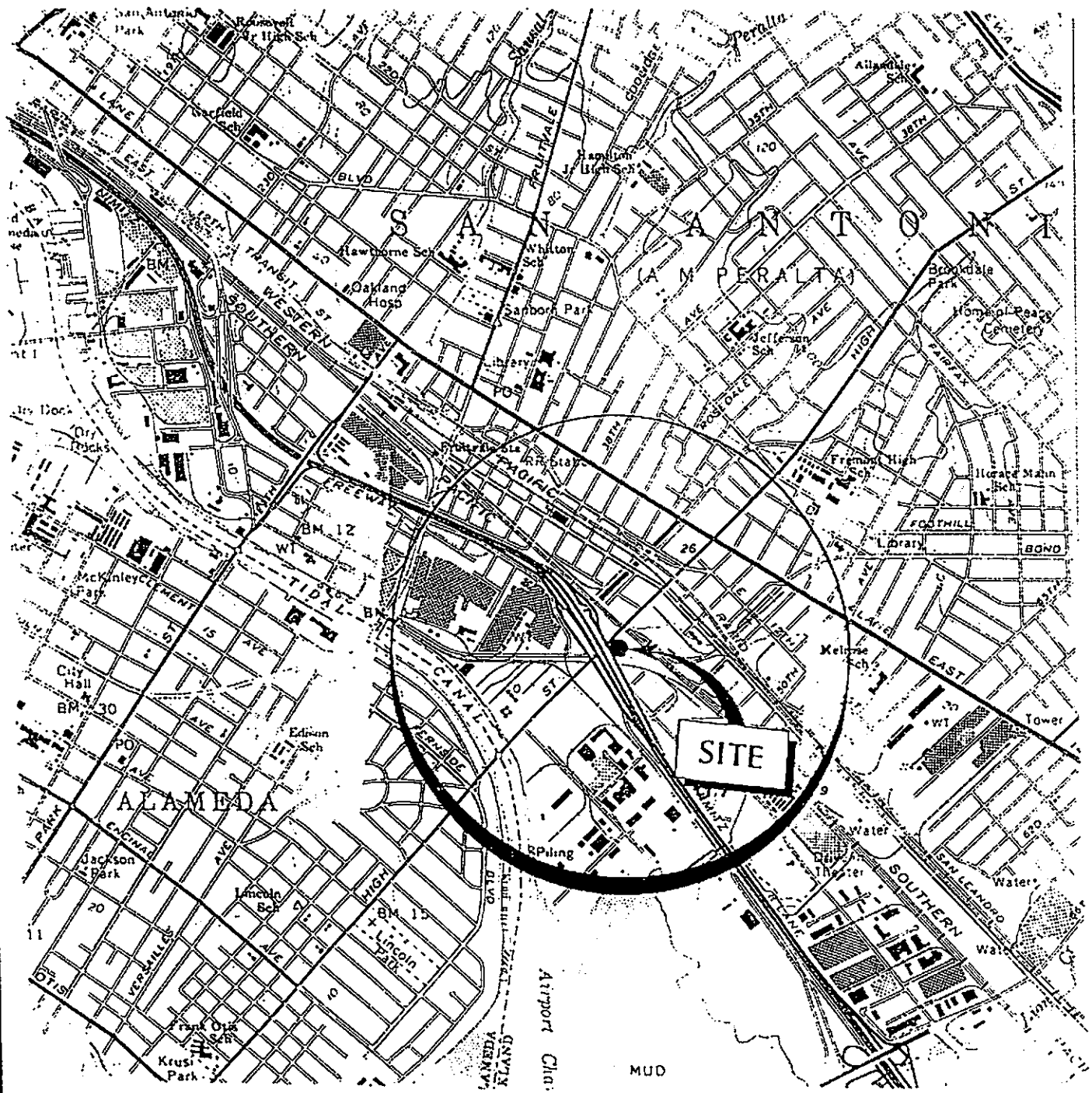
720 High Street

Oakland, California

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Date	Total 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]
9/3/98	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											

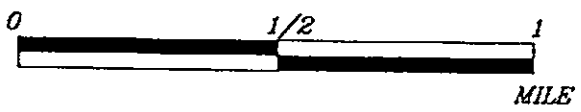
W-INF	W-INF1 = water influent before stripper or before tank	B = Benzene	NA = Not applicable
	W-INF2 = water influent after stripper or after filters	T = Toluene	NS = Not sampled
W-INT	W-INT1 W-INT2 = water intermediate samples	E = Ethylbenzene	ND = Not detected
W-EFF	W-EFF1 W-EFF2 = water effluent samples	X = Total Xylenes	
TPHg	= Total petroleum hydrocarbons as gasoline	< = less than the laboratory method detection limit	
gpd	= gallons per day	ug/L = micrograms per liter	
gal	= gallons	mg/L = milligrams per liter	



2010001



APPROXIMATE SCALE



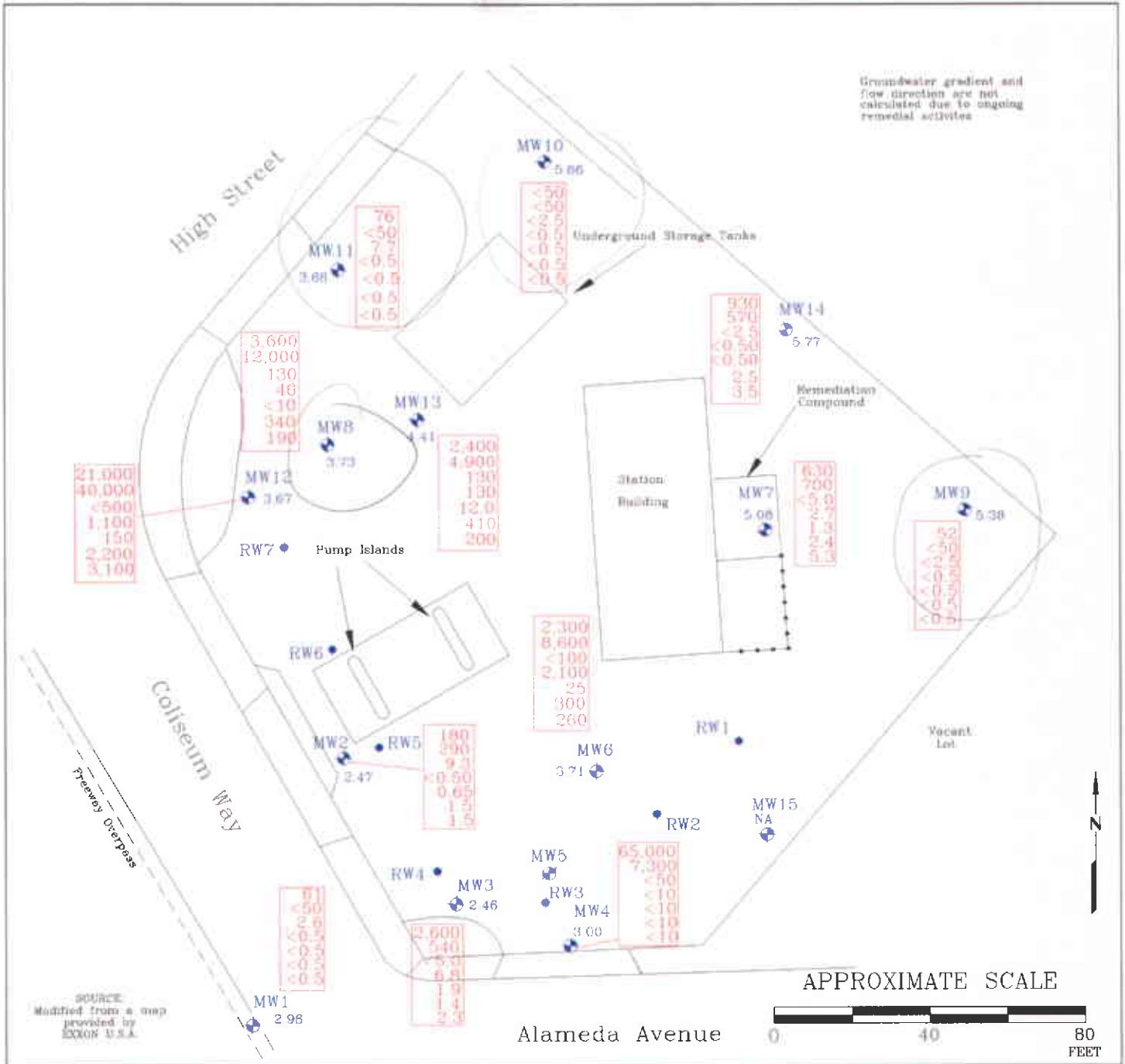
Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland/San Leandro, California Photorevised 1980



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

Groundwater Concentrations in ug/L  
Sampled September 29, 1998

21,000	Total Extractable Petroleum Hydrocarbons as diesel
40,000	Total Petroleum Hydrocarbons as gasoline
<500	Methyl Tertiary Butyl Ether
1,100	Benzene
150	Toluene
2,200	Ethylbenzene
3,100	Xylenes

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



**GENERALIZED SITE PLAN**

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

**PROJECT NO.**

2010

**PLATE**

2

Oct. 23, 1998

Probably can stop  
Monitoring MW 8, 9, 10  
+ 11

720 High St.

Wells to consider not monitoring:

MW-1 ; low TPHd, ND TPHg, low MTBE, ND BTEX

MW-9 ; low TPHd, ND TPHg, BTEX + MTBE

→ Compliance well, cannot eliminate

MW-10, low + ND TPHd, ND g, BTEX + MTBE

MW-11, " " " " →

MW2 - Sheen → off + on to 12/97

MW3 Sheen off + on, still present

MW4 - Sheen

MW5 - destroyed

MW6 - Sheen → high dissolved TPHd, g, BTEX

MW7 - downgradient of adjacent site (standard solvent for dry cleaning).

MW-8 - Sheen → high TPHd, TPHg - low MTBE + BTEX

MW-12 Sheen -

MW-13 Sheen → high TPHd, g - low MTBE + BTEX

MW-14 near adj. ss tanks - low TPHd, g  
ND MTBE + BTEX

MW 15 - Sheen → dissol. TPHg, TPHd, <sup>B</sup> low  
TEX

**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 it's diameter

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

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



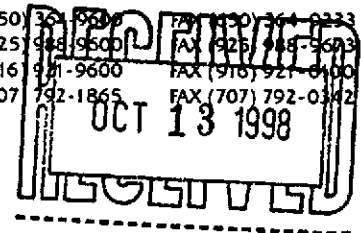


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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-20-MW9 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-01	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
--	--	---

QC Batch Number: GC100698BTEX21A  
Instrument ID: GCHP21

**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:		N.D.

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70                      130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

*msh*

Mei Mei Shin  
Project Manager



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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-11-MW11 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-02	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
Attention: Peter Petro		

QC Batch Number: GC100698BTEX21A  
Instrument ID: GCHP21

**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	7.7
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		N.D.

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-10-MW10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-03	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
Attention: Peter Petro		
QC Batch Number: GC100698BTEX02A Instrument ID: GCHP02		

## 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:		N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-10-MW1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-04	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
Attention: Peter Petro		

QC Batch Number: GC100698BTEX02A  
Instrument ID: GCHP02

## 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	2.6
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	101

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

SEQUOIA ANALYTICAL - ELAP #1210

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

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-10-MW2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-05

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/06/98  
Reported: 10/08/98

Attention: Peter Petro

QC Batch Number: GC100698BTEX02A  
Instrument ID: GCHP02

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	290
Methyl t-Butyl Ether	2.5	9.3
Benzene	0.50	N.D.
Toluene	0.50	0.65
Ethyl Benzene	0.50	1.5
Xylenes (Total)	0.50	1.5
Chromatogram Pattern: Gas & Unidentified HC		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	135 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions  
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Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-11-MW14  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-06

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/06/98  
Reported: 10/08/98

Attention: Peter Petro

QC Batch Number: GC100698BTEX02A  
Instrument ID: GCHP02

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	570
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	2.5
Xylenes (Total)	0.50	3.5
Chromatogram Pattern: Unidentified HC		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	106

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

**EQUOIA ANALYTICAL - ELAP #1210**

Mei Shin  
Project Manager



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

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-16-MW4  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-07

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/06/98  
Reported: 10/08/98

QC Batch Number: GC100698BTEX02A  
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	7300
Methyl t-Butyl Ether	50	N.D.
Benzene	10	N.D.
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	N.D.
Chromatogram Pattern: Unidentified HC		>C10
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions  
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Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-11-MW3  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-08

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/06/98  
Reported: 10/08/98

Attention: Peter Petro

QC Batch Number: GC100698BTEX02A  
Instrument ID: GCHP02

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	540
Methyl t-Butyl Ether	5.0	N.D.
Benzene	1.0	6.8
Toluene	1.0	1.9
Ethyl Benzene	1.0	1.4
Xylenes (Total)	1.0	2.3
Chromatogram Pattern: Gas & Unidentified HC		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	148 Q

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

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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-11-MW7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-09	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
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QC Batch Number: GC100698BTEX02A  
Instrument ID: GCHP02

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	700
Methyl t-Butyl Ether	5.0	N.D.
Benzene	1.0	2.7
Toluene	1.0	1.3
Ethyl Benzene	1.0	2.4
Xylenes (Total)	1.0	5.3
Chromatogram Pattern: Gas & Unidentified HC		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70      130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions  
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Novato, CA 94949

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-19-MW8  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-10

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/06/98  
Reported: 10/08/98

Attention: Peter Petro

QC Batch Number: GC100698BTEX17A  
Instrument ID: GCHP17

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	12000
Methyl t-Butyl Ether	50	130
Benzene	10	46
Toluene	10	N.D.
Ethyl Benzene	10	340
Xylenes (Total)	10	190
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	121

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

SEQUOIA ANALYTICAL - ELAP #1210

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Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 201013X Sample Descript: W-12-MW13 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810061-11	Sampled: 09/29/98 Received: 09/30/98 Analyzed: 10/06/98 Reported: 10/08/98
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QC Batch Number: GC100698BTEX17A  
Instrument ID: GCHP17

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	4900
Methyl t-Butyl Ether	25	130
Benzene	5.0	130
Toluene	5.0	12
Ethyl Benzene	5.0	410
Xylenes (Total)	5.0	200
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70                      130	132 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager



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

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-29-MW6  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-12

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/07/98  
Reported: 10/08/98

Attention: Peter Petro

C Batch Number: GC100798BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	8600
Methyl t-Butyl Ether	100	N.D.
Benzene	20	2100
Toluene	20	25
Ethyl Benzene	20	300
Xylenes (Total)	20	260
Chromatogram Pattern:		GAS
<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.

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager



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(925) 988-9600  
(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

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-10-MW12  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9810061-13

Sampled: 09/29/98  
Received: 09/30/98  
Analyzed: 10/07/98  
Reported: 10/08/98

Attention: Peter Petro

QC Batch Number: GC100798BTEX30A  
Instrument ID: GCHP30

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	40000
Methyl t-Butyl Ether	500	N.D.
Benzene	100	1100
Toluene	100	150
Ethyl Benzene	100	2200
Xylenes (Total)	100	3100
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  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
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Walnut Creek, CA 94598  
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Petaluma, CA 94954

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FAX (707) 792-0342

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

Client Project ID: EXXON 7-3006, 201013X

QC Sample Group: 9810061

Reported: Oct 8, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: NC

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

QC Batch #: GC100698BTEX21A

Sample No.: GW9809F39-9

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	12	12	11	34
% Recovery:	120	120	110	113
Matrix Spike Duplicate, ug/L:	12	12	12	34
% Recovery:	120	120	120	113
Relative % Difference:	0.0	0.0	8.7	0.0
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS100698A

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
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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FAX (916) 921-0100  
FAX (707) 792-0342

<b>ENVIRONMENTAL RESOLUTION</b> 74 Digital Dr. Ste. 6 Novato, CA 94949 Attention: Peter Petro	<b>Client Project ID: EXXON 7-3006, 201013X</b>
<b>QC Sample Group: 9810061</b>	<b>Reported: Oct 8, 1998</b>

## QUALITY CONTROL DATA REPORT

<b>Matrix:</b>	Liquid			
<b>Method:</b>	EPA 8020			
<b>Analyst:</b>	NC			
<b>ANALYTE</b>	Benzene	Toluene	Ethylbenzene	Xylenes

QC Batch #: GC1006988TEX02A

Sample No.: GW9809F39-10

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
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:	9.2	9.6	9.9	30
% Recovery:	92	96	99	100
<b>Matrix</b>				
Spike Duplicate, ug/L:	10	11	11	33
% Recovery:	100	110	110	110
Relative % Difference:	8.3	14	11	9.5
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS100698A

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	11	12	34
LCS % Recovery:	110	110	120	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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FAX (916) 921-0100  
FAX (707) 792-0342

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

Client Project ID: EXXON 7-3006, 201013X

QC Sample Group: 9810061

Reported: Oct 8, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: NC

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

QC Batch #: GC100698BTEX17A

Sample No.: GW9809F39-10

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
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:	12	12	11	33
% Recovery:	120	120	110	110
Matrix Spike Duplicate, ug/L:	11	11	11	31
% Recovery:	110	110	110	103
Relative % Difference:	8.7	8.7	0.0	6.6
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS100698A

Date Prepared:	10/6/98	10/6/98	10/6/98	10/6/98
Date Analyzed:	10/6/98	10/6/98	10/6/98	10/6/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	12	11	12	33
LCS % Recovery:	120	110	120	110

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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FAX (707) 792-0342

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

Client Project ID: EXXON 7-3006, 201013X

QC Sample Group: 9810061

Reported: Oct 8, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: MM/GR

ANALYTE Gasoline

QC Batch #: GC100798BTEX30A

Sample No.: GW9809G99-3

Date Prepared: 10/7/98

Date Analyzed: 10/7/98

Instrument I.D.#: GCHP30

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 270

% Recovery: 109

**Matrix**

Spike Duplicate, ug/L: 260

% Recovery: 102

Relative % Difference: 6.6

RPD Control Limits: 0-25

LCS Batch#: GWLCS100798A

Date Prepared: 10/7/98

Date Analyzed: 10/7/98

Instrument I.D.#: GCHP30

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.

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  
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 Proj. ID: Exxon 7-3006, 201013X

Lab Proj. ID: 9810061

Received: 09/30/98

Reported: 10/08/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 22 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**

Consultant's Name: <u>Environmental Resolutions Inc</u>		Site Location: <u>720 High St.</u>
Address: <u>74 Digital Dr. #6 Novato Ca 94949</u>		Consultant Work Release #: <u>1943 2503</u>
Project #:	Consultant Project #: <u>201013X</u>	Laboratory Work Release #:
Project Contact: <u>Peter Petro</u>	Phone #: <u>(415) 382-9165</u>	EXXON RAS #: <u>7-3006</u>
EXXON Contact: <u>Mark Guensler</u>	Phone #: <u>(510) 246-8776</u>	
Sampled by (print): <u>Jennifer Schulte</u>	Sampler's Signature: <u>[Signature]</u>	
Shipment Method:	Air Bill #:	

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

ANALYSIS REQUIRED 9810061

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: _____
X W-20-mw9	9-29-98	11:20	Water	Hcl	3	01	X			Inbound Seal: Yes No Outbound Seal: Yes No
X W-11-mw11		12:05				02				
X W-10-mw10		12:30				03				
X W-10-mw1		12:55				04				30 7
X W-10-mw2		13:40				05				
X W-11-mw14		14:05				06				
X W-16-mw4		14:55				07				
X W-11-mw3		14:30				08				
X W-11-mw7	✓	14:35	✓	✓	✓	09	✓		✓	

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
Jennifer Schulte / ERI	9-30-98	5:40	Charles [Signature] Sequoia	9-30	5:40	
Charles [Signature] Sequoia	9-30-98		[Signature] Sequoia	9/30/98	1906	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



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

Consultant's Name: Environmental Resolutions Inc. Page 2 of 2

Address: 74 Digital Dr. #6 Novato, CA 94949 Site Location: 720 High St.

Project #: \_\_\_\_\_ Consultant Project #: 2010134 Consultant Work Release #: 19432503

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

EXXON Contact: Marta Guendes Phone #: (510) 246-8776 EXXON RAS #: 7-3006

Sampled by (print): Jennifer Schulte Sampler's Signature: [Signature]

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

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

ANALYSIS REQUIRED 9810061

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	MTBE 8020	Temperature: _____	
											Inbound Seal: Yes No	Outbound Seal: Yes No
<u>W-19-MW8</u>	<u>9-29-98</u>	<u>14:55</u>	<u>water</u>	<u>HCL</u>	<u>3</u>	<u>10</u>	<u>✓</u>			<u>✓</u>		
<u>W-12-MW13</u>	<u>↓</u>	<u>14:45</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>11</u>	<u>✓</u>			<u>✓</u>		
<u>W-29-MW6</u>	<u>↓</u>	<u>15:40</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>12</u>	<u>✓</u>			<u>✓</u>		
<u>W-10-MW12</u>	<u>↓</u>	<u>15:50</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>13</u>	<u>✓</u>			<u>✓</u>		<u>9:30 7</u>

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Jennifer Schulte IERT</u>	<u>9-30-98</u>	<u>5:40</u>	<u>[Signature] Sequoia</u>	<u>9-30</u>	<u>5:40</u>	
<u>Charles Armstrong Sequoia</u>	<u>9-30-98</u>		<u>[Signature]</u>	<u>9/30/98</u>	<u>1906</u>	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



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

Consultant's Name: Environmental Resolutions Inc.

Address: 74 Digital Drive #6 Napa, CA 94949

Site Location: 720 High St.

Project #: \_\_\_\_\_ Consultant Project #: 2010136

Consultant Work Release #: 19432503

Project Contact: Peter Peto Phone #: (415) 382-9105

Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: Mark Guenter Phone #: (570) 246-8776

EXXON RAS #: 2-3006

Sampled by (print): Jenni Lee Schulte Sampler's Signature: [Signature]

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

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

ANALYSIS REQUIRED 9810023

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-20-MW9	4-29-98	1125	water		2	01		✓			
W-11-MW11		1210				02		✓			
W-10-MW10		1235				03		✓			
W-10-MW1		1300				04		✓			
W-10-MW2		1345				05		✓			
W-11-MW14		1410				06		✓			2:30
W-16-MW4		1500				07		✓			
W-11-MW3		1435				08		✓			
W-11-MW7		1440				09		✓			

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Jenni Lee Schulte PERZ</u>	<u>9-30-98</u>	<u>5:40</u>	<u>[Signature]</u>	<u>9-30</u>	<u>5:40</u>	
<u>[Signature]</u>	<u>9-30-98</u>		<u>A-P 4 Kennel</u>	<u>9/30/98</u>		

Pink - Client

Yellow - Sequoia

White - Sequoia



Sequoia Analytical  
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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

Consultant's Name: Environmental Resolutions Inc.

Address: 71 Digital Dr + Co Nevada CA 94940 Site Location: 720 High St.

Project #: \_\_\_\_\_ Consultant Project #: 2010134 Consultant Work Release #: 19432503

Project Contact: Peter Petro Phone #: (415) 382-7105 Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: Maria Guenzler Phone #: (510) 246-8772 EXXON RAS #: 2-3006

Sampled by (print): Jennifer Schutte Sampler's Signature: [Signature]

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

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

ANALYSIS REQUIRED 9810023

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-19-MW8</u>	<u>9-29-98</u>	<u>1500</u>	<u>water</u>		<u>2</u>	<u>10</u>		<u>✓</u>				
<u>W-12-MW13</u>	<u> </u>	<u>1450</u>	<u> </u>		<u> </u>	<u>11</u>		<u>-</u>				
<u>W-29-MW6</u>	<u> </u>	<u>1545</u>	<u> </u>		<u> </u>	<u>12</u>		<u>✓</u>				<u>30 7</u>
<u>W-10-MW12</u>	<u> </u>	<u>1600</u>	<u> </u>		<u> </u>	<u>13</u>		<u>✓</u>				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Jennifer Schutte / ERI</u>	<u>9-30-98</u>	<u>5:40</u>	<u>[Signature] Sequoia</u>	<u>9-30</u>	<u>5:40</u>	
<u>[Signature]</u>	<u>9-30</u>		<u>[Signature]</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  
Sample Descript: W-20-MW9  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-01

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/05/98  
Analyzed: 10/09/98  
Reported: 10/19/98

QC Batch Number: GC1005980HBPEXD  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	52 C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	88

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-MW11  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-02

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/05/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro

QC Batch Number: GC1005980HBPEXD  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	76  C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	105

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-MW10 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-03	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/05/98 Analyzed: 10/09/98 Reported: 10/19/98
Attention: Peter Petro		

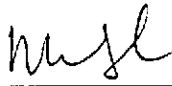
QC Batch Number: GC1005980HBPEXD  
Instrument ID: GCHP5B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	78

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-MW1  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-04

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/06/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro

GC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	61
Chromatogram Pattern: Unidentified HC		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	91

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-MW2 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-05	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/06/98 Analyzed: 10/09/98 Reported: 10/19/98
Attention: Peter Petro		

QC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	180 C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	84

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-MW14 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-06	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/06/98 Analyzed: 10/09/98 Reported: 10/19/98
Attention: Peter Petro		

QC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	930  C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50                      150	127

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-16-MW4  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-07

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/06/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro

QC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

## Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	5000	65000
Chromatogram Pattern: Weathered Diesel		C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager



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

Client Proj. ID: Exxon 7-3006, 201013X  
Sample Descript: W-11-MW3  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-08

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/06/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro

GC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Weathered Diesel	50	2600  C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 104

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-11-MW7 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-09	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/06/98 Analyzed: 10/09/98 Reported: 10/19/98
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QC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	630  C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 96

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

SEQUOIA ANALYTICAL - ELAP #1210



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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-19-MW8 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-10	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/06/98 Analyzed: 10/12/98 Reported: 10/19/98
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QC Batch Number: GC100698OHBPEXB  
Instrument ID: GCHP04B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	100	3600  C9-C24
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50                      150	<b>% Recovery</b> 78

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

SEQUOIA ANALYTICAL - ELAP #1210

*msh*  
\_\_\_\_\_  
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-12-MW13 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9810023-11	Sampled: 09/29/98 Received: 09/30/98 Extracted: 10/06/98 Analyzed: 10/09/98 Reported: 10/19/98
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GC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	2400  C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50                      150	101

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-29-MW6  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-12

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/06/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro


GC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	2300  C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	103

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-MW12  
Matrix: LIQUID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9810023-13

Sampled: 09/29/98  
Received: 09/30/98  
Extracted: 10/06/98  
Analyzed: 10/09/98  
Reported: 10/19/98

Attention: Peter Petro

QC Batch Number: GC1006980HBPEXB  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	5000	21000  C9-C24
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	Q

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

Client Project ID: EXXON 7-3006, 201013X

QC Sample Group: 9810023

Reported: Oct 30, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015A  
Analyst: G.WARDLE

ANALYTE Diesel

QC Batch #: GC1006980HBPEXB

Sample No.: 981023-4

Date Prepared: 10/6/98

Date Analyzed: 10/9/98

Instrument I.D.#: GCHP5A

Sample Conc., ug/L: 61

Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 840

% Recovery: 78

Matrix

Spike Duplicate, ug/L: 810

% Recovery: 75

Relative % Difference: 3.9

RPD Control Limits: 0-50

LCS Batch#: BLK100698BS

Date Prepared: 10/6/98

Date Analyzed: 10/9/98

Instrument I.D.#: GCHP5A

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 750

LCS % Recovery: 75

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

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 Analytical

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

Client Project ID: EXXON 7-3006, 201013X

QC Sample Group: 9810023

Reported: Oct 30, 1998

## QUALITY CONTROL DATA REPORT

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

ANALYTE Diesel

QC Batch #: GC1005980HBPEXD

Sample No.: 9810167-1  
Date Prepared: 10/1/98  
Date Analyzed: 10/6/98  
Instrument I.D.#: GCHP5B

THIS QC REFERS BACK TO  
GC1005980HBPEXD.

Sample Conc., ug/L: 770  
Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 1700  
% Recovery: 93

Matrix  
Spike Duplicate, ug/L: 1800  
% Recovery: 103

Relative % Difference: 10

RPD Control Limits: 0-50

LCS Batch#: BLK100598DS

Date Prepared: 10/5/98  
Date Analyzed: 10/8/98  
Instrument I.D.#: GCHP5A

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 780  
LCS % Recovery: 78

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

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 Proj. ID: Exxon 7-3006, 201013X

Received: 09/30/98

Lab Proj. ID: 9810023

Reported: 10/19/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 12 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, 2010-11X Sample Descript: A-INF Matrix: AIR Analysis Method: 8015Mod/8020 Lab Number: 9807459-01	Sampled: 07/08/98 Received: 07/09/98  Analyzed: 07/10/98 Reported: 07/23/98
--	---	---


QC Batch Number: GC071098BTEX02A  
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	79

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

SEQUOIA ANALYTICAL - ELAP #1210

  
for  
Richard Herling  
Project Manager

**RECEIVED**  
JUL 27 1998  
**ALSO**



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-EFF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9807459-02

Sampled: 07/08/98  
Received: 07/09/98  
Analyzed: 07/10/98  
Reported: 07/23/98

Attention: Mark Dockam

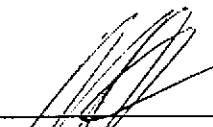
QC Batch Number: GC071098BTEX02A  
Instrument ID: GCHP02

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	85

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager







Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockman

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

QC Sample Group: 9807459-01,02

Reported: Jul 23, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: B.BURTON

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

QC Batch #: GC071098BTEX02A

Sample No.: GW9807039-3

Date Prepared:	7/10/98	7/10/98	7/10/98	7/10/98
Date Analyzed:	7/10/98	7/10/98	7/10/98	7/10/98
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:	9.1	8.5	8.4	25
% Recovery:	91	85	84	85
Matrix Spike Duplicate, ug/L:	9.2	8.6	8.5	26
% Recovery:	92	86	85	86
Relative % Difference:	1.1	1.2	1.2	1.2
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWBLK071098AS

Date Prepared:	7/10/98	7/10/98	7/10/98	7/10/98
Date Analyzed:	7/10/98	7/10/98	7/10/98	7/10/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	10	9.8	9.8	29
LCS % Recovery:	105	98	98	97

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

Richard Herling  
Project Manager





**Sequoia  
Analytical**

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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockam

Client Proj. ID: Exxon 7-3006, 2010-11X

Received: 07/09/98

Lab Proj. ID: 9807459

Reported: 07/23/98

### 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

  
Richard Herling  
Project Manager

*for*





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

Page 1 of 1

Consultant's Name: Environmental Resolutions, Inc.

Address: 74 Digital Dr #6, Newark, NJ 07102

Project #: 2010-117 Consultant Project #: 2010-117

Project Contact: Mark Deckert Phone #: (415) 362-7105

EXXON Contact: Marla Guenster Phone #: (925) 246-8776

Sampled by (print): DAVID ARADAK Sampler's Signature: [Signature]

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

Site Location: 720 High St, Oakland

Consultant Work Release #: 19432503

Laboratory Work Release #: \_\_\_\_\_

EXXON RAS #: 7-3006

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

ANALYSIS REQUIRED 9807459

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-INV1	7/8	12:30	Water	11C1	3		X				
W-INV2	7/8	12:30	Water	11C1	3		X				
W-INT	7/8	12:30	Water	11C1	3		X				
W-EFF	7/8	12:30	Water	11C1	3		X				
A-INV	7/8	1:00	Air	-	1	1	X				
A-EFF	7/8	1:00	Air	-	1	2	X				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> ERI	7/9/98	10:59	<u>[Signature]</u> Sequoia	7/9/98	10:59	
<u>[Signature]</u> Sequoia	7/9/98		<u>[Signature]</u>	7/9/98	12:31	

Pink - Client  
Yellow - Sequoia  
White - Sequoia

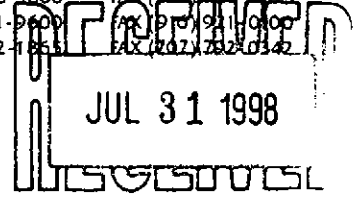


**Sequoia  
Analytical**

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

Redwood City, CA 94063  
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(916) 921-9600 FAX (916) 921-0800  
(707) 792-1855 FAX (707) 792-0342



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: 9807901-01

Sampled: 07/14/98  
Received: 07/15/98  
Analyzed: 07/16/98  
Reported: 07/29/98

Attention: Mark Dockum

GC Batch Number: GC071698BTEX03A  
Instrument ID: GCHP3

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	39
Benzene	0.10	0.91
Toluene	0.10	N.D.
Ethyl Benzene	0.10	0.11
Xylenes (Total)	0.10	0.94
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	127

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*Richard Herling*  
Richard Herling  
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: 9807901-02

Sampled: 07/14/98  
Received: 07/15/98  
Analyzed: 07/16/98  
Reported: 07/29/98

Attention: Mark Dockum


GC Batch Number: GC071698BTEX03A  
Instrument ID: GCHP3

**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	103

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
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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: Mark Dockum	Client Project ID: Exxon 7-3006, 201011X
QC Sample Group: 9807901-01,02	Reported: Jul 29, 1998

## QUALITY CONTROL DATA REPORT

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

QC Batch #: GC071698BTEX03A

Sample No.: GW9807327-08

Date Prepared: 7/16/98

Date Analyzed: 7/16/98

Instrument I.D.#: GCHP03

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 290

% Recovery: 116

Matrix

Spike Duplicate, ug/L: 280

% Recovery: 112

Relative % Difference: 3.5

RPD Control Limits: 0-25

LCS Batch#: GWBLK071698BS

Date Prepared: 7/16/98

Date Analyzed: 7/16/98

Instrument I.D.#: GCHP03

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 300

LCS % Recovery: 120

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

Richard Herling  
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 **SAME DAY CHARGE**

10  
01  
15

Page 1 of 1

Consultant's Name: ENVIRONMENTAL RESOLUTIONS INC

Address: 74 Digital Drive Suite G, Houston CA 94942 Site Location: 720 High St Oakland

Project #: 201012 Consultant Project #: 201012 Consultant Work Release #: 19432503

Project Contact: Mark Dockum Phone #: 415 547 5141 Laboratory Work Release #:

EXXON Contact: MARLA GUNSEBERG Phone #: 975 241 8776 EXXON RAS #: 73006

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

Shipment Method: Air Bill #: [Signature]

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 7/15/94

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
W-WF	7/14/94	6:00 AM	WATER	KEY	3		X					
W-WT	/	/	/	/	3		X					
W-EFF	/	/	/	/	3		X					
A-WF	7/14/94	10 AM	AIR	NONE	1		X					
A-EFF	/	/	/	/	1		X					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	7/15/94	3:20	<u>[Signature]</u>	7/15	3:20	
<u>[Signature] Sequoia</u>	7/15/94		<u>[Signature]</u>			
			<u>Wendy Arman / Sequoia</u>	7/15/94	1707	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
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1455 McDowell Blvd. North, Ste. D

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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: Mark Dockum

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

Received: 07/15/98

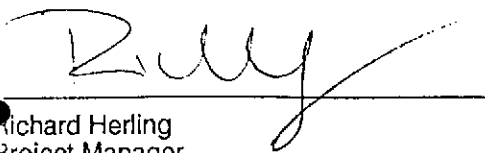
Lab Proj. ID: 9807901

Reported: 07/29/98

### 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



Richard Herling  
Project Manager





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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-INF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9807J17-01

Sampled: 07/30/98  
Received: 07/31/98  
Analyzed: 08/01/98  
Reported: 08/06/98

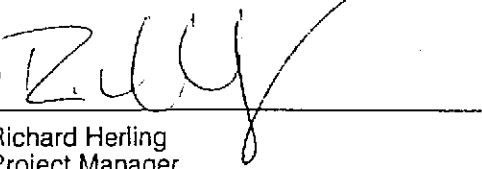
QC Batch Number: GC080198BTEX02A  
Instrument ID: GCHP2

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	13
Benzene	0.10	N.D.
Toluene	0.10	0.36
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern: Unidentified HC		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager

**RECEIVED**  
AUG 10 1998  
Page: \_\_\_\_\_





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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-EFF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9807J17-02

Sampled: 07/30/98  
Received: 07/31/98  
Analyzed: 08/02/98  
Reported: 08/06/98

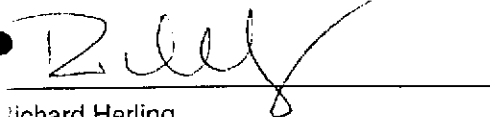
GC Batch Number: GC080198BTEX02A  
Instrument ID: GCHP2

**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	102

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager





Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

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

QC Sample Group: 9807J17-01,02

Reported: Aug 6, 1998

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8020  
Analyst: A. Mirafitab

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

QC Batch #: GC080198BTEX02A

Sample No.: GW9807-D09-03CMS

Date Prepared:	8/1/98	8/1/98	8/1/98	8/1/98
Date Analyzed:	8/1/98	8/1/98	8/1/98	8/1/98
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:	11	10	10	31
% Recovery:	110	100	100	103
Matrix Spike Duplicate, ug/L:	10	9.5	9.4	28
% Recovery:	100	95	94	93
Relative % Difference:	9.5	5.1	6.2	10
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS080198A

Date Prepared:	8/1/98	8/1/98	8/1/98	8/1/98
Date Analyzed:	8/1/98	8/1/98	8/1/98	8/1/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	10	9.8	9.7	30
LCS % Recovery:	100	98	97	100

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

Richard Herling  
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

Consultant's Name: Environmental Resolutions Inc.

Address: 74 Digital Dr #16, Novato, CA 94949 Site Location: 7-3006

Project #: 2010-11X Consultant Project #: \_\_\_\_\_ Consultant Work Release #: 19432503

Project Contact: Mark Dockum Phone #: (415) 342-9105 Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: Mark Guenster Phone #: (925) 246-8776 EXXON RAS #: 7-3006

Sampled by (print): DAVID ARNDAL 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	Presv	# 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>98-07-517</u>												
<u>A-INF</u>	<u>7/30</u>	<u>12:00</u>	<u>Air</u>	<u>-</u>	<u>1</u>		<u>X</u>					
<u>A-EFF</u>	<u>7/30</u>	<u>12:00</u>	<u>Air</u>	<u>-</u>	<u>1</u>		<u>X</u>					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> ERI <u>[Signature]</u> Sequoia	<u>7/31/11</u>		<u>[Signature]</u> Sequoia	<u>7/31</u>	<u>1600</u>	
			<u>[Signature]</u> Sequoia	<u>7/31</u>	<u>1803</u>	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



Sequoia  
Analytical

680 Chesapeake Drive  
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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: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X

Received: 07/31/98

Lab Proj. ID: 9807J17

Reported: 08/06/98

### 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

Richard Herling  
Project Manager





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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-INF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9808288-01

Sampled: 08/05/98  
Received: 08/06/98  
Analyzed: 08/07/98  
Reported: 08/18/98

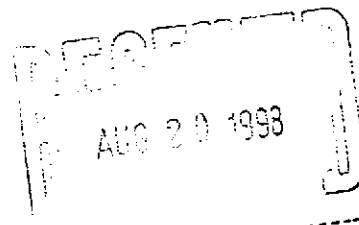
GC Batch Number: GC080798BTEX06A  
Instrument ID: GCHP6

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	90
Benzene	0.10	2.5
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern: Unidentified HC		C6-C8
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	703 Q

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

**SEQUOIA ANALYTICAL - ELAP #1210**



*Richard Herling*  
Richard Herling  
Project Manager



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-EFF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9808288-02

Sampled: 08/05/98  
Received: 08/06/98  
Analyzed: 08/07/98  
Reported: 08/18/98

Attention: Mark Dockum


QC Batch Number: GC080798BTEX06A  
Instrument ID: GCHP06

**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	93

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager





# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
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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: Mark Dockum

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

QC Sample Group: 9808288-01,02

Reported: Aug 18, 1998

## QUALITY CONTROL DATA REPORT

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

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

QC Batch #: GC080798BTEX06A

Sample No.: 9807F97-2

Date Prepared:	8/7/98	8/7/98	8/7/98	8/7/98
Date Analyzed:	8/7/98	8/7/98	8/7/98	8/7/98
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	11	11	33
% Recovery:	110	110	110	110
Matrix Spike Duplicate, ug/L:	10	10	10	30
% Recovery:	100	100	100	100
Relative % Difference:	9.5	9.5	9.5	9.5
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GC080798BTEX06A

Date Prepared:	8/7/98	8/7/98	8/7/98	8/7/98
Date Analyzed:	8/7/98	8/7/98	8/7/98	8/7/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
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

Richard Herling  
Project Manager







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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

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

Address: <u>74 DUBOIS BL. SUITE 60 NOVATO, CA 94947</u>		Site Location: <u>OAKLAND</u>
Project #: <u>2010-11X</u>	Consultant Project #: <u>2010-11X</u>	Consultant Work Release #: <u>19432503</u>
Project Contact: <u>MARK ROCKLIN</u>	Phone #: <u>415-352-9105</u>	Laboratory Work Release #:
EXXON Contact: <u>MARLA KUNSLER</u>	Phone #: <u>925-246-8776</u>	EXXON RAS #: <u>7-3006</u>
Sampled by (print): <u>STEWART KINTZ</u>	Sampler's Signature: <u>[Signature]</u>	
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	PISV	# of Cont.	Sequoia's Sample #	TPH/Gas	TPH/	TRPH	Temperature: _____
							HTLX/	Diesel	S.M.	
							8015/	EPA	5520	Inbound Seal: Yes No
							8020	8015		Outbound Seal: Yes No
W-INF1	8/5/98	12:00	WATER	HCL	1	9808288	X			
W-INF2	8/5/98	12:00	WATER	HCL	1		X			
W-INT	8/5/98	12:00	WATER	HCL	1		X			
W-EFF	8/5/98	12:00	WATER	HCL	1		X			
A-INF	8/5/98	14:00	AIR		1	01	X			Foil
A-EFF	8/5/98	14:00	AIR		1	02	X			Foil

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>STEWART KINTZ / ERI</u>	<u>8.6.98</u>	<u>6PM</u>	<u>[Signature] SEQUOIA</u>	<u>8.6.98</u>	<u>6PM</u>	
<u>[Signature] - SEQUOIA</u>	<u>8.6.98</u>			<u>8/6/98</u>	<u>1955</u>	

Pink - Client

Yellow - Sequoia

White - Sequoia



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X  
Lab Proj. ID: 9808288

Received: 08/06/98  
Reported: 08/18/98

**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**

Richard Herling  
Project Manager





# Sequoia Analytical

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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-INF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9809307-01

Sampled: 09/03/98  
Received: 09/04/98  
Analyzed: 09/06/98  
Reported: 09/10/98

Attention: Mark Dockum

GC Batch Number: GC090498BTEX21A  
Instrument ID: GCHP21

## Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	68
Benzene	0.10	1.0
Toluene	0.10	0.21
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	0.75
Chromatogram Pattern: Gas & Unidentified HC		C6-C8
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	101

OCT 1 1998  
LABORATORY

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, 2010-11X Sample Descript: A-EFF Matrix: AIR Analysis Method: 8015Mod/8020 Lab Number: 9809307-02	Sampled: 09/03/98 Received: 09/04/98 Analyzed: 09/06/98 Reported: 09/10/98
Attention: Mark Dockum		

QC Batch Number: GC090698BTEX02A  
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	0.24
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</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



# Sequoia Analytical

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EA ENGINEERING  
3468 Mt. Diablo Blvd. Ste B100  
Lafayette, CA 94549  
Attention: Christa Marting

Client Project ID: EXXON 7-3006

QC Sample Group: 9809307

Reported: Sep 28, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: GG

ANALYTE Gasoline

QC Batch #: GC090498BTEX21A

Sample No.: GW9808D79-02

Date Prepared: 9/4/98

Date Analyzed: 9/4/98

Instrument I.D.#: GCHP21

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 280

% Recovery: 112

### Matrix

Spike Duplicate, ug/L: 280

% Recovery: 112

Relative % Difference: 0.0

RPD Control Limits: 0-25

LCS Batch#: GWLCS090498A

Date Prepared: 9/4/98

Date Analyzed: 9/4/98

Instrument I.D.#: GCHP21

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.

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 Analytical

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EA ENGINEERING  
3468 Mt. Diablo Blvd. Ste B100  
Lafayette, CA 94549  
Attention: Christa Marting

Client Project ID: EXXON 7-3006

QC Sample Group: 9809307

Reported: Sep 28, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: AM

ANALYTE Gasoline

QC Batch #: GC090698BTEX02A

Sample No.: GW9808H31-02

Date Prepared: 9/6/98

Date Analyzed: 9/6/98

Instrument I.D.#: GCHP02

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug L: 230

% Recovery: 92

### Matrix

Spike Duplicate, ug L: 270

% Recovery: 108

Relative % Difference: 16

RPD Control Limits: 0-25

LCS Batch#: GWLCS090698A

Date Prepared: 9/6/98

Date Analyzed: 9/6/98

Instrument I.D.#: GCHP02

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 280

LCS % Recovery: 112

Percent Recovery Control Limits:

MS/MSD 80-140

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

Mei Mei Shin  
Project Manager



**Sequoia  
Analytical**

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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X

Received: 09/04/98

Lab Proj. ID: 9809307

Reported: 09/10/98

### 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.).

SEQUOIA ANALYTICAL

Mei Mei Shin  
Project Manager



Sequoia Analytical  
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 (415) 364-9600 • FAX (415) 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 1

Address: 74 Digital Dr, Suite #6 Site Location: 7-3006

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

Project Contact: Mark Deckum Phone #: (415) 382-9105 Laboratory Work Release #:

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

Sampled by (print): DAVID ARNDAL Sampler's Signature: [Signature]

Shipment Method: Air Bill #:

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 9869307

**ANALYSIS REQUIRED**

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Soquoia's Sample #	TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No
<del>A-INT</del>	<del>9/3/98</del>	<del>15:05</del>	<del>Air</del>		<del>1</del>	<del>01</del>	<del>X</del>					
<del>A-EFF</del>	<del>9/3/98</del>	<del>13:00</del>	<del>Air</del>		<del>1</del>	<del>02</del>	<del>X</del>					
W-INT 1	9/3/98	12:30	Water	HCL	3		X					SP 4 1
W-INT 2	9/3/98	12:40	Water	HCL	3		Y					
W-INT	9/3/98	12:50	Water	HCL	3		X					
W-EFF	9/3/98	12:55	Water	HCL	3		X					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> ERI	9-4-98	10:50	<u>[Signature]</u> / Sequoia	9/4	10:50	
<u>[Signature]</u>	9/4		<u>[Signature]</u> / Sequoia	9/4/98	12:05	

Pink - Client  
Yellow - Sequoia  
White - Sequoia





**Sequoia  
Analytical**

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OCT 28 1998

Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 2010-11X Sample Descript: A-INF Matrix: AIR Analysis Method: 8015Mod/8020 Lab Number: 9807J17-01	Sampled: 07/28/98 Received: 07/31/98 Analyzed: 08/01/98 Reported: 10/27/98
--	---	---

QC Batch Number: GC080198BTEX02A  
Instrument ID: GCHP2

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10	13
Benzene	0.10	N.D.
Toluene	0.10	0.36
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	0.10	N.D.
Chromatogram Pattern: Unidentified HC		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

*Richard Herling*

Richard Herling  
Project Manager



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: A-EFF  
Matrix: AIR  
Analysis Method: 8015Mod/8020  
Lab Number: 9807J17-02

Sampled: 07/28/98  
Received: 07/31/98  
Analyzed: 08/02/98  
Reported: 10/27/98

QC Batch Number: GC080198BTEX02A  
Instrument ID: GCHP2

**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	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Richard Herling  
Project Manager



**Sequoia  
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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X  
Lab Proj. ID: 9807J17

Received: 07/31/98  
Reported: 10/27/98

### 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.).

This report was revised on 10/27/98 per Peter Petro. The collection date for the samples were incorrectly marked on the chain of custody. The correct collection date is 7/28/98 rather than 7/30/98, as indicated on the chain of custody. Therefore, the results given were out of hold time and are to be considered estimates.

SEQUOIA ANALYTICAL

Richard Herling  
Project Manager



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03  
16  
13

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

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

**CHAIN OF CUSTODY**

Page 1 of 1

Consultant's Name: Environmental Resolutions Inc

Address: 74 Digital Dr #6, Novato, CA 94949 Site Location: 7-3006

Project #: 2010-117 Consultant Project #: \_\_\_\_\_ Consultant Work Release #: 19432503

Project Contact: Mark Deckum Phone #: (415) 382-9105 Laboratory Work Release #: \_\_\_\_\_

EXXON Contact: Mark Guensler Phone #: (925) 246-8776 EXXON RAS #: 7-3006

Sampled by (print): DAVID ARENDAL Sampler's Signature: [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		
<u>98-07-317</u>											
<u>A-INF</u>	<u>7/30</u>	<u>12:00</u>	<u>Air</u>	<u>-</u>	<u>1</u>		<u>X</u>				
<u>A-EFF</u>	<u>7/30</u>	<u>12:00</u>	<u>Air</u>	<u>-</u>	<u>1</u>		<u>X</u>				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> ERI <u>[Signature]</u> Sequoia	<u>7-31-11</u>		<u>[Signature]</u> Sequoia	<u>7/31</u>	<u>1600</u>	
			<u>[Signature]</u> Sequoia	<u>7/31</u>	<u>1803</u>	

Pink - Client

Yellow - Sequoia

White - Sequoia



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

Client Proj. ID: Exxon 7-3006, 2010-11x  
Sample Descript: W-INF1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9809363-01

Sampled: 09/03/98  
Received: 09/04/98  
Analyzed: 09/17/98  
Reported: 09/19/98

Attention: Mark Dockum

QC Batch Number: GC091798BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	400
Benzene	2.5	110
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	9.4
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin  
Project Manager

09/2 1998  
*[Handwritten signature]*



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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11x  
Sample Descript: W-INF2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9809363-02

Sampled: 09/03/98  
Received: 09/04/98  
Analyzed: 09/17/98  
Reported: 09/19/98

QC Batch Number: GC091798BTEX02A  
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:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70                      130	85

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, 2010-11x  
Sample Descript: W-INT  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9809363-03

Sampled: 09/03/98  
Received: 09/04/98  
Analyzed: 09/17/98  
Reported: 09/19/98

Attention: Mark Dockum

GC Batch Number: GC091798BTEX02A  
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	78

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, 2010-11x  
Sample Descript: W-EFF  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9809363-04

Sampled: 09/03/98  
Received: 09/04/98  
Analyzed: 09/17/98  
Reported: 09/19/98

QC Batch Number: GC091798BTEX02A  
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	84

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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<b>ENVIRONMENTAL RESOLUTIONS</b> 74 Digital Dr. Ste 6 Novato, CA 94949 Attention: Tracy Faulkner	Client Project ID: EXXON 7-3006, 2010-11X  QC Sample Group: 9809363	Reported: Sep 30, 1998
---	---	------------------------

## QUALITY CONTROL DATA REPORT

Matrix:	Liquid			
Method:	EPA 8020			
Analyst:	GR/DB			
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes

QC Batch #: GC091798BTEX03A

Sample No.: GW9809221-16

Date Prepared:	9/17/98	9/17/98	9/17/98	9/17/98
Date Analyzed:	9/17/98	9/17/98	9/17/98	9/17/98
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	11	9.9	32
% Recovery:	104	103	99	105
Matrix Spike Duplicate, ug L:	10.0	9.8	9.7	30
% Recovery:	100	98	97	99
Relative % Difference:	3.9	11	2.0	3.3
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS091798A

Date Prepared:	9/17/98	9/17/98	9/17/98	9/17/98
Date Analyzed:	9/17/98	9/17/98	9/17/98	9/17/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	10	10	10	31
LCS % Recovery:	103	101	100	103
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: Tracy Faulkner	Client Project ID: EXXON 7-3006, 2010-11X	QC Sample Group: 9809363	Reported: Sep 30, 1998
--	---	--------------------------	------------------------

## QUALITY CONTROL DATA REPORT

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

QC Batch #: GC091798BTEX02A

Sample No.: GW9809221-16

Date Prepared: 9/17/98

Date Analyzed: 9/17/98

Instrument I.D.#: GCHP02

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 280

% Recovery: 112

Matrix

Spike Duplicate, ug/L: 280

% Recovery: 112

Relative % Difference: 0.0

RPD Control Limits: 0-25

LCS Batch#: GST0091798A

Date Prepared: 9/17/98

Date Analyzed: 9/17/98

Instrument I.D.#: GCHP02

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 310

LCS % Recovery: 124

Percent Recovery Control Limits:

MS/MSD	80-140
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

Mei Mei Shin  
Project Manager



Sequoia  
Analytical

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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11x  
Lab Proj. ID: 9809363

Received: 09/04/98  
Reported: 09/19/98

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 8 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



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

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

Address: 74 Digital Dr, Suite #6 Site Location: 7-3006

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

Project Contact: Mark Deckum Phone #: (415) 382-9105 Laboratory Work Release #:

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

Sampled by (print): DAVID ARNDAL Sampler's Signature: [Signature]

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

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 180/30.3

ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	PMV	# of Cont.	Inspector's Sample #	TPH/Gas 13TEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	Temperature: _____	Inbound Seal: Yes No	Outbound Seal: Yes No
A-INT	9/3/98	13:05	Air		1		X					
A-EFF	9/3/98	13:00	Air		1		X					
W-INT 1	9/3/98	12:30	Water	HCL	3	1	X					
W-INT 2	9/3/98	12:40	Water	HCL	3	2	X					
W-INT	9/3/98	12:50	Water	HCL	3	3	X					
W-EFF	9/3/98	12:55	Water	HCL	3	4	X					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> ERI	9-4-98	10:50	<u>[Signature]</u> / Sequoia	9/4	10:50	
<u>[Signature]</u>	9/4		<u>[Signature]</u> / Sequoia	9/4/98	12:05	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: W-INF1  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9808388-01

Sampled: 08/05/98  
Received: 08/06/98  
Analyzed: 08/12/98  
Reported: 08/27/98

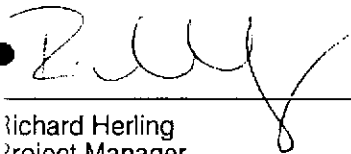
QC Batch Number: GC081298BTEX06A  
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	200	510
Benzene	2.0	240
Toluene	2.0	4.7
Ethyl Benzene	2.0	3.5
Xylenes (Total)	2.0	27
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.

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager

SEP 17 1998



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: W-INF2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9808388-02

Sampled: 08/05/98  
Received: 08/06/98  
Analyzed: 08/12/98  
Reported: 08/27/98

Attention: Mark Dockum

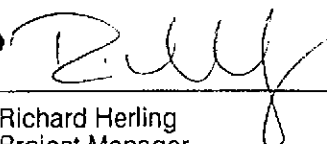
QC Batch Number: GC081298BTEX06A  
Instrument ID: GCHP06

**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	123

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager



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

Client Proj. ID: Exxon 7-3006, 2010-11X  
Sample Descript: W-INT  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9808388-03

Sampled: 08/05/98  
Received: 08/06/98  
Analyzed: 08/12/98  
Reported: 08/27/98

Attention: Mark Dockum

GC Batch Number: GC081298BTEX21A  
Instrument ID: GCHP21

**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



Richard Herling  
Project Manager



Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-3006, 2010-11X Sample Descript: W-EFF Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9808388-04	Sampled: 08/05/98 Received: 08/06/98  Analyzed: 08/10/98 Reported: 08/27/98
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GC Batch Number: GC081098BTEX06A  
Instrument ID: GCHP06

### 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	101

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager





# Sequoia Analytical

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Environmental Resolutions  
74 Digital Dr. Ste.6  
Novato, CA 94949  
Attention: Mark Dockum

Client Project ID: Exxon 7-3006, 2010-11x

QC Sample Group: 9808388-01-02

Reported: Sep 15, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8020  
Analyst: R. Geckler

ANALYTE Benzene Toluene Ethylbenzene Xylenes

QC Batch #: GC081298BTEX06A

Sample No.: GW9807K04-2

	Benzene	Toluene	Ethylbenzene	Xylenes
Date Prepared:	8/12/98	8/12/98	8/12/98	8/12/98
Date Analyzed:	8/12/98	8/12/98	8/12/98	8/12/98
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:	9.2	9.0	9.1	27
% Recovery:	92	90	91	90
Matrix pike Duplicate, ug/L:	7.8	7.5	7.6	22
% Recovery:	78	75	76	73
Relative % Difference:	15	12	18	21
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWBLK081298A

	Benzene	Toluene	Ethylbenzene	Xylenes
Date Prepared:	8/12/98	8/12/98	8/12/98	8/12/98
Date Analyzed:	8/12/98	8/12/98	8/12/98	8/12/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.5	9.4	9.6	29
LCS % Recovery:	95	94	96	97

### Percent Recovery Control Limits:

MS/MSD	Benzene	Toluene	Ethylbenzene	Xylenes
	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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FAX (707) 792-0342

Environmental Resolutions 74 Digital Dr. Ste.6 Novato, CA 94949 Attention: Mark Dockum	Client Project ID: Exxon 7-3006, 2010-11x  QC Sample Group: 9808388-03	Reported: Sep 15, 1998
---	--	------------------------

## QUALITY CONTROL DATA REPORT

Matrix: Liquid				
Method: EPA 8020				
Analyst: N. Herrera				
<b>ANALYTE</b>	Benzene	Toluene	Ethylbenzene	Xylenes

QC Batch #: GC081298BTEX21A

Sample No.: 9807K04-01

Date Prepared:	8/12/98	8/12/98	8/12/98	8/12/98
Date Analyzed:	8/12/98	8/12/98	8/12/98	8/12/98
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
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	10.0	10.0	31
% Recovery:	110	100.0	100.0	103
Matrix pike Duplicate, ug/L:	11	10.0	10.0	31
% Recovery:	110	100.0	100.0	103
Relative % Difference:	0.0	0.0	0.0	0.0
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS081298B

Date Prepared:	8/12/98	8/12/98	8/12/98	8/12/98
Date Analyzed:	8/12/98	8/12/98	8/12/98	8/12/98
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	10.0	9.9	9.7	30
LCS % Recovery:	100.0	99	97	100.0

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.



# Sequoia Analytical

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Environmental Resolutions  
74 Digital Dr. Ste.6  
Novato, CA 94949  
Attention: Mark Dockum

Client Project ID: Exxon 7-3006, 2010-11x

QC Sample Group: 9808388-04

Reported: Sep 15, 1998

## QUALITY CONTROL DATA REPORT

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

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

QC Batch #: GC081098BTEX06A

Sample No.: GW9807J75-8

	8/10/98	8/10/98	8/10/98	8/10/98
Date Prepared:	8/10/98	8/10/98	8/10/98	8/10/98
Date Analyzed:	8/10/98	8/10/98	8/10/98	8/10/98
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:	8.9	8.7	8.9	26
% Recovery:	89	87	89	87
Matrix pike Duplicate, ug/L:	9.4	9.4	9.4	28
% Recovery:	94	94	94	93
relative % Difference:	5.5	7.7	5.5	6.7
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWBLK081098A

	8/10/98	8/10/98	8/10/98	8/10/98
Date Prepared:	8/10/98	8/10/98	8/10/98	8/10/98
Date Analyzed:	8/10/98	8/10/98	8/10/98	8/10/98
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	11	11	33
LCS % Recovery:	110	110	110	110

### 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.



**Sequoia  
Analytical**

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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 2010-11X

Lab Proj. ID: 9808388

Received: 08/06/98

Reported: 08/27/98

### 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**

Richard Herling  
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

3529

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

Address: <u>74 BIKETAL BL. SUITE 6 NOVATO, CA 94949</u>		Site Location: <u>OAKLAND</u>
Project #: <u>2010-11X</u>	Consultant Project #: <u>2010-11X</u>	Consultant Work Release #: <u>19432503</u>
Project Contact: <u>MARK ROCKUM</u>	Phone #: <u>415-382-9105</u>	Laboratory Work Release #:
EXXON Contact: <u>MARLA GUNSLER</u>	Phone #: <u>925-246-8776</u>	EXXON RAS #: <u>7-3006</u>
Sampled by (print): <u>STEWART KINTZ</u>	Sampler's Signature: <u>[Signature]</u>	
Shipment Method:	Air Bill #:	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day) 9808388

### 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
X W-INF1	8/05/98	12:00	WATER	HCL	1	01	X					
X W-INF2	8/5/98	12:00	WATER	HCL	1	02	X					
X W-INF	8/5/98	12:00	WATER	HCL	1	03	X					
X W-EFF	8/5/98	12:00	WATER	HCL	1	04	X					
LA-INF	8/5/98	14:00	AIR		1		X					Fol
LA-EFF	8/5/98	14:00	AIR		1		X					Fol

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u> / ERT	8-6-98	6pm	<u>[Signature]</u> / SEQUOIA	8-6-98	6pm	
<u>[Signature]</u> - SEQUOIA	8-6-98		<u>[Signature]</u>	8/6/98	1955	

Pink - Client  
Yellow - Sequoia  
White - Sequoia



**Sequoia  
Analytical**

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**RECEIVED**  
JUL 31 1998

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

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-INF  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9807899-01

Sampled: 07/13/98  
Received: 07/15/98  
Analyzed: 07/23/98  
Reported: 07/29/98

Attention: Mark Dockum


QC Batch Number: GC072398BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2500	2700
Benzene	25	480
Toluene	25	N.D.
Ethyl Benzene	25	92
Xylenes (Total)	25	270
Chromatogram Pattern:		Gas
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	74

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager



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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-3006, 201011X  
Sample Descript: W-INT  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9807899-02

Sampled: 07/14/98  
Received: 07/15/98  
Analyzed: 07/23/98  
Reported: 07/29/98

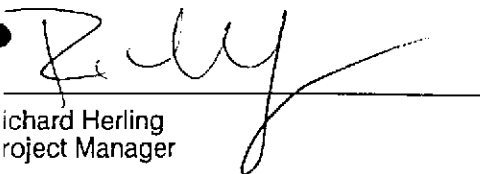
QC Batch Number: GC072398BTEX03A  
Instrument ID: GCHP03

**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	83

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

**EQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
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: 9807899-03

Sampled: 07/14/98  
Received: 07/15/98  
Analyzed: 07/23/98  
Reported: 07/29/98

Attention: Mark Dockum

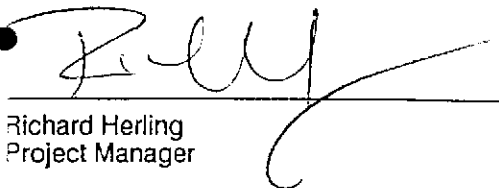
QC Batch Number: GC072398BTEX03A  
Instrument ID: GCHP03

**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:		N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	81

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Richard Herling  
Project Manager





# Sequoia Analytical

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Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

Client Project ID: Exxon 7-3006, 201011X

QC Sample Group: 9807899-01-03

Reported: Jul 29, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015

ANALYTE Gasoline

QC Batch #: GC072398BTEX03A

Sample No.: GW9807707-06

Date Prepared: 7/23/98

Date Analyzed: 7/23/98

Instrument I.D.#: GCHP03

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 300

% Recovery: 120

### Matrix

Spike Duplicate, ug/L: 310

% Recovery: 124

Relative % Difference: 3.3

RPD Control Limits: 0-25

LCS Batch#: GWBLK072398AS

Date Prepared: 7/23/98

Date Analyzed: 7/23/98

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

  
Richard Herling  
Project Manager



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10  
 51  
 51

EXXON COMPANY, U.S.A.

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

CHAIN OF CUSTODY

**SAME DAY CHARGE**

Consultant's Name: ENVIRONMENTAL Resolutions INC Page 1 of 1

Address: 74 Digital Drive Suite G, Mission CA 94949 Site Location: 720 High St Oakland

Project #: 2010112 Consultant Project #: 2010112 Consultant Work Release #: 19432503

Project Contact: Mark Dockum Phone #: 415 342.5441 Laboratory Work Release #:

EXXON Contact: MARLA GUNWALD Phone #: 925 246 8770 EXXON RAS #: 7306

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

Shipment Method: Air Bill #: [Signature]

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>98-07-899</u>												
<u>W-WE</u>	<u>7/4/98</u>	<u>11 AM</u>	<u>WATER</u>	<u>Rel</u>	<u>3</u>		<u>X</u>					
<u>W-WT</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>3</u>		<u>X</u>					
<u>W-EFF</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>3</u>		<u>X</u>					
<u>A-WE</u>	<u>7/4/98</u>	<u>10 AM</u>	<u>Air</u>	<u>WAL</u>	<u>1</u>		<u>X</u>					
<u>A-EFF</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>1</u>		<u>X</u>					

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	<u>7/15/98</u>	<u>3:20</u>	<u>[Signature]</u>	<u>7/15</u>	<u>3:20</u>	
<u>[Signature]</u>	<u>7/15/98</u>		<u>[Signature]</u>	<u>7/15/98</u>	<u>1701</u>	

Pink - Client

Yellow - Sequoia

White - Sequoia



Sequoia  
Analytical

680 Chesapeake Drive  
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FAX (916) 921-0100  
FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

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

Received: 07/15/98

Lab Proj. ID: 9807899

Reported: 07/29/98

### 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

Richard Herling  
Project Manager



**Sequoia  
Analytical**

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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: 9807A81-01

Sampled: 07/16/98  
Received: 07/17/98  
Analyzed: 07/24/98  
Reported: 07/29/98

Attention: Mark Dockum


QC Batch Number: GC072498BTEX06A  
Instrument ID: GCHP06

**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	94

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Richard Herling  
Project Manager

**RECEIVED**  
AUG 3 1998



# 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: Mark Dockum

Client Project ID: Exxon 7-3006, 201011X

QC Sample Group: 9807A81-01

Reported: Jul 30, 1998

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 8015  
Analyst: G. Peshina

ANALYTE Gasoline

QC Batch #: GC0724988BTEX06A

Sample No.: GW9807A01-3

Date Prepared: 7/24/98

Date Analyzed: 7/24/98

Instrument I.D.#: GCHP6

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

Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 220

% Recovery: 88

Matrix

Spike Duplicate, ug/L: 220

% Recovery: 88

Relative % Difference: 0.0

RPD Control Limits: 0-25

LCS Batch#: GWBLK072498A

Date Prepared: 7/24/98

Date Analyzed: 7/24/98

Instrument I.D.#: GCHP6

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 270

LCS % Recovery: 108

Percent Recovery Control Limits:

MS/MSD 60-140

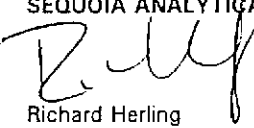
LCS 70-130

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

  
Richard Herling  
Project Manager





Sequoia Analytical  
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 (415) 364-9600 • FAX (415) 364-9233

# EXXON COMPANY, U.S.A.

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

## CHAIN OF CUSTODY

95071281

Page 1 of 1

Consultant's Name: <u>Environmental Resolution Inc.</u>		Site Location: <u>720 High St</u>
Address: <u>74 Digital Drive Suite C Novato CA 94947</u>		Consultant Work Release #: <u>19432503</u>
Project #: <u>201011x</u>	Consultant Project #: <u>201011x</u>	Laboratory Work Release #:
Project Contact: <u>Mark Dankum</u>	Phone #: <u>415 382 9105</u>	EXXON RAS #: <u>73026</u>
EXXON Contact: <u>Marta Green</u>	Phone #: <u>925 246 8776</u>	Sampler's Signature: <u>[Signature]</u>
Sampled by (print): <u>PETER ROUSE</u>	Air Bill #:	<u>Oakland</u>
Shipment Method:		

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		
<u>W-5FF</u>	<u>7/16</u>		<u>H<sub>2</sub>O</u>	<u>10/110</u>	<u>3</u>	<u>1</u>	<u>X</u>				

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>[Signature]</u>	<u>7/17</u>	<u>1155</u>	<u>[Signature]</u>	<u>7/17</u>	<u>1155</u>	
<u>[Signature]</u>	<u>7/17</u>	<u>1155</u>				

Pink - Client  
Yellow - Sequoia  
White - Sequoia



**Sequoia  
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FAX (707) 792-0342

Environmental Resolutions  
74 Digital Drive, Suite 6  
Novato, CA 94949  
Attention: Mark Dockum

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

Received: 07/17/98

Lab Proj. ID: 9807A81

Reported: 07/29/98

### 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**

  
Richard Herling  
Project Manager



**ATTACHMENT C**

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



**HYDROCARBON REMOVED  
FROM A VADOSE WELL  
SOP-25**

Rev: JO'C

**POUNDS OF HYDROCARBON IN AN VAPOR  
STREAM**

INPUT DATA:

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

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

ASSUMPTIONS:

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

SAMPLE DATA AND CALCULATIONS

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

Calculate the pounds of hydrocarbon removed from the system during the basis period from 13:00 (1:00 pm) on the 7th to 10 am on the 8th. Pressure and temperature of the measurements (at the flow meter) must be corrected to the P and T used to report the HC concentration (which are P = 1 atm and T = 70 deg F). 1 atm = 14.7psia, 760 mm Hg, or 407 in H<sub>2</sub>O. T<sub>abs</sub> = 460 + T deg F

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

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

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

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

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)