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GROUNDWATER MONITORING REPORT

Third Quarter 1993
Exxon Service Station No. 7-0236
6630 East 14th Street
Oakland, California

8/30/93 7068

73 Digital Drive
Novato, CA 94949
Phone: (415) 382-7400
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September 30, 1993

Ms. Marla Guensler
Exxon Company, U.S.A.
P.O. Box 4032
2300 Clayton Road
Concord, California 94524

Subject: Groundwater Monitoring, Third Quarter 1993, Exxon Service Station No. 7-0236,
6630 East 14th Street, Oakland, California.

Ms. Guensler:

At the request of Exxon Company, U.S.A (Exxon), RESNA Industries, Inc. (RESNA) performed the third quarter 1993 groundwater monitoring 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 fluctuations in petroleum hydrocarbon concentrations in groundwater and to evaluate the groundwater flow direction and gradient.

BACKGROUND

The subject site is currently operated as an Exxon retail service station. Three underground fuel storage tanks and one underground used-oil storage tank are located on the property. In March 1991, Alton Geoscience (Alton) installed three on-site groundwater monitoring wells MW-1, MW-2, and MW-3. Samples collected by Alton indicate that petroleum hydrocarbons are present in soil and groundwater beneath the site (Alton, December 21, 1992, Project No. 30-0401-02). In March 1992, Alton installed two additional on-site groundwater monitoring wells MW-6 and MW-7, and two off-site groundwater monitoring wells MW-4 and MW-5 (Alton, December 21, 1992, Project No. 30-0401-02). Exxon initiated quarterly groundwater monitoring at the site in January 1992.

GROUNDWATER MONITORING

On September 2, 1993, RESNA personnel measured depth-to-water in each well, subjectively evaluated water for separate phase product or sheen, and purged and sampled groundwater from all wells for laboratory analysis. Results of subjective analyses are included in Table 1. Field methods are described in Appendix A.

September 30, 1993
Exxon Service Station No. 7-0236, Oakland, California

RESNA compiled potentiometric data to evaluate the direction of groundwater flow beneath the site. Depth-to-water measurements taken on September 2, 1993, were used to calculate the groundwater elevation in each well. Cumulative depth-to-water and groundwater elevation data are presented in Table 1. Based on the September 2, 1993 data, the evaluated groundwater flow direction was to the southwest with an approximate gradient of 0.034 (Plate 2). This groundwater flow direction is generally consistent with the previous groundwater flow directions interpreted for this site. Since second quarter 1993, groundwater elevations at the site decreased an average of 1.70 feet.

Laboratory Analysis

Pace Inc., a California-certified laboratory in Novato, California analyzed the groundwater samples from monitoring wells MW-1 through MW-7 for benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) Methods 8020M and 8015M, and for total petroleum hydrocarbons as diesel (TPHd) using EPA Method 8015. Copies of the Report of Laboratory Analysis and Chain of Custody Record are attached (Appendix B). A summary of present and historical groundwater analyses are presented in Table 1.

Results of RESNA's field observations and the laboratory analyses of water samples collected this event indicate that:

- A sheen was observed in well MW-2, however, analytical results for TPHg and TPHd of a groundwater sample collected from the well were below saturation levels.
- Concentrations of TPHd were detected in samples collected from wells MW-2, MW-3, and MW-6 at concentrations ranging from 60 parts per billion (ppb) to 3,700 ppb.
- Concentrations of TPHg were detected in samples collected from wells MW-2 and MW-3 at concentrations ranging from 840 ppb to 11,000 ppb.
- Concentrations of BTEX were detected in samples collected from wells MW-2 and MW-3. Benzene concentrations ranged from 2.7 ppb to 210 ppb.
- Concentrations of TPHd, TPHg, and BTEX were not detected at or above their respective laboratory detection limits in samples collected from wells MW-1, MW-4, MW-5, and MW-7.

A map showing the concentrations of petroleum hydrocarbons in groundwater samples collected from each well is attached (Plate 3).

September 30, 1993
Exxon Service Station No. 7-0236, Oakland, California

RESNA recommends that signed copies of this report be forwarded to:

Mr. Lester Feldman
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street
Oakland, California 94612

Mr. Barney Chan
Alameda County,
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

LIMITATIONS

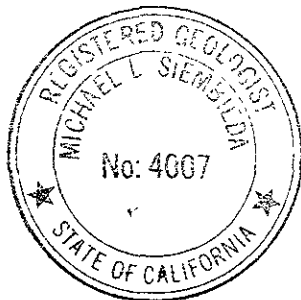
This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. This report has been prepared for Exxon Company, U.S.A. and any reliance on this report by third parties shall be at such party's risk.

Please call with any questions or comments regarding this report.

Sincerely,
RESNA Industries, Inc.



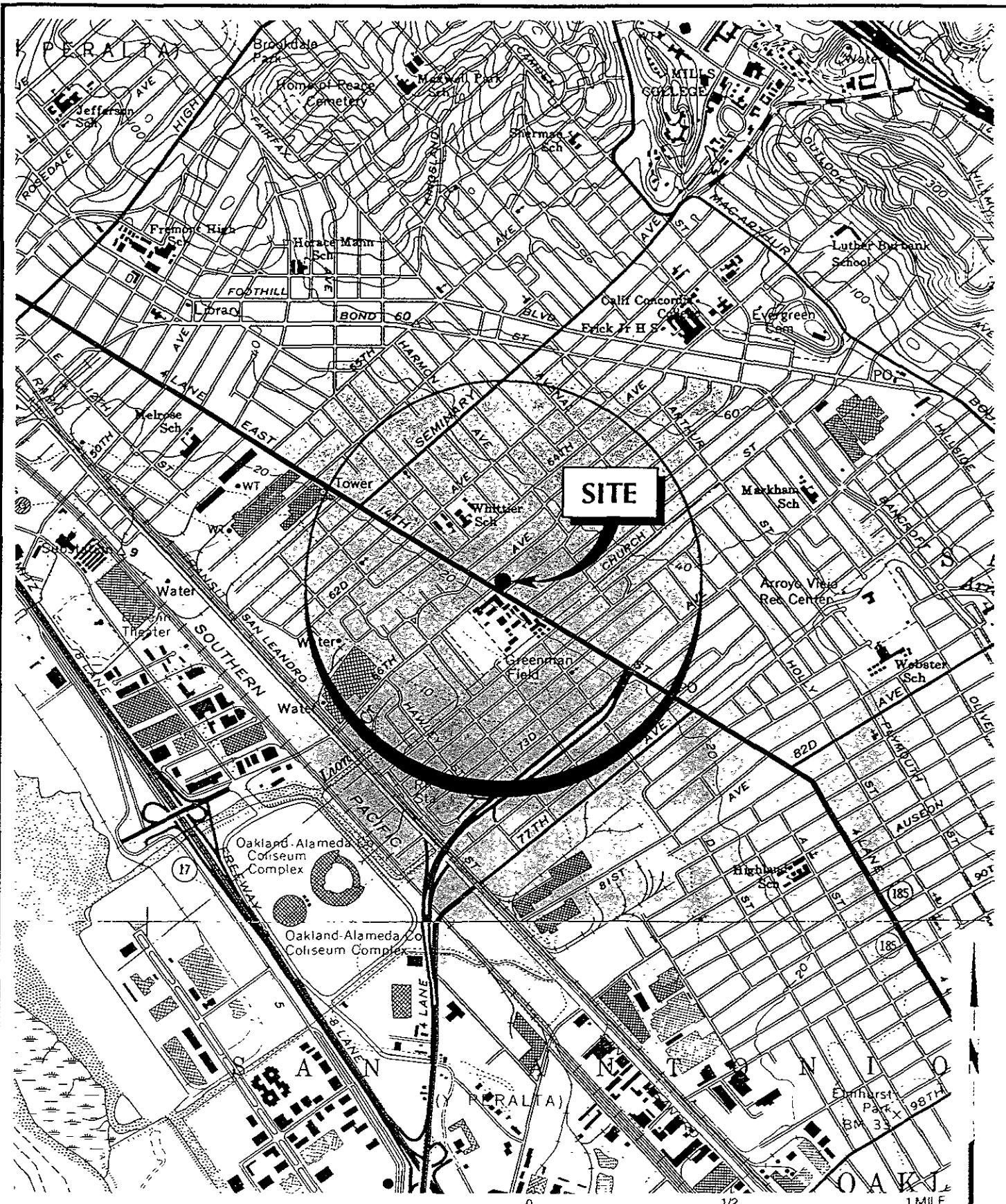
Mark P. Frye
Environmental Scientist



Michael L. Siembieda, RG 4007
Geoscience Manager

Attachments:

- Plate 1: Site Vicinity Map
- Plate 2: Potentiometric Surface Map (September 2, 1993)
- Plate 3: Concentrations of Petroleum Hydrocarbons in Groundwater Samples (September 2, 1993)
- Table 1: Cumulative Groundwater Monitoring Data
- Appendix A: Groundwater Sampling Protocol
- Appendix B: Report of Laboratory Analysis and Chain of Custody Record



Source USGS Topographic Map, 7.5 minute series Oakland East, Calif and San Leandro, Calif quadrangles, 1980

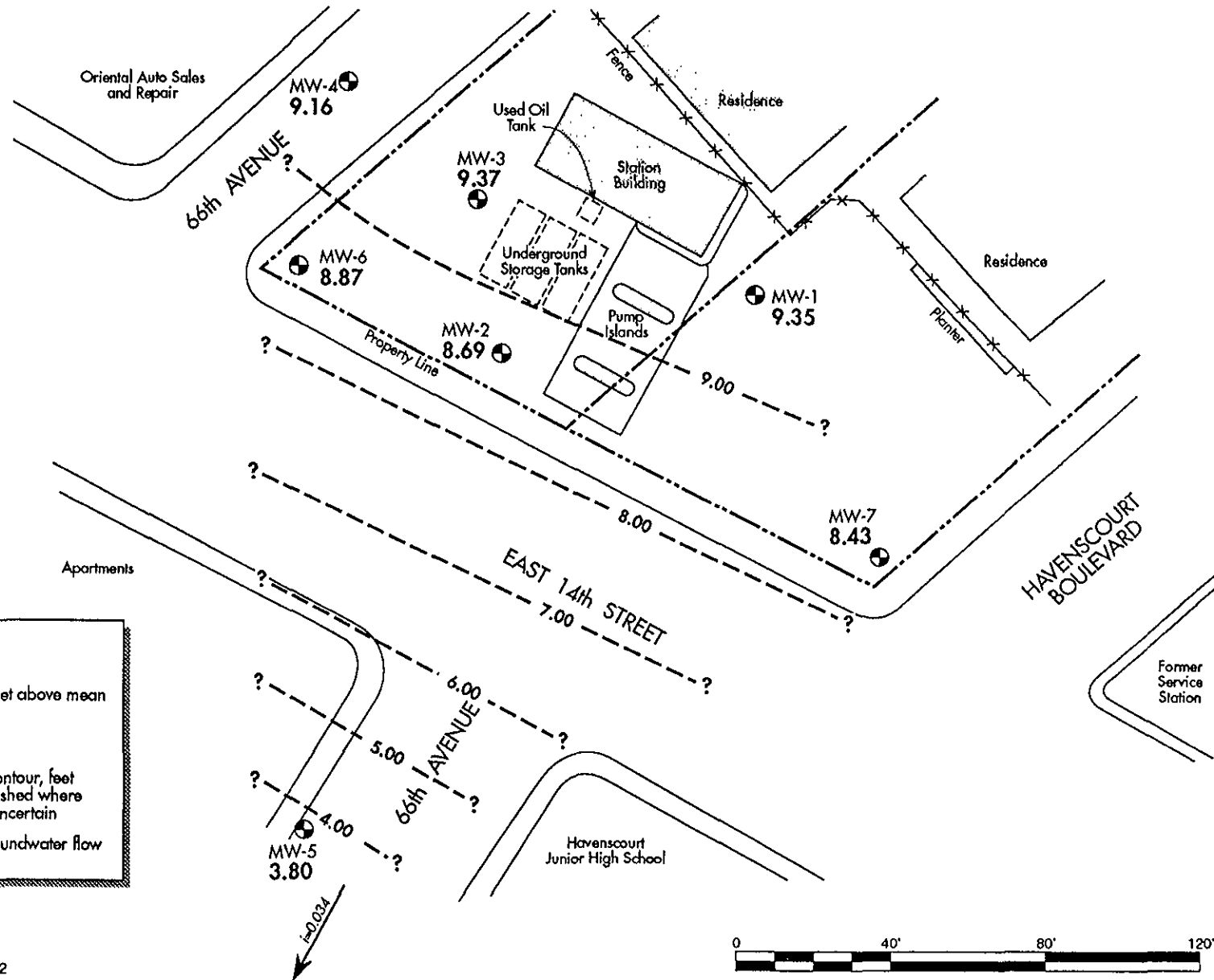
SITE VICINITY MAP
 Exxon Service Station No. 7-0236
 6630 East 14th Street
 Oakland, California

PLATE
1



PROJECT NO. 170079.01

1/93



EXPLANATION

- MW-1 9.35 Monitoring well and groundwater elevation, feet above mean sea level
- NM Not measured
- 7.00 - - - ? Groundwater elevation contour, feet above mean sea level, dashed where inferred, queried where uncertain
- $i=0.034$ Estimated direction of groundwater flow with evaluated gradient

Map Source: Site Plan by Alton Geoscience, 1992



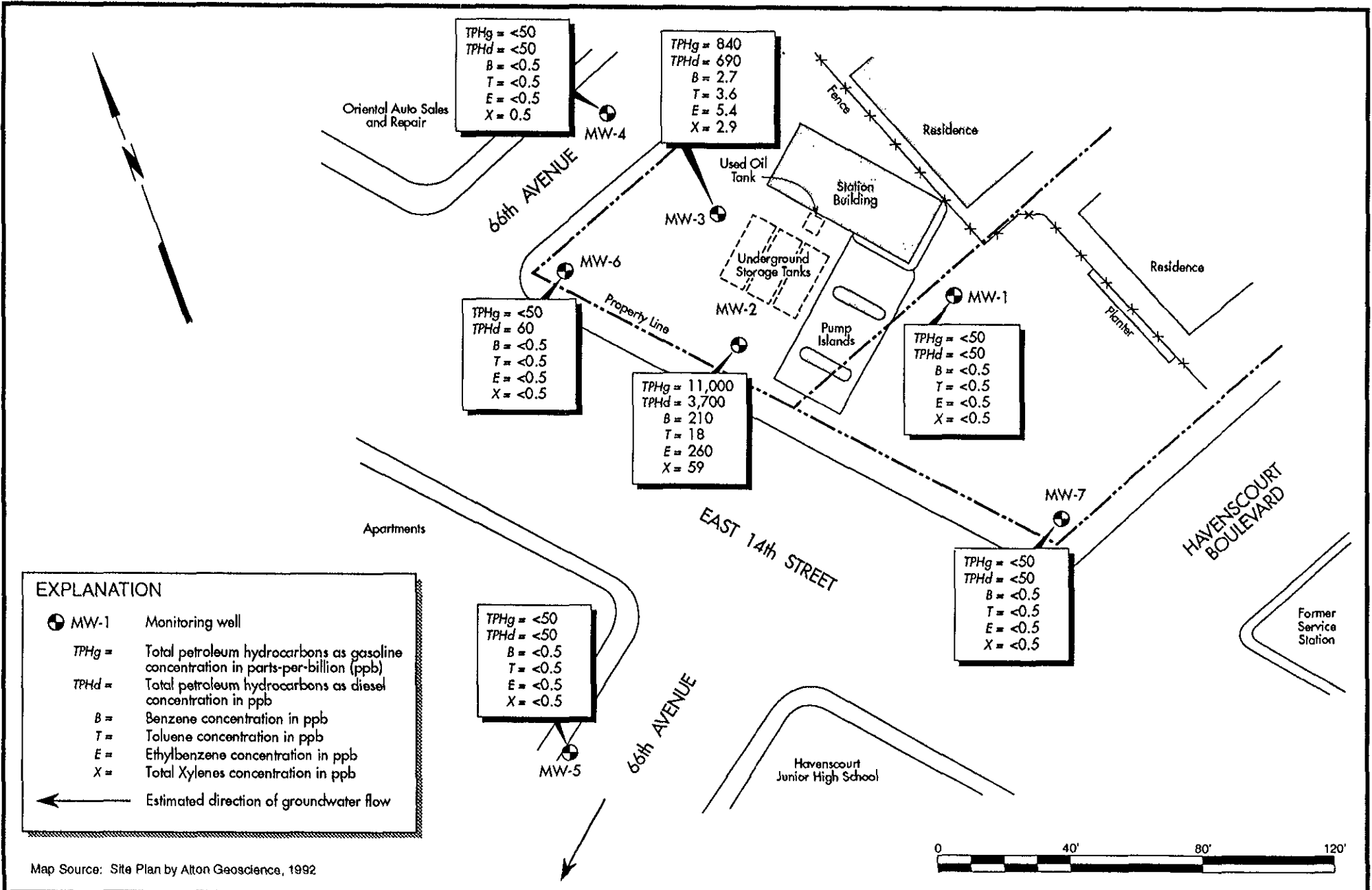
RESNA

PROJECT NO. 170079.01 9/93

POTENTIOMETRIC SURFACE MAP—September 2, 1993

Exxon Service Station No. 7-0236
6630 East 14th Street
Oakland, California

PLATE
2



Map Source: Site Plan by Alton Geoscience, 1992

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER SAMPLES—September 2, 1993

Exxon Service Station No. 7-0236
6630 East 14th Street
Oakland, California

PLATE

3

RESNA

PROJECT NO. 170079.01

9/93

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station No. 7-0236
6630 East 14th
Oakland, California
(Page 1 of 3)

Well ID# (TOC)	Sampling Date	SUBJ	DTW ft	Elev.-W	Concentrations (ppb)					
					TPHd	TPHg	B	T	E	X
MW-1 (20.20)	03/15/91	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
	04/06/92	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
	03/09/93	NP	7.38	12.82	<50	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	NP	8.55	11.65	<50	<50	<0.5	<0.5	<0.5	<0.5
	09/02/93	NP	10.85	9.35	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-2 (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
	04/06/92	NR	9.09	10.06	---	---	---	---	---	---
	07/08/92	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
	03/09/93	sheen	9.71	9.44	---	---	---	---	---	---
	06/04/93	sheen	9.40	9.75	---	---	---	---	---	---
	09/02/93 (M)	sheen	10.46	8.69	3,700	11,000	210	18	260	59
MW-3 (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
	04/06/92	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
	03/09/93	sheen	9.05	10.54	---	---	---	---	---	---
	06/04/93	sheen	8.43	11.16	---	---	---	---	---	---
	09/02/93	NP	10.22	9.37	690	840	2.7	3.6	5.4	2.9
MW-4 (19.46)	04/06/92	NR	7.76	11.70	<50	<50	<0.5	<0.5	<0.5	<0.5
	07/08/92	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
	03/09/93	NP	7.53	11.93	<50	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	NP	8.50	10.96	<50	<50	<0.5	<0.5	<0.5	<0.5
	09/02/93	NP	10.30	9.16	<50	<50	<0.5	<0.5	<0.5	0.5

See notes on page 3 of 3

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station No. 7-0236
6630 East 14th
Oakland, California
(Page 2 of 3)

Well ID# (TOC)	Sampling Date	SUBJ <-----	DTW ft	Elev.-W >-----	TPHd <-----	TPHg ppb	B	T	E	X >-----
MW-5 (16.95)	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
	03/09/93	NP	10.27	6.68	<50	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	NP	11.35	5.60	<50	<50	<0.5	<0.5	<0.5	<0.5
	09/02/93	NP	13.15	3.80	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-6 (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
	03/09/93	NP	8.26	10.53	<50	<50	<0.5	<0.5	<0.5	<0.5
	06/04/93	NP	8.90	9.89	<50	<50	<0.5	<0.5	<0.5	<0.5
	09/02/93	NP	9.92	8.87	60	<50	<05	<0.5	<0.5	<0.5
MW-7 (19.23)	04/06/92	NR	8.34	10.89	<50	<50	<0.5	<0.5	<0.5	<0.5
	07/08/92	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 *	---	---	---	---	---	---	---	---	---
	06/04/93	NP	8.68	10.55	<50	<50	<0.5	<0.5	<0.5	<0.5
	09/02/93	NP	10.80	8.43	<50	<50	<0.5	<0.5	<0.5	<0.5

See notes on page 3 of 3

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station No. 7-0236
6630 East 14th
Oakland, California
(Page 3 of 3)

Notes:

- ft = Feet
- SUBJ = Results of subjective evaluation, separate phase product thickness (PT) in feet
 - NP = separate phase product not present in well
 - sheen = separate phase product present as a sheen
 - emulsion = separate phase product present as an emulsion
 - NR = not recorded
- TOC = Elevation of top of well casing; datum is mean sea level
- DTW = Depth to water
- Elev.-W = Elevation of groundwater; datum is mean sea level
Elev.-W = TOC - (DTW + (PT * 0.8))

- ppb = Parts-per-billion
- TPHg = Total petroleum hydrocarbons as gasoline
- TPHd = Total petroleum hydrocarbons as diesel
- B = Benzene
- T = Toluene
- E = Ethylbenzene
- X = Total xylene isomers
- < = Less than the indicated detection limit established by the laboratory
- = Not sampled / not measured

- * = Well not accessible : well obstructed / wellhead cover damaged
- 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 = Methyl tert-butyl ether detected at approximately 2,500 ppb
- T = Total Oil and Grease (TOG) using EPA Method 5520 not detected at or above the laboratory detection limit of 5,000 ppb.

APPENDIX 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 Model No. 106801, 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 and corrected for product thickness, when necessary, by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from the DTW level (Adjusted DTW = DTW - [PT x 0.8])

Water 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 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. Approximately three to four well casing volumes are purged before those characteristics stabilized. 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 = $\pi r^2 h (7.48)$ 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

gallons of water purged/gallons in 1 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 Teflon bailer which had been cleaned with Alconox[®] and deionized water, 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[®] 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.

APPENDIX B

**REPORT OF LABORATORY ANALYSIS
AND CHAIN OF CUSTODY RECORD**

September 13, 1993

Mr. Mark Frye
RESNA
73 Digital Dr.
Novato, CA 94949

RE: PACE Project No. 430903.503
Client Reference: Exxon 7-0236 (EE)

Dear Mr. Frye:

Enclosed is the report of laboratory analyses for samples received September 03, 1993.

Please note that Methyl tert-butyl ether was detected in sample MW-2 at approximately 2500ug/L.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Stacy P. Hoch

Stacy P. Hoch
Project Manager

SEP 14 1993

Enclosures



REPORT OF LABORATORY ANALYSIS

RESNA
73 Digital Dr.
Novato, CA 94949

September 13, 1993
PACE Project Number: 430903503

Attn: Mr. Mark Frye

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146194
Date Collected: 09/02/93
Date Received: 09/03/93
Client Sample ID: MW-1

Parameter	Units	MDL		DATE ANALYZED
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/08/93
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Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/08/93
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PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/08/93
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Benzene	ug/L	0.5	ND	09/08/93
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Toluene	ug/L	0.5	ND	09/08/93
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Ethylbenzene	ug/L	0.5	ND	09/08/93
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Xylenes, Total	ug/L	0.5	ND	09/08/93
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EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	09/09/93
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Date Extracted			09/07/93	
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REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
 Page 2

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146216
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	11000	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/08/93
Benzene	ug/L	2.5	210	09/08/93
Toluene	ug/L	2.5	18	09/08/93
Ethylbenzene	ug/L	2.5	260	09/08/93
Xylenes, Total	ug/L	2.5	59	09/08/93

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	3.7	09/09/93
Date Extracted			09/07/93	

REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
 Page 3

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146224
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-3

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):				09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	840	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				09/08/93
Benzene	ug/L	0.5	2.7	09/08/93
Toluene	ug/L	0.5	3.6	09/08/93
Ethylbenzene	ug/L	0.5	5.4	09/08/93
Xylenes, Total	ug/L	0.5	2.9	09/08/93

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	0.69	09/09/93
Date Extracted			09/07/93	

REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
 Page 4

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146232
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-4

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/08/93
Benzene	ug/L	0.5	ND	09/08/93
Toluene	ug/L	0.5	ND	09/08/93
Ethylbenzene	ug/L	0.5	ND	09/08/93
Xylenes, Total	ug/L	0.5	0.5	09/08/93

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	09/09/93
Date Extracted			09/07/93	

Mr. Mark Frye
 Page 5

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146259
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-5

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/08/93
Benzene	ug/L	0.5	ND	09/08/93
Toluene	ug/L	0.5	ND	09/08/93
Ethylbenzene	ug/L	0.5	ND	09/08/93

Xylenes, Total	ug/L	0.5	ND	09/08/93
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EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	09/09/93
Date Extracted			09/07/93	

REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
 Page 6

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146275
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-6

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/08/93
Benzene	ug/L	0.5	ND	09/08/93
Toluene	ug/L	0.5	ND	09/08/93
Ethylbenzene	ug/L	0.5	ND	09/08/93
Xylenes, Total	ug/L	0.5	ND	09/08/93

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	0.06	09/09/93
Date Extracted			09/07/93	

REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
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September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0146291
 Date Collected: 09/02/93
 Date Received: 09/03/93
 Client Sample ID: MW-7

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):		-		09/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):		-		09/08/93
Benzene	ug/L	0.5	ND	09/08/93
Toluene	ug/L	0.5	ND	09/08/93
Ethylbenzene	ug/L	0.5	ND	09/08/93
Xylenes, Total	ug/L	0.5	ND	09/08/93

EXTRACTABLE FUELS EPA 3510/8015

Extractable Fuels, as Diesel	mg/L	0.05	ND	09/09/93
Date Extracted			09/07/93	

These data have been reviewed and are approved for release.

Darrell C. Cain
 Darrell C. Cain
 Regional Director

Mr. Mark Frye
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FOOTNOTES
for pages 1 through 7

September 13, 1993
PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

MDL Method Detection Limit
ND Not detected at or above the MDL.



REPORT OF LABORATORY ANALYSIS

Mr. Mark Frye
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QUALITY CONTROL DATA

September 13, 1993
PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

EXTRACTABLE FUELS EPA 3510/8015

Batch: 70 24422

Samples: 70 0146194, 70 0146216, 70 0146224, 70 0146232, 70 0146259
70 0146275, 70 0146291

METHOD BLANK:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Reference Value</u>	<u>Recv</u>	<u>Dupl Recv</u>	<u>RPD</u>
Extractable Fuels, as Diesel	mg/L	0.05	1.00	90%	80%	11%

Mr. Mark Frye
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QUALITY CONTROL DATA

September 13, 1993
 PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

PURGEABLE FUELS AND AROMATICS

Batch: 70 24404

Samples: 70 0146194, 70 0146216, 70 0146224, 70 0146232, 70 0146259
 70 0146275, 70 0146291

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	95%	98%	3%
Benzene	ug/L	0.5	40.0	97%	95%	2%
Toluene	ug/L	0.5	40.0	99%	96%	3%
Ethylbenzene	ug/L	0.5	40.0	101%	100%	0%
Xylenes, Total	ug/L	0.5	120	105%	103%	1%

Mr. Mark Frye
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FOOTNOTES
for pages 9 through 10

September 13, 1993
PACE Project Number: 430903503

Client Reference: Exxon 7-0236 (EE)

MDL Method Detection Limit
ND Not detected at or above the MDL.
RPD Relative Percent Difference



EXXON COMPANY, U.S.A. 430 903.503

P.O. Box 4415, Houston, TX 77210-4415

CHAIN OF CUSTODY



Novato, CA, 11 Digital Drive, 94949
(415) 883-6100



Huntington Beach, CA, 5702 Bolsa Avenue, 92649
(714) 892-2565

Consultant's Name: RESNA Page 2 of 2

Address: 73 Digital Dr Site Location: 6630 E. 14th, Oakland

Project #: 170079.01 Consultant Project #: 170079.01 Consultant Work Release #: 09300640

Project Contact Mark Frye Phone #: 415-382-7400 Fax 382-7415 Laboratory Work Release #:

EXXON Contact Marla Guensler EE C&M Phone #: Fax #: EXXON RAS #: 7-0236

Sampled by (print): Charles Lawrence Sampler's Signature: Charles Lawrence

Shipment Method: Air Bill #: Shipment Date:

TAT 24 hr 48 hr 72 hr Standard (5 day) ANALYSIS REQUIRED

Sample Condition as Received
Temperature ° C. _____
Cooler #. _____
Inbound Seal Yes No
Outbound Seal Yes No

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	PACE Sample #	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	TRPH EPA 418.1										
MW-1	9-2/16:20	W	HCL	3	14619.4	✓												
MW-1 Rinsate	9-2/16:20	W	HCL	1	620.8													Hold
MW-1	9-2/16:20	W	-	2	619.4		✓											
MW-2	9-2/17:50	W	HCL	3	621.6	✓												
MW-2	9-2/17:50	W	-	2	↓		✓											
MW-3	9-2/18:30	W	HCL	3	622.4	✓												
MW-3	9-2/18:30	W	-	2	↓		✓											
MW-4	9-2/13:36	W	HCL	3	623.2	✓												
MW-4 Rinsate	9-2/13:31	W	HCL	1	624.0													Hold
MW-4	9-2/13:36	W	-	2	623.2		✓											

COMMENTS

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments
<u>Charles Lawrence</u>	<u>9-3-93</u>	<u>10:55</u>	<u>Sandra Briones Pace</u>	<u>9/3</u>	<u>10:55</u>	<u>10/3, I/2</u>



EXXON COMPANY, U.S.A.

P.O. Box 4415, Houston, TX 77210-4415

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Consultant's Name: RESNA Page 2 of 2

Address: 73 Digital Dr, Novato, Calif. 94949 Site Location: 6630E, 14th, Oakland

Project #: _____ Consultant Project #: 170079,01 Consultant Work Release #: 09300640

Project Contact: Mark Frye Phone #: 415-382-7400 Fax #: 382-7415 Laboratory Work Release #: _____

EXXON Contact: Marla Guensler EE C&M Phone #: _____ Fax #: _____ EXXON RAS #: _____

Sampled by (print): Charles Lawrence Sampler's Signature: Charles Lawrence Charles Lawrence

Shipment Method _____ Air Bill #: _____ Shipment Date: _____

TAT: 24 hr 48 hr 72 hr Standard (5 day) ANALYSIS REQUIRED

Sample Condition as Received
Temperature ° C. _____
Cooler #. _____
Inbound Seal Yes No
Outbound Seal Yes No

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	PACE Sample #	TPH/GAS/BTEX EPA 801.5/802.0	TPH/Diesel EPA 801.5	TRPH EPA 418.1											
MW-5	9-2/12:50	W	HCL	3	625.9	✓													
MW-5 Rinse	9-2/12:45	W	HCL	1	626.7														Hold
MW-5	9-2/12:50	W	-	2	625.9		✓												
MW-6	9-2/15:00	W	HCL	3	627.5	✓													
MW-6 Rinse	9-2/14:55	W	HCL	1	628.3														Hold
MW-6	9-2/15:00	W	-	2	627.5		✓												
MW-7	9-2/15:15	W	HCL	3	629.1	✓													
MW-7	9-2/15:15	W	-	2	↓		✓												

COMMENTS

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments
<u>Charles Lawrence</u>	<u>9-3-93</u>	<u>10:55</u>	<u>Barbara Orinos Pace</u>	<u>9/3</u>	<u>10:55</u>	