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
(925) 246-8798 FAX

#245

September 14, 1998

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

RE: Exxon RAS #7-0238/2200 East 12th Street, Oakland, California.

Dear Mr. Chan:

Attached for your review and comment is a letter report entitled ***Quarterly Groundwater Monitoring, Third Quarter 1998,*** dated September 2, 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, Third Quarter 1998, dated September 2, 1998

cc: w/attachment
Mr. Stephen Hill - California Regional Water Quality Control Board - San Francisco Bay Region

w/o attachment
Mr. Mark S. Dockum - ERI

SEP 16 '98 PM 2:53

ENVIRONMENTAL RESOLUTIONS, INC.

September 2, 1998
ERI 229313.R02

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

Subject: Quarterly Groundwater Monitoring, Third Quarter 1998, Exxon Service Station 7-0238, 2200 East 12th Street, Oakland, California.

Ms. Guensler:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) performed the third quarter 1998 groundwater monitoring at the subject site (Plate 1). The purpose of quarterly monitoring is to evaluate dissolved hydrocarbon concentrations in groundwater and groundwater flow direction and gradient.

GROUNDWATER MONITORING AND SAMPLING

On July 22, 1998, ERI measured depth to water (DTW) in monitoring wells MW9A through MW9D, and MW9I and collected groundwater samples from these wells for laboratory analysis. Offsite monitoring wells MW9F through MW9H were not sampled due to lack of an Encroachment Permit with the city of Oakland. No measurable liquid phase hydrocarbons were observed in the monitoring wells. Groundwater monitoring and sampling were performed in accordance with ERI's groundwater sampling protocol (Attachment A).

Based on DTW measurements the groundwater appears to flow northwest with a hydraulic gradient of 0.01 (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), and total purgeable petroleum hydrocarbons as gasoline (TPHg), using the methods listed in the notes in Table 1. The laboratory analysis reports and chain of custody records are attached (Attachment B). Current and historic 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 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) 382-5988.

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 Analysis Reports and Chain of Custody Record

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Exxon Service Station 7-0238
2200 East 12th Street
Oakland, California

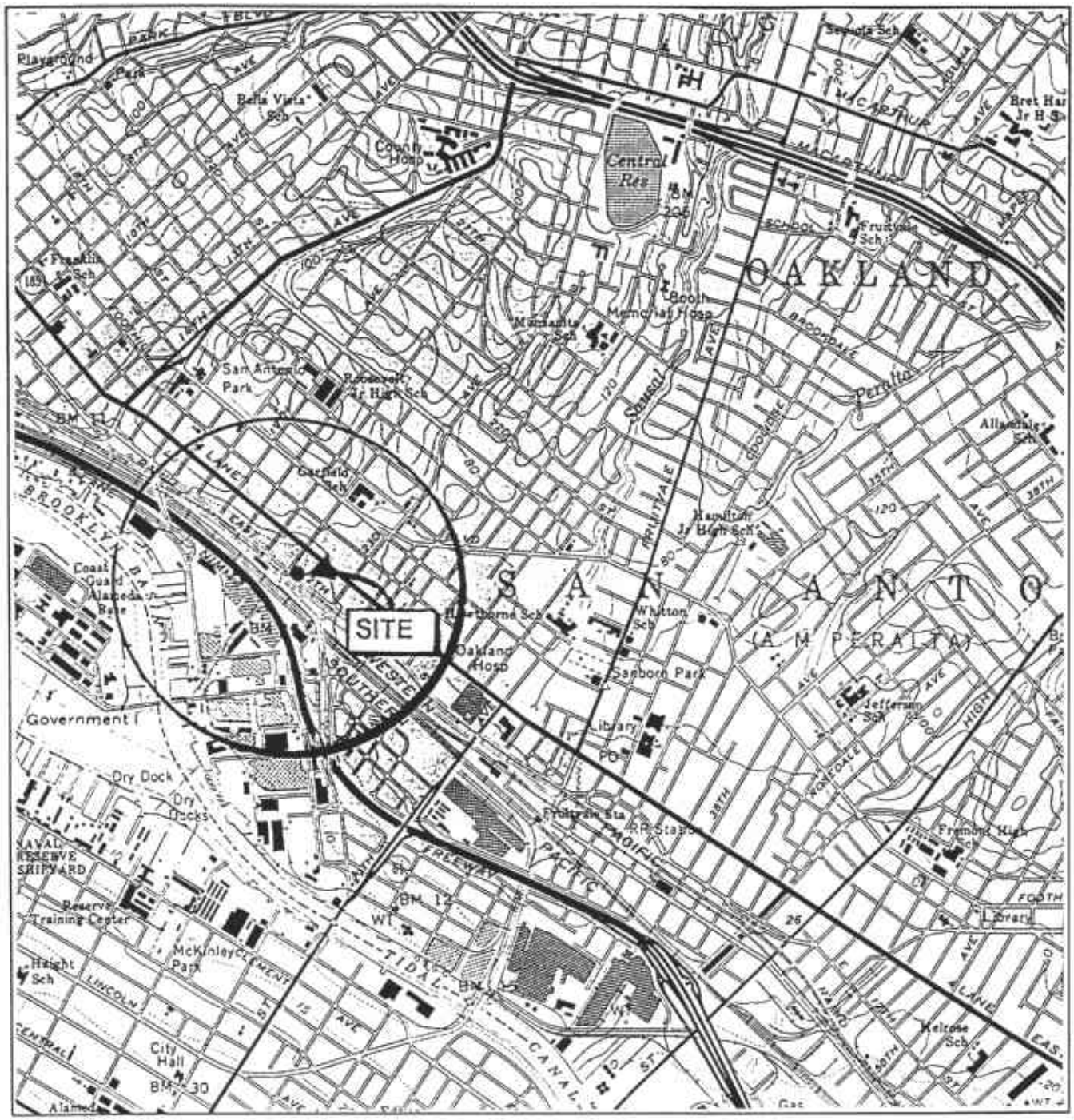
Well ID # (TOC)	Sampling Date	SUBJ	DTW feet	Elev.	TPPHg	MTBE	B	T	E	X
		<		>	<		(ug/L)			>
MW9A	11/2/95	NLPH	7.16	4.30	<50	<10	<0.5	<0.5	<0.5	<0.5
(11.46)	4/26/96	NLPH	6.33	5.13	---	---	---	---	---	---
	8/22/96	NLPH	7.02	4.44	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	6.14	5.32	<200	40,000	7.9	<2.0	<2.0	<2.0
	4/21/98	NLPH	6.29	5.17	<50	53,000	3.8	<0.5	<0.5	<0.5
(14.53)	7/22/98	NLPH	6.58	7.95	<250	18,000	<2.5	<2.5	<2.5	<2.5
MW9B	11/2/95	NLPH	6.14	3.66	130	<10	3.3	<0.5	<0.5	<0.5
(9.80)	4/26/96	NLPH	5.66	4.14	270	70	130	2.8	6.7	<3
	8/22/96	NLPH	6.16	3.64	210	31	5.7	6.8	1.1	9.2
	2/24/97	NLPH	5.58	4.22	1,400	1,300	76	1.4	4.1	1.2
	3/16/98	NLPH	5.32	4.48	860	1,500	140	2.0	11	<2.0
	4/21/98	NLPH	5.49	4.31	1,800	18,000	300	<5.0	7.9	<5.0
(12.83)	7/22/98	NLPH	5.79	7.04	<500	26,000	13	<5.0	<5.0	<5.0
MW9C	11/2/95	---	---	---	---	---	---	---	---	---
(11.14)	4/26/96	---	---	---	---	---	---	---	---	---
	8/22/96	---	---	---	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	5.51	5.63	<500	150,000	24	<5.0	<5.0	<5.0
	4/21/98	NLPH	5.83	5.31	150	130,000/150,000*	<0.5	<0.5	<0.5	<0.5
(14.19)	7/22/98	NLPH	6.43	7.76	<500	95,000	<5.0	<5.0	<5.0	<5.0
MW9D	11/2/95	---	---	---	---	---	---	---	---	---
(12.90)	4/26/96	---	--	--	---	---	---	---	---	---
	8/22/96	---	---	---	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	6.94	5.96	<50	10	<0.5	<0.5	<0.5	<0.5
	4/21/98	NLPH	7.22	5.68	<50	12	<0.5	<0.5	<0.5	<0.5
(15.98)	7/22/98	NLPH	7.85	8.13	<50	13	<0.5	<0.5	<0.5	<0.5
MW9F	11/2/95	---	---	---	---	---	---	---	---	---
(8.37)	4/26/96	NLPH	---	---	<50	57	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	---	---	<50	5.8	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	---	---	<50	<30	<0.5	<0.5	<0.5	<0.5
	3/16/98	NLPH	---	---	---	---	---	---	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
(11.38)	7/22/98	---	---	---	---	---	---	---	---	---

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Exxon Service Station 7-0238
2200 East 12th Street
Oakland, California

Well ID # (TOC)	Sampling Date	SUBJ	DTW feet	Elev.	TPPHg	MTBE	B	T	E	X
		<		>	<		(ug/L)			>
MW9G	11/2/95	NLPH	5.92	4.03	<50	<10	<0.5	<0.5	<0.5	<0.5
(9.95)	4/26/96	NLPH	5.28	4.67	<50	18	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	5.57	4.38	<50	18	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	5.30	4.65	<50	240	<0.5	0.57	<0.5	0.62
	3/16/98	---	---	---	---	---	---	---	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
(12.99)	7/22/98	---	---	---	---	---	---	---	---	---
MW9H	11/2/95	NLPH	8.40	0.18	<50	<10	<0.5	<0.5	<0.5	<0.5
(8.58)	4/26/96	NLPH	8.05	0.53	---	---	---	---	---	---
	8/22/96	NLPH	8.17	0.41	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	---	---	---	---	---	---	--	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
	7/22/98	---	---	---	---	---	---	---	---	---
MW9I	11/2/95	NLPH	6.04	4.07	<50	<10	<0.5	<0.5	<0.5	<0.5
(10.11)	4/26/96	NLPH	5.27	4.84	<50	99	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	5.66	4.45	<50	170	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	5.24	4.87	120	9,100	<0.5	<0.5	<0.5	<0.5
	3/16/98	NLPH	4.91	5.20	<200	59,000	13	<2.0	<2.0	<2.0
	4/21/98	NLPH	5.08	5.03	<500	59,000	<5.0	<5.0	<5.0	<5.0
(13.14)	7/22/98	NLPH	5.44	7.70	<500	62,000	<5.0	<5.0	<5.0	<5.0

Notes:

SUBJ	=	Results of subjective evaluation
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 surface; relative to mean sea level
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 using EPA method 5030/8020.
<	=	Less than the indicated detection limit shown by the laboratory
---	=	Not measured or sampled
*	=	MTBE confirmed using EPA method 8260.



FN: 22930001

EXPLANATION

N

Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland East, California (Photorevised 1980)

APPROXIMATE SCALE

0 1/2 1

MILE

ERI ENVIRONMENTAL RESOLUTIONS, INC.

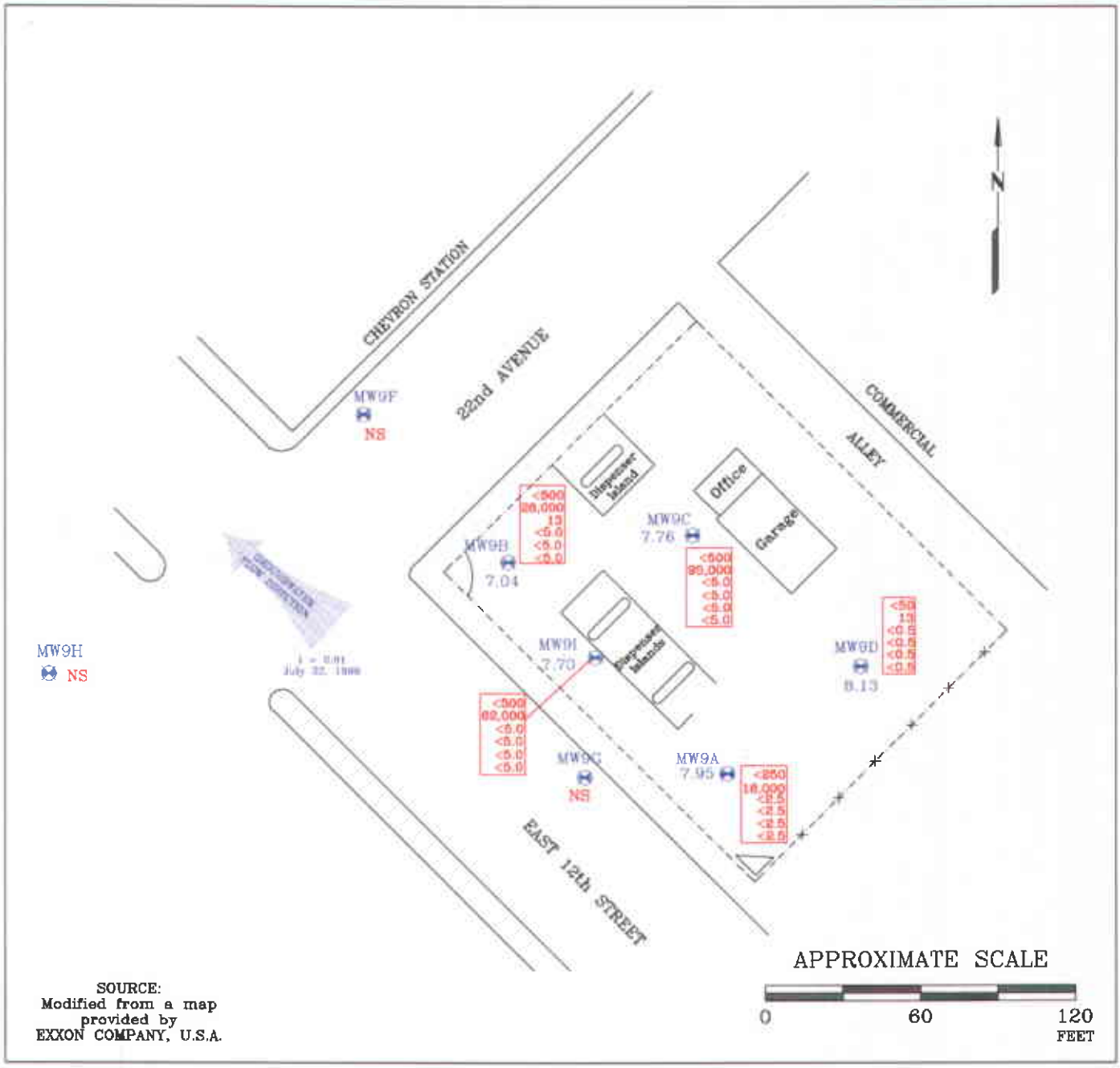
PROJECT ERI 2293

SITE VICINITY MAP

EXXON SERVICE STATION 7-0238
2200 East 12th Street
Oakland, California

PLATE

1



SOURCE:
Modified from a map provided by
EXXON COMPANY, U.S.A.

FN 22930002

EXPLANATION

MW9I
Groundwater Monitoring Well
Groundwater Elevation (April 21, 1998)

7.70 Groundwater elevation in feet above mean sea level

i = Interpreted Groundwater Gradient

Groundwater Concentrations in ug/L
Sampled July 22, 1998

<500	Total Purgeable Petroleum Hydrocarbon as gasoline
20,000	Methyl Tertiary Butyl Ether
<5.0	Benzene
<5.0	Toluene
<5.0	Ethylbenzene
<5.0	Xylenes
ug/L	Micrograms per Liter (ug/L)
<	Less Than the Stated Laboratory Detection Level
NS	Not Sampled

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

EXXON SERVICE STATION 7-0238
2200 East 12th street
Oakland, California

PROJECT NO. 2293

PLATE 2

August 11, 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 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 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:

1 well casing volume = $\pi\ r^2h(7.48)$ 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
π	=	ratio of the circumference of circle to it's diameter

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 ANALYSIS REPORTS AND CHAIN OF CUSTODY RECORD

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Exxon 7-0238, 229313X	Sampled: 07/22/98
74 Digital Drive , Suite 6	Sample Descript: W-8-MW9D	Received: 07/23/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/03/98
Attention: Mark Dockum	Lab Number: 9807E09-01	Reported: 08/05/98

QC Batch Number: GC080398BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**13**
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

Richard Herling
Project Manager

RECEIVED
AUG 10 1998
Page:

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Exxon 7-0238, 229313X	Sampled: 07/22/98
74 Digital Drive , Suite 6	Sample Descript: W-6-MW9A	Received: 07/23/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/04/98
Attention: Mark Dockum	Lab Number: 9807E09-02	Reported: 08/05/98

QC Batch Number: GC080498BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	N.D.
Methyl t-Butyl Ether	**500**	**18000**
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	N.D.
Chromatogram Pattern:		

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

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Exxon 7-0238, 229313X	Sampled: 07/22/98
74 Digital Drive , Suite 6	Sample Descript: W-6-MW9I	Received: 07/23/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/05/98
Attention: Mark Dockum	Lab Number: 9807E09-03	Reported: 08/05/98

QC Batch Number: GC080598BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	N.D.
Methyl t-Butyl Ether	**500**	**62000**
Benzene	5.0	N.D.
Toluene	5.0	N.D.
Ethyl Benzene	5.0	N.D.
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Exxon 7-0238, 229313X	Sampled: 07/22/98
74 Digital Drive , Suite 6	Sample Descript: W-6-MW9B	Received: 07/23/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/05/98
Attention: Mark Dockum	Lab Number: 9807E09-04	Reported: 08/05/98

QC Batch Number: GC080598BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	N.D.
Methyl t-Butyl Ether	**500**	**26000**
Benzene	**5.0**	**13**
Toluene	5.0	N.D.
Ethyl Benzene	5.0	N.D.
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		

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

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Environmental Resolutions	Client Proj. ID: Exxon 7-0238, 229313X	Sampled: 07/22/98
74 Digital Drive , Suite 6	Sample Descript: W-6-MW9C	Received: 07/23/98
Novato, CA 94949	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/05/98
Attention: Mark Dockum	Lab Number: 9807E09-05	Reported: 08/05/98

QC Batch Number: GC080598BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	N.D.
Methyl t-Butyl Ether	**1000**	**95000**
Benzene	5.0	N.D.
Toluene	5.0	N.D.
Ethyl Benzene	5.0	N.D.
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		

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

Richard Herling
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Client Project ID: Exxon 7-0238, 229313X

QC Sample Group: 9807E09-01

Reported: Aug 6, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid			
Method:	EPA 8020			
Analyst:	N. Herrera			
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
QC Batch #:	GC080398BTEX17A			
Sample No.:	GW9807F09-1MSD			
Date Prepared:	8/3/98	8/3/98	8/3/98	8/3/98
Date Analyzed:	8/3/98	8/3/98	8/3/98	8/3/98
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:	11	10	8.6	33
% Recovery:	108	101	86	110
Matrix Spike Duplicate, ug/L:	10	9.6	9.6	30
% Recovery:	105	96	96	101
Relative % Difference:	2.8	5.1	11	8.5
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#:	GWLCS080398A			
Date Prepared:	8/3/98	8/3/98	8/3/98	8/3/98
Date Analyzed:	8/3/98	8/3/98	8/3/98	8/3/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	10	11	31
LCS % Recovery:	107	100	111	102

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

Richard Herling
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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Client Project ID: Exxon 7-0238, 229313X

QC Sample Group: 9807E09-02

Reported: Aug 6, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid
Method:	EPA 8015
Analyst:	N. Herrera
ANALYTE	Gasoline

QC Batch #: GC080498BTEX21A

Sample No.:	GW98087E98-3
Date Prepared:	8/4/98
Date Analyzed:	8/4/98
Instrument I.D.#:	GCHP21
Sample Conc., ug/L:	N.D.
Conc. Spiked, ug/L:	250
Matrix Spike, ug/L:	200
% Recovery:	82
Matrix Spike Duplicate, ug/L:	230
% Recovery:	91
Relative % Difference:	10
RPD Control Limits:	0-25

LCS Batch#: GWLCS080498A

Date Prepared:	8/4/98
Date Analyzed:	8/4/98
Instrument I.D.#:	GCHP21
Conc. Spiked, ug/L:	250
LCS Recovery, ug/L:	230
LCS % Recovery:	92

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

Richard Herling
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 subjectad 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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Client Project ID: Exxon 7-0238, 229313X

QC Sample Group: 9807E09-02-05

Reported: Aug 6, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8020
Analyst: N. Herrera

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
QC Batch #:	GC080598BTEX02A			
Sample No.:	GW9807E71-4			
Date Prepared:	8/5/98	8/5/98	8/5/98	8/5/98
Date Analyzed:	8/5/98	8/5/98	8/5/98	8/5/98
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:	10	9.7	9.9	30
% Recovery:	104	97	99	99
Matrix Spike Duplicate, ug/L:	10	9.6	9.7	29
% Recovery:	100	96	97	97
Relative % Difference:	3.9	1.0	2.0	2.0
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#:	GWLCS080598A			
Date Prepared:	8/5/98	8/5/98	8/5/98	8/5/98
Date Analyzed:	8/5/98	8/5/98	8/5/98	8/5/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	11	10	10	32
LCS % Recovery:	110	100	100	107

Percent Recovery Control Limits:

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

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

SEQUOIA ANALYTICAL

Richard Herling
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
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

980 7E09

Consultant's Name: Environmental Resolutions Inc.		Page 1 of 1
Address: 77 Digital Dr. Suite 6 Novato CA 94949		Site Location: 2200 E. 12th Street
Project #:	Consultant Project #: 229313x	Consultant Work Release #: 19802889
Project Contact: Mark Dockum	Phone #: 510 382-9105	Laboratory Work Release #:
EXXON Contact: Marla Guenslen	Phone #: 510 ~~382~~ 246-8776	EXXON RAS #: 7-0238
Sampled by (print): Carl W. Mikich	Sampler's Signature:	Oakland CA
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: TPH/Gas BTEX/ 8015/ 8020	TPH/ Diesel EPA 8015	TRPH S.M. 5520	MTBE 8020		Temperature: _____ Inbound Seal: Yes No Outbound Seal: Yes No
W-8-MW9D	7-22-98	1250	Water	HCl Ice	3	1	X			X		
W-6-MW9A	7-22-98	1325			3	2	X			X		
W-6-MW9I		1335			3	3	X			X		
W-6-MW9B		1345			3	4	X			X		
W-6-MW9C		1355			3	5	X			X		

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
	7-23-98	3:07		7/23	3:07	
				7/24	1214	

Pink - Client
Yellow - Sequoia
White - Sequoia

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Client Proj. ID: Exxon 7-0238, 229313X

Lab Proj. ID: 9807E09

Received: 07/23/98

Reported: 08/05/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 13 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

MTBE Note: The samples 9807E09-02,03,04 & 05 were analyzed twice for MTBE. MTBE is reported from the QC batch GC080598BTEX02A.

SEQUOIA ANALYTICAL

Richard Herling
Project Manager