

**EXXON** COMPANY, U.S.A.

Post Office Box 4032 . Concord, CA 94524-2032

ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER  
ENVIRONMENTAL ENGINEER  
(510) 246-8776

April 5, 1993

Mr. Rick Mueller  
City of Pleasanton Fire Department  
4444 Railroad Street  
Pleasanton, California 94566-0802

Subject: Exxon RAS #7-7003  
349 Main Street  
Pleasanton, CA

Dear Mr. Mueller:

Attached for your review and comment is a Letter Report Quarterly Groundwater Monitoring for the above referenced site. This report, prepared by RESNA Industries, Inc., of San Jose, California, details the results of the Fourth Quarter 1992 monitoring and sampling events.

Should you have any questions or comments, or require additional information, please do not hesitate to contact me at (510) 246-8776.

Sincerely,



Marla D. Guensler  
Exxon Senior Environmental Engineer

MDS/mdg

Attachment

c - w/attachment:

Mr. Arigalia Sum - San Francisco RWOC3

w/o attachment:

Mr. Marc Briggs - RESNA, San Jose  
Mr. David Goodrum

# EXXON COMPANY, U.S.A.

POST OFFICE BOX 4032 . CONCORD, CA 94524-2032

ENVIRONMENTAL ENGINEERING

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

April 7, 1993

Mr. Rick Mueller  
City of Pleasanton Fire Department  
4444 Railroad Street  
Pleasanton, California 94566-0802

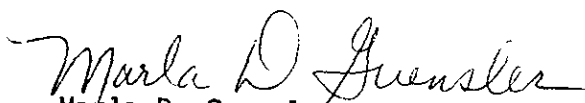
Subject: EXXON RAS #7-7003  
349 MAIN STREET  
PLEASANTON, CA

Dear Mr. Mueller:

Attached for your review and comment is a report entitled LETTER REPORT QUARTERLY GROUNDWATER MONITORING for the above referenced site. This report letter, prepared by RESNA, of San Jose, California, details the results of the first quarter 1993 monitoring and sampling events.

Should you have any questions or comments, or require additional information, please do not hesitate to contact me at the above listed phone number.

Sincerely,

  
Marla D. Guensler  
Exxon Senior Environmental Engineer

MDG/mdg

Attachment

c - w/attachment:

Mr. Arigalia Sum - San Francisco Bay RWQCB

w/o attachment:

Mr. Marc Briggs - RESNA, San Jose



3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
FAX: (408) 264-2435

LETTER REPORT  
QUARTERLY GROUNDWATER MONITORING  
First Quarter 1993  
at  
Exxon Station 7-7003  
349 Main Street  
Pleasanton, California

130015.01

3-25-93

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
FAX: (408) 264-2435

March 25, 1993  
0210MGUE  
130015.01

Ms. Marla D. Guensler  
Exxon Company U.S.A.  
2300 Clayton Road, Suite 1250  
P.O. Box 4032  
Concord, California 94520

Subject: Letter Report on First Quarter 1993 Groundwater Monitoring at Exxon  
Station 7-7003, 349 Main Street, Pleasanton, California

Ms. Guensler:

As requested by Exxon Company U.S.A. (Exxon), this letter report summarizes the methods and results of the first quarter 1993 groundwater monitoring performed by RESNA Industries Inc. (RESNA) at the above-subject site. The Exxon site is located at 349 Main Street on the southwestern corner of the intersection of Angela and Main Streets in Pleasanton, California, as shown on Plate 1, Site Vicinity Map.

The objectives of this quarterly monitoring are to evaluate the groundwater flow direction and gradient, and trends in concentrations of gasoline hydrocarbons in the local groundwater associated with former and existing used-oil and three former and existing gasoline underground storage tanks (USTs) at the site.

Prior to the present monitoring, RESNA, formerly Applied GeoSystems (AGS), performed and environmental investigation related to the removal and replacement of three gasoline USTs and one used-oil UST in August 1989 (AGS, October 1, 1989). Additionally, RESNA performed an environmental investigation between January and June 1990 that included drilling 13 boreholes around the former gasoline UST location and adjacent to the former used-oil UST, installing groundwater monitoring wells MW-1 through MW-5 in five of the boreholes, and analyzing soil and groundwater samples (AGS, August 1, 1990). AGS drilled five boreholes north and northwest of the former gasoline USTs and installed groundwater monitoring wells MW-6 and MW-7, and vapor extraction well VE-1 between February and March 1991 (AGS, October 24, 1991). Quarterly monitoring at the site began in the first quarter of 1990 (AGS, August 1, 1990). The results of previous environmental investigations performed at the site are presented in the reports listed in the references section. The

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

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locations of the groundwater monitoring wells and pertinent site features are shown on the Generalized Site Plan (Plate 2).

### Groundwater Sampling and Gradient Evaluation

For the latest quarterly groundwater monitoring, RESNA personnel collected groundwater monitoring data from monitoring wells MW-1 through MW-7 on February 2 and 3, 1993. During field work at the site, RESNA personnel measured depth to water (DTW) levels in the groundwater monitoring wells, subjectively analyzed water from the wells for the presence of free-phase hydrocarbons, and purged and sampled the groundwater from the seven monitoring wells. Field methods used by RESNA personnel are described in Appendix A, Groundwater Sampling Protocol.

RESNA calculated groundwater elevations for each well by subtracting the measured DTW from the elevation of the wellhead. The measured DTW levels, wellhead elevations, and groundwater elevations for this and previous quarterly monitoring at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. Based on the February 3, 1993, groundwater elevation data, the interpreted local groundwater gradient and flow direction is approximately 0.15 toward the northwest. Groundwater Gradient Map (Plate 3) shows the interpreted local groundwater gradient for this quarter, which is generally consistent with those previously interpreted.

No evidence of free-phase hydrocarbons or noticeable hydrocarbon vapor was observed in the water samples collected for subjective analysis from the seven wells. Results of the subjective analyses are summarized in Table 1.

The seven monitoring wells were purged and sampled in accordance with the enclosed groundwater sampling protocol (Appendix A). Well purge data sheets reporting the monitored parameters, temperature, pH, conductivity, and turbidity, for monitoring wells MW-1 through MW-7 are included on the Well Purge Data Sheets in Appendix A.

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**Results of Laboratory Analysis**

Groundwater samples from the monitoring wells were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection Agency (EPA) Methods 5030/8015/8020. In addition, groundwater from wells MW-1 and MW-3 were analyzed for total oil and grease (TOG) using Standard Method 5520, and groundwater from wells MW-1 and MW-4 were analyzed for volatile organic compounds (VOCs) using EPA Method 8010. The samples were analyzed by Pace Incorporated laboratories (California State Certification Number 1282) in Novato, California. The Chain of Custody Record and Laboratory Analysis sheets for the monitoring wells included in Appendix B.

The chemical analytical results of this and previous, quarterly monitoring events are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples. Graphic representations of TPHg and benzene concentrations in the local groundwater for this quarter shown on Plate 4, TPHg Concentrations in Groundwater and Plate 5, Benzene Concentrations in Groundwater.

Results of this quarter's laboratory analyses of groundwater samples from wells MW-1 through MW-7 indicate:

- o TPHg and BTEX were nondetectable in wells MW-3 and MW-6.
- o TPHg was detected in the groundwater at concentrations ranging from 70 parts per billion (ppb) in MW-5 to 10,000 ppb in MW-1.
- o benzene was detected at concentrations of 2.3 ppb (MW-4), 3.9 ppb (MW-2), and 61 ppb (MW-1) which are greater than the Department of Health Services (DHS) Maximum Contaminant Level (MCL) of 1.0 ppb benzene in drinking water. Benzene was nondetectable in wells MW-5 and MW-7;
- o toluene, ethylbenzene, and total xylenes were detected at concentrations less than the DHS Drinking Water Action Level (DWAL) of 100 ppb toluene and MCLs of 680 ppb ethylbenzene and 1,750 ppb total xylenes in drinking water in wells MW-1, MW-2, MW-4, MW-5, and MW-7; except for the presence of 900 ppb ethylbenzene in well MW-1;
- o TOG was nondetectable in wells MW-1 and MW-3.
- o VOCs were nondetectable in wells MW-4.

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

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- o 2.2 ppb Methylene Chloride, 19 ppb Chloroform, 1.1 ppb Trichloroethene, and 2.4 ppb tetrachloroethene were detected in well MW-1.

Copies of this report should be forwarded to:

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

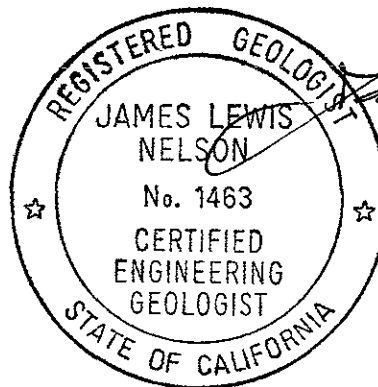
Mr. Jerry Killingstad  
Alameda County Flood Control  
and Water Conservation District (Zone 7)  
5997 Parkside Drive  
Pleasanton, California 94566

If you have any questions or comments, please call (408) 264-7723.

Sincerely,  
RESNA Industries Inc.



Jeanne Buckthal  
Geologic Technician



James L. Nelson  
C.E.G. No. 1463

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

March 25, 1993  
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Enclosures: References

- Plate 1: Site Vicinity Map
- Plate 2: Generalized Site Plan
- Plate 3: Groundwater Gradient Map (February 2, 1993)
- Plate 4: TPHg Concentrations in Groundwater
- Plate 5: Benzene Concentrations in Groundwater
  
- Table 1: Cumulative Groundwater Monitoring Data
- Table 2: Cumulative Results of Laboratory Analyses of Groundwater Samples
  
- Appendix A, Groundwater Sampling Protocol and Well Purge Data Sheets
- Appendix B, Chain of Custody Records and Laboratory Analysis Reports



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Exxon Station 7-7003, Pleasanton, California

March 25, 1993  
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**REFERENCES**

- Alameda County Flood Control and Water Conservation District (Zone 7). 1986. Water Level Contours Map. Water Resources Engineering.
- Alameda County Flood Control and Water Conservation District - Zone 7, January 16, 1991. Fall 1990 Groundwater Level Report.
- Applied GeoSystems. July 20, 1989. Report on Soil Vapor Survey at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025-1V.
- Applied GeoSystems. October 1, 1989. Report on Limited Subsurface Environmental Investigation at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025-1.
- Applied GeoSystems. August 1, 1990. Report on Supplemental Subsurface Environmental Investigation at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025-2.
- Applied GeoSystems. February 26, 1991. Letter Report Fourth Quarter 1990 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025-3.
- Applied GeoSystems. October 24, 1991. Report on Supplemental Subsurface Environmental Investigation and Quarterly Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California Job No. 19025-3.
- Applied GeoSystems. October 31, 1991. Letter Report Second Quarter 1991 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.03.
- Applied GeoSystems. December 5, 1991. Letter Report Third Quarter 1991 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.03.
- California Department of Health Services, State of California. October 24, 1990. Summary of California Drinking Water Standards

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

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**REFERENCES**

California Department of Water Resources. 1966. Evaluation of Groundwater Resources, Livermore and Sunol Valleys, Appendix A: Geology. Bulletin No. 118-2.

California Department of Water Resources. 1974. Evaluation of Groundwater Resources, Livermore and Sunol Valleys. Bulletin No. 118-2, page 153.

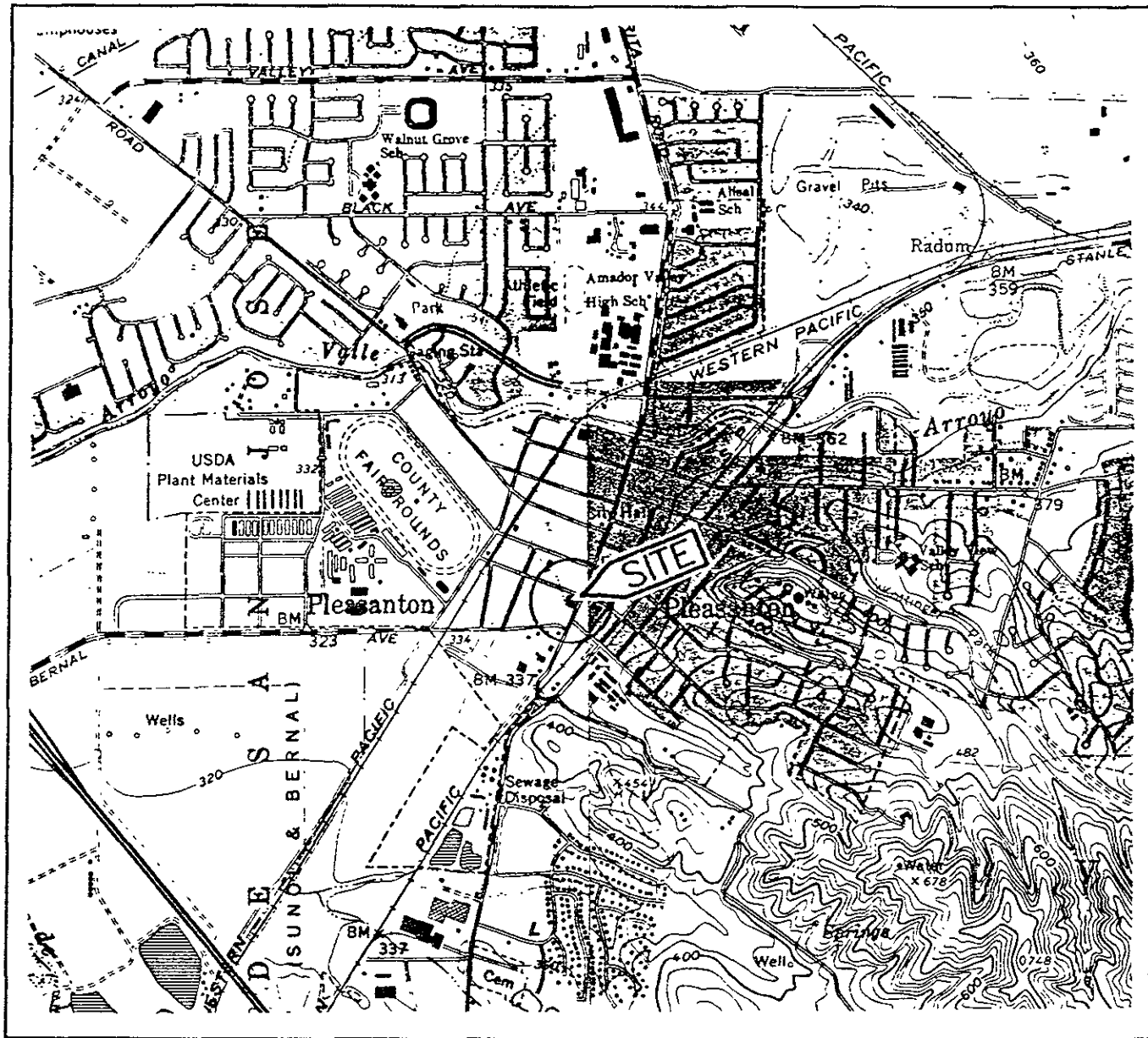
RESNA Industries Inc. March 30, 1992. Letter Report Fourth Quarter 1991 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.03.

RESNA Industries Inc. May 28, 1992. Letter Report First Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.05.

RESNA Industries Inc. September 10, 1992. Letter Report Second Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.05.

RESNA Industries Inc. November 30, 1992. Letter Report Third Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.05.

RESNA Industries Inc. February 2, 1993. Letter Report Fourth Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-7003, 349 Main Street, Pleasanton, California. Job No. 19025.05.

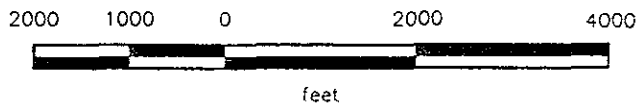


Base: U.S. Geological Survey  
 7.5-Minute Quadrangles  
 Dublin/Livermore, California.  
 Photorevised 1980

**LEGEND**

● = Site Location

Approximate Scale



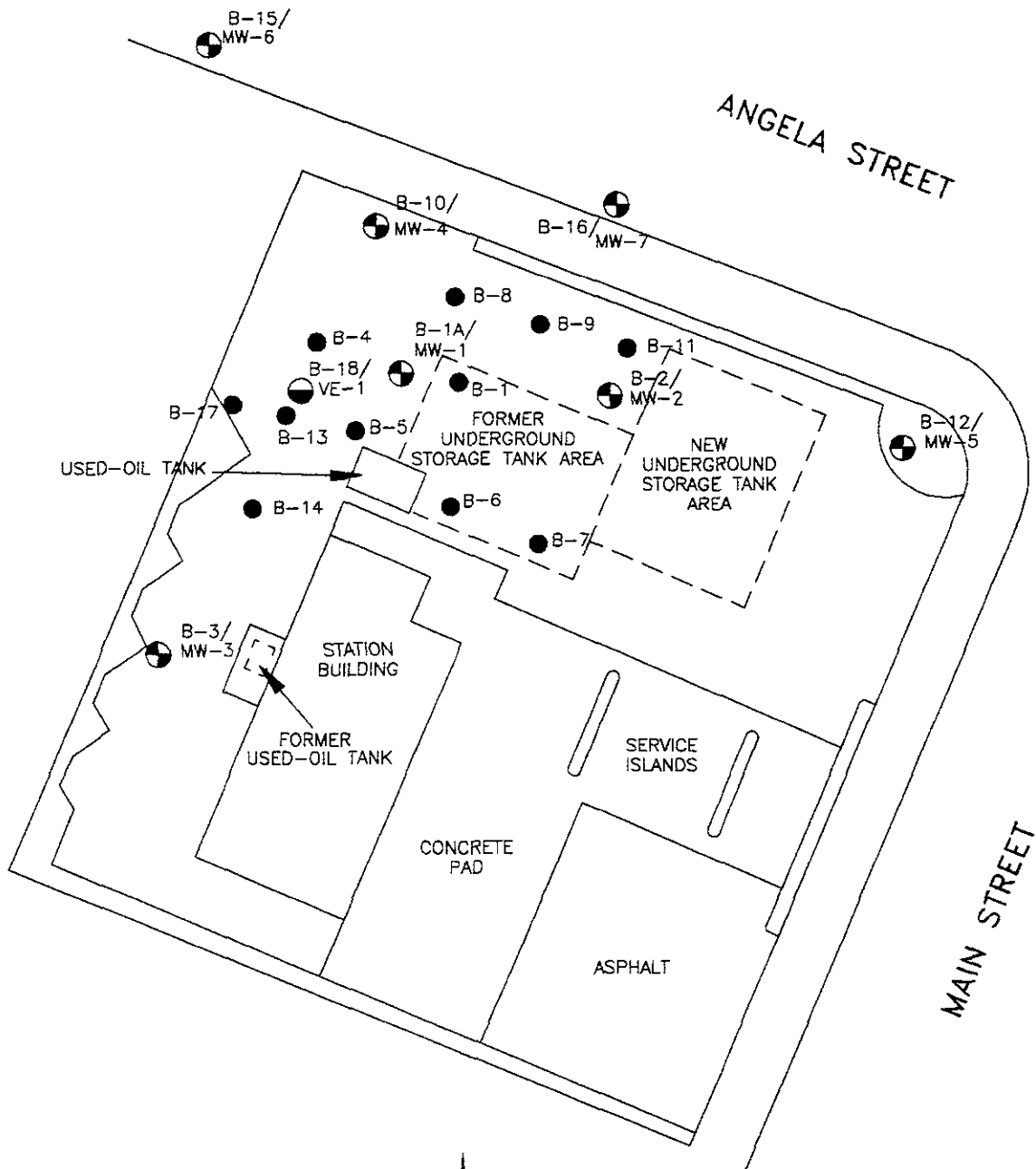
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**SITE VICINITY MAP**  
 Exxon Station 7-7003  
 349 Main Street  
 Pleasanton, California

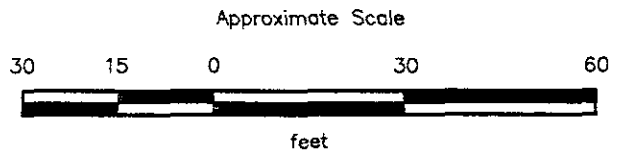
**PLATE**

**1**



EXPLANATION

- B-17 ● = Soil boring
- B-16/  
MW-7 ⊕ = Monitoring well
- B-18/  
VE-1 ⊕ = Vapor extraction well



Source: Surveyed by Ron Archer Civil Engineer, Inc.,  
June 1990 and April 1991.

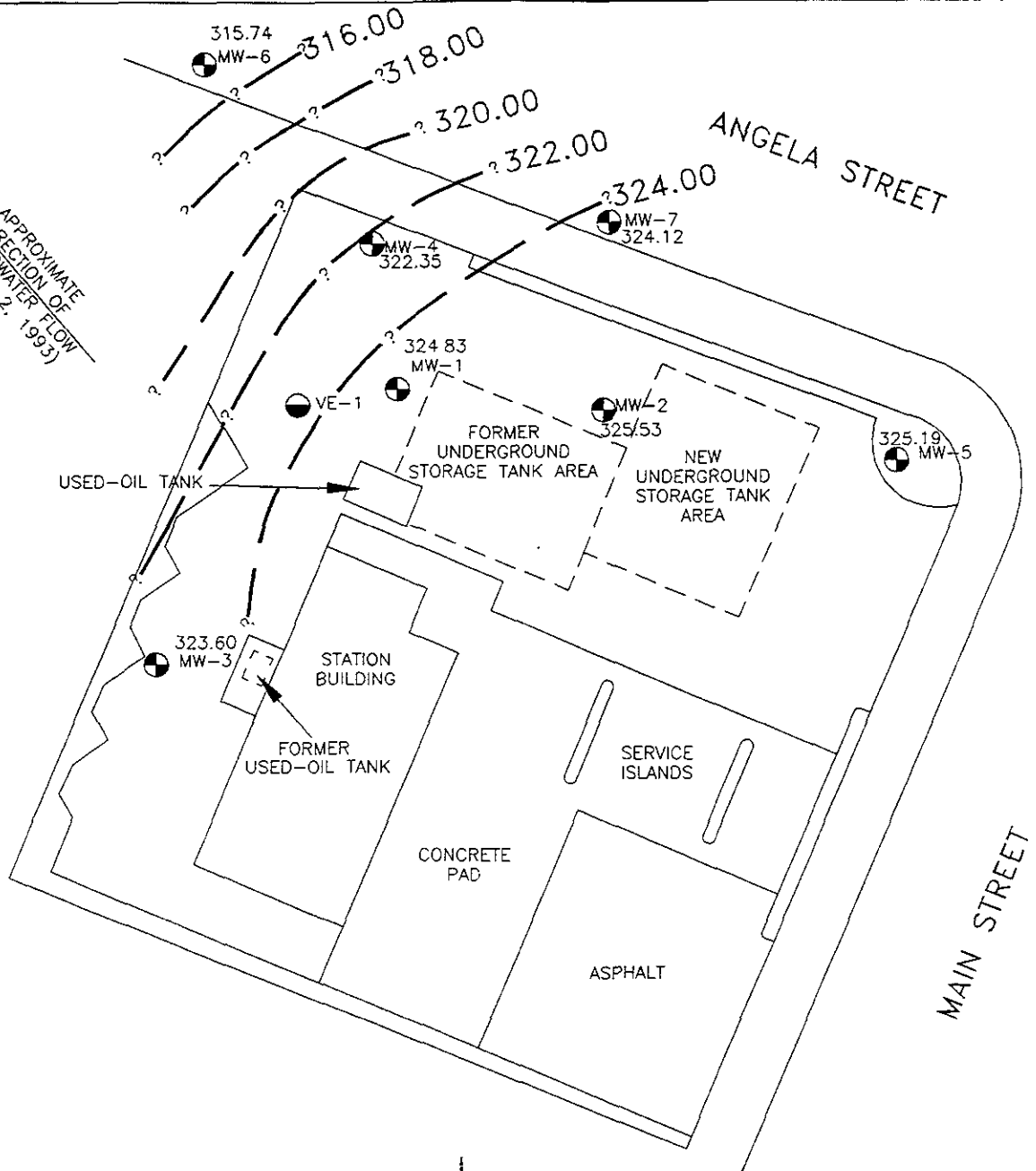
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**GENERALIZED SITE PLAN**  
**Exxon Station 7-7003**  
**349 Main Street**  
**Pleasanton, California**



**PLATE**  
**2**

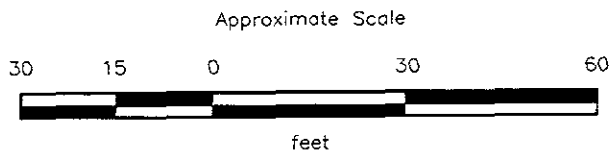
**PROJECT 130015.01**

APPROXIMATE  
DIRECTION OF  
GROUNDWATER FLOW  
(February 2, 1993)



**EXPLANATION**

- 324.00 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 325.53 = Elevation of groundwater in feet above MSL, February 2, 1993
- MW-7  = Monitoring well
- VE-1  = Vapor extraction well



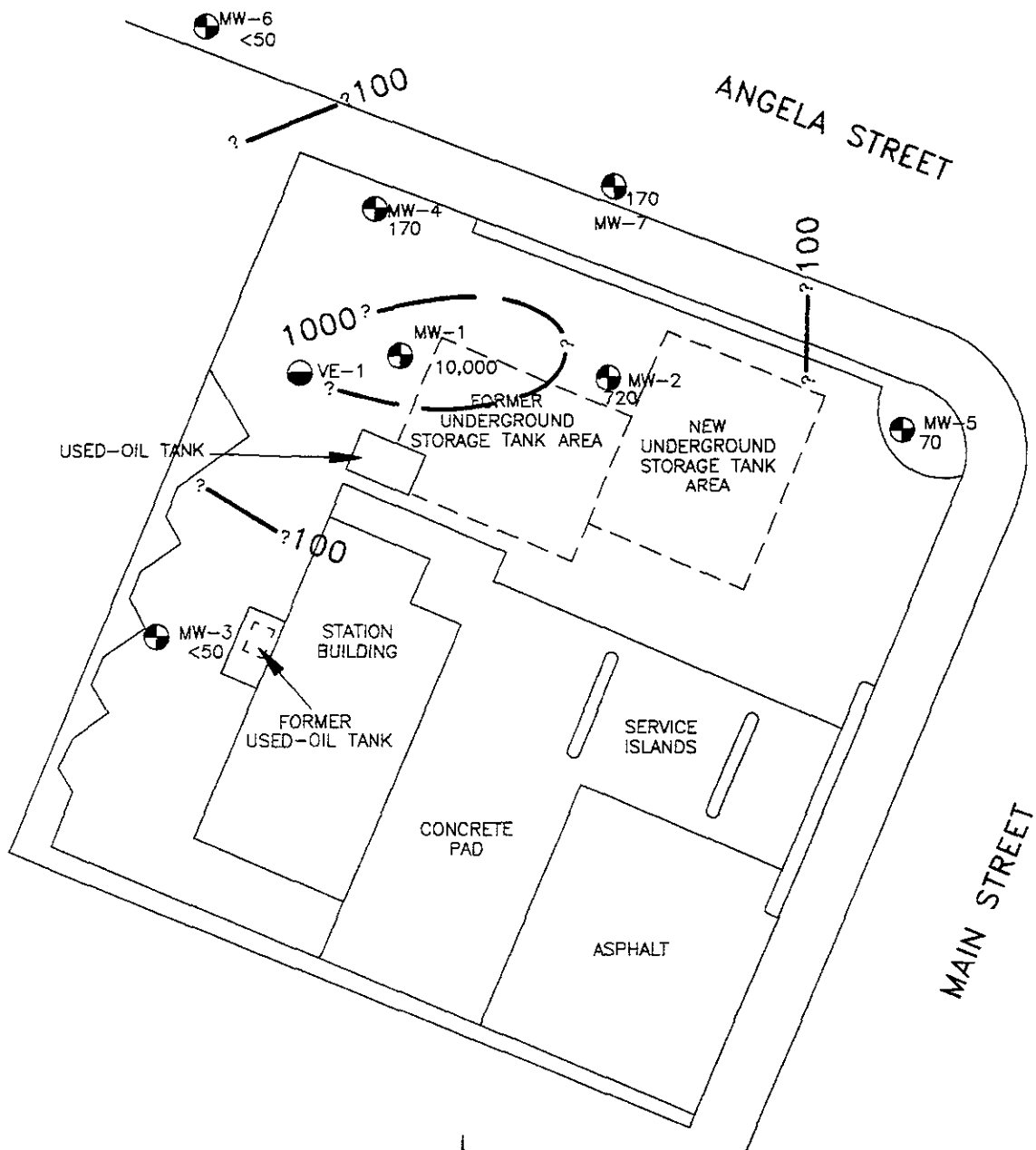
Source: Surveyed by Ron Archer Civil Engineer, Inc., June 1990 and April 1991.



**GROUNDWATER GRADIENT MAP**  
**Exxon Station 7-7003**  
**349 Main Street**  
**Pleasanton, California**

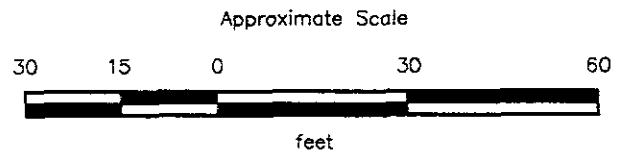
**PLATE**  
**3**

**PROJECT 130015.01**



**EXPLANATION**

- 1000 = Line of equal concentration of TPHg in groundwater in parts per billion (ppb)
- 10,000 = Concentration of benzene in groundwater in ppb, February 3, 1993
- MW-7 = Monitoring well
- VE-1 = Vapor extraction well



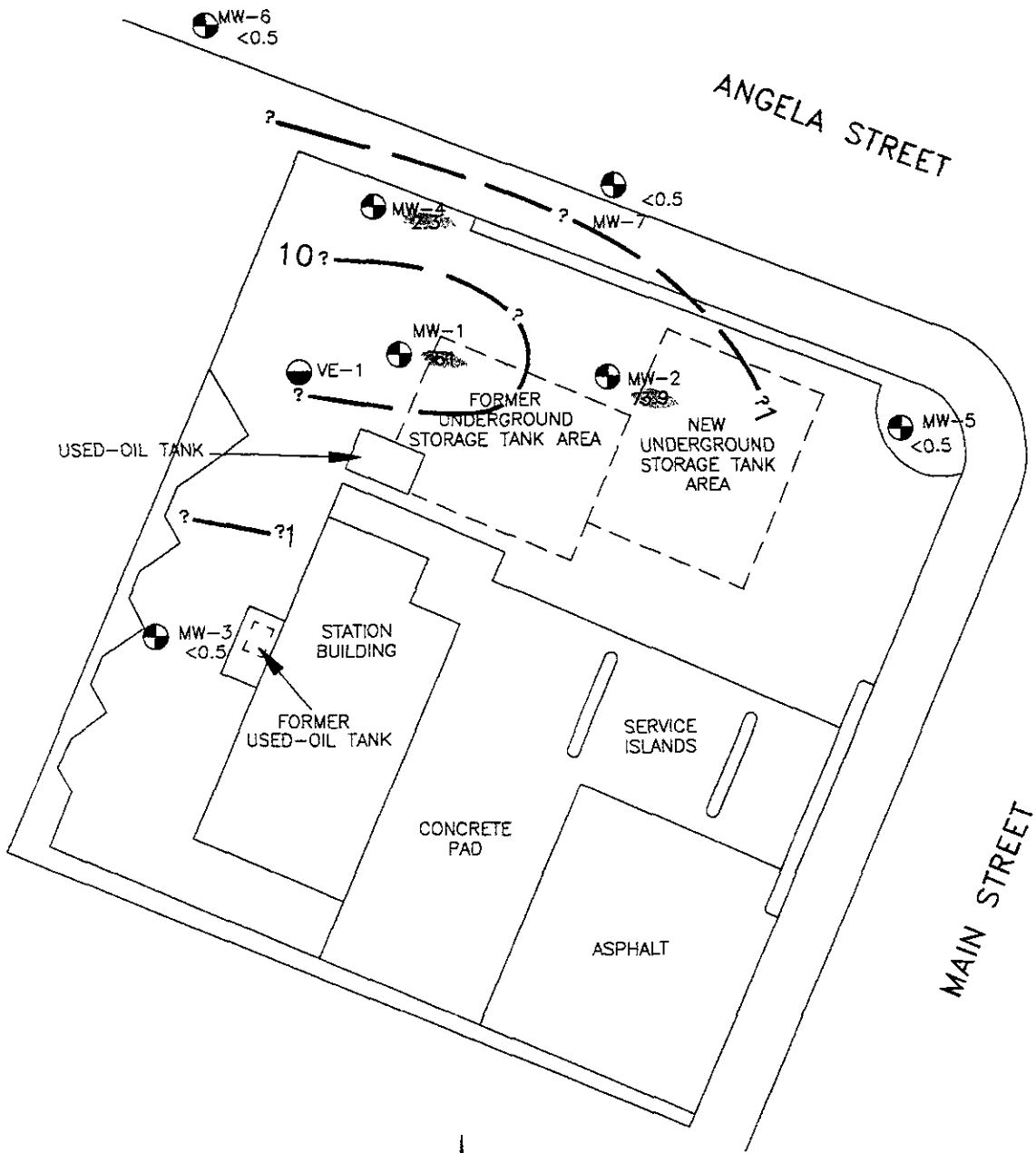
Source: Surveyed by Ron Archer Civil Engineer, Inc., June 1990 and April 1991.

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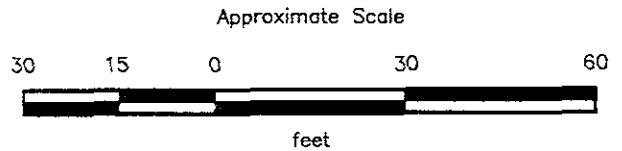
**TPHg CONCENTRATIONS  
IN GROUNDWATER  
Exxon Station 7-7003  
349 Main Street  
Pleasanton, California**

**PLATE  
4**



**EXPLANATION**

- 10 = Line of equal concentration of benzene in groundwater in parts per billion (ppb)
- 61 = Concentration of benzene in groundwater in ppb, February 3, 1993
- MW-7 = Monitoring well
- VE-1 = Vapor extraction well



Source: Surveyed by Ron Archer Civil Engineer, Inc., June 1990 and April 1991.

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**BENZENE CONCENTRATIONS  
IN GROUNDWATER  
Exxon Station 7-7003  
349 Main Street  
Pleasanton, California**

**PLATE  
5**

**PROJECT 130015.01**

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

March 25, 1993  
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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Exxon Station 7-7003  
Pleasanton, California  
Page 1 of 4  
(See notes on page 4)

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-1	02/23/90	343.83	26.08	317.75	None
	06/15/90		26.49	317.34	None
	08/90		26.47	317.36	None
	12/18/90		28.00	315.83	None
	03/19/91		23.63	320.20	None
	06/27/91		22.11	321.72	None
	09/26/91		27.75	316.08	None
	01/10/92		25.61	318.22	None
	03/12/92		22.52	321.31	None
	06/09/92		21.53	322.30	None
	09/28/92		29.84	313.99	None
	12/12/92		23.86	319.97	None
	02/02/93		19.00	324.83	None
MW-2	02/23/90	344.22	26.31	317.91	None
	06/15/90		26.25	317.97	None
	08/90		26.15	318.07	None
	12/18/90		27.94	316.28	None
	03/19/91		23.41	320.81	None
	06/27/91		21.63	322.59	None
	09/26/91		27.19	317.03	None
	01/10/92		25.67	318.55	None
	03/12/92		22.28	321.94	None



Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Exxon Station 7-7003  
Pleasanton, California  
Page 2 of 4  
(See notes on page 4)

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-2	06/09/92		21.17	323.05	None
cont.	09/28/92		29.58	314.64	None
	12/12/92			Not Measured	
	02/02/93		18.69	325.53	None
MW-3	02/23/90	342.90	24.78	318.12	None
	06/15/90		25.29	317.61	None
	08/90		25.40	317.50	None
	12/18/90		26.84	316.06	None
	03/19/91		22.13	320.77	None
	06/27/91		21.04	321.86	None
	09/26/91		26.63	316.27	None
	01/10/92		24.26	318.64	None
	03/12/92		21.60	321.30	None
	06/09/92		20.88	322.02	None
	09/28/92		28.67	314.23	None
	12/12/92		20.73	322.17	None
	02/02/93		19.30	323.60	None
MW-4	06/15/90	343.38	30.94	312.44	None
	08/90		31.21	312.17	None
	12/18/90		32.86	310.52	None
	03/19/91		26.76	316.62	None
	06/27/91		25.91	317.47	None

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Exxon Station 7-7003  
Pleasanton, California  
Page 3 of 4  
(See notes on page 4)

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-4 cont.	09/26/91		32.29	311.09	None
	01/10/92		29.06	314.32	None
	03/12/92		24.25	319.13	None
	06/09/92		25.00	318.38	None
	09/28/92		34.41	308.97	None
	12/12/92		30.77	312.61	None
	02/02/93		21.03	322.35	None
MW-5	06/15/90	345.20	26.94	318.26	None
	08/90		26.90	318.30	None
	12/18/90		28.31	316.89	None
	03/19/91		23.98	321.22	None
	06/27/91		22.41	322.79	None
	09/26/91		27.77	317.43	None
	01/10/92		26.38	318.82	None
	03/12/92		22.08	323.12	None
	06/09/92		31.98	313.22	None
	09/28/92		30.26	314.94	None
	12/12/92		27.20	318.00	None
02/02/93		20.01	325.19	None	
MW-6	03/19/91	342.25	34.42	307.83	None
	06/27/91		35.01	307.24	None
	09/26/91		40.34	301.91	None

Quarterly Groundwater Monitoring  
Exxon Station 7-7003, Pleasanton, California

March 25, 1993  
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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Exxon Station 7-7003  
Pleasanton, California  
Page 4 of 4  
(See notes on page 4)

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-6 cont.	01/10/92		36.20	306.05	None
	03/12/92		31.95	310.30	None
	06/09/92		33.22	309.03	None
	09/28/92		40.96	301.29	None
	12/12/92		39.07	303.18	None
	02/02/93		26.51	315.74	None
MW-7	03/19/91	343.62	24.68	318.94	None
	06/27/91		23.10	320.52	None
	09/26/91			Not Measured	
	01/10/92		26.98	316.64	None
	03/12/92		21.86	321.76	None
	06/09/92		22.32	321.30	None
	09/28/92		31.92	311.70	None
	12/12/92		28.80	314.82	None
	02/02/93		19.50	324.12	None
VE-1	09/28/92	343.38	31.92	311.46	None
	12/12/92			Not Measured	
	02/02/93			Not Measured	

Elevation relative to Mean Sea Level (MSL).  
Measurements in feet.  
Surveyed by Ron Archer Civil Engineer, Inc.

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
Pleasanton, California

Page 1 of 8

(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-1	02/23/90	3300	21	9.2	59	19	0.1	NA	NA
	06/15/90	1300	7.9	5.9	32	58	<0.05	NA	NA
	08/90	2500	77	280	50	250	<0.05	NA	NA
	12/18/90	390	9	2	43	400	<0.1	NA	NA
	03/19/91	4500	45	12	240	300	<0.1	NA	12.0 <sup>1</sup>
	06/27/91	710	5.4	2.6	29	34	<0.1	NA	ND
	09/26/91	290	1.9	<0.5	0.6	0.6	<0.1	NA	ND
	01/10/92	5400	52	15	690	496	<0.1	NA	6.1 <sup>1</sup>
	03/13/92	1400	87	22	1200	1000	NA	NA	2.1 <sup>5</sup>
	06/09/92	4500	27	5.9	400	300	<0.1	<5.0	14 <sup>1</sup> 1.2 <sup>4</sup> 0.5 <sup>6</sup> 0.8 <sup>3</sup> ND

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
Pleasanton, California  
Page 2 of 8  
(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-1	09/29/92	60	<0.5	0.9	<0.5	<0.5	NA	<5.0	ND
cont.	12/12/92	1400	53	18	1100	570	NA	<5.0	49 <sup>1</sup>
	02/03/93	10,000	61	27	900	840	NA	<5.0	2.2 <sup>5</sup>
	02/03/93								19 <sup>1</sup>
									1.1 <sup>6</sup>
									2.4 <sup>3</sup>
MW-2	02/23/90	650	3	2	0.98	6.5	0.008	NA	NA
	06/15/90	670	<0.5	2.6	<0.5	<0.5	<0.05	NA	NA
	08/90	1300	24	130	37	170	<0.05	NA	NA
	12/18/90	470	<0.3	0.5	1	3	<0.1	NA	NA
	03/19/91	700	10	3.4	6.1	3.8	<0.1	NA	ND
	06/27/91	1400	8.7	2.1	8.8	33	<0.1	NA	ND
	09/26/91	300	<0.5	0.6	0.6	3.9	<0.1	NA	ND
	01/10/92	800	9.3	1.0	2.4	3.2	<0.1	NA	ND

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
Pleasanton, California

Page 1 of 8

(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-1	02/23/90	3300	21	9.2	59	19	0.1	NA	NA
	06/15/90	1300	7.9	5.9	32	58	<0.05	NA	NA
	08/90	2500	77	280	50	250	<0.05	NA	NA
	12/18/90	390	9	2	43	400	<0.1	NA	NA
	03/19/91	4500	45	12	240	300	<0.1	NA	12.0 <sup>1</sup>
	06/27/91	710	5.4	2.6	29	34	<0.1	NA	ND
	09/26/91	290	1.9	<0.5	0.6	0.6	<0.1	NA	ND
	01/10/92	5400	52	15	690	496	<0.1	NA	6.1 <sup>1</sup>
	03/13/92	1400	87	22	1200	1000	NA	NA	2.1 <sup>5</sup>
	06/09/92	4500	27	5.9	400	300	<0.1	<5.0	14 <sup>1</sup> 1.2 <sup>4</sup> 0.5 <sup>6</sup> 0.8 <sup>3</sup> ND

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
Pleasanton, California  
Page 3 of 8  
(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-2	03/13/92	350	<0.5	0.6	.63	1.0		NA	ND
cont.	06/09/92	150	1.9	2.5	2.51	5.1	<0.1	NA	ND
	09/29/92	71	<0.5	<0.5	<0.5	<0.5	NA	NA	ND
	12/12/92				Not Sampled				
	02/03/93	720	3.9	8.2	21	20	NA	NA	NA
MW-3	02/23/90	<20	<0.5	<0.5	<0.5	<0.5	0.01	NA	NA
	06/15/90	200	<0.5	<0.5	<0.5	<0.5	<0.05	NA	NA
	08/90	3200	54	380	23	400	<0.05	NA	NA
	12/18/90	200	8	12	6	24	<0.1	<5.0	4.1 <sup>3</sup>
	03/19/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	06/27/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	09/26/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	01/10/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	5.1	ND
	03/13/92	<50	<0.5	<0.5	<0.5	<0.5	NA	5.0	ND

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
Pleasanton, California  
Page 3 of 8  
(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-2	03/13/92	350	<0.5	0.6	.63	1.0		NA	ND
cont.	06/09/92	150	1.9	2.5	2.51	5.1	<0.1	NA	ND
	09/29/92	71	<0.5	<0.5	<0.5	<0.5	NA	NA	ND
	12/12/92				Not Sampled				
	02/03/93	720	3.9	8.2	21	20	NA	NA	NA
MW-3	02/23/90	<20	<0.5	<0.5	<0.5	<0.5	0.01	NA	NA
	06/15/90	200	<0.5	<0.5	<0.5	<0.5	<0.05	NA	NA
	08/90	3200	54	380	23	400	<0.05	NA	NA
	12/18/90	200	8	12	6	24	<0.1	<5.0	4.1 <sup>3</sup>
	03/19/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	06/27/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	09/26/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
	01/10/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	5.1	ND
	03/13/92	<50	<0.5	<0.5	<0.5	<0.5	NA	5.0	ND



TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Exxon Station 7-7003  
Pleasanton, California  
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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-3	06/09/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	<5.0	ND
cont.	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	NA	<5.0	ND
	12/12/92	<50	<0.5	<0.5	<0.5	1.3	NA	<5.0	NA
	02/03/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<5.0	NA
MW-4	06/15/90	<20	<0.5	<0.5	<0.5	<0.5	<0.05	NA	NA
	08/90	120	5.2	5.4	5.4	9.9	<0.05	NA	NA
	12/18/90	50	7	1	<0.3	2	<0.1	NA	NA
	03/19/91	160	1.8	0.8	2.2	11	<0.1	NA	ND
	06/27/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	09/26/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	1.0 <sup>4</sup>
	01/10/92	98	0.9	<0.5	7.6	4.4	<0.1	NA	1.0 <sup>4</sup>
	03/13/92	82	1.2	<0.5	5.3	4.3	NA	NA	ND
	06/09/92	<50	0.6	1.0	<0.5	2.5	<0.1	NA	0.7 <sup>4</sup>
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	ND

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Exxon Station 7-7003  
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(See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-4	12/12/92	99	1.0	0.9	7.0	11	NA	NA	ND
cont.	02/03/93	170	2.3	2.2	6.2	8.4	NA	NA	ND
MW-5	06/15/90	<20	<0.5	<0.5	<0.5	<0.5	0.06	NA	NA
	08/90	120	9.7	12	7.6	17	<0.05	NA	NA
	12/18/90	50	2	3.5	2	8	<0.1	NA	NA
	03/19/91	160	<0.5	<0.5	<0.5	<0.5	<0.1	NA	0.5 <sup>1</sup> 1.0 <sup>2</sup>
	06/27/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	09/26/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	01/10/92	98	<0.5	<0.5	<0.5	0.6	<0.1	NA	ND
	03/13/92	82	<0.5	<0.5	<0.5	<0.5		NA	ND
	06/09/92				Not Sampled				
	09/29/92	<50		<0.5	<0.5	<0.5	NA	NA	ND
	12/12/92	210	0.9	11	0.5	3.1	NA	NA	NA
	02/03/93	70	<0.5	2.7	<0.5	0.9	NA	NA	NA

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Exxon Station 7-7003  
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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-6	03/19/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	06/27/91	<50	2.6	1.8	0.8	<0.30	<0.1	NA	ND
	09/26/91	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	01/10/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	03/13/92	<50	<0.5	<0.5	NS	NS		NA	ND
	06/09/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	09/29/92	<50	<0.5	<0.5	0.9	0.9	NA	NA	ND
	12/12/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	02/02/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW-7	03/19/91	140	<0.5	<0.5	<0.5	<0.5	<0.1	NA	0.7 <sup>1</sup> 0.8 <sup>2</sup>
	06/27/91	100	5.2	5.6	3.9	16	<0.1	NA	ND
	09/26/91				Not Sampled				
	01/10/92	<50	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND

TABLE 2  
 CUMULATIVE RESULTS OF LABORATORY ANALYSES  
 OF GROUNDWATER SAMPLES  
 Exxon Station 7-7003  
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 (See notes on page 8)

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	LEAD (ppm)	TOG (ppm)	VOC
MW-7	03/13/92	120	<0.5	<0.5	<0.5	<0.5		NA	ND
cont.	06/09/92	81	<0.5	<0.5	<0.5	<0.5	<0.1	NA	ND
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	ND
	12/12/92	200	5.1	6.9	3.3	19	NA	NA	NA
	02/03/93	170	<0.5	6.6	0.6	1.7	NA	NA	NA
	MCLs	---	1.0	---	680	1,750	---	---	---
	DWAL	---	---	100	---	---	---	---	---

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES

Exxon Station 7-7003  
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Results in parts per billion (ppb) except TOG and lead.

ppm	:	parts per million
<	:	Less than the laboratory detection limit.
NA	:	Not Analyzed
ND	:	Compounds not detected. See laboratory analysis reports for individual detection limits.
--	:	Not Applicable
TPHg	:	Total petroleum hydrocarbons as gasoline analyzed using modified EPA method 5030/8015.
BTEX	:	Analyzed using modified EPA method 5030/8020.
TOG	:	Total oil and grease analyzed using EPA Standard Method 5520.
VOC	:	Volatile Organic Compounds analyzed using EPA method 8010.
1	:	Chloroform
2	:	Bromodichloromethane
3	:	Tetrachloroethene
4	:	1,2-Dichloroethane
5	:	Methylene Chloride
6	:	Trichloroethene
MCLs	:	Maximum Contaminant Levels, DHS (October 1990).
DWAL	:	Drinking Water Action Level, DHS (October 1990).

**APPENDIX A**

**GROUNDWATER SAMPLING PROTOCOL  
AND WELL PURGE DATA SHEETS**

### GROUNDWATER SAMPLING PROTOCOL

The static water level and free-phase hydrocarbons level, if present, in each well that contained water and/or free-phase hydrocarbons are measured with an ORS Interphase 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]).

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 floating hydrocarbon product or sheen. Any free-phase hydrocarbons 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 is obtained. Approximately four well casing volumes are purged before those characteristics stabilize. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". Turbidity measurements are also collected from the purged well water. 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 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 were collected with an Environmental Protection Agency (EPA) approved Teflon® sampler which has been cleaned with Alconox® and deionized water. The groundwater was 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

Quarterly Groundwater Monitoring  
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March 25, 1993  
130015.01

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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 form, to a California-certified laboratory.



WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

Job No. 130015.01

Date: February 3, 1993

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Well No. MW-1

Time started 4:02

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
4:02	Start purging MW-1				
4:09	13	64.0	7.44	1.19	3.7
4:15	26	65.4	7.10	1.12	1.1
4:23	39	65.9	7.01	1.16	3.9
4:30	52	63.0	6.92	1.12	2.6
4:30	Stop purging MW-1				
Notes:					
Well Diameter (inches) : 4					
Depth to Bottom (feet) : 39.00					
Depth to Water - initial (feet) (2/2/93) : 19.00					
Depth to Water - final (feet) : 19.00					
% recovery : 100					
Time Sampled : 2:45					
Gallons per Well Casing Volume : 13.06					
Gallons Purged : 52					
Well Casing Volume Purged : 3.98					
Approximate Pumping Rate (gpm) : 1.86					

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Date: February 3, 1993

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Well No. MW-2

Time Started 11:35

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
11:35	Start purging MW-2				
11:42	14	60.1	7.48	1.22	2.4
11:49	28	63.9	7.12	1.21	4.3
11:56	42	62.9	7.07	1.20	7.6
12:03	56	62.4	6.97	1.21	5.3
12:03	Stop purging MW-2				
Notes:					
Well Diameter (inches) : 4					
Depth to Bottom (feet) : 39.10					
Depth to Water - initial (feet) (2/2/93) : 18.69					
Depth to Water - final (feet) : 18.69					
% recovery : 100					
Time Sampled : 12:15					
Gallons per Well Casing Volume : 13.33					
Gallons Purged : 56					
Well Casing Volume Purged : 4.20					
Approximate Pumping Rate (gpm) : 2.00					

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Well No. MW-3

Time Started 2:18

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
2:18	Start purging MW-3				
2:24	13	63.4	7.37	5.70	2.1
2:31	26	64.8	7.08	5.60	19.0
2:37	39	64.8	6.90	6.00	20.3
2:43	52	64.1	6.94	6.00	56.5
2:43	Stop purging MW-3				

Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 38.85  
 Depth to Water - initial (feet) (2/2/93) : 19.30  
 Depth to Water - final (feet) : 18.65  
 % recovery : 103  
 Time Sampled : 3:00  
 Gallons per Well Casing Volume : 12.77  
 Gallons Purged : 52  
 Well Casing Volume Purged : 4.07  
 Approximate Pumping Rate (gpm) : 2.08

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Well No. MW-4

Time Started 12:34

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
12:34	Start purging MW-4				
12:40	17	62.9	7.37	1.15	2.0
12:46	35	64.5	7.02	1.13	5.6
12:48	41	Dry			
4:30	52	65.3	7.10	1.12	4.0
4:42	69	65.2	7.25	1.15	16.0
4:42	Stop purging MW-4				

Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 47.30  
 Depth to Water - initial (feet) (2/2/93) : 21.03  
 Depth to Water - final (feet) : 26.28  
 % recovery : 80  
 Time Sampled : 5:00  
 Gallons per Well Casing Volume : 17.13  
 Gallons Purged : 69  
 Well Casing Volume Purged : 4.03  
 Approximate Pumping Rate (gpm) : 0.28

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Well No. MW-5

Time Started 1:04

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
1:04	Start purging MW-5				
1:10	13	62.2	7.17	1.08	29.5
1:16	26	64.5	7.05	1.25	11.8
1:22	39	63.7	7.04	1.25	5.2
1:28	42	64.1	6.77	1.21	4.2
1:28	Stop purging MW-5				
Notes:					
Well Diameter (inches) : 4					
Depth to Bottom (feet) : 33.20					
Depth to Water - initial (feet) (2/2/93) : 20.01					
Depth to Water - final (feet) : 19.83					
% recovery : 101					
Time Sampled : 1:40					
Gallons per Well Casing Volume : 8.61					
Gallons Purged : 42					
Well Casing Volume Purged : 4.88					
Approximate Pumping Rate (gpm) : 1.75					

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Date: February 2, 1993

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Well No. MW-6

Time Started 3:13

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
3:13	Start purging MW-6				
3:20	20	62.9	8.17	0.99	1.7
3:27	40	64.3	8.34	1.02	2.9
3:34	60	63.2	7.17	1.02	1.7
3:41	80	63.9	6.99	1.01	2.3
3:41	Stop purging MW-6				

Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 58.00  
 Depth to Water - initial (feet) : 26.51  
 Depth to Water - final (feet) : 26.84  
 % recovery : 99  
 Time Sampled : 4:00  
 Gallons per Well Casing Volume : 20.56  
 Gallons Purged : 80  
 Well Casing Volume Purged : 3.89  
 Approximate Pumping Rate (gpm) : 2.86

WELL PURGE DATA SHEET

Project Name: Exxon 7-7003

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Date: February 3, 1993

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Well No. MW-7

Time Started 10:13

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
10:13	Start purging MW-7				
10:20	17	59.9	7.35	1.15	3.7
10:28	35	61.9	7.50	1.15	2.8
10:37	52	59.6	7.23	1.13	27.3
10:45	69	60.6	7.43	1.15	5.8
10:45	Stop purging MW-7				

Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 44.65  
 Depth to Water - initial (feet) (2/2/93) : 19.50  
 Depth to Water - final (feet) : 19.50  
 % recovery : 100  
 Time Sampled : 10:50  
 Gallons per Well Casing Volume : 16.42  
 Gallons Purged : 69  
 Well Casing Volume Purged : 4.20  
 Approximate Pumping Rate (gpm) : 2.16

**APPENDIX B**

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



**REPORT OF LABORATORY ANALYSIS**

February 11, 1993

FEB 11 1993

Mr. Dave Higgins  
Resna/Applied Geosystems  
3315 Almaden Expressway Suite 34  
San Jose, CA 95118

RE: PACE Project No. 430204.511  
Client Reference: Exxon 7-7003 (EE)

Dear Mr. Higgins:

Enclosed is the report of laboratory analyses for samples received February 04, 1993.

Footnotes are given at the end of the report.

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

Sincerely,

*Stephanie Matzo*

Stephanie Matzo  
Project Manager

Enclosures

**REPORT OF LABORATORY ANALYSIS**

Resna/Applied Geosystems  
3315 Almaden Expressway Suite 34  
San Jose, CA 95118

February 11, 1993  
PACE Project Number: 430204511

Attn: Mr. Dave Higgins

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004632  
Date Collected: 02/03/93  
Date Received: 02/04/93

Parameter	Units	MDL	MW1	DATE ANALYZED
<u>ORGANIC ANALYSIS</u>				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	10000	02/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/08/93
Benzene	ug/L	0.5	61	02/08/93
Toluene	ug/L	0.5	27	02/08/93
Ethylbenzene	ug/L	0.5	900	02/08/93
Xylenes, Total	ug/L	0.5	840	02/08/93
HALOGENATED VOLATILE COMPOUNDS EPA 8010				
Dichlorodifluoromethane	ug/L	2.0	ND	02/08/93
Chloromethane	ug/L	2.0	ND	02/08/93
Vinyl Chloride	ug/L	2.0	ND	02/08/93
Bromomethane	ug/L	2.0	ND	02/08/93
Chloroethane	ug/L	2.0	ND	02/08/93
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	02/08/93
1,1-Dichloroethene	ug/L	0.5	ND	02/08/93
Methylene Chloride	ug/L	2.0	2.2	02/08/93
trans-1,2-Dichloroethene	ug/L	0.5	ND	02/08/93
cis-1,2-Dichloroethene	ug/L	0.5	ND	02/08/93
1,1-Dichloroethane	ug/L	0.5	ND	02/08/93
Chloroform	ug/L	0.5	19	02/08/93
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	02/08/93
Carbon Tetrachloride	ug/L	0.5	ND	02/08/93
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	02/08/93
Trichloroethene (TCE)	ug/L	0.5	1.1	02/08/93
1,2-Dichloropropane	ug/L	0.5	ND	02/08/93
Bromodichloromethane	ug/L	0.5	ND	02/08/93
2-Chloroethylvinyl ether	ug/L	0.5	ND	02/08/93
cis-1,3-Dichloropropene	ug/L	0.5	ND	02/08/93

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004632  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW1

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>MW1</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

HALOGENATED VOLATILE COMPOUNDS EPA 8010

trans-1,3-Dichloropropene	ug/L	0.5	ND	02/08/93
1,1,2-Trichloroethane	ug/L	0.5	ND	02/08/93
Tetrachloroethene	ug/L	0.5	2.4	02/08/93
Dibromochloromethane	ug/L	0.5	ND	02/08/93
Chlorobenzene	ug/L	0.5	ND	02/08/93
Bromoform	ug/L	0.5	ND	02/08/93
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	02/08/93
1,3-Dichlorobenzene	ug/L	0.5	ND	02/08/93
1,4-Dichlorobenzene	ug/L	0.5	ND	02/08/93
1,2-Dichlorobenzene	ug/L	0.5	ND	02/08/93
Bromochloromethane (Surrogate Recovery)			105%	02/08/93
1,4-Dichlorobutane (Surrogate Recovery)			102%	02/08/93

OIL AND GREASE, SILICA GEL (LUFT)

Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND	02/09/93
Date Extracted			02/09/93	

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004640  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW2

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

<u>PURGEABLE FUELS AND AROMATICS</u>			
TOTAL FUEL HYDROCARBONS, (LIGHT):		-	02/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	720
			02/08/93
<u>PURGEABLE AROMATICS (BTXE BY EPA 8020M):</u>			
Benzene	ug/L	0.5	3.9
			02/08/93
Toluene	ug/L	0.5	8.2
			02/08/93
Ethylbenzene	ug/L	0.5	21
			02/08/93
Xylenes, Total	ug/L	0.5	20
			02/08/93

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004659  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW3

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

<u>PURGEABLE FUELS AND AROMATICS</u>				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	02/08/93
<u>PURGEABLE AROMATICS (BTXE BY EPA 8020M):</u>				
Benzene	ug/L	0.5	ND	02/08/93
Toluene	ug/L	0.5	ND	02/08/93
Ethylbenzene	ug/L	0.5	ND	02/08/93
Xylenes, Total	ug/L	0.5	ND	02/08/93
<u>OIL AND GREASE, SILICA GEL (LUFT)</u>				
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND	02/09/93
Date Extracted			02/09/93	

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004667  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW4

<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):			-	02/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	170	02/08/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/08/93
Benzene	ug/L	0.5	2.3	02/08/93
Toluene	ug/L	0.5	2.2	02/08/93
Ethylbenzene	ug/L	0.5	6.2	02/08/93
Xylenes, Total	ug/L	0.5	8.4	02/08/93

HALOGENATED VOLATILE COMPOUNDS EPA 8010

Dichlorodifluoromethane	ug/L	2.0	ND	02/08/93
Chloromethane	ug/L	2.0	ND	02/08/93
Vinyl Chloride	ug/L	2.0	ND	02/08/93
Bromomethane	ug/L	2.0	ND	02/08/93
Chloroethane	ug/L	2.0	ND	02/08/93
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	02/08/93
1,1-Dichloroethene	ug/L	0.5	ND	02/08/93
Methylene Chloride	ug/L	2.0	ND	02/08/93
trans-1,2-Dichloroethene	ug/L	0.5	ND	02/08/93
cis-1,2-Dichloroethene	ug/L	0.5	ND	02/08/93
1,1-Dichloroethane	ug/L	0.5	ND	02/08/93
Chloroform	ug/L	0.5	ND	02/08/93
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	02/08/93
Carbon Tetrachloride	ug/L	0.5	ND	02/08/93
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	02/08/93
Trichloroethene (TCE)	ug/L	0.5	ND	02/08/93
1,2-Dichloropropane	ug/L	0.5	ND	02/08/93
Bromodichloromethane	ug/L	0.5	ND	02/08/93
2-Chloroethylvinyl ether	ug/L	0.5	ND	02/08/93
cis-1,3-Dichloropropene	ug/L	0.5	ND	02/08/93
trans-1,3-Dichloropropene	ug/L	0.5	ND	02/08/93
1,1,2-Trichloroethane	ug/L	0.5	ND	02/08/93
Tetrachloroethene	ug/L	0.5	ND	02/08/93

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004667  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW4

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

HALOGENATED VOLATILE COMPOUNDS EPA 8010

Dibromochloromethane	ug/L	0.5	ND	02/08/93
Chlorobenzene	ug/L	0.5	ND	02/08/93
Bromoform	ug/L	0.5	ND	02/08/93
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	02/08/93
1,3-Dichlorobenzene	ug/L	0.5	ND	02/08/93
1,4-Dichlorobenzene	ug/L	0.5	ND	02/08/93
1,2-Dichlorobenzene	ug/L	0.5	ND	02/08/93
Bromochloromethane (Surrogate Recovery)			95%	02/08/93
1,4-Dichlorobutane (Surrogate Recovery)			103%	02/08/93

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004675  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW5

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

<u>PURGEABLE FUELS AND AROMATICS</u>			
TOTAL FUEL HYDROCARBONS, (LIGHT):			02/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	02/08/93
<u>PURGEABLE AROMATICS (BTXE BY EPA 8020M):</u>			02/08/93
Benzene	ug/L	0.5	02/08/93
Toluene	ug/L	0.5	02/08/93
Ethylbenzene	ug/L	0.5	02/08/93
Xylenes, Total	ug/L	0.5	02/08/93



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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004683  
 Date Collected: 02/02/93  
 Date Received: 02/04/93  
 Client Sample ID: MW6

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

<u>PURGEABLE FUELS AND AROMATICS</u>			
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

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004691  
 Date Collected: 02/03/93  
 Date Received: 02/04/93  
 Client Sample ID: MW7

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>MW7</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

<u>PURGEABLE FUELS AND AROMATICS</u>				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/08/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	170	02/08/93
<u>PURGEABLE AROMATICS (BTXE BY EPA 8020M):</u>				
Benzene	ug/L	0.5	ND	02/08/93
Toluene	ug/L	0.5	6.6	02/08/93
Ethylbenzene	ug/L	0.5	0.6	02/08/93
Xylenes, Total	ug/L	0.5	1.7	02/08/93

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

PACE Sample Number: 70 0004705  
 Date Collected: 02/02/93  
 Date Received: 02/04/93  
 Client Sample ID: BB1

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

<u>PURGEABLE FUELS AND AROMATICS</u>			
TOTAL FUEL HYDROCARBONS, (LIGHT):			
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND 02/08/93
<u>PURGEABLE AROMATICS (BTXE BY EPA 8020M):</u>			
Benzene	ug/L	0.5	ND 02/08/93
Toluene	ug/L	0.5	ND 02/08/93
Ethylbenzene	ug/L	0.5	ND 02/08/93
Xylenes, Total	ug/L	0.5	ND 02/08/93

These data have been reviewed and are approved for release.

*Darrell Cain*  
 Darrell C. Cain  
 Regional Director



# REPORT OF LABORATORY ANALYSIS

Mr. Dave Higgins  
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FOOTNOTES  
for pages 1 through 10

February 11, 1993  
PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

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

Mr. Dave Higgins  
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QUALITY CONTROL DATA

February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

OIL AND GREASE, SILICA GEL (LUFT)  
 Batch: 70 18638  
 Samples: 70 0004632, 70 0004659

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	20	90%	90%	0%

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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QUALITY CONTROL DATA

February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

**PURGEABLE FUELS AND AROMATICS**

Batch: 70 18649  
 Samples: 70 0004632, 70 0004640, 70 0004659, 70 0004667, 70 0004675  
 70 0004691, 70 0004705

**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	93%	86%	7%
Benzene	ug/L	0.5	40.0	100%	97%	3%
Toluene	ug/L	0.5	40.0	99%	95%	4%
Ethylbenzene	ug/L	0.5	40.0	101%	97%	4%
Xylenes, Total	ug/L	0.5	120	103%	98%	4%

**REPORT OF LABORATORY ANALYSIS**

Mr. Dave Higgins  
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QUALITY CONTROL DATA

February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

**PURGEABLE FUELS AND AROMATICS**

Batch: 70 18659  
 Samples: 70 0004683

**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%	89%	6%
Benzene	ug/L	0.5	40.0	99%	100%	1%
Toluene	ug/L	0.5	40.0	98%	98%	0%
Ethylbenzene	ug/L	0.5	40.0	101%	100%	0%
Xylenes, Total	ug/L	0.5	120	102%	101%	0%

Mr. Dave Higgins  
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QUALITY CONTROL DATA

February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

**VOLATILE HALOCARBONS AND AROMATICS**

Batch: 70 18670  
 Samples: 70 0004632, 70 0004667

**METHOD BLANK:**

Parameter	Units	MDL	Method Blank
<b>VOLATILE HALOCARBONS BY EPA 8010</b>			
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)	ug/L	2.0	ND
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	ug/L	0.5	ND
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	ug/L	0.5	ND
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	ug/L	0.5	ND
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
Bromochloromethane (Surrogate Recovery)			98%



Mr. Dave Higgins  
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QUALITY CONTROL DATA

February 11, 1993  
 PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

VOLATILE HALOCARBONS AND AROMATICS  
 Batch: 70 18670  
 Samples: 70 0004632, 70 0004667

METHOD BLANK:

Parameter	Units	MDL	Method Blank
1,4-Dichlorobutane (Surrogate Recovery)			103%
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)			103%

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	95%	95%	0%
Trichloroethene (TCE)	ug/L	0.5	10.00	86%	85%	1%
trans-1,3-Dichloropropene	ug/L	0.5	3.8	106%	104%	1%
Tetrachloroethene	ug/L	0.5	10.00	109%	106%	2%
Benzene	ug/L	0.3	10.00	78%	77%	1%
Toluene	ug/L	0.3	10.00	87%	84%	3%
Xylenes, Total	ug/L	0.5	20.00	100%	98%	2%

Mr. Dave Higgins  
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FOOTNOTES  
for pages 12 through 16

February 11, 1993  
PACE Project Number: 430204511

Client Reference: Exxon 7-7003 (EE)

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



EXXON COMPANY, U.S.A.  
 P.O. Box 4415, Houston, TX 77210-4415  
**CHAIN OF CUSTODY**

480006511

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

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

Consultant's Name: RESNA Industries Inc. Page 1 of 1

Address: 3315 Almaden Expressway, Suite 31, San Jose 95118 Site Location: 399 Main St.

Project #: \_\_\_\_\_ Consultant Project # 130015.01 Consultant Work Release # UP3L02555

Project Contact: Dive Higgins Phone # (800) 926 0815 Fax # (408) 4A-2425 Laboratory Work Release # \_\_\_\_\_

EXXON Contact: Marla Gienster  EE  C&M Phone # (510) 216 8776 Fax # \_\_\_\_\_ EXXON RAS # 7 7103

Sampled by (print): Jennifer Chase Sampler's Signature: Jennifer Chase

Shipment Method: Courier 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  
*PACE Courier*

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	VOC	EPA 601/8010	OKg Lug RESNA (415-2-5413)								
MW1	2/3/93 <sup>16:45</sup>	IL/O	Y	7	463.2	X				X	X								
MW2	2/3/93 <sup>12:15</sup>			3	64.0														
MW3	2/3/93 <sup>15:00</sup>			4	65.9						X								
MW4	2/3/93 <sup>16:00</sup>			6	66.7					X									
MW5	2/3/93 <sup>13:40</sup>			3	67.5														
MW6	2/2/93 <sup>16:00</sup>			3	68.3														
MW7	2/3/93 <sup>10:50</sup>	↓	↓	3	69.1	↓													
BB1	2/2/93	↓	↓	3	70.5	↓													
10/Bottom D/Y																			

COMMENTS

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments
<u>Jennifer Chase</u>	<u>2/3/93</u>	<u>5:30 PM</u>	<u>[Signature]</u>	<u>2/4/93</u>	<u>1420</u>	
<u>[Signature]</u>	<u>2/4</u>	<u>1615</u>	<u>[Signature]</u>	<u>2/4/93</u>	<u>1615</u>	