

SEND 1068
D12

ENVIRONMENTAL
PROTECTION
96 JUL 18 PM 3:47

EXXON COMPANY, U.S.A.

P.O. BOX 4032 • CONCORD, CA 94524-4032

MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER
SENIOR ENGINEER
(510) 246-8776
(510) 246-8798 FAX

July 15, 1996

Mr. Dennis Mishek
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

RE: Exxon RAS #7-0236/6630 East 14th Street, Oakland, CA

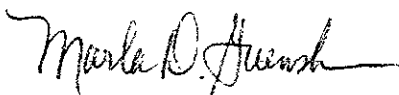
Dear Mr. Mishek:

Attached for your review and comment is a letter report entitled *Quarterly Ground Water Monitoring Report, Second Quarter 1996* for the above referenced site. This report, prepared by Environmental Resolutions, Inc., (ERI) of Novato, California, details the May 1996 ground water monitoring and sampling event.

In response to Alameda County Health Care Services letter (dated February 26, 1996), Exxon will implement semi annual (first and third quarter) groundwater monitoring and sampling of wells MW1, MW4 and MW7, and will continue quarterly groundwater monitoring and sampling of the remaining wells.

If you have any questions or comments, please contact me at (510) 246-8776.

Sincerely,



Marla D. Guensler
Senior Engineer

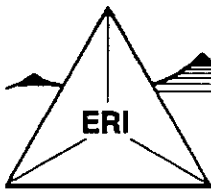
MDG/cms

attachment: ERI Quarterly Groundwater Monitoring Report dated July 2, 1996

cc: w/attachment:
Thomas Peacock - Alameda Co. Health Care Service Agency

w/o attachment
Keith Romstad - ERI, Novato





ENVIRONMENTAL RESOLUTIONS, INC.

July 2, 1996
ERI 200913.R06

Ms. Marla Guensler
Exxon Company, U.S.A.
2300 Clayton Road, Suite 640
Concord, California 94520

Subject: Quarterly Groundwater Monitoring, Second Quarter 1996, Exxon Service Station
7-0236, 6630 East 14th Street, Oakland, California.

Ms. Guensler:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) performed the second quarter 1996 groundwater monitoring event at the subject site (Plate 1). The purpose of quarterly monitoring is to evaluate fluctuations in dissolved hydrocarbon concentrations in groundwater and to evaluate the groundwater flow direction and gradient.

GROUNDWATER MONITORING AND SAMPLING

On May 10, 1996, ERI measured depth to water (DTW) in monitoring wells MW1 through MW7, and collected groundwater samples from these wells for laboratory analysis. No measurable liquid phase hydrocarbons were observed in the monitoring wells. ERI's groundwater sampling protocol is attached (Attachment A).

Based on DTW measurements the groundwater appears to flow southwest with a hydraulic gradient of 0.026 (Plate 2). Historical and recent monitoring data are summarized in Table 1.

LABORATORY ANALYSES AND RESULTS

Groundwater samples were submitted to Sequoia Analytical Laboratories (California State Certification Number 1210) in Redwood City, California, under chain of custody protocol. The samples were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), total petroleum hydrocarbons as gasoline (TPHg), and total extractable petroleum hydrocarbons as diesel (TEPHd) using the methods listed in the notes in Table 1. The laboratory analysis reports and chain of custody records are attached (Attachment B). Cumulative results of laboratory analysis of groundwater samples are summarized in Table 1. The results of analyses of groundwater samples collected during the recent sampling event are shown on Plate 2.

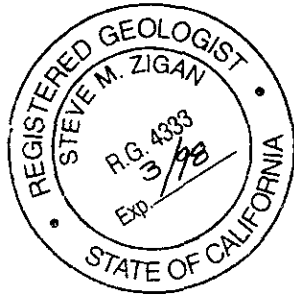
LIMITATIONS

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

95 JUL 18 PM 3:47
ENVIRONMENTAL
PROTECTION

If you have any questions or comments regarding this report, please call (415) 382-5994.

Sincerely,
Environmental Resolutions, Inc.



A handwritten signature in cursive script that reads "Glenn L. Matteucci".

Glenn L. Matteucci
Senior Staff Geologist

A handwritten signature in cursive script that reads "Steve M. Zigan".

Steve M. Zigan
R.G. 4333
H.G. 133

- Enclosures: Table 1: Cumulative Groundwater Monitoring and Sampling Data
- Plate 1: Site Vicinity Map
- Plate 2: Generalized Site Plan
- Attachment A: Groundwater Sampling Protocol
- Attachment B: Laboratory Reports and Chain of Custody Record

TABLE 1
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Exxon Service Station 7-0236
 6630 East 14th Street
 Oakland, California
 (Page 1 of 3)

Well ID # (TOC)	Sampling Date	SUBJ <	DTW feet	Elev. > <	TEPHd	TPHg	B	T	E	X	MTBE >	
							parts per billion					
MW1 (20.20)	3/15/91	NR	7.44	12.76	---	<50	<0.3	0.5	0.3	1.3	---	
	01/15/92 (H,T)	NR	10.60	9.60	<300	<50	<0.5	0.7	<0.5	0.9	---	
	03/23/92 (H,T)	NR	6.38	13.82	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	4/6/92	NR	7.55	12.65	---	---	---	---	---	---	---	
	07/08/92 (H,T)	NR	9.85	10.35	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	10/13/92 (H,T)	NR	12.95	7.25	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	3/9/93	NLPH	7.38	12.82	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	6/4/93	NLPH	8.55	11.65	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	9/2/93	NLPH	10.85	9.35	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	11/16/93	NLPH	12.43	7.77	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	2/4/94	NLPH	9.10	11.10	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	4/29/94	NLPH	8.45	11.75	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	9/20/94	NLPH	10.73	9.47	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	12/14/94	NLPH	7.35	12.85	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	3/27/95	NLPH	7.06	13.14	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/18/95	NLPH	7.32	12.88	<50	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/8/95	NLPH	9.24	10.96	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	11/7/95	NLPH	10.74	9.46	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	2/29/96	NLPH	6.80	13.40	53	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	5/10/96	NLPH	8.13	12.07	150	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
MW2 (19.15)	03/15/91 (H,T)	NR	9.05	10.10	120	1,700	190	2.6	12	64	---	
	01/15/92 (H,T)	NR	11.60	7.55	1,000	6,800	81	<10	320	170	---	
	03/23/92 (H,T)	NR	9.42	9.73	3,000	7,100	740	30	810	490	---	
	4/6/92	NR	9.09	10.06	---	---	---	---	---	---	---	
	7/8/92	NR	10.08	9.07	2,100	7,000	250	14	300	160	---	
	10/13/92	NR	12.06	7.09	1,900	3,200	97	2.6	97	53	---	
	3/9/93	sheen	9.71	9.44	---	---	---	---	---	---	---	
	6/4/93	sheen	9.40	9.75	---	---	---	---	---	---	---	
	09/02/93	sheen	10.46	8.69	3,700	11,000	210	18	260	59	2,500	
	11/16/93 (M*)	NLPH	11.44	7.71	3,300	8,500	75	27	51	32	---	
	2/4/94	NLPH	10.41	8.74	2,700	4,400	120	16	22	7.7	---	
	4/29/94	NLPH	9.51	9.64	2,000	380	5.9	0.6	1.6	<0.5	---	
	9/20/94	NLPH	10.57	8.58	1,800**	19,000	190	29***	110	27***	---	
	12/14/94	sheen	8.90	10.25	---	---	---	---	---	---	---	
	09/20/94	NLPH	10.57	8.58	1,800**	19,000	190	29***	110	27***	---	
	12/14/94	sheen	8.90	10.25	---	---	---	---	---	---	---	
	3/27/95	NLPH	7.72	11.43	1,700	6,300	210	15	250	43	---	
	5/18/95	sheen	8.65	10.50	2,000#	6,000	180	9.9	220	55	---	
	8/8/95	NLPH	9.67	9.48	2,700	5,300	110	<20	120	<20	36,000	
	11/7/95	NLPH	10.49	8.66	1,800	6,400	120	11	95	38	24,000	
	Additional Analyses for general minerals and properties <*											
	2/29/96	NLPH	8.45	10.70	2,500	<5,000	120	<50	120	<50	25,000	
	5/10/96	NLPH	9.02	10.13	2,300	11,000	210	120	210	140	26,000	
MW3 (19.59)	03/15/91 (H,T)	NR	7.84	11.75	160	3,100	2.2	1.9	100	84	---	
	01/15/92 (H,T)	NR	10.30	9.29	<300	250	0.7	6.8	1.5	1.5	---	
	03/23/92 (H,T)	NR	6.84	12.75	440	640	<0.5	12	25	6.5	---	
	4/6/92	NR	7.84	11.75	---	---	---	---	---	---	---	
	07/08/92 (H,T)	NR	8.63	10.96	960	2,900	<0.5	2.6	12	63.7	---	
	10/13/92 (H)	NR	12.10	7.49	400	1,100	5.5	<0.5	4.6	1.1	---	
	3/9/93	sheen	9.05	10.54	---	---	---	---	---	---	---	
	6/4/93	sheen	8.43	11.16	---	---	---	---	---	---	---	
	9/2/93	NLPH	10.22	9.37	690	840	2.7	3.6	5.4	2.9	---	
	11/16/93	NLPH	11.44	8.15	310	650	<0.5	11	7.7	2.4	---	
	2/4/94	NLPH	9.27	10.32	340	870	0.6	14	1.2	0.8	---	

TABLE 1
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Exxon Service Station 7-0236
 6630 East 14th Street
 Oakland, California
 (Page 2 of 3)

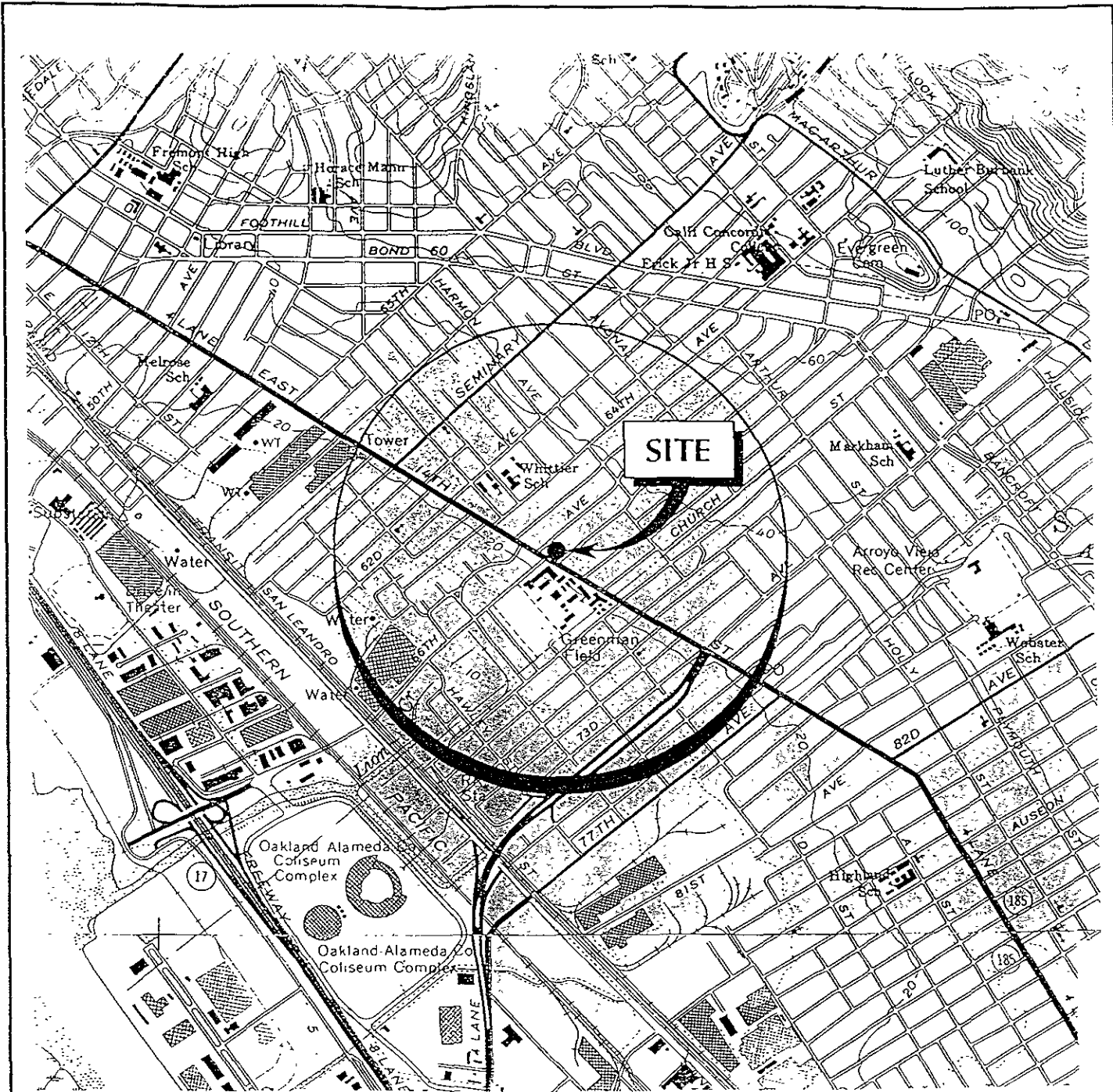
Well ID # (TOC)	Sampling Date	SUBJ <	DTW feet	Elev. > <	TEPHd	TPHg	B parts per billion	T	E	X	MTBE >
MW3 (cont.) (19.59)	4/29/94	NLPH	8.10	11.49	290	790	<0.5	<0.5	0.8	1	---
	9/20/94	NLPH	10.10	9.49	91**	1,900	<0.5	<0.5	11	4.4	---
	12/14/94	NLPH	8.00	11.59	190	1,700	17	22	<0.5	<0.5	---
	3/27/95	NLPH	7.23	12.36	1,100	1,500	5	3.1	6.3	3.6	---
	5/18/95	NLPH	7.73	11.86	470#	1,000	<0.5	<0.5	4.1	0.94	---
	8/8/95	NLPH	8.81	10.78	580	1,600	12	<0.5	2.4	0.63	12
	11/7/95	NLPH	9.96	9.63	540	1,500	<2.5	2.9	<2.5	<2.5	26
	2/29/96	NLPH	8.47	11.12	680	1,000	<5.0	<5.0	<5.0	<5.0	<2.5
	5/10/96	NLPH	7.93	11.66	560	480	<1.0	<1.0	<1.0	<1.0	6.8
MW4 (19.46)	4/6/92	NR	7.76	11.70	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	7/8/92	NR	9.56	9.90	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	10/13/92	NR	12.09	7.37	<80	<50	<0.5	<0.5	<0.5	<0.5	---
	3/9/93	NLPH	7.53	11.93	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	6/4/93	NLPH	8.50	10.96	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/2/93	NLPH	10.30	9.16	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	11/16/93*	---	---	---	---	---	---	---	---	---	---
	2/4/94	NLPH	8.82	10.64	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	04/29/94(D)	NLPH	8.55	10.91	100	<50	<0.5	<0.5	<0.5	<0.5	---
	9/20/94	NLPH	10.21	9.25	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	12/14/94	NLPH	7.04	12.42	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	3/27/95	NLPH	6.38	13.08	140	<50	<0.5	<0.5	<0.5	<0.5	---
	5/18/95	NLPH	7.56	11.90	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/95	NLPH	8.92	10.54	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	11/7/95	NLPH	10.30	9.16	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	2/29/96	NLPH	6.44	13.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
5/10/96	NLPH	8.15	11.31	<50	<50	<0.5	0.84	<0.5	2.3	<2.5	
MW5 (18.95)	04/06/92	NR	10.66	6.29	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	07/08/92*	---	---	---	---	---	---	---	---	---	---
	10/13/92	NR	15.02	1.93	<50	69	<0.5	<0.5	<0.5	<0.5	---
	3/9/93	NLPH	10.27	6.68	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	6/4/93	NLPH	11.35	5.60	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/2/93	NLPH	13.15	3.80	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	11/16/93	NLPH	14.35	2.60	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	2/4/94	NLPH	11.83	5.12	60	<50	<0.5	<0.5	<0.5	<0.5	---
	4/29/94	NLPH	11.15	5.80	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/20/94	NLPH	12.79	4.16	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	12/14/94	NLPH	9.95	7.00	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	3/27/95	NLPH	9.09	7.86	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	5/18/95	NLPH	10.29	6.66	<50	<50	<0.5	4.6	0.65	2.8	---
	8/8/95	NLPH	11.13	5.82	51	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	11/7/95	NLPH	12.12	4.83	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	Additional Analyses for general minerals and properties <***										
	2/29/96	NLPH	9.24	7.71	60	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	5/10/96	NLPH	10.71	6.24	<50	<50	<0.5	<0.5	<0.5	1.6	<2.5
MW6 (18.79)	04/06/92(H)	NR	8.29	10.50	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	07/08/92(H,T)	NR	9.22	9.57	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	10/13/92	NR	11.51	7.28	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	3/9/93	NLPH	8.26	10.53	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	6/4/93	NLPH	8.90	9.89	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/2/93	NLPH	9.92	8.87	60	<50	<0.5	<0.5	<0.5	<0.5	---
	11/16/93	NLPH	10.65	8.14	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	2/4/94	NLPH	9.26	9.53	80	<50	<0.5	<0.5	<0.5	<0.5	---
	4/29/94	NLPH	8.33	10.46	110	<50	<0.5	<0.5	<0.5	<0.5	---
MW6 (cont.)	9/20/94	NLPH	9.23	9.56	<50	<50	<0.5	<0.5	<0.5	<0.5	---

TABLE I
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Exxon Service Station 7-0236
 6630 East 14th Street
 Oakland, California
 (Page 3 of 3)

Well ID # (TOC)	Sampling Date	SUBJ	DTW feet	Elev > <	TEPHd	TPHg	B	T	E	X	MTBE
		<					parts per billion				
											>
(18.79)	12/14/94	sheen	7.87	10.92	---	---	---	---	---	---	---
	3/27/95	NLPH	7.63	11.16	54	56	<0.5	<0.5	<0.5	<0.50	---
	5/18/95	NLPH	8.00	10.79	71	56	<0.5	<0.5	<0.5	<0.5	---
	8/8/95	NLPH	8.92	9.87	60	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	11/7/95	NLPH	9.77	9.02	<50	<50	<0.5	<0.5	<0.5	<0.5	4.7
	2/29/96	NLPH	7.67	11.12	64	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	5/10/96	NLPH	8.33	10.46	110	<50	<0.5	<0.5	<0.5	<0.5	5.4
MW7 (19.23)	4/6/92	NR	8.34	10.89	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	7/8/92	NR	10.30	8.93	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	10/13/92	NR	12.91	6.32	94	670	0.8	<0.5	<0.5	2.5	---
	03/09/93*	---	---	---	---	---	---	---	---	---	---
	6/4/93	NLPH	8.68	10.55	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/2/93	NLPH	10.80	8.43	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	11/16/93	NLPH	12.38	6.85	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	2/4/94	NLPH	9.28	9.95	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	4/29/94	NLPH	9.19	10.04	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	9/20/94	NLPH	10.85	8.38	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	12/14/94	NLPH	8.44	10.79	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	3/27/95	NLPH	7.54	11.69	280	<50	<0.5	<0.5	<0.5	<0.5	---
	5/18/95	NLPH	8.11	11.12	<50	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/95	NLPH	9.48	9.75	52	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	11/17/95	NLPH	10.83	8.40	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	2/29/96	NLPH	7.70	11.53	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	5/10/96	NLPH	8.76	10.47	<50	<50	<0.5	<0.5	<0.5	2.1	<2.5

Notes:

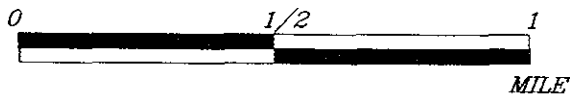
- NLPH = Liquid phase hydrocarbons not present in well
- TOC = Elevation of top of well casing, relative to mean sea level (MSL) in feet
- SUBJ = Results of subjective evaluation
- sheen = Liquid phase hydrocarbons present as a sheen
- NR = Not recorded
- DTW = Depth to water
- Elev. = Elevation of groundwater, relative to mean sea level
- TPHg = Total petroleum hydrocarbons as gasoline analyzed using modified EPA method 5030/8015
- TEPHd = Total extractable petroleum hydrocarbons as diesel analyzed using modified EPA method 5030/8015
- BTEX = Benzene, toluene, ethylbenzene, total xylene isomers analyzed using EPA method 5030/8020
- MTBE = Methyl tert-butyl ether analyzed using EPA method 5030/8020
- < = Less than the laboratory detection limit
- = Not sampled/Not measured
- * = Well not accessible : well obstructed / wellhead cover damaged / well paved over
- ** = Lighter hydrocarbons contribute to diesel range quantitation
- *** = Results obtained past technical holding time (10/08/94) due to dilution requirements
- C = High boiling point hydrocarbons are present in sample.
- D = Sample pattern does not match diesel standard pattern.
- H = EPA Method 8010 compounds not detected at or above their respective laboratory detection limits
 Exceptions: MW-2, 03/15/91, Methylene chloride detected at 1 ppb
 MW-3, 03/15/91, Methylene chloride detected at 21 ppb
- M* = A compound suspected to be Methyl tert-butyl ether was present
- T = Total Oil and Grease (TOG) using EPA Method 5520 not detected at or above the laboratory detection limit of 5,000 ppb.
- <* = Less than stated laboratory detection limits except 490 ppm bicarbonate, 37 ppm calcium, 31 ppm chloride, 390 ppm hardness, 790 ppb iron, 60 ppm magnesium, 4,700 ppb manganese, 1.1 ppm sodium, 61 ppm sulfate, 540 ppm TDS, 730 umhos/cm conductivity, pH = 6.9
- <** = Less than stated laboratory detection limits except 200 ppm bicarbonate, 23 ppm calcium, 21 ppm chloride, 78 ppb copper, 190 ppm hardness, 49,000 ppb iron, 44 ppm magnesium, 4,200 ppb manganese, 3.9 ppm potassium, 52 ppm sodium, 60 ppm sulfate, 390 ppm TDS



20090001



APPROXIMATE SCALE



Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland East and San Leandro, Calif 1980

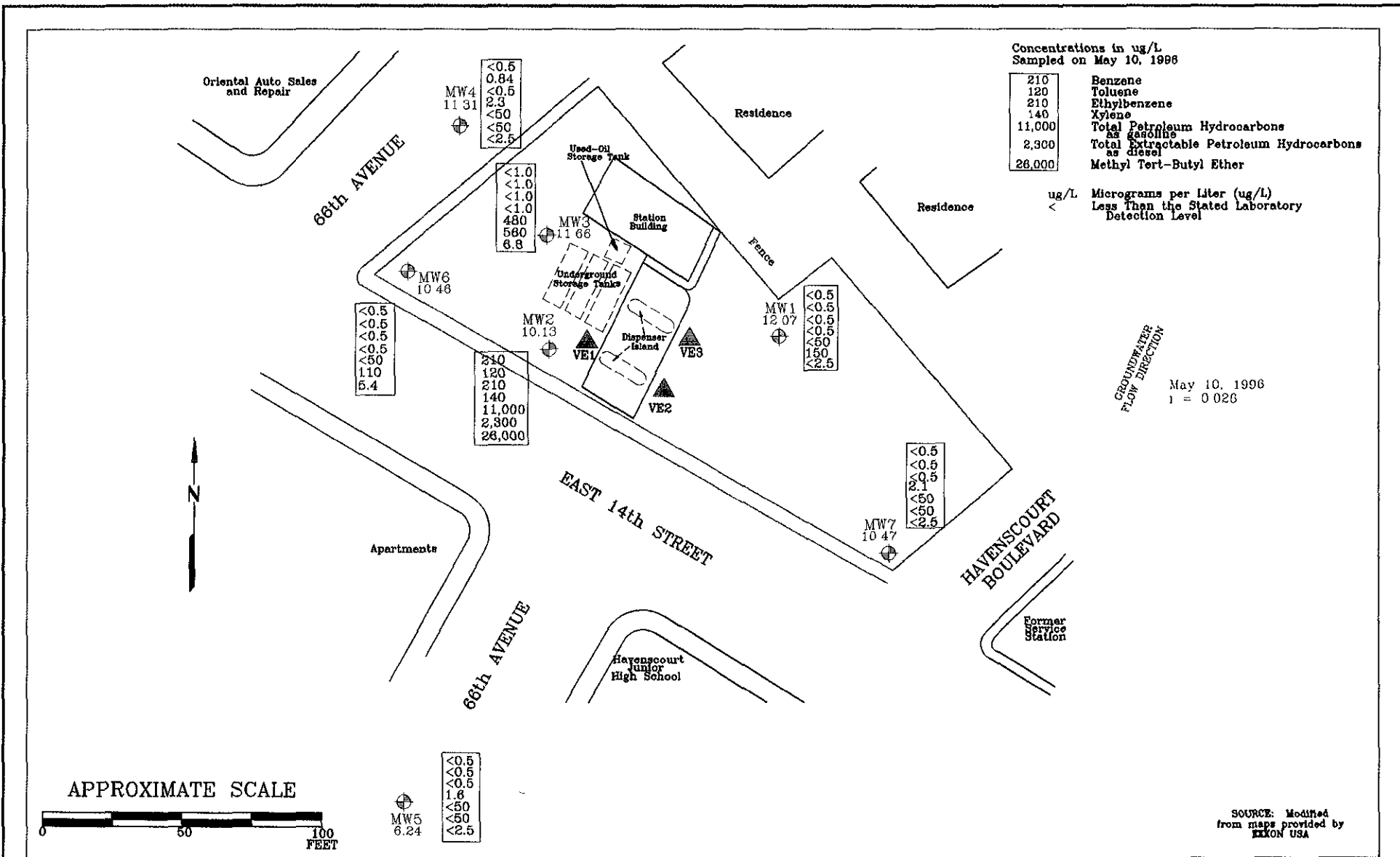


PROJECT ERI 2009

SITE VICINITY MAP
 EXXON SERVICE STATION 7-0236
 6630 East 14th Street
 Oakland, California

PLATE

1



FN 20090002



GENERALIZED SITE PLAN
EXXON SERVICE STATION 7-0236
6630 East 14th Street
Oakland, California

EXPLANATION

- ⊕ Groundwater Monitoring Well
- MW7 10.47 Groundwater Elevation; in Feet Above Mean Sea Level
- ▲ Vapor Extraction Well

1 = Interpreted gradient magnitude

PROJECT NO.
2009

PLATE
2

DATE: 7/2/96

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 ORS Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater gradient, depth to water (DTW) levels are subtracted from wellhead elevations.

Groundwater samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples are checked for measurable free-phase hydrocarbons or sheen. Any free-phase hydrocarbons are 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 is obtained, or until a minimum of 3 well casing volumes are purged. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". The quantity of water purged from each well is calculated as follows:

1 well casing volume = $r^2h(7.48)$ where:

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

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

After purging, each well is allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples are collected with a new, disposable Teflon® bailer. The groundwater is carefully poured into 40-milliliter (ml) glass vials, which are filled so as to produce a positive meniscus. Each vial is preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

ATTACHMENT B

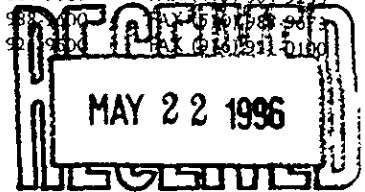
**LABORATORY REPORTS
AND CHAIN OF CUSTODY RECORD**



Sequoia
Analytical

680 Chesapeake Drive Redwood City, CA 94063
404 N Wiget Lane Walnut Creek, CA 94598
819 Striker Avenue, Suite 8 Sacramento, CA 95834

(415) 364-9600 FAX (415) 364-9233
(510) 938-1100 FAX (510) 938-9411
(916) 921-9300 FAX (916) 921-0180



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

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW4
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9605937-01

Sampled: 05/10/96
Received: 05/14/96
Extracted: 05/16/96
Analyzed: 05/20/96
Reported: 05/21/96

Attention: Marc Briggs

QC Batch Number: GC0516960HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	110

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

SEQUOIA ANALYTICAL - ELAP #1210

Kevin Follett
Project Manager





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

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW4
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605937-01

Sampled: 05/10/96
Received: 05/14/96
Analyzed: 05/17/96
Reported: 05/21/96

Attention: Marc Briggs

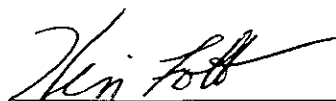
QC Batch Number: GC051796BTEX20A
Instrument ID: GCHP20

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	0.84
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	2.3
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	94

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

SEQUOIA ANALYTICAL - ELAP #1210



Kevin Follett
Project Manager





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

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW7
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9605937-02

Sampled: 05/10/96
Received: 05/14/96
Extracted: 05/16/96
Analyzed: 05/20/96
Reported: 05/21/96

Attention: Marc Briggs

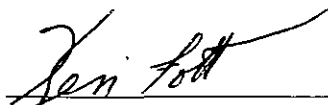
QC Batch Number: GC0516960HBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	103

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

SEQUOIA ANALYTICAL - ELAP #1210



 Kevin Follett
 Project Manager





**Sequoia
Analytical**

680 Chesapeake Drive	Redwood City, CA 94063	(415) 364-9600	FAX (415) 364-9233
404 N. Wiget Lane	Walnut Creek, CA 94598	(510) 988-9600	FAX (510) 988-9673
819 Striker Avenue, Suite 8	Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-0100

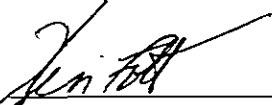
Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-0236 / 200913X Sample Descript: W-8-MW7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9605937-02	Sampled: 05/10/96 Received: 05/14/96 Analyzed: 05/17/96 Reported: 05/21/96
Attention: Marc Briggs		
QC Batch Number: GC051796BTEX20A		
Instrument ID: GCHP20		

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	2.1
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	101

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

SEQUOIA ANALYTICAL - ELAP #1210



 Kevin Follett
 Project Manager





Environmental Resolutions	Client Proj. ID: Exxon 7-0236 / 200913X	Sampled: 05/10/96
74 Digital Drive, Suite 6	Sample Descript: W-10-MW5	Received: 05/14/96
Novato, CA 94949	Matrix: LIQUID	Extracted: 05/16/96
Attention: Marc Briggs	Analysis Method: EPA 8015 Mod	Analyzed: 05/20/96
	Lab Number: 9605937-03	Reported: 05/21/96

QC Batch Number: GC0516960HBPEXZ
Instrument ID: GCHP4A


Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	54

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

SEQUOIA ANALYTICAL - ELAP #1210



 Kevin Follett
 Project Manager





Sequoia Analytical

680 Chesapeake Drive	Redwood City, CA 94063	(415) 364-9600	FAX (415) 364-9233
404 N. Wiget Lane	Walnut Creek, CA 94598	(510) 988-9600	FAX (510) 988-9673
819 Striker Avenue, Suite 8	Sacramento CA 95834	(916) 921-9600	FAX (916) 921-0100

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

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-10-MW5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605937-03

Sampled: 05/10/96
Received: 05/14/96
Analyzed: 05/17/96
Reported: 05/21/96

Attention: Marc Briggs

QC Batch Number: GC051796BTEX20A
Instrument ID: GCHP20

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	1.6
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Kevin Follett
Project Manager





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

Attention: Marc Briggs

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW6
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9605937-04

Sampled: 05/10/96
Received: 05/14/96
Extracted: 05/16/96
Analyzed: 05/20/96
Reported: 05/21/96

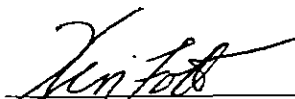
QC Batch Number: GC0516960HBPEXZ
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	110
Chromatogram Pattern: Unidentified HC		C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	114

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

SEQUOIA ANALYTICAL - ELAP #1210



Kevin Follett
Project Manager





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

Attention: Marc Briggs

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW6
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605937-04

Sampled: 05/10/96
Received: 05/14/96
Analyzed: 05/17/96
Reported: 05/21/96

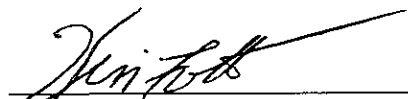
QC Batch Number: GC051796BTEX20A
Instrument ID: GCHP20

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	5.4
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	99

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

SEQUOIA ANALYTICAL - ELAP #1210


Kevin Follett
Project Manager





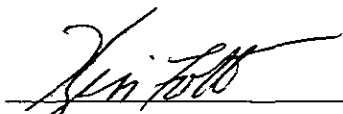
Environmental Resolutions	Client Proj. ID: Exxon 7-0236 / 200913X	Sampled: 05/10/96
74 Digital Drive, Suite 6	Sample Descript: W-8-MW1	Received: 05/14/96
Novato, CA 94949	Matrix: LIQUID	Extracted: 05/16/96
Attention: Marc Briggs	Analysis Method: EPA 8015 Mod	Analyzed: 05/21/96
	Lab Number: 9605937-05	Reported: 05/21/96
QC Batch Number: GC0516960HBPEXZ		
Instrument ID: GCHP5B		

Total Extractable Petroleum Hydrocarbons (TEPH)

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

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

SEQUOIA ANALYTICAL - ELAP #1210



 Kevin Follett
 Project Manager





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

Client Proj. ID: Exxon 7-0236 / 200913X
Sample Descript: W-8-MW1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605937-05

Sampled: 05/10/96
Received: 05/14/96
Analyzed: 05/17/96
Reported: 05/21/96

Attention: Marc Briggs

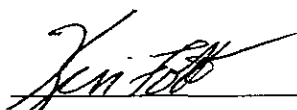
QC Batch Number: GC051796BTEX20A
Instrument ID: GCHP20

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:		
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



 Kevin Follett
 Project Manager





Environmental Resolutions 74 Digital Drive, Suite 6 Novato, CA 94949	Client Proj. ID: Exxon 7-0236 / 200913X Sample Descript: W-12-MW3 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9605937-06	Sampled: 05/10/96 Received: 05/14/96 Extracted: 05/16/96 Analyzed: 05/21/96 Reported: 05/21/96
--	---	--

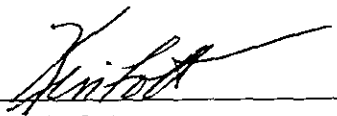
QC Batch Number: GC0516960HBPEXZ
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern: Unidentified HC	50	560 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	108

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

SEQUOIA ANALYTICAL - ELAP #1210



 Kevin Follett
 Project Manager

