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# **EXON** COMPANY, U.S.A.

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

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

DEC 2 9 1998

Ms. Pamela Evans Alameda County Health Care Services Agency Department of Environmental Health 1131 Harbor Bay Parkway, Room 250 Alameda, California 94502-6577

RE: Exxon RAS 7-0235/2225 Telegraph Avenue, Oakland, California.

Dear Ms. Evans:

Attached for your review and comment is a letter report entitled *Quarterly Groundwater Monitoring*, *Fourth Quarter 1998*, dated December 7, 1998, for the above referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the results of the quarterly groundwater monitoring and sampling 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 Report, Fourth Quarter 1998, dated December 7, 1998

cc: w/ attachment

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

w/o attachment

Mr. Mark S. Dockum - Environmental Resolutions, Inc.



#### ENVIRONMENTAL RESOLUTIONS, INC.

571D 1057

December 7, 1998 ERI 222913.R04

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

Subject:

Quarterly Groundwater Monitoring, Fourth Quarter 1998, Exxon Service Station

7-0235, 2225 Telegraph Avenue, Oakland, California.

Ms. Guensler:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) performed the fourth quarter 1998, groundwater monitoring and sampling event at the subject site. The location of the site is shown on the Site Vicinity Map (Plate 1). The purpose of quarterly monitoring is to evaluate concentrations of dissolved hydrocarbons in groundwater and groundwater flow direction and gradient.

#### GROUNDWATER MONITORING AND SAMPLING

On October 6, 1998, ERI measured depth to water (DTW) in monitoring wells MW6B, and MW6E through MW6I, and RW2 through RW3A, and collected groundwater samples from MW6B, MW6E, MW6H, MW6F, RW2 and RW3A. Sampling of monitoring wells MW6F and MW6G, and recovery well RW1, was discontinued as per a letter dated June 1, 1998, from the Alameda County Health Care Services. Work was performed in accordance with ERI's groundwater sampling protocol provided in Attachment A.

Based on DTW measurements, the groundwater appears to flow southeast with an average calculated hydraulic gradient of 0.014 (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 tertiary butyl ether (MTBE), total purgeable petroleum hydrocarbons as gasoline (TPPHg) using the methods listed in the notes in Table 1. The laboratory analysis reports and chain of custody records are provided in Attachment B. Historical and recent results of laboratory analyses 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 practice in California at the time this investigation was performed. This report has been prepared for Exxon Company, U.S.A. and any reliance on this report by third parties shall be at such party's sole risk.

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

Sincerely,

Environmental Resolutions, Inc.

Scott R. Graham Staff Geologist

Mark S. Dockum

R.G. 4412

C.E.G. 1675

Enclosures:

Table 1:

Cumulative Groundwater Monitoring and Sampling Data

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 7-0235 2225 Telegraph Avenue Oakland, California (Page 1 of 3)

Well ID#	Sampling	SUBJ	DTW	Elev.	TPPHg	MTBE	В	T	Ė	Х
(TOC)	Date	<	feet	>	<		ug/L			
MW-6B										
(17.48)	11/26/96	NLPH	12.26	5.22	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
	2/27/97	NLPH	11.73	5.75	< 50	< 30	< 0.5	< 0.5	< 0.5	0.80
	5/21/97	NLPH	12.70	4.78	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
	8/18/97	NLPH	12.89	4.59	380	< 30	4.3	< 0.5	1.2	1.5
	3/13/98	NLPH	11.15	6.33	360	< 6.2	93	4.9	4.1	12
	4/20/98	NLPH	11.49	5.99	110	5.5	19	1.3	1.5	3.9
(21.37)	7/21/98	NLPH	12.18	9.19	< 50	8.7	0.84	0.59	< 0.5	< 0.5
v	10/6/98	NLPH	12.70	8.67	190	6.0	2.4	0.56	0.51	1.2
MW-6E										
(17.63)	11/26/96	NLPH	12.94	4.69	< 50	<30	1.1	< 0.5	< 0.5	< 0.5
	2/27/97	NLPH	12.28	5.35	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
	5/21/97	NLPH	13.60	4.03	160	< 5	10	1.4	5.5	4.8
	8/18/97	NLPH	13.75	3.88	66	<30	< 0.5	< 0.5	< 0.5	< 0.5
	3/13/98	NLPH	11.36	6.27	< 50	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	4/20/98	NLPH	11.88	5.75	< <b>5</b> 0	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
(21.58)	7/21/98	NLPH	13.10	8.48	1,200	< 10	81	3.1	28	77
	10/6/98	NLPH	13.55	8.03	< 50	6.6	1.4	0.51	< 0.5	0.97
MW-6F										
(18.58)	11/26/96	NLPH	13.29	5.29	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
,	2/27/97					***				
	5/21/97	NLPH	14.18	4.40						
بعطر	8/18/97	NLPH	14.69	3.89			***			
	3/13/98	NLPH	10.93	7.65	< 50	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	4/20/98	NLPH	11.77	6.81						
(22.51)	7/21/98	NLPH	13.62	8.89	4 ~~					
	10/6/98	NLPH	13.52	8.99	4#*		***			
MW-6G										
(16.82)	11/26/96	NLPH	11.12	5.70	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
	2/27/97							·		
	5/21/97	NLPH	11.76	5.06		***				
	8/18/97	NLPH	12.23	4.59					***	
	3/13/98	NLPH	9.13	7.69	< 50	4.4	< 0.5	< 0.5	< 0.5	< 0.3
	4/20/98	NLPH	9.73	7.09						
(20.72)	7/21/98	NLPH	11.15	9.57				***		

disconti

# TABLE 1 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA

Exxon Service Station 7-0235 2225 Telegraph Avenue Oakland, California (Page 2 of 3)

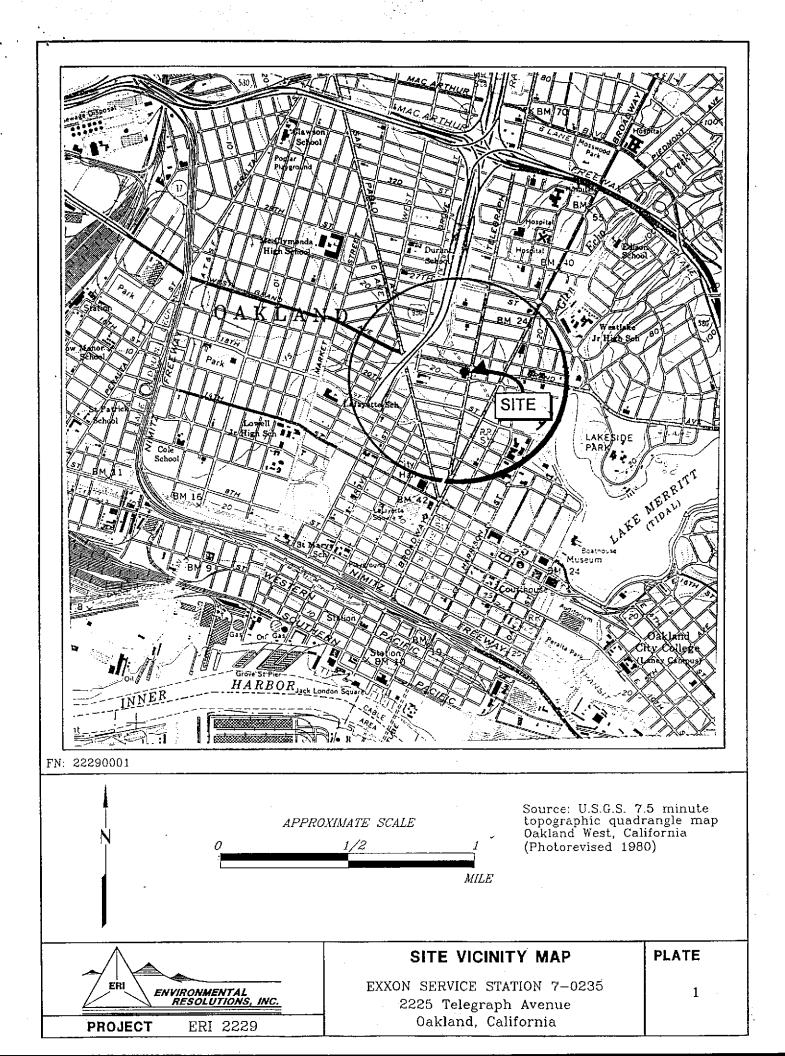
	V	/ell ID#	Sampling	SUBJ	DTW	Elev.	ТРРНд	MTBE	В	T	Ë	Х
		(TOC)	Date	<	feet	>	<		ug/L			>
	MW	-6G (cont.)										
		(20.72)	10/6/98	NLPH	11.91	8.81						
	<b>/</b> 1	MW-6H										
	•	(16.58)	11/26/96	NLPH	11.87	4.71	1,200	< 30	320	110	22	85
			2/27/97	NLPH	11.58	5.00	1,800	< 200	760	31	8.4	44
			5/21/97	NLPH	12.23	4.35	1,100	81	640	18	5.4	45
			8/18/97	NLPH	12.29	4.29	870	26	200	3.6	2.4	7.4
			3/13/98	NLPH	11.44	5.14	5,300	< 125	1,900	720	100	470
			4/20/98	NLPH	11.58	5.00	6,000	2,700	1,500	600	91	440
		(20.47)	7/21/98	NLPH	11.97	8.50	2,200	1,600	740	44	15	63
			10/6/98	NLPH	12.23	8.24	5,400	3,000	1,900	<25	<25	76
		MW-6I										
		(16.26)	11/26/96	NLPH	12.45	3.81	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
			2/27/97	NLPH	12.24	4.02	< 50	<30	< 0.5	< 0.5	< 0.5	< 0.5
		A	5/21/97	NLPH	12.82	3.44	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
	للملاق	1 E	8/18/97	NLPH	12.81	3.45	< 50	< 30	< 0.5	< 0.5	< 0.5	< 0.5
souri 15t	2.4	4 12.	3/13/98									
150	r "	•	4/20/98	NLPH	12.14	4.12	< 50	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
- {		(20.24)	7/21/98	NLPH	12.59	7.65	< 50	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
		` .	10/6/98	NLPH	12.81	7.43						
dis which	بلعم	RW-1 (16.79) (20.24)	Not Monitore	d since 6/16/9:	2							
		RW-2										
		(17.02)	Not Monitore	d 6/16/92 thro	ugh 4/20/98							
		(20.44)	7/21/98	NLPH	12.65	7.79	3,500	170	240	100	41	96
			10/6/98	NLPH	13.06	7.38	3,200	200	120	48	56	120
		RW-3A										
		(18.04)	Not Monitore	d 6/16/92 thro	ugh 4/20/98							
		(21.75)	7/21/98	NLPH	13.08	8.67	280	16	97	< 1.2	<1.2	<1.2
		·										

4

# TABLE 1 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA

Exxon Service Station 7-0235 2225 Telegraph Avenue Oakland, California (Page 3 of 3)

=	Results of subjective evaluation
=	No tiquid-phase hydrocarbons present in well
==	Elevation of top of well easing; relative to mean sea level
=	Depth to water
=	Elevation of groundwater surface; relative to mean sea level
=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 5030/8015 (modified).
***	Methyl tertiary butyl ether analyzed using EPA method 5030/8020.
=	Benzene, toluene, ethylbenzene, and total xylenes using EPA method 5030/8020.
=	Less than the indicated detection limit shown by the laboratory
=	Not measured or sampled
=	Micrograms per liter



Groundwater Concentrations in ug/L Sampled October 6, 1998 5,400 Total Petroleum Hydrocarbons as gasoline
3,000 Methyl Tertiary Butyl Ether 1,900 Benzene <25 Toluene <25 Ethylbenzene 76 Xylenes W. GRAND AVENUE Less Than the Stated Laboratory Detection Limit MW6G ug/L Micrograms per Liter 8.81 NS Not Sampled 4 QUIWS mw6a MW6B Juspensar-8.67 🕏 78 26 190 8.03 Ph 26 6.0 | Existing UST's [0.89]2.4 5,400 3,**000** <0.5 0.56 <0.5 0.51 1,900 1.2 <25 **М**W6 III <25 Depresers 76 4 Station Building 8.24 1001 NS**∮**MW6F 8.99 TELEGRAPH AVENUE MW6E ₩ KW3 NS **≸**8.03 7.38i = 0.014October 6, 1999 <50 3.200 6.6 200 1.4120 0.5148 < 0.5 56 0.97 120 MWGI0 7 40 NSFN 22290002 **EXPLANATION** APPROXIMATE SCALE MW6H Groundwater Monitoring Well 80 40 Groundwater elevation in feet 8.24 FEET above mean sea level PW3A **O** Recovery Well



Vaper/Vadose Well

## **GENERALIZED SITE PLAN**

EXXON SERVICE STATION 7-0235 2225 Telegraph Avenue Oakland, California PROJECT NO.

2229

PLATE 2

November 4, 1998

# 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 gradient, depth to water (DTW) levels are subtracted from wellhead elevations.

Groundwater samples collected for subjective evaluation are collected by slowly 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 the temperature, pH, and conductivity have stabilized, or until a minimum of three well casing volumes are purged. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". The quantity of water purged from each well is calculated as follows:

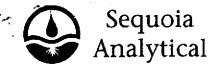
one well casing volume =  $\pi r^2 h(7.48)$  where:

Gallons of water purged/gallons in one 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



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(916) 92t-9600

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

Client Proj. ID: Exxon 7-0235, 222913X Sample Descript: W-12-MW6B Matrix: LIQUID

Analysis Method: 8015Mod/8020 Lab Number: 9810682-01

Analyzed: 10/14/98 Reported: 10/24/98

Sampled: 10/06/98

Received: 10/08/98

Attention: Mark Dockum QC Batch Number: GC101498BTEX21A

Instrument ID: GCHP21

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

Analyte	Det	ection Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		2.5 0.50 0.50 0.50 0.50	
Surrogates Trifluorotoluene	Cont 70	trol Limits % 130	% Recovery 124

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

SEQUOIA ANALYTICAL - ELAP #1210

1ei Mei Shin roject Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-0235, 222913X

Sample Descript: W-14-RW3A

Matrix: LIQUID

Analysis Method: 8015Mod/8020

Lab Number: 9810682-02

Sampled: 10/06/98 Received: 10/08/98

Analyzed: 10/13/98 Reported: 10/24/98

QC Batch Number: GC101398BTEX30A

Instrument ID: GCHP30

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

Analyte	De	tection Limit ug/L		Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		50 2.5 0.50 0.50 0.50 0.50		26 26 0.89 N.D. N.D.
Surrogates Trifluorotoluene	<b>C</b> or 70	ntrol Limits %	% 130	Recovery 87

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

ELAP #1210

SEQUOIA ANALYTICAL -

/lei Mei Shin

<sup>∍</sup>roject Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-0235, 222913X

Sample Descript: W-14-MW6E Matrix: LIQUID

Analysis Method: 8015Mod/8020 Lab Number: 9810682-03 Received: 10/08/98 Analyzed: 10/13/98 Reported: 10/24/98

Sampled: 10/06/98

QC Batch Number: GC101398BTEX30A

Instrument ID: GCHP30

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

Analyte		ction Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		50 2.5 0.50 0.50 0.50 0.50	1.4 0.51 N.D.
Surrogates Trifluorotoluene	Contro 70	ol Limits % 130	% Recovery 103

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

SEQUOIA ANALYTICAL - ELAP #1210

Mei Mei Shin Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-0235, 222913X

Sample Descript: W-12-MW6H

Matrix: LIQUID

Analysis Method: 8015Mod/8020

Lab Number: 9810682-04

Sampled: 10/06/98 Received: 10/08/98

Analyzed: 10/13/98 Reported: 10/24/98

QC Batch Number: GC101398BTEX30A

Instrument ID: GCHP30

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

Analyte	Det	Sample Results ug/L	
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		125 25 25 25 25	5400 3000 1900 N.D. N.D. 76 GAS
Surrogates Trifluorotoluene	Con <sup>e</sup> 70	trol Limits % 130	% Recovery 100

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

SEQUOIA ANALYTICAL - ELAP #1210

Aei Mei Shin Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (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

Attention: Mark Dockum

Client Proj. ID: Exxon 7-0235, 222913X

Sample Descript: W-13-RW2

Matrix: LIQUID

Analysis Method: 8015Mod/8020

Lab Number: 9810682-05

Sampled: 10/06/98 Received: 10/08/98

Analyzed: 10/13/98 Reported: 10/24/98

QC Batch Number: GC101398BTEX30A

Instrument ID: GCHP30

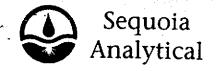
#### Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte		ection Limit ug/L	Sample Results ug/L		
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:		12 2.5 2.5 2.5 2.5 2.5	3200 200 120 48 56 120 GAS		
Surrogates Trifluorotoluene	<b>Con</b> 70	trol Limits % 130	% Recovery 137 Q		

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

SEQUOIA ANALYTICAL - ELAP #1210

/lei Mei Shin <sup>3</sup>roject Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (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 RESOLUTION** 

74 Digital Dr., Ste. 6 Novato, CA 94949 Attention: Mark Dockum Client Project ID: EXXON 7-0235, 222913X

QC Sample Group: 9810682

Reported: Oct 24, 1998

# QUALITY CONTROL DATA REPORT

Matrix:				
Method:				
Analyst:	NC			
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
QC Batch #:	GC1013988TE	X30A		
Sample No.:	GW9809H95-9			
Date Prepared:	10/13/98	10/13/98	10/13/98	10/10/00
Date Analyzed:	10/13/98	10/13/98	10/13/98	10/13/98 10/13/98
Instrument I.D.#:	GCHP30	GCHP30	GCHP30	GCHP30
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N. D.
Conc. Spiked, ug/L:	10	10	10	N.D. 30
Adaption to the				30
Matrix Spike, ug/L: % Recovery:	11	11	11	35
% necovery:	110	110	110	117
Matrix				
Spike Duplicate, ug/L:	11	11	4.4	
% Recovery:	110	110	11 110	34
			170	113
Relative % Difference:	0.0			
	0.0	0.0	0.0	3.5
RPD Control Limits:	0-25	0-25	0-25	0-25
LCS Batch#: G	WLCS101398A			
Date Prepared:	10/13/98	10/13/98	1040	
Date Analyzed:	10/13/98	10/13/98	10/13/98	10113/98
Instrument I.D.#:	GCHP30	GCHP30	10/13/98 GCHP30	10/13/98 GCHP30
Conc. Spiked, ug/L;	10	10		
_	10	10	10	30
LCS Recovery, ug/L:	11	1 1	11	22
LCS % Recovery:	110	110	110	33 110
Percent Recovery Contro	l Limits:			· <del>-</del>
MCMACD				

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

50-140

70-130

Please Note:

60-140

70-130

60-140

70-130

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.

60-140

70-130

SEQUOIA ANALYTICAL

MS/MSD

LCS

Mei Mei Shin Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (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 RESOLUTION** 

74 Digital Dr., Ste. 6 Novato, CA 94949 Attention: Mark Dockum Client Project ID: EXXON 7-0235, 222913X

QC Sample Group: 9810682

Reported: Oct 24, 1998

#### QUALITY CONTROL DATA REPORT

Matrix:

Liquid EPA 8015

Method: Analyst:

NC GR

ANALYTE

Gasoline

QC Batch #: GC101498BTEX21A

Sample No.: GW9809186-4

Date Prepared:

10/14/98

Date Analyzed:

10/14/98

Instrument I.D.#:

GCHP21

Sample Conc., ug/L:

N.D.

Conc. Spiked, ug/L:

250

Matrix Spike, ug/L:

250

% Recovery:

99

Matrix

Spike Duplicate, ug/L:

250

% Recovery:

99

Relative % Difference:

0.0

**RPD Control Limits:** 

0-25

LCS Batch#: GWLCS101498A

Date Prepared:

10/14/98

Date Analyzed:

10.14/98

Instrument I.D.#:

GCHP21

Conc. Spiked, ug/L:

250

LCS Recovery, ug/L:

230

LCS % Recovery:

93

Percent Recovery Control Limits:

MS/MSD

60-140

LCS

SEQUOIA ANALYTICAL

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.

Mei Mei Shin Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (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 Attention: Mark Dockum Client Proj. ID: Exxon 7-0235, 222913X

Received: 10/08/98

Lab Proj. ID: 9810682

Reported: 10/24/98

#### LABORATORY NARRATIVE

**SEQUOIA ANALYTICAL** 

tei Mei Shin Foject Manager

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EXXON COMPANY, U.S.A.

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

**CHAIN OF CUSTODY** 

Consultant's Name: Environmental Resolutions Inc Page Z of Z															
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Project Contact: M	ack Doc	kum		1				382-9105			Labora	tory Wo	rk Releas	e #:	
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