

**QUARTERLY FLUID-LEVEL MONITORING
AND
GROUND WATER SAMPLING REPORT**

**Exxon RAS #7-0236
6630 East 14th Street
Oakland, California**

11/13/92

Project No. 30-0491-02

Prepared for:

**Exxon Company, U.S.A.
2300 Clayton Road, Suite 1250
Concord, California 94525**

Prepared by:

**Alton Geoscience
5870 Stoneridge Drive, Suite 6
Pleasanton, California 94588**

November 13, 1992

**QUARTERLY FLUID-LEVEL MONITORING
AND
GROUND WATER SAMPLING REPORT**

**Exxon RAS #7-0236
6630 East 14th Street
Oakland, California**

November 13, 1992

INTRODUCTION

This report presents findings and conclusions of fourth quarter 1992 fluid-level monitoring and ground water sampling at Exxon RAS #7-0236, 6630 East 14th Street, Oakland, California. Field work was performed by Alton Geoscience October 13, 1992. A site vicinity map and site plan are shown in Figures 1 and 2.

PROJECT BACKGROUND

Alton Geoscience issued a Preliminary Site Investigation (PSI) Report dated April 25, 1991, for Exxon RAS #7-0236. During the PSI on March 13, 1991, three exploratory soil borings were drilled and converted to 4-inch-diameter ground water monitoring wells, MW-1, MW-2, and MW-3, completed to 25 feet below grade (fbg). Ground water stabilized at approximately 8 fbg, with a gradient approximately 0.03 foot per foot towards the southwest.

Soil analysis detected up to 98 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) in MW-2 at 11 fbg. Maximum petroleum hydrocarbon concentrations in ground water were detected in MW-2 and MW-3, down- and cross-gradient from the onsite underground storage tanks (USTs). Ground water analyses detected 1,700 and 3,100 parts per billion (ppb) TPH-G in MW-2 and MW-3.

Alton Geoscience completed a Supplemental Site Investigation Report June 17, 1992. Four additional exploratory soil borings were drilled and converted to ground water monitoring wells: one 4-inch-diameter well (MW-6) and three 2-inch-diameter wells (MW-4, MW-5, and MW-7). The lateral extent of hydrocarbon-impacted ground water was assessed northwest, southwest, and southeast of the USTs, in the vicinities of MW-4, MW-5, and MW-7.

FIELD ACTIVITIES

On September 10, 1992, an obstruction identified as newspapers was removed from inside monitoring well MW-5. This downgradient well is located approximately 150 feet offsite along 66th Avenue. Subsequently, Alton Geoscience secured the well casing with an upgraded locking well cap.

On October 13, 1992, Alton Geoscience performed fluid-level monitoring and ground water sampling of Monitoring Wells MW-1 through MW-7. Ground water samples were analyzed for TPH-G, and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Selected samples were additionally analyzed for total petroleum hydrocarbons as diesel (TPH-D), halogenated volatile organic compounds (HVOCs), and total oil and grease (TOG). Fluid-level monitoring and ground water sampling procedures are presented in Appendix A. The official laboratory report and chain of custody record are presented in Appendix B.

Fluid-level measurements and ground water analytical results for this and previous events are summarized in Table 1. A ground water elevation contour map based on measurements collected October 13, 1992, is shown in Figure 3. Dissolved-phase hydrocarbon concentrations are presented in Figure 4.

FINDINGS

Following are the findings of fluid-level monitoring and ground water sampling:

- Ground water onsite was measured at approximately 11.50 to 13.00 fbg with a gradient (0.02 foot/foot) directed to the south-southwest, consistent with previous gradient measurements.
- Ground water elevations decreased approximately 2.7 feet since the previous sampling event (July 1992) and are the lowest recorded in 1992.
- Ground water analyses detected 3,200, 1,900, and 97 parts per billion (ppb) TPH-G, TPH-D, and benzene in MW-2. These concentrations in MW-2 have decreased from 7,000, 2,100, and 250 ppb since the previous sampling event.
- Ground water analyses detected 1,100, 400, and 5.5 ppb TPH-G, TPH-D, and benzene in MW-3. TPH-G and TPH-D have decreased from 2,900 and 960 ppb since the previous sampling event. Benzene was not detected above reported laboratory detection limits during the previous sampling event.
- Ground water analyses detected 69 ppb TPH-G in MW-5 and 670, 94, 0.8 ppb TPH-G, TPH-D, and benzene in MW-7. No hydrocarbons have previously been detected in MW-5 or MW-7.
- TPH-G, TPH-D, and BTEX were not detected in MW-1, MW-4, and MW-6, consistent with previous sampling results.
- TOG and/or HVOCs were not detected in wells MW-1, MW-2, and MW-3 located proximal to onsite USTs. These results are consistent with previous sampling results.

CONCLUSIONS

Following are conclusions based on fluid-level monitoring and ground water sampling:

- Decreased ground water elevations are likely a result of seasonal ground water fluctuations.
- An overall decrease in MW-2 and MW-3 hydrocarbon concentrations may be due to decreased ground water elevations. Hydrocarbons may have adsorbed onto soil particles above the current ground water table.
- The source for TPH-G detected in the offsite well MW-5 is not conclusive, suggested by the absence of detectable BTEX constituents. Foreign debris previously lodged in the well cannot be discounted as a potential source.
- The source for petroleum hydrocarbons detected in MW-7 is not intuitively obvious, but may be a result of minor ground water gradient direction fluctuations, relative to existing or former USTs in the vicinity.

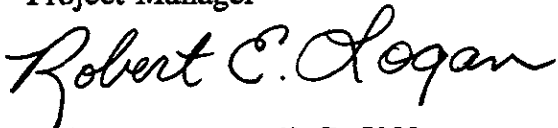
CURRENT ACTIVITY

Options for a remedial feasibility study are being considered. Quarterly ground water monitoring and sampling are continuing.

ALTON GEOSCIENCE

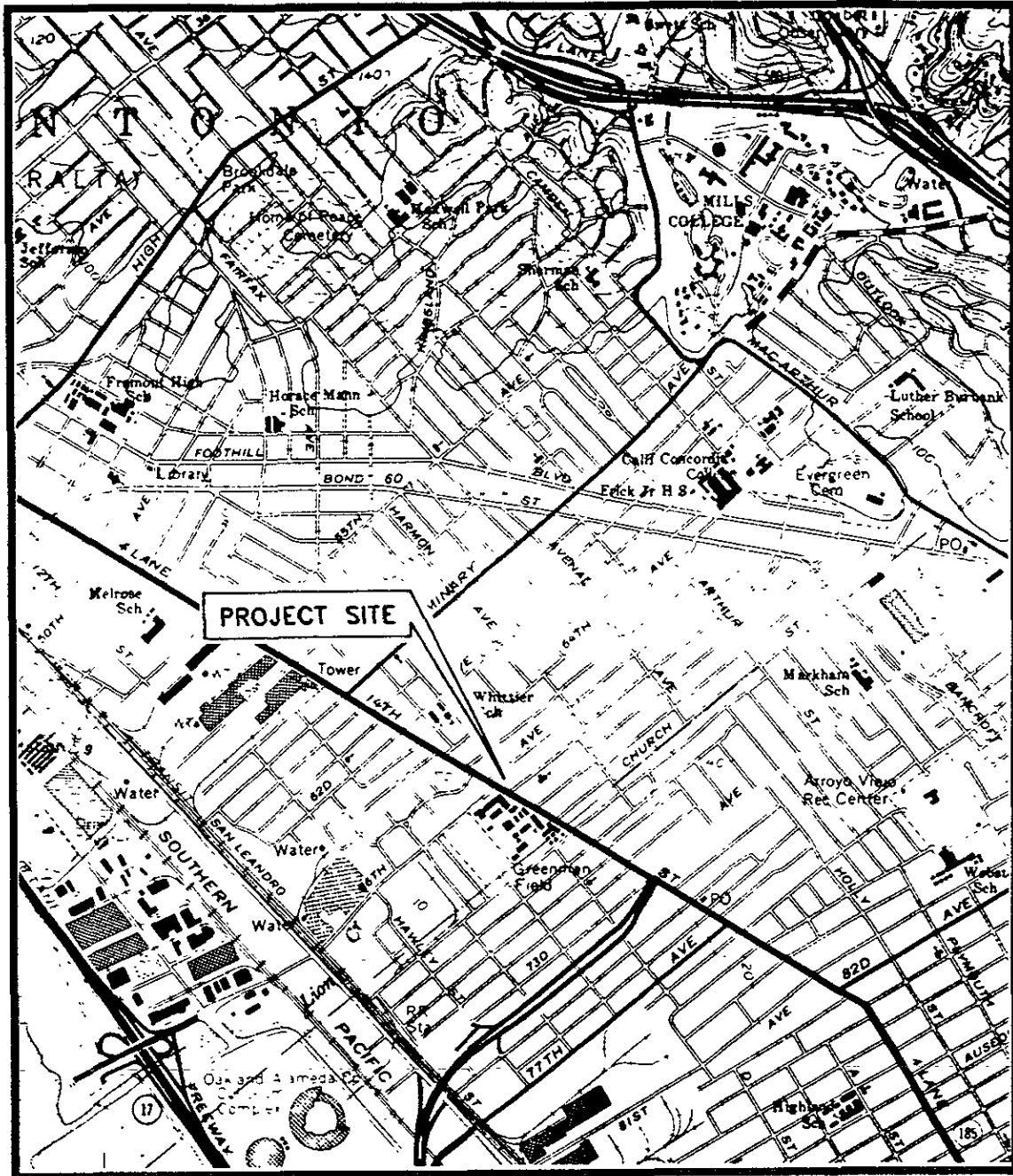


John De George
Project Manager



Robert E. Logan, R.G. 5088
Manager, Northern California Operations

FIGURES



0 1,000 2,000



SCALE IN FEET



Quadrangle location

Source: U.S.G.S. Map
Oakland East Quadrangle
California
7.5 Minute Series (Topographic)

SITE VICINITY MAP

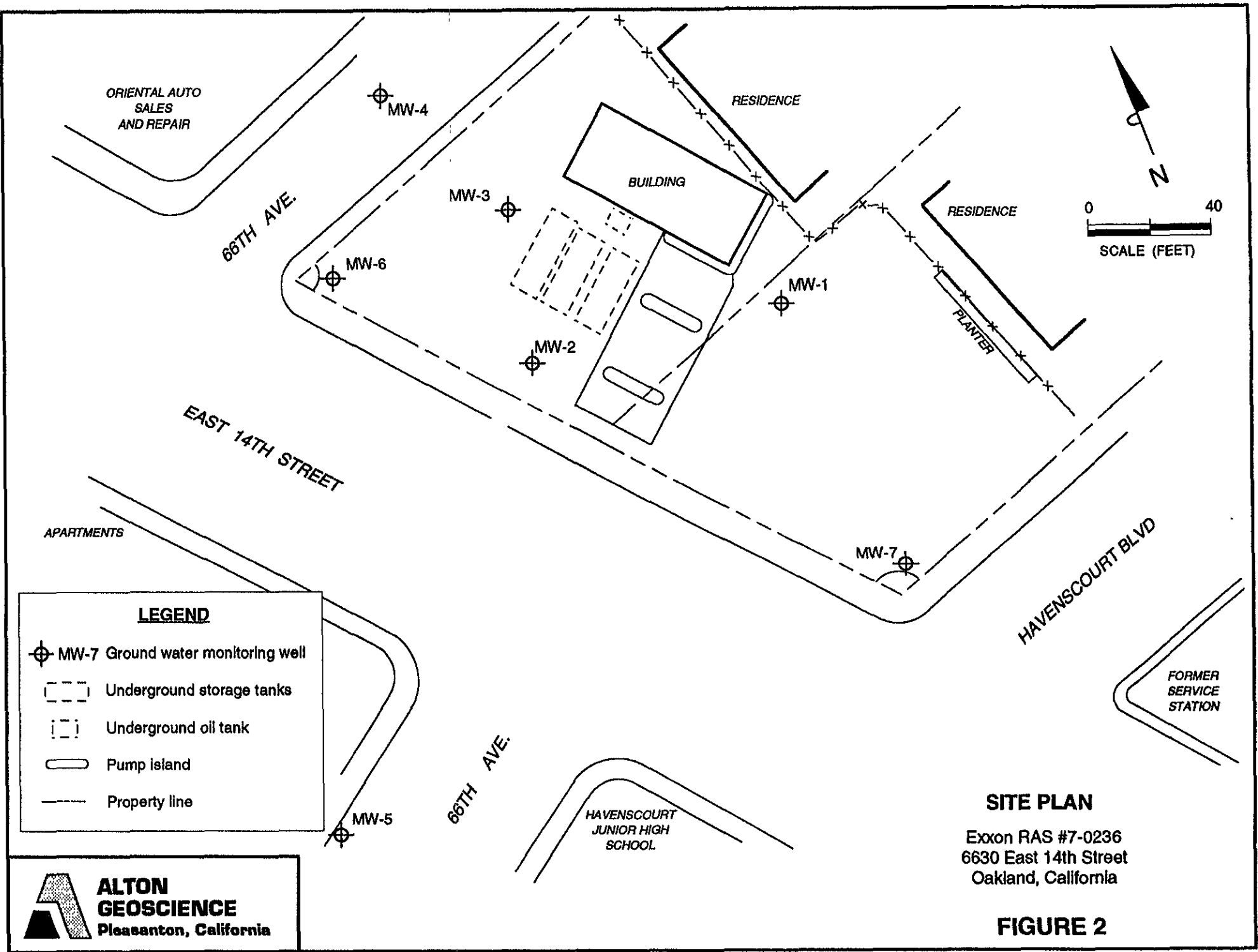
Exxon RAS #7-0236
6630 East 14th Street
Oakland, California

FIGURE 1



ALTON GEOSCIENCE
Pleasanton, California

Project No. 30-0491



LEGEND

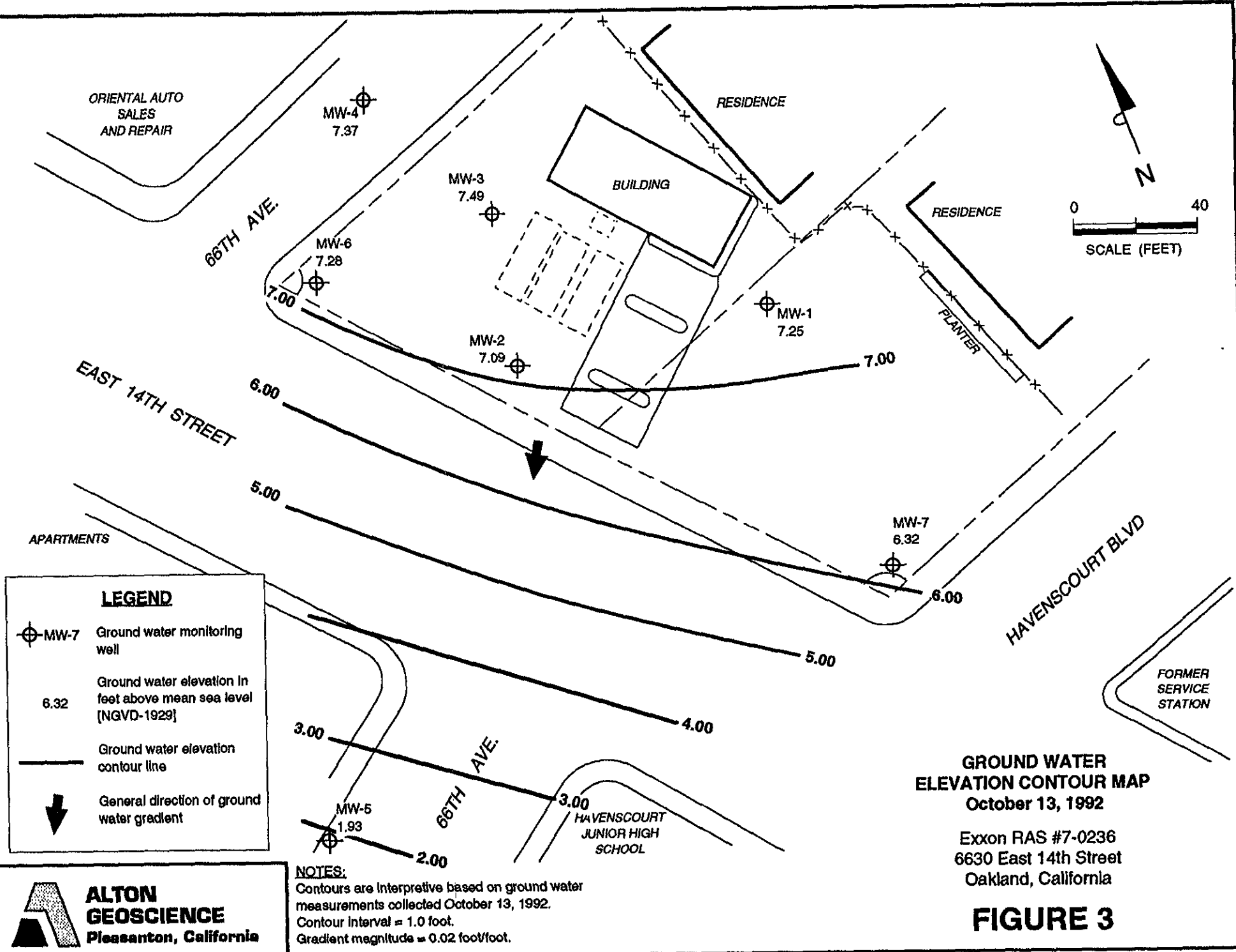
- MW-7 Ground water monitoring well
- Underground storage tanks
- Underground oil tank
- Pump island
- Property line

**ALTON
GEOSCIENCE**
Pleasanton, California

SITE PLAN

Exxon RAS #7-0236
6630 East 14th Street
Oakland, California

FIGURE 2



LEGEND

- MW-7 Ground water monitoring well
- 6.32 Ground water elevation in feet above mean sea level [NGVD-1929]
- Ground water elevation contour line
- General direction of ground water gradient

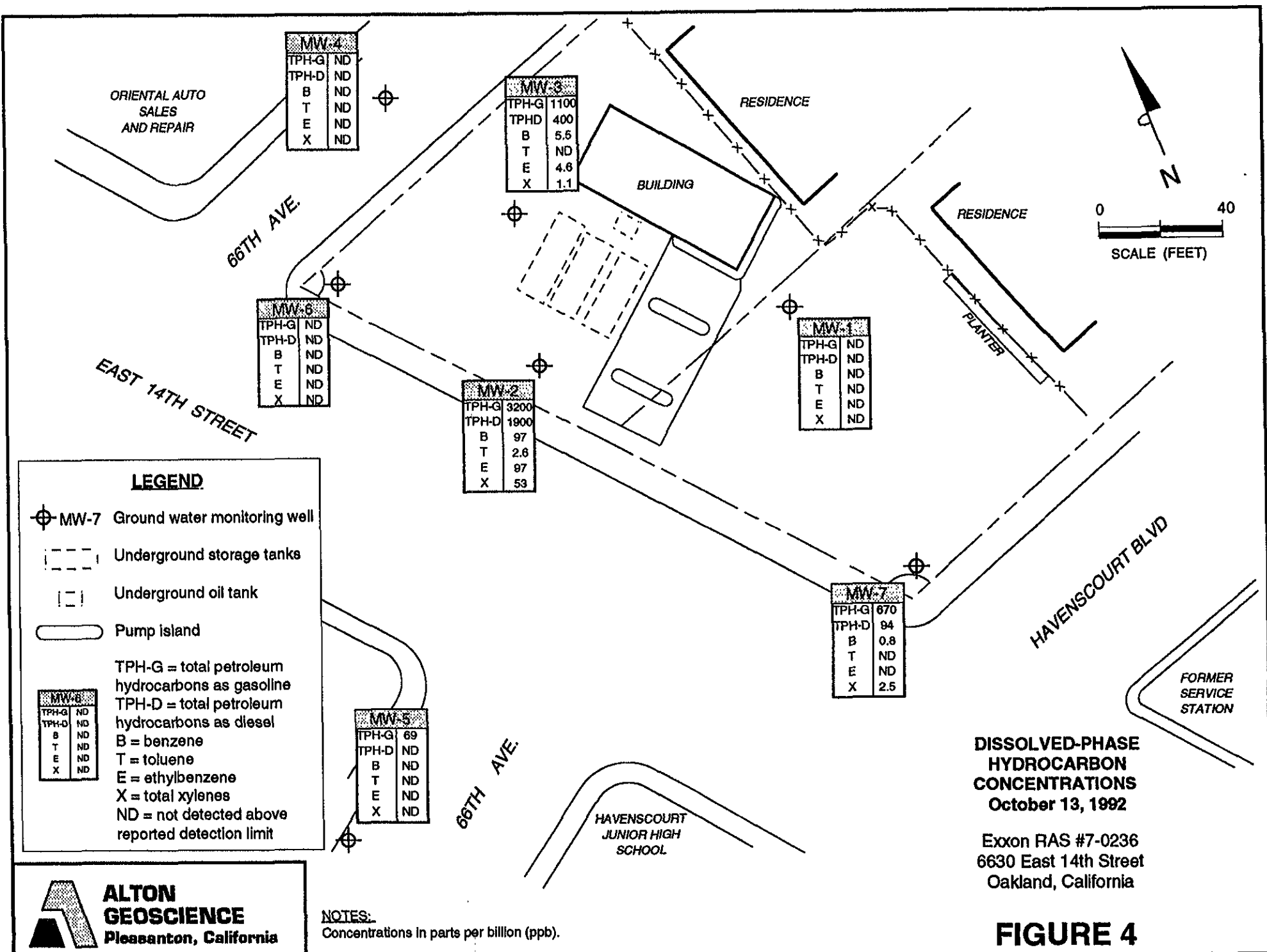
NOTES:
 Contours are interpretive based on ground water measurements collected October 13, 1992.
 Contour Interval = 1.0 foot.
 Gradient magnitude = 0.02 foot/foot.

GROUND WATER ELEVATION CONTOUR MAP
 October 13, 1992

Exxon RAS #7-0236
 6630 East 14th Street
 Oakland, California

FIGURE 3

ALTON GEOSCIENCE
 Pleasanton, California



MW-4

TPH-G	ND
TPH-D	ND
B	ND
T	ND
E	ND
X	ND

MW-3

TPH-G	1100
TPH-D	400
B	5.5
T	ND
E	4.6
X	1.1

MW-6

TPH-G	ND
TPH-D	ND
B	ND
T	ND
E	ND
X	ND

MW-2

TPH-G	3200
TPH-D	1900
B	97
T	2.6
E	97
X	53

MW-1

TPH-G	ND
TPH-D	ND
B	ND
T	ND
E	ND
X	ND

MW-7

TPH-G	670
TPH-D	94
B	0.8
T	ND
E	ND
X	2.5

MW-5

TPH-G	69
TPH-D	ND
B	ND
T	ND
E	ND
X	ND

MW-E

TPH-G	ND
TPH-D	ND
B	ND
T	ND
E	ND
X	ND

LEGEND

- ⊕ MW-7 Ground water monitoring well
- - - - - Underground storage tanks
- - - - - Underground oil tank
- Pump island
- TPH-G = total petroleum hydrocarbons as gasoline
- TPH-D = total petroleum hydrocarbons as diesel
- B = benzene
- T = toluene
- E = ethylbenzene
- X = total xylenes
- ND = not detected above reported detection limit

NOTES:
Concentrations in parts per billion (ppb).

**DISSOLVED-PHASE
HYDROCARBON
CONCENTRATIONS
October 13, 1992**

Exxon RAS #7-0236
6630 East 14th Street
Oakland, California

FIGURE 4

**ALTON
GEOSCIENCE**
Pleasanton, California

TABLE

TABLE 1

**Fluid-Level Monitoring And Ground Water Sampling Results
Exxon RAS #7-0236
6630 East 14th Street, Oakland, California**

CONCENTRATIONS IN PARTS PER BILLION (PPB)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF CASING ELEVATION	DEPTH TO GROUND GROUND WATER ELEVATION	TPH-G	B	T	E	X	TPH-D	TOG	HVOC	LAB	
MW-1	03/15/91	20.20	7.44	12.76	ND<50	ND<0.3	0.5	0.3	1.3	----	----	----	PACE
MW-1	01/15/92	20.20	10.60	9.60	ND<50	ND<0.5	0.7	ND<0.5	0.9	ND<300	ND<5000	ND *	PACE
MW-1	03/23/92	20.20	6.38	13.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5000	ND	PACE
MW-1	04/06/92	20.20	7.55	12.65	----	----	----	----	----	----	----	----	NA
MW-1	07/08/92	20.20	9.85	10.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5000	ND	PACE
MW-1	10/13/92	20.20	12.95	7.25	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5000	ND	PACE
MW-2	03/15/91	19.15	9.05	10.10	1700	190	2.6	12	64	120	ND<5000	1 **	PACE
MW-2	01/15/92	19.15	11.60	7.55	6800	81	ND<10	320	170	1000	ND<5000	ND	PACE
MW-2	03/23/92	19.15	9.42	9.73	7100	740	30	810	490	3000	ND<5000	ND	PACE
MW-2	04/06/92	19.15	9.09	10.06	----	----	----	----	----	----	----	----	NA
MW-2	07/08/92	19.15	10.08	9.07	7000	250	14	300	160	2100	ND<5000	ND	PACE
MW-2	10/13/92	19.15	12.06	7.09	3200	97	2.6	97	53	1900	ND<5000	ND	PACE
MW-3	03/15/91	19.59	7.84	11.75	3100	2.2	1.9	100	84	160	ND<5000	21 **	PACE
MW-3	01/15/92	19.59	10.30	9.29	250	0.7	6.8	1.5	1.5	ND<300	ND<5000	ND	PACE
MW-3	03/23/92	19.59	6.84	12.75	640	ND<0.5	12	25	6.5	440	ND<5000	ND	PACE
MW-3	04/06/92	19.59	7.84	11.75	----	----	----	----	----	----	----	----	NA
MW-3	07/08/92	19.59	8.63	10.96	2900	ND<0.5	2.6	12	3.7	960	ND<5000	ND	PACE
MW-3	10/13/92	19.59	12.10	7.49	1100	5.5	ND<0.5	4.6	1.1	400	----	ND	PACE

TABLE 1

Fluid-Level Monitoring And Ground Water Sampling Results
 Exxon RAS #7-0236
 6630 East 14th Street, Oakland, California

CONCENTRATIONS IN PARTS PER BILLION (PPB)

WELL ID	DATE OF SAMPLING/ MONITORING	TOP OF CASING ELEVATION	DEPTH TO GROUND WATER	GROUND WATER ELEVATION	TPH-G	B	T	E	X	TPH-D	TOG	HVOC	LAB
MW-4	04/06/92	19.46	7.76	11.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-4	07/08/92	19.46	9.56	9.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-4	10/13/92	19.46	12.09	7.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<80	---	---	PACE
MW-5	04/06/92	16.95	10.66	6.29	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-5	07/08/92	16.95	***	---	---	---	---	---	---	---	---	---	NA
MW-5	10/13/92	16.95	15.02	1.93	69	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-6	04/06/92	18.79	8.29	10.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	ND	PACE
MW-6	07/08/92	18.79	9.22	9.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5000	ND	PACE
MW-6	10/13/92	18.79	11.51	7.28	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-7	04/06/92	19.23	8.34	10.89	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-7	07/08/92	19.23	10.30	8.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	---	---	PACE
MW-7	10/13/92	19.23	12.91	6.32	670	0.8	ND<0.5	ND<0.5	2.5	94	---	---	PACE

TABLE 1

Fluid-Level Monitoring And Ground Water Sampling Results
 Exxon RAS #7-0236
 6630 East 14th Street, Oakland, California

EXPLANATION OF ABBREVIATIONS

TPH-G	:total petroleum hydrocarbons as gasoline	(EPA method 8015 modified)	PACE	:Pace, Incorporated
TPH-D	:total petroleum hydrocarbons as diesel	(EPA method 8015 modified)	---	:not analyzed/not measured
B	:benzene	(EPA method 8020)	ND	:not detected
T	:toluene	(EPA method 8020)	NA	:not applicable
E	:ethylbenzene	(EPA method 8020)	*	:HVOC detection limits vary (see lab results)
X	:total xylenes	(EPA method 8020)	**	:Methylene chloride
TOG	:total oil and grease	(EPA method 5520)	***	:Obstruction in well; unable to access ground water
HVOC	:halogenated volatile organic compounds	(EPA method 601)		

Note: Top of casing and ground water elevations reported in feet above mean sea level (NGVD - 1929).

APPENDIX A

**ALTON GEOSCIENCE FIELD PROCEDURES
FOR
FLUID-LEVEL MONITORING AND GROUND WATER SAMPLING**

**ALTON GEOSCIENCE FIELD PROCEDURES
FOR
FLUID-LEVEL MONITORING AND GROUND WATER SAMPLING**

Fluid-level monitoring and ground water sampling was performed in accordance with requirements and procedures of the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). Prior to purging and sampling each well, total well depth and depth to ground water were measured from a reference mark at the top of each well casing using an electronic sounder.

Prior to sample collection, each well was purged of 3 well casing volumes of water. Ground water was collected using a disposable bailer, observed for the presence of free product, and transferred to the appropriate clean sample containers for delivery to a California-certified laboratory. Purged ground water was stored onsite in 55-gallon drums approved by the Department of Transportation for disposal by Exxon Company, U.S.A.

APPENDIX B
OFFICIAL LABORATORY REPORT
AND
CHAIN OF CUSTODY RECORD



001 / 1992

REPORT OF LABORATORY ANALYSIS

Alton Geoscience
5870 Stoneridge Drive, Suite 6
Pleasanton, CA 94588

October 23, 1992
PACE Project Number: 421016523

Attn: Mr. John DeGeorge

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227062
Date Collected: 10/13/92
Date Received: 10/16/92
Client Sample ID: MW-1

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

TPH GASOLINE/BTEX			
TOTAL FUEL HYDROCARBONS, (LIGHT):		-	10/22/92
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND 10/22/92
PURGEABLE AROMATICS (BTXE BY EPA 8020M):		-	10/22/92
Benzene	ug/L	0.5	ND 10/22/92
Toluene	ug/L	0.5	ND 10/22/92
Ethylbenzene	ug/L	0.5	ND 10/22/92
Xylenes, Total	ug/L	0.5	ND 10/22/92
TPH DIESEL, BY EPA METHOD 8015			
Extractable Fuels, as Diesel	mg/L	0.050	ND 10/20/92
Date Extracted			
TOTAL OIL AND GREASE (SM 5520)			
Total Oil & Grease SM 5520	mg/L	5.0	ND 10/22/92
Date Extracted			
PURGEABLE HALOCARBONS, EPA METHOD 601			
Dichlorodifluoromethane	ug/L	2.0	ND 10/20/92
Chloromethane	ug/L	2.0	ND 10/20/92
Vinyl Chloride	ug/L	2.0	ND 10/20/92
Bromomethane	ug/L	2.0	ND 10/20/92
Chloroethane	ug/L	2.0	ND 10/20/92
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND 10/20/92
1,1-Dichloroethene	ug/L	0.5	ND 10/20/92
Methylene Chloride	ug/L	2.0	ND 10/20/92
trans-1,2-Dichloroethene	ug/L	0.5	ND 10/20/92
cis-1,2-Dichloroethene	ug/L	0.5	ND 10/20/92

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

REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
Page 2

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number:
Date Collected:
Date Received:
Client Sample ID:
Parameter

70 0227062
10/13/92
10/16/92
MW-1

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE HALOCARBONS, EPA METHOD 601

1,1-Dichloroethane	ug/L	0.5	ND	10/20/92
Chloroform	ug/L	0.5	ND	10/20/92
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	10/20/92
Carbon Tetrachloride	ug/L	0.5	ND	10/20/92
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	10/20/92
Trichloroethene (TCE)	ug/L	0.5	ND	10/20/92
1,2-Dichloropropane	ug/L	0.5	ND	10/20/92
Bromodichloromethane	ug/L	0.5	ND	10/20/92
2-Chloroethylvinyl ether	ug/L	0.5	ND	10/20/92
cis-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
trans-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
1,1,2-Trichloroethane	ug/L	0.5	ND	10/20/92
Tetrachloroethene	ug/L	0.5	ND	10/20/92
Dibromochloromethane	ug/L	0.5	ND	10/20/92
Chlorobenzene	ug/L	0.5	ND	10/20/92
Bromoform	ug/L	0.5	ND	10/20/92
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	10/20/92
1,3-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,4-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,2-Dichlorobenzene	ug/L	0.5	ND	10/20/92
Bromochloromethane (Surrogate Recovery)			90%	10/20/92
1,4-Dichlorobutane (Surrogate Recovery)			89%	10/20/92

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

REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
Page 3

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number:			70 0227070	
Date Collected:			10/13/92	
Date Received:			10/16/92	
Client Sample ID:			MW-2	
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/22/92
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	120	3200	10/22/92
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/22/92
Benzene	ug/L	1.2	97	10/22/92
Toluene	ug/L	1.2	2.6	10/22/92
Ethylbenzene	ug/L	1.2	97	10/22/92
Xylenes, Total	ug/L	1.2	53	10/22/92
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.070	1.9	10/21/92
Date Extracted			10/20/92	
TOTAL OIL AND GREASE (SM 5520)				
Total Oil & Grease SM 5520	mg/L	5.0	ND	10/22/92
Date Extracted			10/21/92	
PURGEABLE HALOCARBONS, EPA METHOD 601				
Dichlorodifluoromethane	ug/L	2.0	ND	10/20/92
Chloromethane	ug/L	2.0	ND	10/20/92
Vinyl Chloride	ug/L	2.0	ND	10/20/92
Bromomethane	ug/L	2.0	ND	10/20/92
Chloroethane	ug/L	2.0	ND	10/20/92
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	10/20/92
1,1-Dichloroethene	ug/L	0.5	ND	10/20/92
Methylene Chloride	ug/L	2.0	ND	10/20/92
trans-1,2-Dichloroethene	ug/L	0.5	ND	10/20/92
cis-1,2-Dichloroethene	ug/L	0.5	ND	10/20/92
1,1-Dichloroethane	ug/L	0.5	ND	10/20/92
Chloroform	ug/L	0.5	ND	10/20/92
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	10/20/92

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

REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
Page 4

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227070
Date Collected: 10/13/92
Date Received: 10/16/92
Client Sample ID: MW-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
------------------	--------------	------------	----------------------

ORGANIC ANALYSIS

PURGEABLE HALOCARBONS, EPA METHOD 601

Carbon Tetrachloride	ug/L	0.5	ND	10/20/92
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	10/20/92
Trichloroethene (TCE)	ug/L	0.5	ND	10/20/92
1,2-Dichloropropane	ug/L	0.5	ND	10/20/92
Bromodichloromethane	ug/L	0.5	ND	10/20/92
2-Chloroethylvinyl ether	ug/L	0.5	ND	10/20/92
cis-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
trans-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
1,1,2-Trichloroethane	ug/L	0.5	ND	10/20/92
Tetrachloroethene	ug/L	0.5	ND	10/20/92
Dibromochloromethane	ug/L	0.5	ND	10/20/92
Chlorobenzene	ug/L	0.5	ND	10/20/92
Bromoform	ug/L	0.5	ND	10/20/92
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	10/20/92
1,3-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,4-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,2-Dichlorobenzene	ug/L	0.5	ND	10/20/92
Bromochloromethane (Surrogate Recovery)			104%	10/20/92
1,4-Dichlorobutane (Surrogate Recovery)			101%	10/20/92

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

Mr. John DeGeorge
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October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227089
Date Collected: 10/13/92
Date Received: 10/16/92
Client Sample ID: MW-3

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
------------------	--------------	------------	----------------------

ORGANIC ANALYSIS

TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/22/92
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	100	1100	10/22/92
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/22/92
Benzene	ug/L	1.0	5.5	10/22/92
Toluene	ug/L	1.0	ND	10/22/92
Ethylbenzene	ug/L	1.0	4.6	10/22/92
Xylenes, Total	ug/L	1.0	1.1	10/22/92
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.050	0.40	10/21/92
Date Extracted			10/20/92	
PURGEABLE HALOCARBONS, EPA METHOD 601				
Dichlorodifluoromethane	ug/L	2.0	ND	10/20/92
Chloromethane	ug/L	2.0	ND	10/20/92
Vinyl Chloride	ug/L	2.0	ND	10/20/92
Bromomethane	ug/L	2.0	ND	10/20/92
Chloroethane	ug/L	2.0	ND	10/20/92
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	10/20/92
1,1-Dichloroethene	ug/L	0.5	ND	10/20/92
Methylene Chloride	ug/L	2.0	ND	10/20/92
trans-1,2-Dichloroethene	ug/L	0.5	ND	10/20/92
cis-1,2-Dichloroethene	ug/L	0.5	ND	10/20/92
1,1-Dichloroethane	ug/L	0.5	ND	10/20/92
Chloroform	ug/L	0.5	ND	10/20/92
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	10/20/92
Carbon Tetrachloride	ug/L	0.5	ND	10/20/92
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	10/20/92
Trichloroethene (TCE)	ug/L	0.5	ND	10/20/92

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



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REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number:
Date Collected:
Date Received:
Client Sample ID:
Parameter

70 0227089
10/13/92
10/16/92
MW-3

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE HALOCARBONS, EPA METHOD 601

1,2-Dichloropropane	ug/L	0.5	ND	10/20/92
Bromodichloromethane	ug/L	0.5	ND	10/20/92
2-Chloroethylvinyl ether	ug/L	0.5	ND	10/20/92
cis-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
trans-1,3-Dichloropropene	ug/L	0.5	ND	10/20/92
1,1,2-Trichloroethane	ug/L	0.5	ND	10/20/92
Tetrachloroethene	ug/L	0.5	ND	10/20/92
Dibromochloromethane	ug/L	0.5	ND	10/20/92
Chlorobenzene	ug/L	0.5	ND	10/20/92
Bromoform	ug/L	0.5	ND	10/20/92
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	10/20/92
1,3-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,4-Dichlorobenzene	ug/L	0.5	ND	10/20/92
1,2-Dichlorobenzene	ug/L	0.5	ND	10/20/92
Bromochloromethane (Surrogate Recovery)			106%	10/20/92
1,4-Dichlorobutane (Surrogate Recovery)			93%	10/20/92

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



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REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227097
 Date Collected: 10/13/92
 Date Received: 10/16/92
 Client Sample ID: MW-4
 Parameter Units MDL DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	10/22/92
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	10/22/92
Toluene	ug/L	0.5	ND	10/22/92
Ethylbenzene	ug/L	0.5	ND	10/22/92
Xylenes, Total	ug/L	0.5	ND	10/22/92
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.080	ND	10/21/92
Date Extracted			10/20/92	

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

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REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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October 23, 1992
 PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227100
 Date Collected: 10/13/92
 Date Received: 10/16/92
 Client Sample ID: MW-5

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

TPH GASOLINE/BTEX			
TOTAL FUEL HYDROCARBONS, (LIGHT):			10/22/92
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	69
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			10/22/92
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
TPH DIESEL, BY EPA METHOD 8015			
Extractable Fuels, as Diesel	mg/L	0.050	ND
Date Extracted			10/20/92

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

REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
 Page 9

October 23, 1992
 PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number: 70 0227119

Date Collected: 10/13/92

Date Received: 10/16/92

Client Sample ID: MW-6

Parameter

Units

MDL

DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015M) ug/L

50

ND

10/22/92

PURGEABLE AROMATICS (BTXE BY EPA 8020M):

Benzene ug/L

0.5

ND

10/22/92

Toluene ug/L

0.5

ND

10/22/92

Ethylbenzene ug/L

0.5

ND

10/22/92

Xylenes, Total

ug/L

0.5

ND

10/22/92

TPH DIESEL, BY EPA METHOD 8015

Extractable Fuels, as Diesel

mg/L

0.050

ND

10/21/92

Date Extracted

10/20/92

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

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October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

PACE Sample Number:
Date Collected:
Date Received:
Client Sample ID:
Parameter

70 0227127
10/13/92
10/16/92
MW-7

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/22/92
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	670	10/22/92
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/22/92
Benzene	ug/L	0.5	0.8	10/22/92
Toluene	ug/L	0.5	ND	10/22/92
Ethylbenzene	ug/L	0.5	ND	10/22/92
Xylenes, Total	ug/L	0.5	2.5	10/22/92
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.050	0.094	10/21/92
Date Extracted			10/20/92	

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

These data have been reviewed and are approved for release.

Davell Cain for
Mark A. Valentini, Ph.D.
Regional Director



OCT 23 1992

REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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QUALITY CONTROL DATA

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

TOTAL OIL AND GREASE (SM 5520)
Batch: 70 16390
Samples: 70 0227062, 70 0227070

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Total Oil & Grease SM 5520	mg/L	5.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Oil & Grease SM 5520	mg/L	5.0	20.0	85%	80%	6%

MDL Method Detection Limit
RPD Relative Percent Difference



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REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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QUALITY CONTROL DATA

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

TPH DIESEL, BY EPA METHOD 8015

Batch: 70 16360

Samples: 70 0227062, 70 0227070, 70 0227089, 70 0227097, 70 0227100
70 0227119, 70 0227127

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.050	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.050	1.00	76%	74%	2%

MDL Method Detection Limit
RPD Relative Percent Difference



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REPORT OF LABORATORY ANALYSIS

Mr. John DeGeorge
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QUALITY CONTROL DATA

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

TPH GASOLINE/BTEX

Batch: 70 16401

Samples: 70 0227062, 70 0227070, 70 0227089, 70 0227097, 70 0227100
70 0227119, 70 0227127

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	364	92%	97%	5%
Benzene	ug/L	0.5	40.0	100%	99%	1%
Toluene	ug/L	0.5	40.0	101%	100%	0%
Ethylbenzene	ug/L	0.5	40.0	97%	96%	1%
Xylenes, Total	ug/L	0.5	80.0	100%	98%	2%

MDL Method Detection Limit
RPD Relative Percent Difference

Mr. John DeGeorge
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QUALITY CONTROL DATA

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

VOLATILE HALOCARBONS AND AROMATICS
Batch: 70 16354
Samples: 70 0227062, 70 0227070, 70 0227089

METHOD BLANK:

Parameter	Units	MDL	Method Blank
VOLATILE HALOCARBONS BY EPA 8010			
Dichlorodifluoromethane	ug/L	2.0	ND
Chloromethane	ug/L	2.0	ND
Vinyl Chloride	ug/L	2.0	ND
Bromomethane	ug/L	2.0	ND
Chloroethane	ug/L	2.0	ND
Trichlorofluoromethane (Freon 11)			
1,1-Dichloroethene	ug/L	0.5	ND
Methylene Chloride	ug/L	2.0	ND
trans-1,2-Dichloroethene	ug/L	0.5	ND
cis-1,2-Dichloroethene	ug/L	0.5	ND
1,1-Dichloroethane	ug/L	0.5	ND
Chloroform			
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND
Carbon Tetrachloride	ug/L	0.5	ND
1,2-Dichloroethane (EDC)	ug/L	0.5	ND
Trichloroethene (TCE)	ug/L	0.5	ND
1,2-Dichloropropane	ug/L	0.5	ND
Bromodichloromethane			
2-Chloroethylvinyl ether	ug/L	0.5	ND
cis-1,3-Dichloropropene	ug/L	0.5	ND
trans-1,3-Dichloropropene	ug/L	0.5	ND
1,1,2-Trichloroethane	ug/L	0.5	ND
Tetrachloroethene	ug/L	0.5	ND
Dibromochloromethane			
Chlorobenzene	ug/L	0.5	ND
Bromoform	ug/L	0.5	ND
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND
1,3-Dichlorobenzene	ug/L	0.5	ND
1,4-Dichlorobenzene	ug/L	0.5	ND
1,2-Dichlorobenzene	ug/L	0.5	ND

MDL Method Detection Limit

Mr. John DeGeorge
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QUALITY CONTROL DATA

October 23, 1992
PACE Project Number: 421016523

Client Reference: Exxon 7-0236 (EE)

VOLATILE HALOCARBONS AND AROMATICS

Batch: 70 16354

Samples: 70 0227062, 70 0227070, 70 0227089

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Bromochloromethane (Surrogate Recovery)			90%
1,4-Dichlorobutane (Surrogate Recovery)			89%
VOLATILE AROMATICS BY EPA 8020			
Benzene	ug/L	0.3	ND
Toluene	ug/L	0.3	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND
Fluorobenzene (Surrogate Recovery)			112%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	10.00	103%	102%	0%
Trichloroethene (TCE)	ug/L	0.5	10.00	100%	97%	3%
trans-1,3-Dichloropropene	ug/L	0.5	3.8	92%	96%	4%
Tetrachloroethene	ug/L	0.5	10.00	126%	121%	4%
Benzene	ug/L	0.3	10.00	93%	92%	1%
Toluene	ug/L	1.0	10.00	101%	99%	2%
Xylenes, Total	ug/L	0.5	20.00	109%	108%	0%

MDL Method Detection Limit
RPD Relative Percent Difference



10/12/1992

EXXON COMPANY, U.S.A.

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

CHAIN OF CUSTODY

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

Irvine, CA
Alton Business Park
30 Hughes St., Suite 206, 92718
(714) 380-9559

Consultant Name: Alton Geoscience
Address: 5870 Stoneridge Dr. #6, Pleasanton
Project Contact: John De Geerje Project #: 30-0491-02
Phone #: 510-734-8134 Fax #: 510-734-8420
Consultant Work Release #: 91100468
Exxon Contact: Marla Guenster Phone #: 510-246-8776
Site RAS #: 7-0236
Site Location: 6630 E. 14th Street, Oakland
Laboratory Work Release #:

Sampled by (please print) <u>Jon Vail & Larry Buenvenida</u>		SOIL				WATER				Total Oils & Greases SM 5520		Remarks
Sampler Signature <u>[Signature]</u>	Date Sampled <u>10/13/92</u>	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	Organic Lead DHS Method	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	Organic Lead DHS Method	TRPH EPA 418.1	8010			
Sample Description	Collection Date/Time	Matrix	Prsv.	# of Cont.								
MW-1	10/13/92	W	HCl	6	22706.2	X	X		X	X	Analyze	
MW-2	↓	↓	↓	6	707.0				X	X	Analyze	
MW-3	↓	↓	↓	5	708.9				X	X	1 liter for TOG and TPH-D → Analyze	
MW-4	↓	↓	↓	3	709.7				Cancelled O&G per JDG 10/16/92		Analyze	
MW-5	↓	↓	↓	2	710.0						1 VOA for TPH-G/B → Analyze	
MW-6	↓	↓	↓	3	711.9						Analyze	
MW-7	↓	↓	↓	3	712.7	↓	↓				Analyze	
Cooler No. <u>5114/2</u>		Relinquished by/Affiliation <u>[Signature] ALTON</u>				Accepted by/Affiliation <u>Donald Ikonishi Pace</u>				Date	Time	
Cooler Seal Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		<u>Donald Ikonishi Pace</u>				<u>Jim Cop / Pace</u>				<u>10/16/92</u>	<u>1120</u>	
Turnaround Time (circle choice) 24 hr. 48 hr. 72 hr. 96 hr. 5 workday (standard)												
Shipment Method		Additional Comments: 50 ppb detection limit on TPH-D 5000 ppb detection limit on TOG						Special Handling for MW-3 and MW-5 samples due to minimum amount of water/sample available				
Shipment Date												
Distribution:		White - Original		Yellow - Exxon		Pink - Lab		Goldenrod - Consultant Field Staff				

on MW-3, DO NOT run O&G per JDG 10/16/92 (SM)