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December 5, 1991
RESNA 19025-3

Mr. William Y. Wang
Exxon Company U.S.A.
2300 Clayton Road, Suite 1250
P.O. Box 4032
Concord, California 94520

Subject: Letter Report for Third Quarter 1991 Groundwater Monitoring at Exxon Service Station No. 7-7003, 349 Main Street, Pleasanton, California

References: 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.

State of California. May 1988. Leaking Underground Fuel Tank Field Manual. Leaking Underground Fuel Tank Task Force.

Dear Mr. Wang:

This letter report summarizes the third quarter 1991 groundwater monitoring for Exxon Service Station No. 7-7003. The Exxon site is located at 349 Main Street on the southwest corner of Angela and Main Streets in Pleasanton, California (Plate 1). Features of the site include a service station building and two service islands that dispense gasoline (Plate 2). The underground storage tanks (USTs) for gasoline are located northeast of the station building and a waste-oil UST is northwest of the station building.

Background

In June 1989, at the request of Exxon Company U.S.A. (Exxon), Applied GeoSystems (AGS) conducted a soil-vapor survey at the site prior to the removal and replacement of four USTs. In July 1989, Exxon removed three steel 8,000-gallon gasoline USTs and a waste-oil UST.

New fiberglass tanks were installed in August 1989. The current and former UST locations are shown on Plate 2. Soil samples collected in the northern part of the tank excavation by AGS indicated the presence of up to 150 parts per million (ppm) TPHg (AGS Report No. 19025-1, October 1, 1989).

Between January and June 1990, AGS drilled 13 boreholes around the former UST locations, installed groundwater monitoring wells MW-1 through MW-5 in five of the boreholes, and analyzed soil and groundwater samples on behalf of Exxon. The results of soil analyses indicated TPHg concentrations greater than 100 ppm southwest of the former fuel UST excavation. Laboratory analytical results also indicated groundwater below the site was affected by petroleum hydrocarbons (AGS Report No. 19025-2, August 1, 1990). During February and March 1991, AGS drilled 6 boreholes north and northwest of the former USTs and installed groundwater monitoring wells MW-6 and MW-7 (AGS Report No.19025-2, October 1991).

Current Field and Laboratory Activities

On September 26, 1991, an AGS representative measured depth to water and subjectively evaluated groundwater in six of the seven monitoring wells. ~~Well MW-7 was not accessible because an automobile was parked directly over the well.~~ Groundwater in each of the six wells was then purged and sampled for laboratory analysis. Field activities were conducted in accordance with the attached Field Procedures (Attachment I). Well purging data sheets are included as Attachment II.

Groundwater samples were submitted to Pace Incorporated in Novato, California. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified Environmental Protection Agency (EPA) Method 8015; in addition benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 602; purgeable halocarbons by EPA Method 601; and organic lead using the Leaking Underground Fuel Tank (LUFT) manual method (State of California, May 1988). Groundwater from well MW-3 was analyzed for total petroleum hydrocarbons as oil and grease (TOG) by Standard Method 5520B/F. The Chain of Custody Records and Analysis Reports are attached to this report (Attachment III).

Groundwater Gradient and Flow Direction

Depth to groundwater measurements and wellhead elevations were used to calculate the groundwater surface elevation in each well (Table 1). A plot of the groundwater surface elevation data indicates that groundwater below the site flows toward the northwest with a gradient of approximately 0.2 between MW-1 and MW-6 (Plate 2). Southeast of well MW-1 the northwest-ward gradient flattens to 0.044. The flow direction and gradients are consistent with the groundwater flow direction inferred from previous elevation data.

A hydrograph was prepared for wells MW-1 through MW-6 to show groundwater elevation differences in each well and to illustrate trends in the water level (Plate 3). The water level in wells MW-1 through MW-6 fell an average of 5.81 feet between June 1991 and September 1991, (Table 1). No floating product or sheen was observed on groundwater in wells MW-1 through MW-6 during the September 1991 visit. Cumulative results of subjective evaluations are presented in Table 1.

Analytical Results

In September 1991, concentrations of TPHg in the groundwater ranged from below the detection limit to 300 parts per billion (ppb). Benzene concentrations in the groundwater ranged from below the detection limit to 1.9 ppb. Overall, petroleum hydrocarbon concentrations decreased in the sampled wells. TPHg and BTEX decreased in wells MW-1 and MW-2 and remained non-detectable in wells MW-3, MW-4, and MW-5. Benzene, previously detected in well MW-6 in June 1991, was not detected during this sampling. These results are summarized in Table 2. Distribution of the TPHg and benzene concentrations for September 1991 are presented on Plates 4 and 5 respectively.

Laboratory analytical results show no detectable organic lead or VOCs in the groundwater samples from wells MW-1 through MW-6 (Table 3) with one exception. Well MW-4 was reported to contain 1.0 ppb 1,2-dichloroethane. Well MW-3 remained free of oil and grease concentrations.

Recommendations

RESNA Industries recommends continued quarterly monitoring of the groundwater in the wells. The next monitoring event is scheduled for December 1991. We also recommend that lead analyses be discontinued since no total lead or organic lead has been detected in groundwater at the site since March 1990.

RESNA/AGS recommends copies of this report be forwarded to:

- Mr. Lester Feldman, California Regional Water Quality Control Board, San Francisco Bay Region, 1800 Harrison Street, Suite 700, Oakland, California 94612; and
- Mr. Rick Mueller, Pleasanton Fire Department, 44 Railroad Street, Pleasanton, California 94566.



Please call if you have any questions.

Sincerely,
RESNA Industries

Britt Von Thaden
Britt Von Thaden
Project Geologist

Mark E. Detterman
Mark E. Detterman
Project Manager, R.G. 4799

Enclosures:

- Table 1, Cumulative results of Subjective Evaluations of Groundwater
- Table 2, Cumulative results of Groundwater Analysis for Gasoline Hydrocarbon Compounds
- Table 3, Cumulative results of Groundwater Analysis for Lead, TOG, and VOCs
- Plate 1, Site Vicinity Map
- Plate 2, Generalized Site Plan and Groundwater Elevation Map
- Plate 3, Hydrograph
- Plate 4, Concentration of TPHg in Groundwater (September 26, 1991)
- Plate 5, Concentration of Benzene in Groundwater (September 26, 1991)

Appendix A:

Field Procedures

Appendix B:

Well Purge Data Sheets

Appendix C:

Chain of Custody Records and Analysis Reports

TABLE 1
 CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS OF GROUNDWATER
 (page 1 of 2)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-1 (Wellhead Elevation = 343.83 ft)				
02/90	26.08	317.75	None	None
06/90	26.49	317.34	None	None
08/90	26.47	317.36	None	None
12/90	28.00	315.83	None	None
03/19/91	23.63	320.20	None	None
06/27/91	22.11	321.72	None	None
09/26/91	27.75	316.08	None	None
MW-2 (Wellhead Elevation = 344.22 ft)				
02/90	26.31	317.31	None	None
06/90	26.25	317.97	None	None
08/90	26.15	318.07	None	None
12/90	27.94	316.28	None	None
03/19/91	23.41	320.81	None	None
06/27/91	21.63	322.59	None	None
09/26/91	27.19	317.03	None	None
MW-3 (Wellhead Elevation = 342.90 ft)				
02/90	24.78	318.12	None	None
06/90	25.29	317.61	None	None
08/90	25.40	317.50	None	None
12/90	26.84	316.06	None	None
03/19/91	22.13	320.77	None	None
06/27/91	21.04	322.86	None	None
09/26/91	26.63	316.27	None	None
MW-4 (Wellhead Elevation = 343.38 ft)				
06/90	30.94	312.44	None	None
08/90	31.21	312.17	None	None
12/90	32.86	310.52	None	None
03/19/91	26.76	316.62	None	None
06/27/91	25.91	317.47	None	None
09/26/91	32.29	311.09	None	None
MW-5 (Wellhead Elevation = 345.20 ft)				
06/90	26.94	318.26	None	None
08/90	26.90	318.30	None	None
12/90	28.31	316.89	None	None
03/19/91	23.98	321.22	None	None
06/27/91	22.41	322.79	None	None
09/26/91	27.77	317.43	None	None

See notes on page 2 of 2

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS OF GROUNDWATER
(page 2 of 2)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-6 (Wellhead Elevation = 342.25 ft)				
03/19/91	34.42	307.83	None	None
06/27/91	35.01	307.24	None	None
09/26/91	40.34	301.91	None	None
MW-7 (Wellhead Elevation = 343.62 ft)				
03/19/91	24.68	318.94	None	None
06/27/91	23.10	320.52	None	None
09/26/91	Not accessible; covered by automobile			

Elevations relative to mean sea level datum. (Surveyed by Ron Archer Civil Engineer, Inc.)

TABLE 2
 CUMULATIVE RESULTS OF GROUNDWATER ANALYSES
 FOR GASOLINE HYDROCARBONS COMPOUNDS
 (Page 1 of 2)

Sample Number	Date	TPHg ppb	Benzene ppb	Toluene ppb	Ethyl- benzene ppb	Total Xylenes ppb
MW-1						
W-28-MW1	03/90	3,300	21	9.2	59	19
W-27-MW1	06/90	1,300	7.9	5.9	32	58
W-29-MW1	08/90	2,500	77	280	50	250
W-28-MW1	12/90	390	9	2	43	400
W-23-MW1	03/19/91	4,500	45	12	240	300
W-22-MW1	06/27/91	710	5.4	2.6	29	34
W-28-MW1	09/26/91	290	1.9	<0.5	0.6	0.6
MW-2						
W-29-MW2	03/90	650	3	2	0.98	6.5
W-27-MW2	06/90	670	<0.5	2.6	<0.5	<0.5
W-28-MW2	08/90	1,300	24	130	37	170
W-28-MW2	12/90	470	<0.3	0.5	1	3
W-23-MW2	03/19/91	700	10	3.4	6.1	3.8
W-21-MW2	06/27/91	1,400	8.7	2.1	8.8	33
W-27-MW2	09/26/91	300	<0.5	0.6	0.6	3.9
MW-3						
W-27-MW3	03/90	<20	<0.5	<0.5	<0.5	<0.5
W-27-MW3	06/90	200	<0.5	<0.5	<0.5	<0.5
W-27-MW3	08/90	3,200	54	380	23	400
W-27-MW3	12/90	200	8	12	6	24
W-22-MW3	03/19/91	<50	<0.5	<0.5	<0.5	<0.5
W-21-MW3	06/27/91	<50	<0.5	<0.5	<0.5	<0.5
W-27-MW3	09/26/91	<50	<0.5	<0.5	<0.5	<0.5
MW-4						
W-34-MW4	06/90	<20	<0.5	<0.5	<0.5	<0.5
W-33-MW4	08/90	120	5.2	5.4	5.4	9.9
W-33-MW4	12/90	50	7	1	<0.3	2
W-26-MW4	03/19/91	160	1.8	0.8	2.2	11
W-25-MW4	06/27/91	<50	<0.5	<0.5	<0.5	<0.5
W-32-MW4	09/26/91	<50	<0.5	<0.5	<0.5	<0.5

See notes on page 2 of 2

TABLE 2
 CUMULATIVE RESULTS OF GROUNDWATER ANALYSES
 FOR GASOLINE HYDROCARBONS COMPOUNDS
 (Page 2 of 2)

Sample Number	Date	TPHg ppb	Benzene ppb	Toluene ppb	Ethyl- benzene ppb	Total Xylenes ppb
MW-5						
W-26-MW5	06/90	<20	<0.5	<0.5	<0.5	<0.5
W-28-MW5	08/90	210	9.7	12	7.6	17
W-28-MW5	12/90	190	2	3.5	2	8
W-23-MW5	03/19/91	<50	<0.5	<0.5	<0.5	<0.5
W-22-MW5	06/27/91	<50	<0.5	<0.5	<0.5	<0.5
W-28-MW5	09/26/91	<50	<0.5	<0.5	<0.5	<0.5
MW-6						
W-34-MW6	03/19/91	<50	<0.5	<0.5	<0.5	<0.5
W-35-MW6	06/27/91	<50	2.6	1.8	0.8	<0.30
W-40-MW6	09/26/91	<50	<0.5	<0.5	<0.5	<0.5
MW-7						
W-24-MW7	3/19/91	140	<0.5	<0.5	<0.5	<0.5
W-23-MW7	6/27/91	100	5.2	5.6	3.9	16
NA	9/26/91	Not accessible; covered by automobile				

TPHg = total petroleum hydrocarbons.

ppb = parts per billion

< = below the detection limits of the analysis.

Sample designation = W-24-MW7

W — Well number.
 24 — Sample depth in feet.
 MW7 — Water sample.

TABLE 3
 CUMULATIVE RESULTS OF GROUNDWATER ANALYSIS FOR LEAD, TOG, AND VOCs
 (Page 1 of 2)

Sample Number	Date	Lead ppm	TOG ppb	VOCs ppb
MW-1				
W-28-MW1	03/90	0.01	---	---
W-27-MW1	06/90	<0.05	---	---
W-29-MW1	08/90	<0.05	---	---
W-28-MW1	12/90	<0.1*	---	---
W-23-MW1	03/19/91	<0.1*	---	12.0 ¹
W-22-MW1	06/27/91	<0.1*	---	<0.5
W-28-MW1	09/26/91	<0.1*	---	ND
MW-2				
W-29-MW2	03/90	0.008	---	---
W-27-MW2	06/90	<0.05	---	---
W-28-MW2	08/90	<0.05	---	---
W-28-MW2	12/90	<0.1*	---	---
W-23-MW2	03/19/91	<0.1*	---	<0.5
W-21-MW2	06/27/91	<0.1*	---	<0.5
W-27-MW2	09/26/91	<0.1*	---	ND
MW-3				
W-27-MW3	03/90	0.01	---	---
W-27-MW3	06/90	<0.05	---	---
W-27-MW3	08/90	<0.05	---	---
W-27-MW3	12/90	<0.1*	<5,000	4.1 ³
W-22-MW3	03/19/91	<0.1*	<5,000	<0.5
W-21-MW3	06/27/91	<0.1*	<5,000	<0.5
W-27-MW3	09/26/91	<0.1*	<5,000	ND
MW-4				
W-34-MW4	06/90	<0.05	---	---
W-33-MW4	08/90	<0.05	---	---
W-33-MW4	12/90	<0.1*	---	---
W-26-MW4	03/19/91	<0.1*	---	<0.5
W-25-MW4	06/27/91	<0.1*	---	<0.5
W-32-MW4	09/26/91	<0.1*	---	1.0 ⁴
MW-5				
W-26-MW5	06/90	0.06	---	---
W-28-MW5	08/90	<0.05	---	---
W-28-MW5	12/90	<0.1*	---	---
W-23-MW5	03/19/91	<0.1*	---	0.5 ¹ 1.0 ²
W-22-MW5	06/27/91	<0.1*	---	<0.5
W-28-MW5	09/26/91	<0.1*	---	ND

See notes on page 2 of 2

TABLE 3
RESULTS OF GROUNDWATER ANALYSIS FOR LEAD, TOG, AND VOCs
(Page 2 of 2)

Sample Number	Date	Lead ppm	TOG ppb	VOCs ppb
MW-6				
W-34-MW6	03/19/91	<0.1*	---	<0.5
W-35-MW6	06/27/91	<0.1*	---	<0.5
W-40-MW6	09/26/91	<0.1*	---	ND
MW-7				
W-24-MW7	03/19/91	<0.1*	---	0.7 ¹ 0.8 ²
W-23-MW7	06/27/91	<0.1*	---	<0.5
NA	09/26/91	Not accessible; covered by automobile		

ppm = parts per million

ppb = parts per billion

TOG = Total oil and grease

VOCs = Volatile organic compounds (EPA Method 601)

* = Organic lead

1 = Chloroform

2 = Bromodichloromethane

3 = Tetrachloroethene

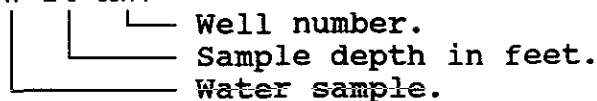
4 = 1,2-Dichloroethane

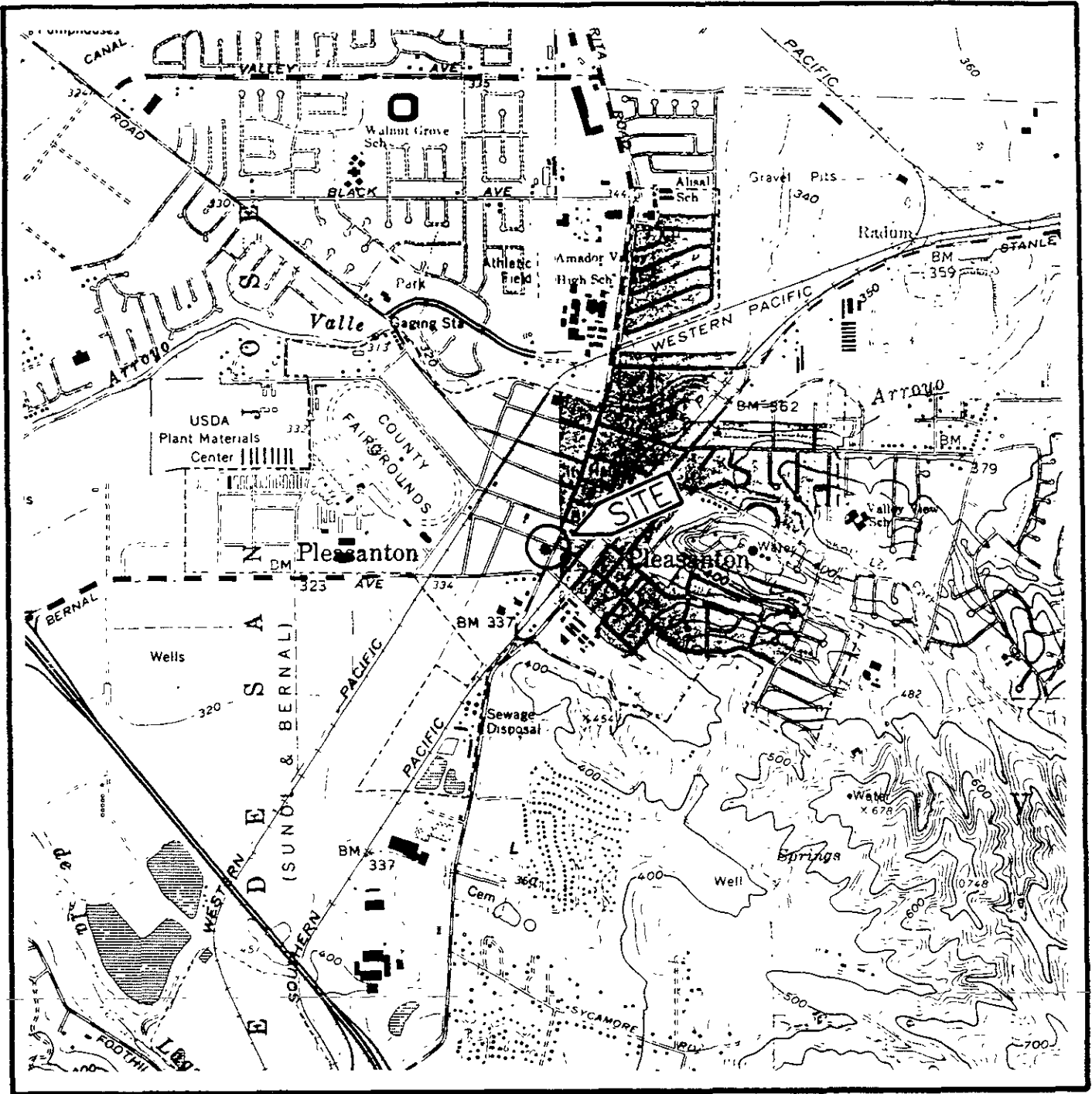
ND = Compounds not detected at or above laboratory detection limit

< = Below the detection limits of the analysis.

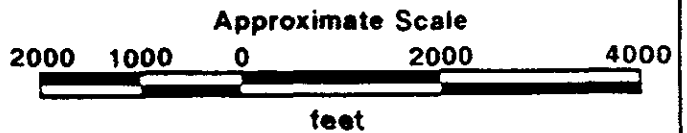
--- = Not analyzed

Sample designation = W-24-MW7





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



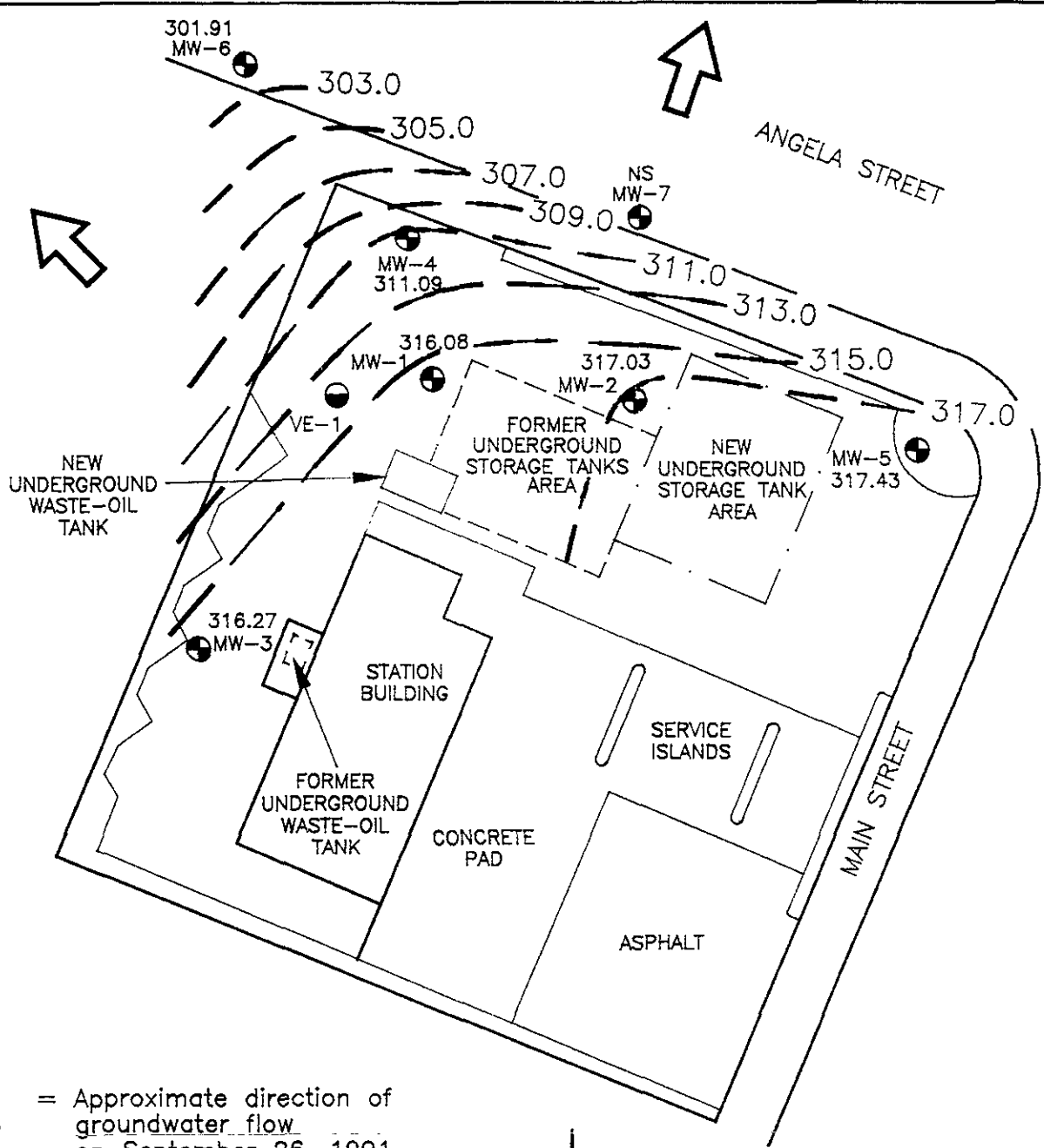
RESNA

PROJECT NO. 19025-3

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

PLATE

1



= Approximate direction of groundwater flow on September 26, 1991

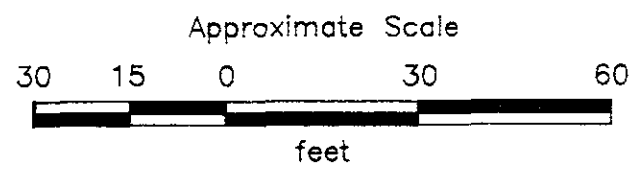
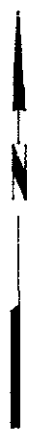
317.0 — = Line of equal elevation of groundwater in shallow saturated zone in feet above mean sea level

NS = Not sampled

MW-7 ● = Monitoring well

VE-1 ● = Vapor extraction well

NOTE: Contours based on interpretation of available data. Contours are not intended to imply certainty.



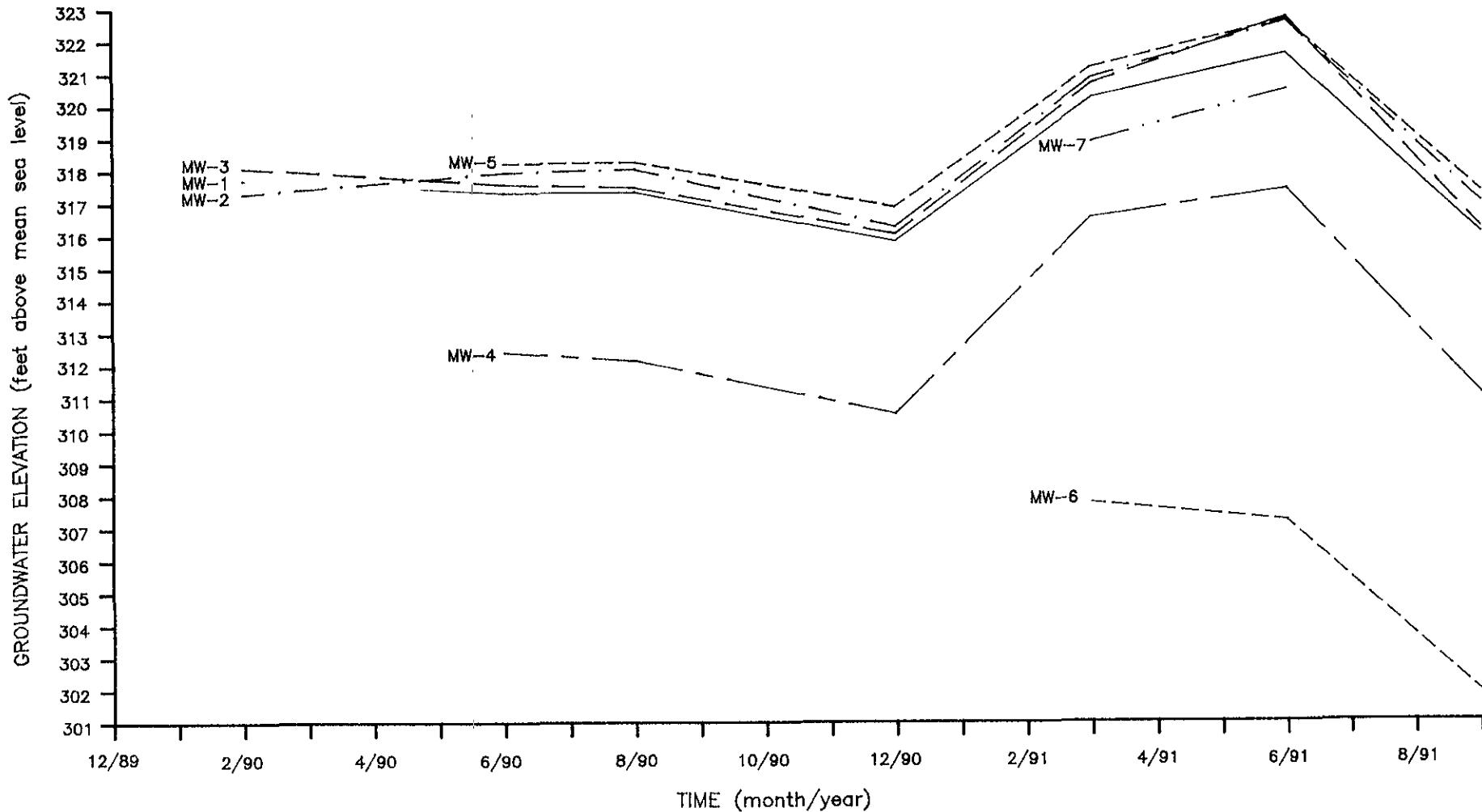
Source: Surveyed by Ron Archer Civil Engineer, Inc.

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GENERALIZED SITE PLAN AND GROUNDWATER ELEVATION MAP
Exxon Service Station 7-7003
349 Main Street
Pleasanton, California

PLATE
2



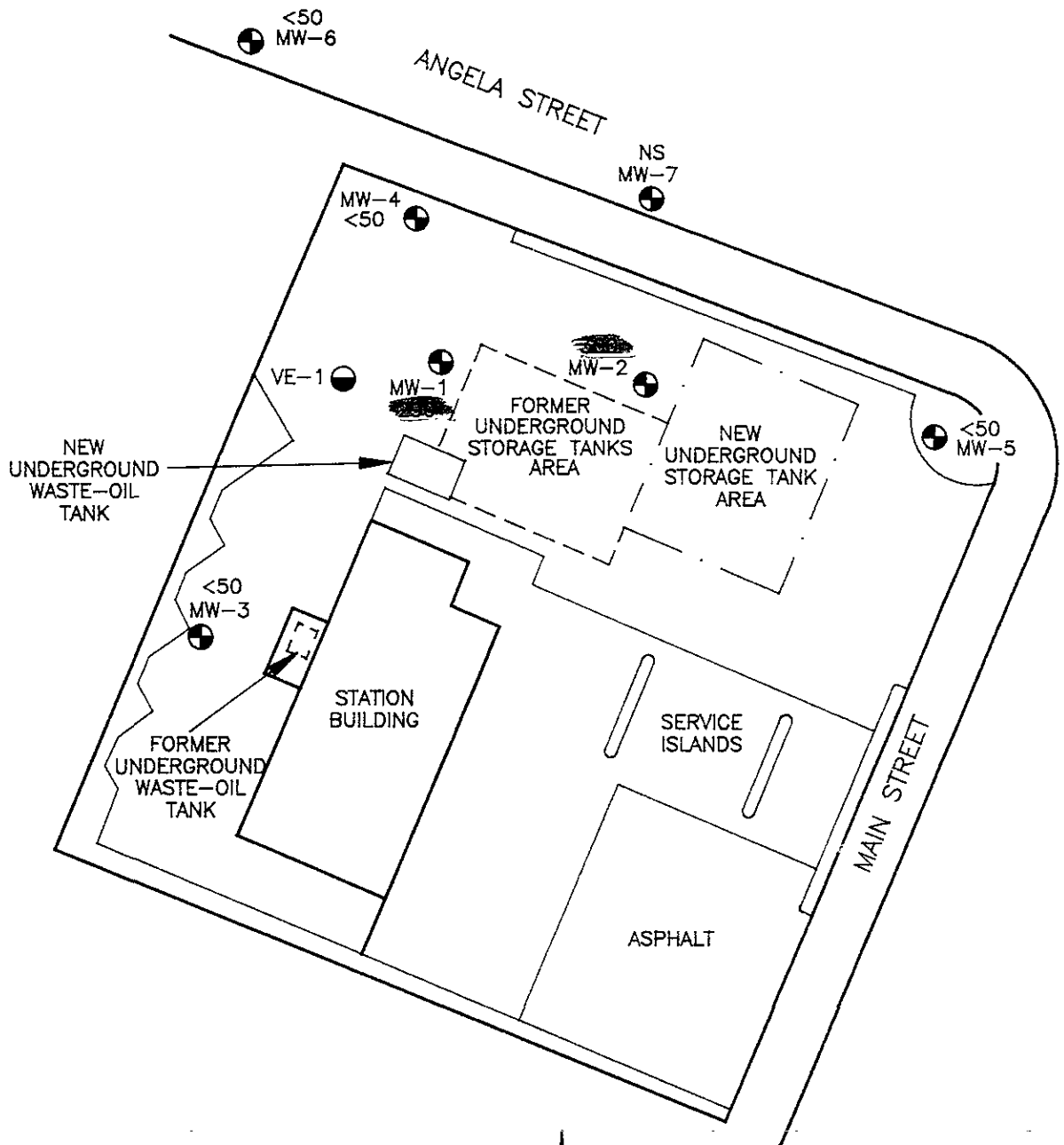
PLATE

3

HYDROGRAPH
 Exxon Service Station 7--7003
 349 Main Street
 Pleasanton, California

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PROJECT NO. 19025-3



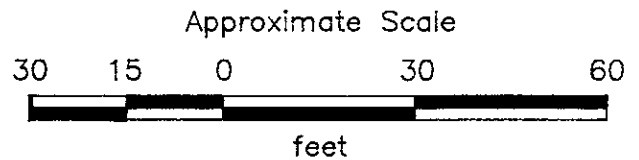
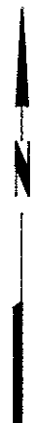
300 = Concentration in parts per billion

NS = Not sampled

MW-5 ⊕ = Groundwater monitoring well

VE-1 ⊖ = Vapor extraction well

TPHg = Total petroleum hydrocarbons as gasoline



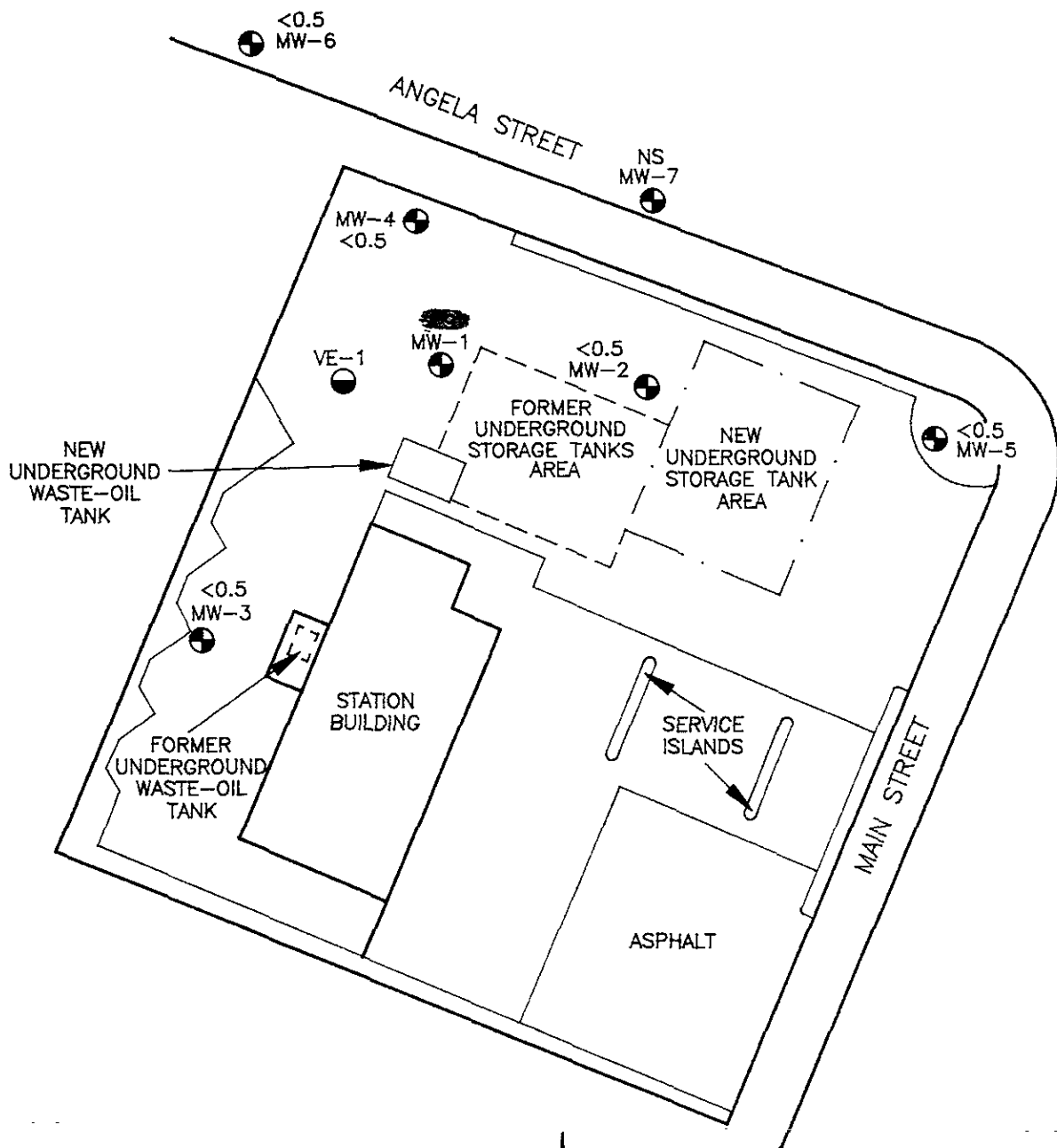
Source: Surveyed by Ron Archer
Civil Engineer, Inc.,
1990 and 1991

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**CONCENTRATION OF TPHg IN
GROUNDWATER (September 26, 1991)**
Exxon Service Station 7-7003
349 Main Street
Pleasanton, California


PLATE
4

PROJECT NO. 19025-3

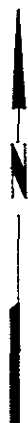


1.9 = Concentration in parts per billion

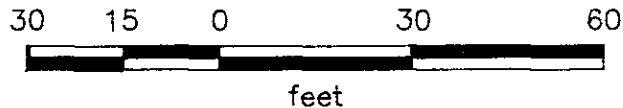
NS = Not sampled

MW-7  = Groundwater monitoring well

VE-1  = Vapor extraction well



Approximate Scale



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

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**CONCENTRATION OF BENZENE IN
GROUNDWATER (September 26, 1991)**
Exxon Service Station 7-7003
349 Main Street
Pleasanton, California

PLATE

5

PROJECT NO. 19025-3

APPENDIX A
FIELD PROCEDURES

FIELD PROCEDURES

Subjective Evaluations

Before water samples were collected for subjective evaluations, the depth to static water level was measured in each well to the nearest 0.01 foot with a Solinst electronic water-level indicator. The groundwater samples were then collected from each well by gently lowering approximately half the length of a Teflon bailer past the air-water interface. The bailer was cleansed with Alconox, a commercial biodegradable detergent, and rinsed with distilled water prior to each use. The samples were retrieved and examined for evidence of floating product or sheen.

Groundwater Sampling

Prior to collecting groundwater samples, each well was purged of approximately 3 to 4 well volumes of water with a Teflon bailer that was cleansed with Alconox and rinsed with distilled water prior to each use. A water sample was collected from each well after the well had recharged to more than 80 percent of the static level. Half the length of the bailer was lowered past the air-water interface to retrieve the sample. The bailer was retrieved and water samples slowly decanted into laboratory-cleaned sample containers. For TPHg, BTEX, and VOC analyses, 40-milliliter, volatile organic analysis glass vials with Teflon-lined caps were used. Hydrochloric acid was added to the samples as a preservative. For organic lead and TOG analyses, the groundwater samples were collected in 1-liter glass bottles and sulfuric acid was added to the TOG sample until pH was less than 2. The sample containers were promptly capped, labeled, and placed in iced storage for transport to state certified analytical laboratories for analysis.

Purged Water

Purged water from the wells were stored onsite in 17E 55-gallon steel drums approved for this use by the Department of Transportation. The water is scheduled to be removed from the site by Erickson, Inc. of Richmond, California, in December 1991.

APPENDIX B
WELL PURGE DATA SHEETS



WELL PURGE DATA SHEET

Project Name: EXXON PLEASANTON
 Job Number: 19025-3 Date: 9/26/91
 Sampler: Twitty Page 2 of 9

Wellhead Type DWAP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE

Pumped Dns 2x



SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
9:46	27.75				LIGHT OIL

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
391ft	11ft	66gal/ft	86gal	3	256gal

PURGE DATA

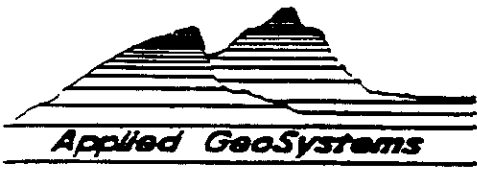
TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE 'F' / 'C'	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
3:54	0	ON				
2:55	4	ON	71.8	7.14	4.17	CLEAR
3:57	12	ON	70.1	7.08	4.15	"
3:59	16	OFF	70.5	7.15	4.18	"
4:13	16	ON				
14:16	22	OFF				

Pump type / # SUR #2 Total gallons purged 22 Method of measurement DRUM & GAGE GPM 3

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
9/16/91	4:45	27.75	100	Y	

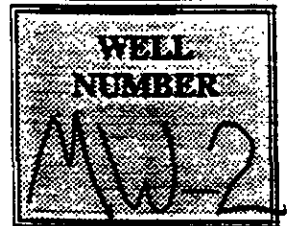
NA = Data not available or not applicable.



WELL PURGE DATA SHEET

Project Name: EXXON - PLEASANTON
 Job Number: 190253 Date: 9/26/91
 Sampler: TWH Page 2 of 9

Wellhead Type DWP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE



SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
9:47	27.19				

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
39 ft	12 ft	66 gal/ft	864	3	2568

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
2:59	0	ON				
3:00	4	ON	80.5	7.12	4.04	CLEAR
3:07	12	ON	73.4	7.65	4.16	"
3:04	25	OFF	71.5	7.41	4.18	"

Pump type/# Sum #3 Total gallons purged 25 Method of measurement Direct Gage GPM 4

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
9/26/91	3:30	27.18	100	Y	

NA = Data not available or not applicable.



WELL PURGE DATA SHEET

Project Name: EXON - PLEASANTON
 Job Number: 19025-3 Date: 9/26/91
 Sampler: TW/HG Page 4 of 9

Wellhead Type DWP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE

WELL NUMBER
MW-3

SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
9:30	26.63	←			

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
39ft	12ft	.66 gal/ft	86 gal	3	25 gal

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F \ °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
10:57	2	ON	—	—	—	—
10:58	4	ON	70.5	7.11	4.26	Clear
11:00	12	ON	69.3	7.10	4.16	"
11:02	20	ON	68.5	7.12	4.17	"
11:10	25	OFF				

Pump type/# SUB. #1 Total gallons purged 25 Method of measurement Ann & Gage GPM

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
9/26/91	11:30	26.62	100	Y	TPH, STEF (2.1 TOG)

NA = Data not available or not applicable.

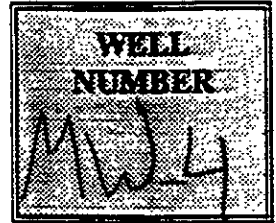


WELL PURGE DATA SHEET

Project Name: EXXON PLEASANTON
 Job Number: 1802S-3 Date: 9/26/01
 Sampler: Twitt Page 5 of 9

Wellhead Type DWP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE

Pumped Dry 2X



SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
9:33	32.79				

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
47ft	15ft	.666 gal/ft	106m	3	316m

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F / °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
11:40	0	ON				
11:41	4	ON	68.2	7.15	4.17	CLEAR
11:42	12	ON	68.5	7.81	4.16	"
11:44	14	ON	68.1	7.17	4.17	"
11:45	15	OFF				
11:56	15	ON				
12:03	20	OFF				

Pump type/# SUB #1 Total gallons purged 20 Method of measurement DRAIN & GAUGE GPM L

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
9/26/01	1:00	32.33	100	Y	

NA = Data not available or not applicable.

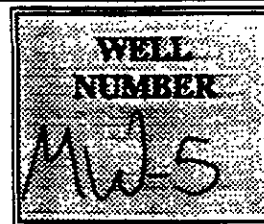


WELL PURGE DATA SHEET

Project Name: EXXON PLEASANTON
 Job Number: 19025-3 Date: 9/26/91
 Sampler: TW142 Page 6 of 9

Wellhead Type DWA Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE

Pumped Dry 2x



SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
<u>9:26</u>	<u>27.77</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
<u>33ft</u>	<u>5ft</u>	<u>.666 gal/ft</u>	<u>36 gal</u>	<u>3</u>	<u>108 gal</u>

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F / °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
<u>12:30</u>	<u>2</u>	<u>ON</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>12:31</u>	<u>4</u>	<u>ON</u>	<u>76.9</u>	<u>7.30</u>	<u>4.11</u>	<u>CLOUDY</u>
<u>12:33</u>	<u>5</u>	<u>OFF</u>	<u>70.2</u>	<u>7.25</u>	<u>4.09</u>	<u>CLEAR</u>
<u>12:45</u>	<u>5</u>	<u>ON</u>				
<u>12:47</u>	<u>8</u>	<u>OFF</u>	<u>80.1</u>	<u>7.21</u>	<u>4.15</u>	<u> </u>

Pump type/# SUM 1 Total gallons purged 8 Method of measurement DRAW & GAUGE GPM 2

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
<u>9/26/91</u>	<u>2:00</u>	<u>28.03</u>	<u>910</u>	<u>Y</u>	

NA = Data not available or not applicable.



WELL PURGE DATA SHEET

Project Name: EXXON PLEASANTON
 Job Number: 19025-3 Date: 9/26/91
 Sampler: TWISS Page 7 of 9

Wellhead Type DWP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition FINE

WELL NUMBER
MW-6

SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS
9:40	40.24				

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED
58 ft	18 ft	0.66 gal/ft	12.6 gal	3	35.6 gal

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY
1:55	0	ON				
1:56	4	ON	74.7	7.10	4.03	CLOUDY
1:58	8	ON	72.4	7.14	4.02	"
2:00	13	ON	70.1	7.14	4.03	"
2:04	40	OFF				

Pump type/# SR #1 Total gallons purged 40 Method of measurement DOWN & GAGE GPM 4

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS
9/26/91	2:45	40.37	100	Y	

NA = Data not available or not applicable.

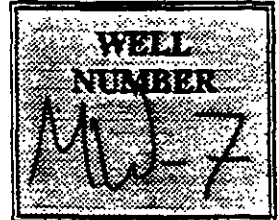


WELL PURGE DATA SHEET

Project Name: EXXON PLEASANTON
 Job Number: 19025-3 Date: 9/26/91
 Sampler: TWITZ Page 8 of 9

Wellhead Type DWP Locked? Y ID #? Y Casing Size 4"
 Comments: Wellhead Condition fine

Note: A Car is parked over the well.



SUBJECTIVE DATA

TIME	DEPTH TO WATER (ft)	DEPTH TO PRODUCT (ft)	PRODUCT THICKNESS (ft)	SHEEN	COMMENTS

PURGE VOLUME COMPUTATION

TOTAL DEPTH (ft)	WATER COLUMN (ft)	CONVERSION FACTOR	CASING VOLUME (gal)	NUMBER OF VOLUMES	GALLONS TO BE PURGED

PURGE DATA

TIME	CUMULATIVE GALLONS PURGED	PUMP ON/OFF	TEMPERATURE °F °C	pH	CONDUCTIVITY	SUBJECTIVE TURBIDITY

Pump type/# _____ Total gallons purged _____ Method of measurement _____ GPM _____

RECOVERY/SAMPLE DATA

DATE	TIME	DEPTH TO WATER (ft)	PERCENT RECOVERY	SAMPLED YES/NO	COMMENTS

NA = Data not available or not applicable.

APPENDIX C

CHAIN OF CUSTODY RECORDS AND ANALYSIS REPORTS



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: RESNA / Applied Geosystems
 Address: _____
 Project Contact: Cynthia Robertson Project #: 19025-3
 Phone #: 415) 659-0404 Fax #: 659-0512
 Consultant Work Release #: 90107740

Exxon Contact: GARY GURSON Phone #: 415) 246-8760
 Site RAS #: 7-7003
 Site Location: MAN ST PLEASANTON
 Laboratory Work Release #: 91141243

Sampled by (please print) <u>ERIC TWILIG</u>		Date Sampled <u>9/26/91</u>			SOIL			WATER			VOC (GAL)		Remarks
Sampler Signature <u>[Signature]</u>		TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	Organic Lead DHS Method	TPH/GAS/BTEX EPA 8015/802	TPH/Diesel EPA 8015	Organic Lead DHS Method	TRIPH EPA 418.1	Total Oil & Grease SM 5520				
Sample Description	Collection Date/Time	Matrix	Prsv.	# of Cont.									
W-28-MW1	9/26/91 4:45	H ₂ O/HCl		7				X				9428.3	
W-27-MW2	3:30			7				X				29.1	
W-27-MW3	11:30			8				X				30.5 ADD H ₂ SO ₄ to TOC	
W-32-MW4	1:00			7				X				31.3	
W-28-MW5	2:00			7				X				32.1	
W-40-MW6	2:45			7				X				33.0	
9/3,													

Cooler No.	Relinquished by/Affiliation <u>[Signature] RESNA</u>	Accepted by/Affiliation <u>Charles Robertson / RESNA</u>	Date <u>9/26/91</u>	Time <u>1700</u>
Cooler Seal Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<u>[Signature] EXCELTECH</u>	<u>[Signature] - Resna</u>	<u>9/27/91</u>	<u>1345</u>
	<u>[Signature]</u>	<u>Jana Meyers - Resna</u>	<u>9/27</u>	<u>1605</u>
Turnaround Time (circle choice) 24 hr. 48 hr. 72 hr. 96 hr. <u>5 workday (standard)</u>	Additional Comments:			
Shipment Method				
Shipment Date				

Distribution: White - Original Yellow - Exxon Pink - Lab Goldenrod - Consultant Field Staff

Resna/Applied Geosystems
 41674 Christy Street
 Fremont, CA 94538

October 08, 1991
 PACE Project Number: 41092750

Attn: Mr. Clark A. Robertson

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094283
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-28-MW1

Parameter	Units	MDL		DATE ANALYZED
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INORGANIC ANALYSIS

ORGANIC LEAD IN WATER; DHS METHOD #338
 Organic Lead, as Pb

mg/L	0.1	ND	10/07/91
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ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	290	09/30/91
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PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	09/30/91
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Benzene	ug/L	0.5	1.9	09/30/91
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Toluene	ug/L	0.5	ND	09/30/91
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Ethylbenzene	ug/L	0.5	0.6	09/30/91
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Xylenes, Total	ug/L	0.5	0.6	09/30/91
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PURGEABLE HALOCARBONS, EPA METHOD 601

Dichlorodifluoromethane	ug/L	2.0	ND	09/30/91
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Chloromethane	ug/L	2.0	ND	09/30/91
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Vinyl Chloride	ug/L	2.0	ND	09/30/91
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Bromomethane	ug/L	2.0	ND	09/30/91
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Chloroethane	ug/L	2.0	ND	09/30/91
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Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	09/30/91
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1,1-Dichloroethene	ug/L	0.5	ND	09/30/91
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Methylene Chloride	ug/L	2.0	ND	09/30/91
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trans-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
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cis-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
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1,1-Dichloroethane	ug/L	0.5	ND	09/30/91
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Chloroform	ug/L	0.5	ND	09/30/91
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1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	09/30/91
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MDL Method Detection Limit
 ND Not detected at or above the MDL.

Mr. Clark A. Robertson
 Page 2

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094283
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-28-MW1

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Carbon Tetrachloride	ug/L	0.5	ND	09/30/91
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/30/91
Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			103%	09/30/91
-1,4-Dichlorobutane (Surrogate Recovery)			95%	09/30/91

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

Mr. Clark A. Robertson
 Page 3

October 08, 1991
 PACE Project Number: 41092750

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094291
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-27-MW2

Parameter	Units	MDL		DATE ANALYZED
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INORGANIC ANALYSIS

ORGANIC LEAD IN WATER; DHS METHOD #338 Organic Lead, as Pb	mg/L	0.1	ND	10/07/91
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ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	300	09/30/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):				09/30/91
Benzene	ug/L	0.5	ND	09/30/91
Toluene	ug/L	0.5	0.6	09/30/91
Ethylbenzene	ug/L	0.5	0.6	09/30/91
Xylenes, Total	ug/L	0.5	3.9	09/30/91
PURGEABLE HALOCARBONS, EPA METHOD 601				
Dichlorodifluoromethane	ug/L	2.0	ND	09/30/91
Chloromethane	ug/L	2.0	ND	09/30/91
Vinyl Chloride	ug/L	2.0	ND	09/30/91
Bromomethane	ug/L	2.0	ND	09/30/91
Chloroethane	ug/L	2.0	ND	09/30/91
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	09/30/91
1,1-Dichloroethene	ug/L	0.5	ND	09/30/91
Methylene Chloride	ug/L	2.0	ND	09/30/91
trans-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
cis-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
1,1-Dichloroethane	ug/L	0.5	ND	09/30/91
Chloroform	ug/L	0.5	ND	09/30/91
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	09/30/91
Carbon Tetrachloride	ug/L	0.5	ND	09/30/91
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/30/91

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

Mr. Clark A. Robertson
 Page 4

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094291
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-27-MW2

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			97%	09/30/91
1,4-Dichlorobutane (Surrogate Recovery)			101%	09/30/91

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

Mr. Clark A. Robertson
 Page 5

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094305
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-27-MW3

Parameter	Units	MDL		DATE ANALYZED
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INORGANIC ANALYSIS

ORGANIC LEAD IN WATER; DHS METHOD #338
 Organic Lead, as Pb

mg/L	0.1	ND		10/07/91
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ORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Total Oil & Grease SM 5520

mg/L	5	ND		09/30/91
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TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015)

ug/L	50	ND		09/30/91
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PURGEABLE AROMATICS (BTXE BY EPA 8020):

ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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PURGEABLE HALOCARBONS, EPA METHOD 601

ug/L	2.0	ND		09/30/91
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ug/L	2.0	ND		09/30/91
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ug/L	2.0	ND		09/30/91
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ug/L	2.0	ND		09/30/91
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ug/L	2.0	ND		09/30/91
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ug/L	0.5	ND		09/30/91
------	-----	----	--	----------

ug/L	2.0	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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ug/L	0.5	ND		09/30/91
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MDL Method Detection Limit
 ND Not detected at or above the MDL.

Mr. Clark A. Robertson
 Page 6

October 08, 1991
 PACE Project Number: 41092750

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094305
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-27-MW3

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Carbon Tetrachloride	ug/L	0.5	ND	09/30/91
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/30/91
Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			98%	09/30/91
1,4-Dichlorobutane (Surrogate Recovery)			99%	09/30/91

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

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October 08, 1991
PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094313
Date Collected: 09/26/91
Date Received: 09/27/91
Client Sample ID: W-32-MW4

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

ORGANIC LEAD IN WATER; DHS METHOD #338
Organic Lead, as Pb

mg/L	0.1	ND		10/07/91
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ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015)

PURGEABLE AROMATICS (BTXE BY EPA 8020):

Benzene

Toluene

Ethylbenzene

Xylenes, Total

		-		09/30/91
ug/L	50	ND		09/30/91
		-		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91

PURGEABLE HALOCARBONS, EPA METHOD 601

Dichlorodifluoromethane

Chloromethane

Vinyl Chloride

Bromomethane

Chloroethane

Trichlorofluoromethane (Freon 11)

1,1-Dichloroethene

Methylene Chloride

trans-1,2-Dichloroethene

cis-1,2-Dichloroethene

1,1-Dichloroethane

Chloroform

1,1,1-Trichloroethane (TCA)

Carbon Tetrachloride

1,2-Dichloroethane (EDC)

ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	2.0	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	ND		09/30/91
ug/L	0.5	1.0		09/30/91

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

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October 08, 1991
 PACE Project Number: 41092750

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094313
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-32-MW4

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			102%	09/30/91
1,4-Dichlorobutane (Surrogate Recovery)			102%	09/30/91

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

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October 08, 1991
PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094321
Date Collected: 09/26/91
Date Received: 09/27/91
Client Sample ID: W-28-MW5

Parameter	Units	MDL		DATE ANALYZED
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INORGANIC ANALYSIS

ORGANIC LEAD IN WATER; DHS METHOD #338 Organic Lead, as Pb	mg/L	0.1	ND	10/07/91
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ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	09/30/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	09/30/91
Benzene	ug/L	0.5	ND	09/30/91
Toluene	ug/L	0.5	ND	09/30/91
Ethylbenzene	ug/L	0.5	ND	09/30/91
Xylenes, Total	ug/L	0.5	ND	09/30/91
PURGEABLE HALOCARBONS, EPA METHOD 601				
Dichlorodifluoromethane	ug/L	2.0	ND	09/30/91
Chloromethane	ug/L	2.0	ND	09/30/91
Vinyl Chloride	ug/L	2.0	ND	09/30/91
Bromomethane	ug/L	2.0	ND	09/30/91
Chloroethane	ug/L	2.0	ND	09/30/91
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	09/30/91
1,1-Dichloroethene	ug/L	0.5	ND	09/30/91
Methylene Chloride	ug/L	2.0	ND	09/30/91
trans-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
cis-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
1,1-Dichloroethane	ug/L	0.5	ND	09/30/91
Chloroform	ug/L	0.5	ND	09/30/91
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	09/30/91
Carbon Tetrachloride	ug/L	0.5	ND	09/30/91
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/30/91

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

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October 08, 1991
 PACE Project Number: 41092750

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094321
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-28-MW5

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			102%	09/30/91
1,4-Dichlorobutane (Surrogate Recovery)			98%	09/30/91

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

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October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094330
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-40-MW6

Parameter	Units	MDL		DATE ANALYZED
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INORGANIC ANALYSIS

ORGANIC LEAD IN WATER; DHS METHOD #338				
Organic Lead, as Pb	mg/L	0.1	ND	10/07/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/30/91
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	09/30/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	09/30/91
Benzene	ug/L	0.5	ND	09/30/91
Toluene	ug/L	0.5	ND	09/30/91
Ethylbenzene	ug/L	0.5	ND	09/30/91
Xylenes, Total	ug/L	0.5	ND	09/30/91
PURGEABLE HALOCARBONS, EPA METHOD 601				
Dichlorodifluoromethane	ug/L	2.0	ND	09/30/91
Chloromethane	ug/L	2.0	ND	09/30/91
Vinyl Chloride	ug/L	2.0	ND	09/30/91
Bromomethane	ug/L	2.0	ND	09/30/91
Chloroethane	ug/L	2.0	ND	09/30/91
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	09/30/91
1,1-Dichloroethene	ug/L	0.5	ND	09/30/91
Methylene Chloride	ug/L	2.0	ND	09/30/91
trans-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
cis-1,2-Dichloroethene	ug/L	0.5	ND	09/30/91
1,1-Dichloroethane	ug/L	0.5	ND	09/30/91
Chloroform	ug/L	0.5	ND	09/30/91
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	09/30/91
Carbon Tetrachloride	ug/L	0.5	ND	09/30/91
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/30/91

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

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October 08, 1991
 PACE Project Number: 41092750

Client Reference: Exxon 7-7003

PACE Sample Number: 70 0094330
 Date Collected: 09/26/91
 Date Received: 09/27/91
 Client Sample ID: W-40-MW6

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

PURGEABLE HALOCARBONS, EPA METHOD 601

Trichloroethene (TCE)	ug/L	0.5	ND	09/30/91
1,2-Dichloropropane	ug/L	0.5	ND	09/30/91
Bromodichloromethane	ug/L	0.5	ND	09/30/91
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/30/91
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/30/91
1,1,2-Trichloroethane	ug/L	0.5	ND	09/30/91
Tetrachloroethene	ug/L	0.5	ND	09/30/91
Dibromochloromethane	ug/L	0.5	ND	09/30/91
Chlorobenzene	ug/L	0.5	ND	09/30/91
Bromoform	ug/L	0.5	ND	09/30/91
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/30/91
1,3-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,4-Dichlorobenzene	ug/L	0.5	ND	09/30/91
1,2-Dichlorobenzene	ug/L	0.5	ND	09/30/91
Bromochloromethane (Surrogate Recovery)			101%	09/30/91
1,4-Dichlorobutane (Surrogate Recovery)			98%	09/30/91

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

These data have been reviewed and are approved for release.

Mark A. Valentini
 Mark A. Valentini, Ph.D.
 Regional Director

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QUALITY CONTROL DATA

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

Organic Lead, as Pb

Batch: 70 06614

Samples: 70 0094283, 70 0094291, 70 0094305, 70 0094313, 70 0094321
 70 0094330

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	70 0094283 W-28-MWI	Duplicate of 70 0094283	RPD
Organic Lead, as Pb	mg/L	0.1	ND	ND	ND	NC

SPIKE:

Parameter	Units	MDL	70 0094283 W-28-MWI	Spike	Spike Recv
Organic Lead, as Pb	mg/L	0.1	ND	1.00	83%

LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Organic Lead, as Pb	mg/L	0.1	1.00	83%

MDL Method Detection Limit
 RPD Relative Percent Difference
 NC No calculation due to value below detection limit.

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QUALITY CONTROL DATA

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

Total Oil & Grease SM 5520
 Batch: 70 06449
 Samples: 70 0094305

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Total Oil & Grease SM 5520	mg/L	5	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dup1 Recv	RPD
Total Oil & Grease SM 5520	mg/L	5	20.0	107%	110%	2%

MDL Method Detection Limit
 RPD Relative Percent Difference

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QUALITY CONTROL DATA

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PURGEABLE HALOCARBONS, EPA METHOD 601

Batch: 70 06482

Samples: 70 0094283, 70 0094291, 70 0094305, 70 0094313, 70 0094321
 70 0094330

METHOD BLANK:

Parameter	Units	MDL	Method Blank
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

MDL Method Detection Limit

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QUALITY CONTROL DATA

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

PURGEABLE HALOCARBONS, EPA METHOD 601

Batch: 70 06482

Samples: 70 0094283, 70 0094291, 70 0094305, 70 0094313, 70 0094321
 70 0094330

METHOD BLANK:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>
PURGEABLE HALOCARBONS, EPA METHOD 601			
Bromochloromethane (Surrogate Recovery)			97%
1,4-Dichlorobutane (Surrogate Recovery)			101%

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>
I,1-Dichloroethane	ug/L	0.5	10.00	90%	92%	2%
Trichloroethene (TCE)	ug/L	0.5	10.00	93%	94%	1%
trans-1,3-Dichloropropene	ug/L	0.5	5.00	96%	100%	4%
Tetrachloroethene	ug/L	0.5	10.00	93%	97%	4%

MDL Method Detection Limit
 RPD Relative Percent Difference

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QUALITY CONTROL DATA

October 08, 1991
 PACE Project Number: 410927502

Client Reference: Exxon 7-7003

TPH GASOLINE/BTEX

Batch: 70 06497

Samples: 70 0094283, 70 0094291, 70 0094305, 70 0094313, 70 0094321
 70 0094330

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-
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 8015)	ug/L	50	385	94%	94%	0%
Benzene	ug/L	0.5	40.0	95%	96%	1%
Toluene	ug/L	0.5	40.0	93%	94%	1%
Xylenes, Total	ug/L	0.5	80.0	95%	95%	0%

MDL Method Detection Limit
 RPD Relative Percent Difference