EXXON COMPANY, U.S.A.

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MARKETING DEPARTMENT

ENVIRONMENTAL ENGINEERING
G. D. GIBSON

SENIOR ENVIRONMENTAL ENGINEER

October 12, 1990

Exxon RAS 7-3399
2991 Hopyard Road
Pleasanton, California

Mr. Richard Hiett
San Francisco Bay Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, California 94612

Dear Mr. Hiett:

Attached for your review is the Letter Progress Report of Ground-Water Monitoring at the above referenced Exxon Company, U.S.A. facility in the City of Pleasanton. This report, by Applied GeoSystems of Fremont, California, presents the results of the monthly monitoring events conducted in July and August, 1990.

Please contact me at (415) 246-8768 if you have any questions or concerns about this report. Thank you.

Sincerely,

Gary D. Gibson

GDG:rh
1766E
Attachment

c - w/attachment:
Mr. S. Cusenza - City of Pleasanton Public Works Department
Mr. L. Feldman - San Francisco Bay Region Water Quality Control Board
Mr. J. Killingstad - Alameda County Flood Control District Zone 7
Mr. R. Meuller - City of Pleasanton Fire Department

w/o attachment:
Ms. M. D. Baca
Mr. D. J. Bertoch
Mr. P. J. Brininstool
Mr. J. R. Hastings
Mr. L. W. Lindeen
Mr. M. Thomson - Alameda County District Attorney's Office
Mr. R. C. Witham - Applied GeoSystems

Applied GeoSystems 43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

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September 28, 1990
AGS 18034-8

Mr. Gary Gibson
Exxon Company, U.S.A.
P. O. Box 4032
Concord, California 94520

Subject: Transmittal of Letter Progress Report of Ground-Water Monitoring for July and August 1990, at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California

Mr. Gibson:

At the request of Exxon Company, U.S.A. (Exxon), Applied GeoSystems (AGS) conducted in July and August 1990, ground-water monitoring and sampling at the referenced Exxon service station. The enclosed report presents the results of this work.

We recommend copies of this report be submitted to:

- Mr. Steve Cusenza, City of Pleasanton, Public Works Department, 200 Old Bernal Avenue, Pleasanton, California 94566
- Mr. Rick Mueller, Pleasanton Fire Department, 4444 Railroad Street, Pleasanton, California 94566
- Mr. Lester Feldman, California Regional Water Quality Control Board, San Francisco Bay Region, 1800 Harrison Street, Suite 700, Oakland, California 94612
- Mr. Jerry Killingstad, Alameda County Flood Control and Water Conservation District (Zone 7), 5997 Parkside Drive, Pleasanton, California 94566

Field Activities

On July 30 through August 1, and August 27, 1990, AGS personnel measured depth-to-water, subjectively evaluated ground-water in each well, and purged and sampled the wells without floating product. On August 27, 1990, AGS personnel purged and sampled only wells MW-1 and MW-8 for laboratory analyses as part of a monthly sampling program for 6 consecutive months. Water from well MW-9, which is included in the monthly sampling program, was not sampled because floating product was detected in the well, or the well was dry. The field activities were performed in accordance with the AGS Field Procedures (Appendix).

Results of Ground-Water Monitoring

Between July and August 1990, ground-water levels in the wells showed only minor fluctuations (Table 1). No floating product or sheen was observed on water in any of the nine wells from either site visit. Cumulative results of depth to water measurements and subjective evaluations are shown in Table 2.

Due to the low water levels measured in July and August 1990 (Table 1), causing discontinuous water levels in the upper aquifer, ground-water elevation maps were not constructed. Previous data suggest that the ground-water flow direction is generally southward and the hydraulic gradient below much of the site is nearly flat.

Laboratory Methods and Results of Ground-Water Sampling

Ground-water samples from the two events were analyzed chemically for gasoline hydrocarbon compounds. The ground-water samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by Environmental Protection Agency (EPA) modified Method 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 602. The analyses were performed by Applied Analytical Environmental Laboratories (Hazardous Waste Testing Laboratory Certificate 153), Fremont, California.

Laboratory analyses from the July 30 through August 1, 1990 sampling event, indicate that TPHg and BTEX were not detected in the ground-water samples, except for trace amounts (maximum 0.0038 parts per millon [ppm]) of ethylbenzene and xylenes in MW-11. Analytical results from August 27, 1990, show (maximum 0.00050 ppm) concentrations of ethylbenzene and xylenes at the detection limit in ground water from well MW-8 (Table 3). Chain of Custody Records and certified analysis reports are enclosed (Appendix).

Results of Recovery System Monitoring

Ground-water recovery was stopped on June 11, 1990, due to a insufficient water level in the shallow aquifer and an insufficent amount of water in well MW-7 to pump. Recovery activities will resume when the ground water rises to a sufficient level for pumping.

Please call if you have questions.

Sincerely,
Applied GeoSystems

Keith M. McVicker
Assistant Project Geologist

Joan E. Tiernan
Registered Civil Engineer
No. 044600

Enclosures:

- Table 1, Ground-Water Elevation Data, Uppermost Aquifer
- Table 2, Cumulative Results of Subjective Evaluations
- Table 3, Results of Analyses of Ground-Water Samples
- Plate P-1, Site Vicinity Map
- Plate P-2, Generalized Site Plan

Appendix:

- Field Procedure
- Chain of Custody Records and Laboratory Analysis Reports

TABLE 1
GROUND-WATER ELEVATION DATA
UPPERMOST AQUIFER

Well No.	Casing Elevation	Depth to Ground Water	Ground-Water Elevation
July 30, 1990			
MW-1	321.44	52.17	269.27
MW-4	321.56	53.57	267.99
MW-5s	321.64	53.40	268.24
MW-7	321.27	-----	NA
MW-9	321.44	-----	NA
MW-10	322.99	55.72	267.27
MW-11	321.71	53.50	268.21
August 27, 1990			
MW-1	321.44	53.44	268.00
MW-4	321.56	53.61	267.95
MW-5s	321.64	53.60	268.04
MW-7	321.27	53.05	268.22
MW-9	321.44	DRY	NA
MW-10	322.99	57.75	265.24
MW-11	321.71	53.65	268.06

Elevation is in feet above mean sea level.
Depth to ground water is in feet below the top of the casing.
---- = water level not measured.
NA = Not applicable.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 1 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-1	4/6/88	36.34	None	None
	4/8/88	36.29	None	None
	4/19/88	36.36	None	None
	6/6/88	38.16	None	None
	6/23/88	38.71	None	None
	6/28/88	39.16	--	--
	7/6/88	39.73	None	None
	7/13/88	40.22	None	None
	8/12/88	Well buried under excavated soil		
	8/26/88	41.90	--	--
	9/7/88	42.27	None	None
	12/7/88	43.94	None	None
	12/19/88	43.70	None	None
	2/9/89	42.53	--	--
	3/8/89	41.96	None	None
	4/3/89	41.59	--	--
	4/26/89	41.67	--	--
	6/30/89	43.79	None	None
	7/17/89	44.74	None	None
	7/18/89	44.76	--	--
	7/19/89	44.82	--	--
	7/20/89	44.85	None	None
	7/21/89	44.95	--	--
	7/26/89	45.42	None	None
	8/2/89	--	--	--
	8/3/89	46.18	--	--
	8/17/89	47.12	--	--
	9/13/89	49.08	None	None
	11/28/89	50.21	None	None
	1/9/90	49.31	None	None
	1/26/90	49.29	None	None
	2/23/90	49.02#	None	None
	2/23/90	49.02	None	None
	3/26/90	48.71#	None	None
	3/26/90	48.70	None	None

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 2 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-1	4/18/90	48.79	None	None
	5/17/90	49.40	None	None
	6/11/90	50.83	None	None
	7/30/90	52.17	None	None
	8/27/90	53.44	None	None
MW-2	4/2/90	--	3.0	Heavy
	4/4/90	--	18.0	Heavy
	4/5/88	--	18.0	Heavy
	4/6/88	39.31	38.4	Heavy
	4/8/88	--*	--*	--*
	4/19/88	38.90	29.76**	Heavy
	6/6/88	38.78	3.12	Heavy
	6/23/88	39.23	1.50	Heavy
	6/28/88	39.72	--	--
	7/6/88	40.31	None	Slight
	7/12/88	Well destroyed due to excavation (old pit)		
MW-3	4/6/88	37.19	None	None
	4/8/88	37.14	None	None
	4/19/88	37.22	None	None
	6/6/88	39.02	None	None
	6/23/88	39.58	None	None
	6/28/88	40.04	--	--
	7/6/88	40.60	None	None
	7/13/88	41.09	None	None
	8/12/88	Well buried under excavated soil		
	8/26/88	42.77	--	--
	8/29/88	Well destroyed due to excavation (new pit)		

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 3 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-4	4/8/88	36.41	None	None
	4/19/88	36.51	None	None
	6/6/88	38.26	None	None
	6/23/88	38.83	None	None
	6/28/88	39.28	--	--
	7/6/88	39.85	None	None
	7/13/88	40.31	None	None
	8/12/88	Well buried under excavated soil		
	8/26/88	42.01	--	--
	9/7/88	Not accessible due to construction		
	12/7/88	Not accessible due to construction		
	12/19/88	43.83	None	None
	2/9/89	42.67	--	--
	3/8/89	42.11	None	None
	4/3/89	41.73	--	--
	4/26/89	41.79	--	--
	6/30/89	43.88	None	None
	7/17/89	44.85	None	None
	7/18/89	44.88	--	--
	7/19/89	44.92	--	--
	7/20/89	44.98	None	None
	7/21/89	45.04	--	--
	7/26/89	45.50	None	None
	8/2/89	--	--	--
	8/3/89	46.28	--	--
	8/17/89	47.22	--	--
	9/13/89	49.19	None	None
	11/28/89	50.34	None	None
	1/9/90	49.47	None	None
	1/26/90	49.36	None	None
	2/23/90	49.18#	None	None
	2/23/90	49.15	None	None
	3/26/90	48.84#	None	None
	3/26/90	48.83	None	None
	4/18/90	48.90	None	None

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 4 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-4	5/17/90	50.03	None	None
	6/11/90	50.98	None	None
	7/30/90	53.57	None	None
	8/27/90	53.61	None	None
B-4	4/2/88	--	None	None
MW-5d	5/25/88	38.55	None	None
	6/6/88	38.90	None	None
	6/23/88	39.56	None	None
	6/28/88	40.23	--	--
	7/6/88	40.69	None	None
	7/13/88	41.22	None	None
	8/12/88	42.34	--	--
	8/26/88	42.60	--	--
	9/7/88	42.99	--	--
	12/7/88	44.58	None	None
	2/9/89	Casing head damaged by construction		
	3/8/89	Casing head cut to lower elevation		
		42.49	None	None
	4/3/89	42.21	--	--
	4/26/89	42.36	--	--
	6/30/89	44.79	None	None
	7/17/89	45.73	None	None
	7/18/89	45.75	--	--
	7/19/89	44.89	--	--
	7/20/89	46.02	None	None
	7/21/89	46.18	--	--
	7/26/89	46.83	None	None
	8/2/89	--	--	--
	8/3/89	47.67	--	--
	8/17/89	48.27	--	--
	9/13/89	50.60	None	None
	11/28/89	51.16	None	None
	1/9/90	50.42	None	None
	1/26/90	50.10	None	None
	2/23/90	50.08	None	None
	3/26/90	49.80#	None	None
	3/26/90	49.77	None	None

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 5 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-5d	4/18/90	49.80	None	None
	5/17/90	51.32	None	None
	6/11/90	52.10	None	None
	7/30/90	53.47	None	None
	8/27/90	58.24	None	None
MW-5s	5/25/88	38.46	None	None
	6/6/88	38.86	None	None
	6/23/88	39.52	None	None
	6/28/88	39.84	--	--
	7/6/88	40.45	None	None
	7/13/88	40.90	None	None
	7/22/88	41.30	None	None
	8/5/88	23.84▼	None	None
	8/12/88	42.21	--	--
	8/26/88	42.55	--	--
	9/7/88	42.94	None	None
	12/7/88	44.67	None	None
	2/9/89	43.19	--	--
	3/8/89	Casing head cut to lower elevation		
		42.11	None	None
	4/26/89	41.84	--	--
	6/30/89	43.95	None	None
	7/17/89	44.91	None	None
	7/18/89	44.93	--	--
	7/19/89	44.98	--	--
	7/20/89	45.02	None	None
	7/21/89	45.10	--	--
	7/26/89	45.57	None	None
	8/2/89	--	--	--
	8/3/89	46.31	--	--
	8/17/89	47.25	--	--
	9/13/89	49.22	None	None
	11/28/89	50.39	None	None
	1/9/90	49.51	None	None
	1/26/90	49.40	None	None
	2/23/90	49.20#	None	None
	2/23/90	49.20	None	None
	3/26/90	48.89#	None	None

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 6 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
	3/26/90	48.88	None	None
MW-5s	4/18/90	48.95	None	None
	5/17/90	50.06	None	None
	6/11/90	50.98	None	None
	7/30/90	53.40	None	None
	8/27/90	53.60	None	None
MW-6	5/11/88	37.71	None	None
	6/6/88	38.70	None	None
	6/23/88	39.23	None	None
	6/28/88	39.74	None	None
	7/13/88	40.78	None	None
	8/5/88	41.72	None	None
	8/12/88	42.14	--	--
	8/17/88	Well buried under excavated soil		
	8/26/88	42.51	--	--
	9/7/88	42.85	None	None
	10/24/88	Well destroyed for station construction		
MW-7	7/13/88	40.50	None	None
	7/22/88	41.85#	None##	None##
	8/5/88	41.45#	None##	None##
	8/12/88	42.69	--	--
	9/7/88	42.60	--	--
	12/7/88	Not accessible		
	1/17/89	43.20	--	--
	2/9/89	Not accessible, pump equipment in well		
	10/12/89	49.93	None	None
	11/28/89	57.61#	--	--
	1/9/90	57.57#	--	--
	1/26/90	57.54#	None	None
	1/26/90	49.08	None	None
	2/23/90	55.26#	None	None
	2/23/90	48.93	None	None
	3/26/90	57.52#	None	None
	3/26/90	48.60	None	None
	4/18/90	57.55#	None	None
	5/17/90	57.40#	None	None
	6/11/90	50.68	None	None

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 7 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-7	7/30/90	--	None	None
	8/27/90	53.05	None	None
MW-8	10/1/89	53.88	None	None
	11/28/89	53.74	None	None
	1/9/90	57.90	None	None
	1/26/90	53.57	None	None
	2/23/90	52.16	None	None
	3/26/90	52.80#	None	None
	4/18/90	51.60	None	None
	5/17/90	58.21	None	None
	6/11/90	58.65	None	None
	7/30/90	64.33	None	None
	8/27/90	70.41	None	None
MW-9	10/12/89	50.24	None	None
	11/28/89	50.59	1.0	Heavy
	12/1/89	50.32	0.25	Heavy
	12/7/89	50.13	1.92	Heavy
	12/13/89	49.91	None	Slight
	12/20/89	49.78	None	Slight
	1/2/90	--	None	Slight
	1/9/90	49.39	None	Slight
	1/26/90	49.30	None	None
	2/23/90	49.06#	None	None
	2/23/90	49.05	None	None
	3/26/90	48.75#	None	None
	3/26/90	48.73	None	V. Slight
	4/18/90	48.81	None	Slight
	5/17/90	49.96	None	Slight
	6/11/90	51.58	4.5	--
	7/30/90	Dry	--	--
	8/27/90	Dry	--	--

See notes on page 8 of 8.

TABLE 2
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 8 of 8)

Well/Boring	Date	Depth to Water (ft)	Floating Product (in)	Sheen
MW-10	10/12/89	51.93	None	None
	11/28/89	51.88	None	None
	12/20/89	51.47	None	None
	1/9/90	50.98	None	None
	1/26/90	50.87	None	None
	2/23/90	50.67#	None	None
	2/23/90	50.65	None	None
	3/26/90	50.36#	None	None
	3/26/90	50.35	None	None
	4/18/90	50.45	None	None
	6/11/90	51.16	None	None
	7/30/90	55.72	None	None
	8/27/90	57.75	None	None
MW-11	11/10/89	50.64	None	None
	11/28/89	50.51	None	V. Slight
	12/20/89	51.47	None	None
	1/9/90	49.68	None	None
	1/26/90	49.55	None	None
	2/23/90	49.37#	None	None
	2/23/90	49.35	None	None
	3/26/90	49.03#	None	None
	3/26/90	49.03	None	None
	4/18/90	49.12	None	None
	5/17/90	50.30	None	None
	6/11/90	51.16	None	None
	7/30/90	53.50	None	None
	8/27/90	53.65	None	None

Depth to water is in feet below top of casing.
Thickness of floating product is in inches.
-- = Not measured
* = Not measured because of installed product-skimmer pump
** = Thickness of floating product after the well was allowed to recharge for approximately 3 hours.
▾ = Anomalous water level possibly due to recharge from a perched water zone.
\# = Pumping-water level.
= Water inspected in oil-water separator tank.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 1 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-1								
4/2/88	W-38-MW1	<0.0005	0.0017	<0.0005	<0.0005	<0.02	--	--
7/6/88	W-40-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/13/88	W-42-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/7/88	W-43-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/8/89	W-43-MW1	0.0016	<0.0005	<0.0005	<0.0005	<0.02	--	--
6/30/89	W-44-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/17/89	W-45-MW1	<0.0005	<0.0005	<0.0005	<0.0005	0.023	--	--
7/20/89	W-45-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/26/89	W-46-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/2/89	W-46-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/13/89	W-50-MW1	0.039	0.00060	<0.00050	0.0051	0.22	--	--
12/20/89	W-50-MW1	0.056	0.00072	<0.00050	0.00071	0.22	--	--
1/25/90	W-50-MW1	0.018	0.0016	<0.00050	0.0018	0.057	--	--
2/27/90	W-50-MW1	0.0032	0.0023	<0.00050	0.0032	0.055	--	--
3/26/90	W-49-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
4/18/90	W-49-MW1	0.0011	0.0016	<0.00050	0.0031	0.025	--	--
5/17/90	W-49-MW1	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
6/11/90	W-52-MW1	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
7/30/90	W-53-MW1	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/27/90	W-53-MW1	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
MW-2 (Well destroyed 7/12/88)								
7/6/88	W-41-MW2	5.7	18.5	2.9	21.4	62	--	--

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 2 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-3	(Well destroyed 8/29/88)							
4/6/88	W-39-MW3	<0.0005	<0.0005	<0.0005	<0.0005	0.02		
7/6/88	W-41-MW3	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/13/88	W-43-MW3	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/26/88	W-44-MW3	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
MW-4								
4/11/88	W-37-MW4	0.0018	0.0163	0.0006	0.0071	0.08	--	--
7/6/88	W-41-MW4	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/13/88	W-42-MW4	<0.0005	0.0009	<0.0005	<0.0005	<0.02	--	--
9/7/88			(Well not accessible)					
3/8/89	W-43-MW4	0.0038	0.0010	<0.0005	<0.0005	0.44	--	--
6/30/89	W-44-MW4	<0.0005	<0.0005	<0.0005	<0.0005	0.10	--	--
7/17/89	W-45-MW4	<0.0005	<0.0005	<0.0005	<0.0005	0.39	--	--
7/20/89	W-45-MW4	<0.0005	<0.0005	<0.0005	<0.0005	0.20	ND*	--
7/26/89	W-46-MW4	<0.0005	<0.0005	<0.0005	<0.0005	0.066	--	--
8/2/89	W-46-MW4	--	--	--	--	--	--	ND*
9/13/89	W-50-MW4	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
12/20/89	W-50-MW-4	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
3/26/90	W-49-MW-4	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/01/90	W-54-MW-4	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 3 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-5d								
5/25/88	W-9-MW5a	<0.0005	0.0031	<0.0005	<0.0005	<0.02	--	--
7/6/88	W-41-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	-
7/13/88	W-43-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	0.04	--	--
3/8/89	W-43-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
6/30/80	W-45-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/17/89	W-46-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/20/89	W-47-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/26/89	W-47-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/2/89	W-48-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/13/89	W-51-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
12/20/89	W-51-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/26/90	W-50-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/01/90	W-56-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
MW-5s								
5/25/88	W-41-MW5b	<0.0005	0.0009	<0.0005	<0.0005	<0.02	--	--
7/6/88	W-41-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/13/88	W-44-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/22/88	W-42-MW5s	0.0009	0.0041	0.0013	0.0087	0.05	--	--
8/5/88	W-25-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 4 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-5s (continued)								
9/7/88	W-43-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/8/89	W-43-MW5s	<0.0005	<0.0005	<0.0005	<0.001	<0.02	--	--
6/30/89	W-45-Mw5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/17/89	W-46-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/20/89	W-46-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/26/89	W-46-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/2/89	W-47-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/13/89	W-50-MW5s	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
12/20/89	W-50-MW5s	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
3/26/90	W-49-MW5s	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/01/90	W-55-MW5s	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
MW-6								
5/17/88	W-40-MW6	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
6/28/88	W-38-MW6	0.0318	0.0075	0.0054	0.0067	0.44	--	--
7/13/88	W-42-MW6	0.1623	0.0077	0.0225	0.0141	0.29	--	--
8/5/88	W-42-MW6	0.2450	0.0052	0.0471	0.0237	1.18	--	--
9/7/88	W-43-MW6	0.474	0.016	0.262	0.136	2.92	--	--
10/24/88	Well destroyed							

See notes on page 7 of 7.

Applied GeoSystems

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 5 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-7 (recovery well)								
7/13/88	W-34-MW7	0.86	1.91	0.71	4.42	16.7	--	--
7/22/88	W-50-MW7	0.136	0.085	0.005	0.058	0.46	--	--
8/5/88	W-45-MW7	0.0733	0.0528	0.0023	0.0281	0.27	--	--
2/9/89	W-50-MW7	0.600	0.688	0.010	0.448	6.7	--	--
6/30/89	W-Pump-MW7	0.18	0.050	0.013	0.040	1.1	--	--
8/2/89	W-TAP-MW7	0.0016	<0.0005	<0.0005	0.00060	0.031	--	--
9/13/89	W-Influent	<0.00050	0.0026	<0.00050	0.012	0.087	--	--
12/20/89	W-TAP-MW7	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
Well No. 7								
7/20/89	Well 7	--	--	--	--	--	ND*	--
8/2/89	W-TAP-CW7	--	--	--	--	--	--	ND*
3/26/90	W-TAP-MW7	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 6 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-8								
10/3/89	W-53-MW8	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
12/20/89	W-52-MW8	<0.00050	<0.00050	<0.00050	0.00061	<0.020	--	--
1/31/90	W-55-MW8	<0.00050	<0.00050	<0.00050	0.00087	<0.020	--	--
2/9/90	W-52-MW8	<0.00050	<0.00050	<0.00050	0.0011	<0.020	--	--
	(Blank)	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
3/26/90	W-55-MW8	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
	(Blank)	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
4/18/90	W-52-MW8	<0.00050	0.00058	<0.00050	0.0011	<0.020	--	--
5/17/90	W-60-MW8	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
6/11/90	W-62-MW8	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/01/90	W-61-MW8	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/27/90	W-70-MW8	<0.00050	<0.00050	0.00050	0.00050	<0.020	--	--
MW-9								
10/13/89	W-50-MW9	1.0	9.2	3.0	13	89	--	--
12/20/89	W-50-MW9	6.3	31	9.5	55	190	--	--
1/25/90	W-50-MW9	2.4	9.4	2.7	15	77	--	--
2/27/90	W-50-MW9	1.2	7.1	2.3	14	97	--	--
3/26/90	W-49-MW9	1.8	7.7	2.0	11	89	--	--
4/18/90	W-49-MW9	2.0	7.5	2.5	16	110	--	--
5/17/90	W-50-MW9	1.5	5.7	2.3	14	81	--	--
6/11/90	Not sampled because of the presence of floating product							
8/27/90	Not sampled because of dry well							

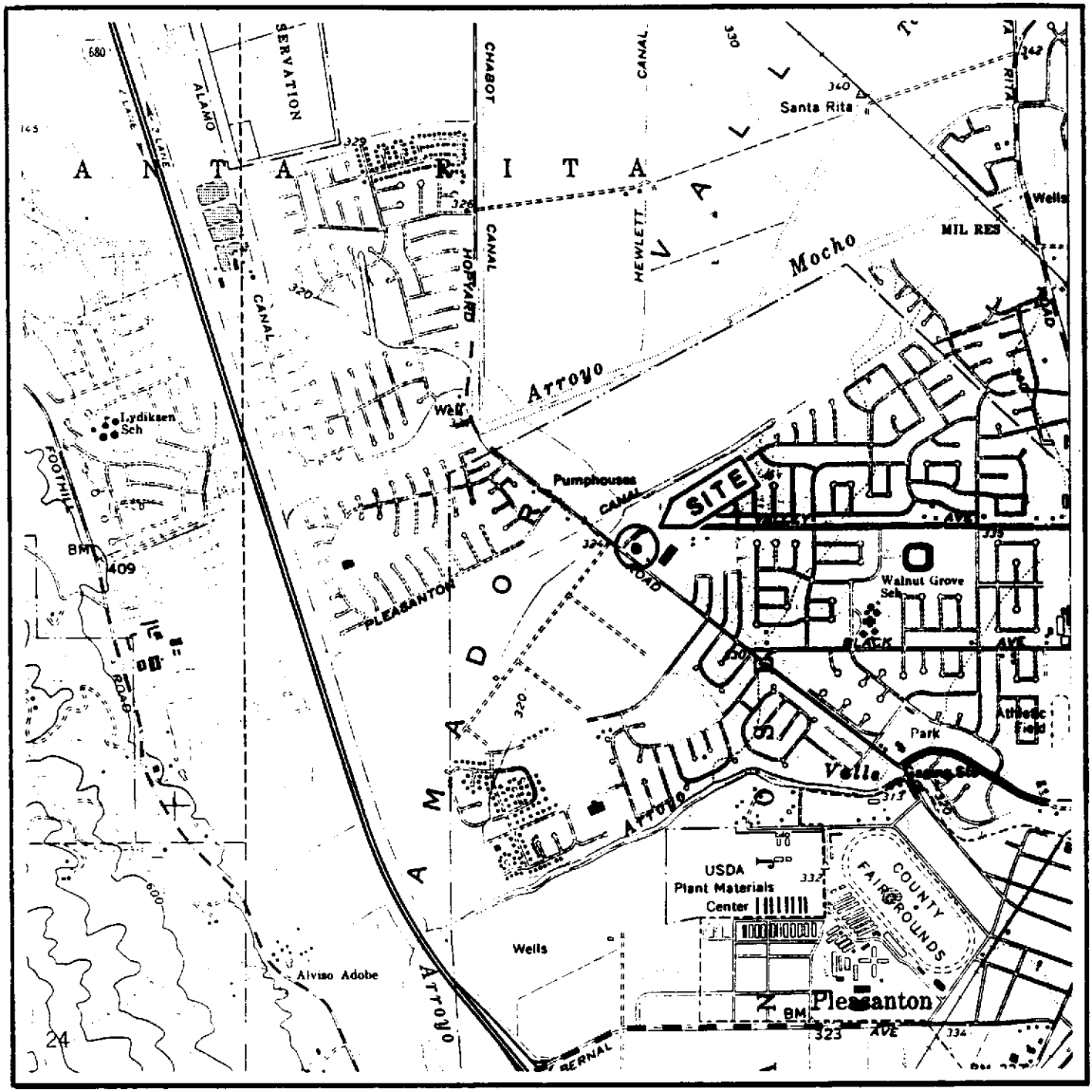
See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 7 of 7)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-10								
10/12/89	W-52-MW10	<0.00050	<0.00050	<0.00050	0.0015	0.020	--	--
12/20/89	W-52-MW10	<0.00050	<0.00050	<0.00050	0.0018	<0.020	--	--
3/26/90	W-51-MW10	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
8/01/90	W-57-MW10	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
MW-11								
11/16/89	W-51-MW11	0.0041	0.0094	0.00074	0.020	0.15	--	--
12/20/89	W-50-MW11	0.0072	0.0075	0.0029	0.013	0.15	--	--
3/26/90	W-50-MW11	<0.00050	<0.00050	<0.00050	0.0027	0.032	--	--
7/30/90	W-54-MW11	<0.00050	<0.00050	<0.00050	0.0038	0.026	--	--

Results in milligrams per liter (mg/l) = parts per million (ppm)
TPHg = total petroleum hydrocarbons as gasoline by EPA modified Method 8015
EPA 502.2 = EPA Method 502.2 (volatile organic compounds)
EPA 524.2 = EPA Method 524.2 (volatile organic compounds)
< = Less than the method detection limits of the laboratory
-- = Not analyzed or not applicable
ND = Nondetectable or below the method detection limit(s) of the laboratory
* = Nondetectable concentrations for 58 volatile organic compounds
Well No. 7 = City of Pleasanton Municipal Well No. 7
Sample designation: W-50-MW11

- W = water
- 50 = depth of sample to the nearest foot (for well MW-7, sample collected from a sample port at the surface)
- MW11 = monitoring well number



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

N

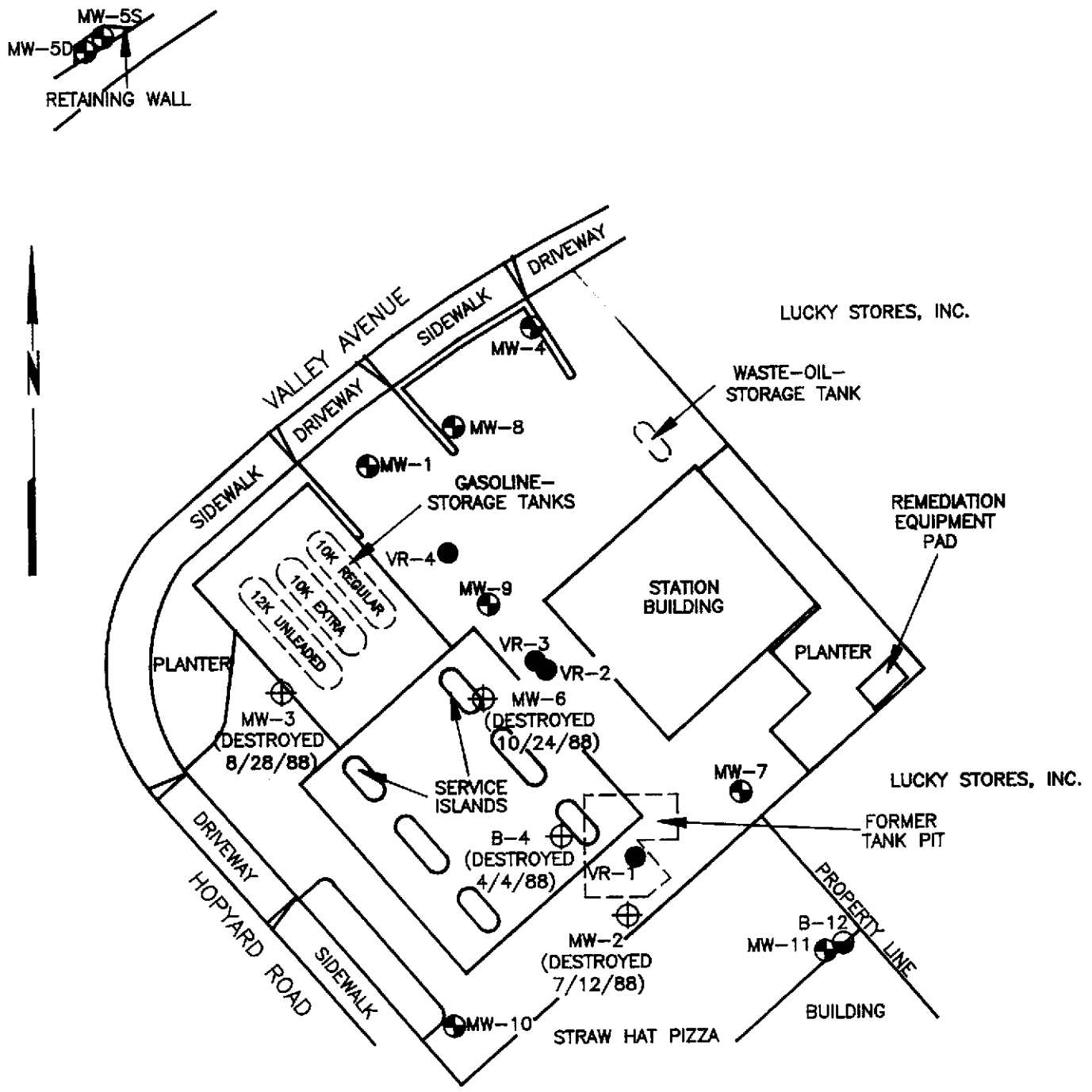
Approximate Scale
2000 1000 0 2000 4000
feet

Applied GeoSystems

PROJECT NO. 18034-8

SITE VICINITY MAP
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE
P - 1



MW-7 = Monitoring well
VR-1 = Vapor recovery well
B-12 = Soil boring
MW-6 = Former well or boring

Approximate Scale

40 20 0 40 80

feet

Applied GeoSystems

PROJECT NO. 18034-8

GENERALIZED SITE PLAN
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE

P - 2

FIELD PROCEDURES

Subjective Evaluations

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

Ground-Water Sampling

Wells MW-1 and MW-8 were each purged of approximately three well volumes of water. A water sample was collected from each well after the well had recharged to more than 80 percent of the static level. A clean Teflon bailer was used to collect the ground-water samples. Half the length of the bailer was lowered past the air-water interface to retrieve the water sample. The bailer was retrieved and the water was slowly decanted into laboratory cleaned, 40-milliliter, volatile-organic analysis, glass sample vials with Teflon-lined caps. Hydrochloric acid was added to the samples as a preservative. The sample vials were promptly capped, labeled, and placed in iced storage for transport to Applied Analytical Environmental Laboratories. Chain of custody protocol was observed throughout the handling of samples.

Water Storage and Disposal

Purged ground water was temporarily stored onsite in 17E, 55-gallon liquid-waste drums approved for this purpose by the Department of Transportation. The purged water was discharged through the oil-water separator onsite and into the sanitary sewer under a permit from the Dublin-San Ramon Services District.

CHAIN-OF-CUSTODY RECORD

Applied GeoSystems

PROJ. NO: 18034-8 | PROJECT NAME: Exxon Pleasanton

P.O. NO:

SAMPLERS (Signature): James N Kocher

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)					Preserved?	REMARKS	LABORATORY I.D. NUMBER
				ANALYSIS									
07-30-90	1300	W-53-MW1	4	✓	✓						HCl		
07-30-90	1330	W-54-MW11	4	✓	✓						HCl		

RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)
James N Kocher	7/30 400	
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature) 7-30-90 1630

Laboratory: Applied Analytical Laboratories

Turn Around: 2 Week

SEND RESULTS TO:
Applied GeoSystems
42501 Albrae Street
Suite 100
Fremont, California 94639
(415) 651-1906

Proj. Mgr.: Keith McVicker

APPLIED ANALYTICAL

Environmental Laboratories

42501 Albrae St., Suite 100
Fremont, CA 94538
Bus: (415) 623-0775
Fax: (415) 651-8647

ANALYSIS REPORT

1020lab.frm

Attention: Mr. Keith McVicker
Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
Project: AGS 18034-8

Date Sampled: 07-30-90
Date Received: 07-30-90
BTEX Analyzed: 07-31-90
TPHg Analyzed: 07-31-90
TPHd Analyzed: NR
Matrix: Water

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit:	0.50	0.50	0.50	0.50	20	100
SAMPLE Laboratory Identification						
W-53-MW1 W1007833	ND	ND	ND	ND	ND	NR
W-54-MW11 W1007834	ND	ND	ND	3.8	26	NR

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

August 2, 1990
Date Reported

CHAIN-OF-CUSTODY RECORD

Applied GeoSystems

PROJ. NO: 180348
PROJECT NAME: Exxon Hopyard Rd. Pleasanton
P.O. NO:
SAMPLERS (Signature): Russell Blake

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)					Preserved?	REMARKS	LABORATORY I.D. NUMBER
				ANALYSIS									
8-1-90		W-56-MW 5R	4	✓	✓						HCl ice		
		W-55-MW 5S	4	✓	✓								
		W-57-MW 10	4	✓	✓								
		W-54-MW 4	4	✓	✓								
		W-61-MW 5	4	✓	✓								

RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)
Russell Blake	8-2-90 8:45	
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature) 8-2-90 9:20 AM
		Martha

Laboratory: AGS

Turn Around: 2 week

SEND RESULTS TO
Applied GeoSystems
42501 Albrae Street
Suite 100
Fremont, California 94639
(415) 651-1906

Proj. Mgr.: Keith McVicker

APPLIED ANALYTICAL

Environmental Laboratories

42501 Albrae St., Suite 100
Fremont, CA 94538
Bus: (415) 623-0775
Fax: (415) 651-8647

ANALYSIS REPORT

1020lab.frm

Attention: Mr. Keith McVicker
Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
Project: AGS 18034-8

Date Sampled: 08-01-90
Date Received: 08-02-90
BTEX Analyzed: 08-03-90
TPHg Analyzed: 08-03-90
TPHd Analyzed: NR
Matrix: Water

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit:	0.50	0.50	0.50	0.50	20	100
SAMPLE Laboratory Identification						
W-56-MW5 W1008016	ND	ND	ND	ND	ND	NR
W-55-MW5S W1008017	ND	ND	ND	ND	ND	NR
W-54-MW4 W1008018	ND	ND	ND	ND	ND	NR
W-61-MW8 W1008019	ND	ND	ND	ND	ND	NR
W-57-MW10 W1008020	ND	ND	ND	ND	ND	NR

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laura Kuck
Laboratory Representative

August 7, 1990
Date Reported

APPLIED ANALYTICAL LABORATORY IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 153)

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

PROJ. NO.	PROJECT NAME
18034-8	EXXON - PLEASANTON
P.O. NO.	SAMPLERS (Signature)

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)					Preserved?	REMARKS	LABORATORY I.D. NUMBER
8/27/90		W-70-MW8	4	X	X						HCl/Ice		
"		W-53-MW1	4	X	X						HCl/Ice		
"		W-Pump Blank	2	X	X						HCl/Ice		

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature): 17 15 8/27/90

Laboratory: AGS

Turn Around: 2 wks

SEND RESULTS TO:

Applied GeoSystems
43255 Mission Boulevard
Fremont, California 95826
(415) 651-1906

Proj. Mgr.: Keith McVicker

APPLIED ANALYTICAL

Environmental Laboratories

42501 Albrae St., Suite 100
Fremont, CA 94538
Bus: (415) 623-0775
Fax: (415) 651-8647

ANALYSIS REPORT

1020lab.frm

Attention: Mr. Keith McVicker
Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
Project: AGS 18034-8

Date Sampled: 08-27-90
Date Received: 08-27-90
BTEX Analyzed: 09-07-90
TPHg Analyzed: 09-07-90
TPHd Analyzed: NR
Matrix: Water

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit:	0.5	0.5	0.5	0.5	20	100
SAMPLE Laboratory Identification						
W-70-MW8 W1008296	ND	ND	0.5	0.5	ND	NR
W-53-MW1 W1008297	ND	ND	ND	ND	ND	NR
W-PUMP BLANK W1008299	ND	ND	ND	ND	ND	NR

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

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