EXXON COMPANY, U.S.A.

POST OFFICE BOX 4032 • CONCORD, CA 94524-2032

ENVIRONMENTAL ENGINEERING

G. D. GIBSON
SENIOR ENVIRONMENTAL ENGINEER

May 13, 1991

Exxon RAS 7-3399
2991 Hopyard Road
Pleasanton, California

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

Dear Mr. Feldman:

Attached for your review is the Letter Progress Report of Ground-Water Monitoring and Remediation Activities 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 event conducted in March and summarizes the remediation activities during the first quarter of 1991.

This monitoring event showed the first indication of rising water levels in all three aquifers being monitored at this site. The vapor extraction system was operational throughout this period except for a short downtime in February. Groundwater recovery and treatment will resume when water levels are sufficient for pumping. Please contact me at (415) 246-8768 if you have any questions or concerns about this report. Thank you.

Sincerely,

Gary D. Gibson

GDG:hs
0553E
Attachment

c - w/attachment:
Mr. S. Cusenza - City of Pleasanton Public Works Department
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. R. C. Witham - Applied GeoSystems

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

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Exxon Company, U.S.A.

QUARTERLY SUMMARY REPORT

January - March 1991
Date: April 10, 1991

RAS #7-3399
2991 Hopyard Road
Pleasanton, CA

AGS 18034-8

WORK PERFORMED THIS QUARTER

- Collected influent vapor samples on a biweekly basis.
- Collected monthly influent vapor samples after January 28, 1991.
- Completed quarterly status report (AGS Report No. 18034-8, dated January 16, 1991).
- Collected ground-water samples from ground-water monitoring wells (MW-4, MW-5d, and MW-8) on March 20, 1991.
- No ground-water recovered from well MW-7 because of insufficient water in the saturated zone to pump.

INFLUENT VAPOR SAMPLING RESULTS: (ug/l)

Date	Sample	B	T	E	X	TPHg	Historical Trend
3/21/91	influent	3.7	1.5	1.8	9.1	910	Unchanged

QUARTERLY GROUNDWATER SAMPLING (3/20/91) RESULTS: (ug/l)

Well	B	T	E	X	TPHg	Historical Trend
MW-4	<0.5	<0.5	<0.5	<0.5	<50	Decrease
MW-5d	<0.5	<0.5	<0.5	<0.5	<50	Unchanged
MW-8	<0.5	<0.5	<0.5	<0.5	<50	Unchanged

FREE PHASE PRODUCT RECOVERY SUMMARY:

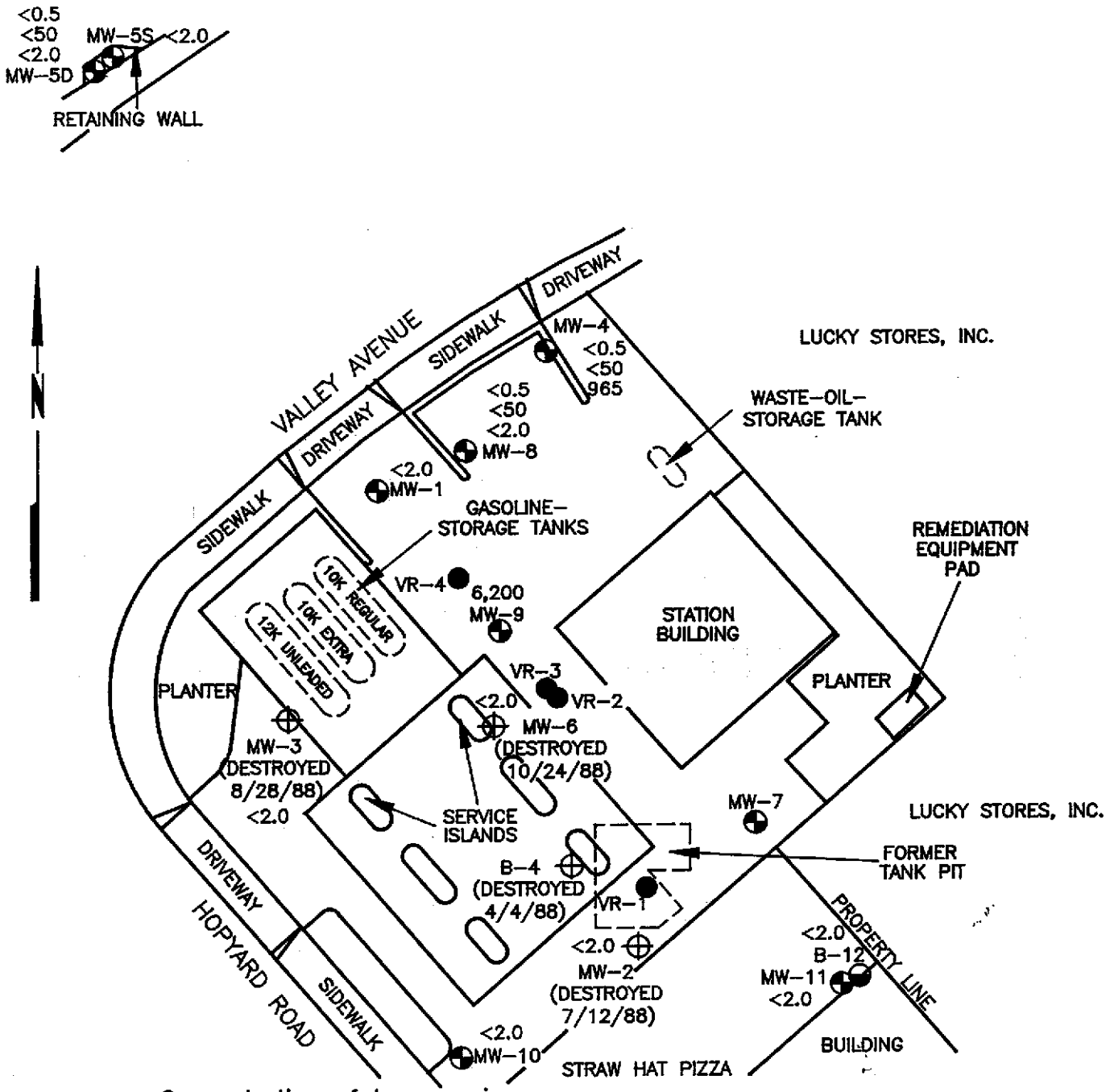
Product recovered this quarter: 0 gallons
Cumulative total product recovered: 57 gallons

WORK TO BE COMPLETED NEXT QUARTER:

Activity	Estimated Completion Date
Complete status report of site activities for first quarter 1991.	April 1991
Continue soil-vapor extraction program.	Unknown
Resume ground-water recovery if the water level rises.	Unknown
Continue ground-water monitoring and sampling.	June 1991
Report on site status.	June 1991

WORK TO BE PERFORMED NEXT 12 MONTHS:

Activity	Estimated Completion Date
Perform monthly influent vapor sampling	Monthly
Perform quarterly ground-water sampling	September 1991 December 1991 March 1992
Complete quarterly status reports	October 1991 January 1991 April 1992



<0.5 = Concentration of benzene in ground water in parts per billion

<50 = Concentration of TPHg in ground water in parts per billion

6,200 = Concentration of TPHg in soil in parts per million

MW-7 = Ground-water 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

SITE PLAN FOR
QUARTERLY SUMMARY REPORT
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE

P - 1

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

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LETTER PROGRESS REPORT ON GROUND-WATER MONITORING AND REMEDIATION ACTIVITIES

at

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

AGS Job No. 18034-9

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

• FREMONT • IRVINE • HOUSTON • BOSTON • SACRAMENTO • CULVER CITY • SAN JOSE

May 7, 1991
AGS 18034-9

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

Subject: Letter Progress Report on First Quarter 1991 Ground-Water Monitoring and Remediation Activities, at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California

Mr. Gibson:

This report presents the results of the first quarter 1991 ground-water monitoring and sampling and an update of remediation activities, at Exxon Service Station No. 7-3399. The Exxon station is located at the intersection of Hopyard Road and Valley Avenue in Pleasanton, California (Plate 1). The monitoring program included depth-to-water measurements and subjective evaluations of ground water in the monitoring wells at the site.

Site Setting and Background

The original service station on the site was demolished in September 1988, and new station facilities were constructed between September 1988 and February 1989. The fuel underground storage tanks (USTs) in the southeast part of the site were removed in July 1988. The current station has three USTs containing unleaded, premium unleaded, and regular leaded gasoline; and a waste oil UST (Plate 2).

Nine ground-water monitoring wells currently are used to monitor ground water at the site (Plate 2). Seven of the nine wells, designated MW-1, MW-4, MW-5s, MW-7, MW-9, MW-10, and MW-11, are screened in the uppermost aquifer below the site. The remaining two wells, MW-5d and MW-8, are screened in the underlying second and third aquifers, respectively.

A ground-water recovery system in operation since 1988 pumped from well MW-7, through an oil-water separator, and then into the sanitary sewer under a permit from the Dublin-San Ramon Services District.

MONITORING

Field Activities

On March 20, 1991, AGS personnel measured depth-to-water, subjectively evaluated ground-water in each well, and purged and sampled wells MW-4, MW-5d, and MW-8 for laboratory analyses as part of the quarterly ground-water monitoring program. Wells MW-5s, MW-7, MW-10, and MW-11, which are included in the quarterly sampling program, were not sampled because these wells contained insufficient water for sampling. The field activities were performed using procedures described in Appendix A.

Results of Ground-Water Monitoring

Between December 1990 and March 1991, the ground-water level in the wells in the uppermost aquifer rose an average of 0.2 foot. During the same time,the water level in MW-5d (second aquifer) rose approximately 3.3 feet and the water level in MW-8 (third aquifer) rose approximately 5.9 feet. No floating product or sheen was observed on water in the wells. Cumulative results of depth to water measurements and subjective evaluations are presented in Table 1.

Due to the low water levels measured in March 1991, resulting in anomalous water levels in the upper aquifer, ground-water elevation maps were not constructed. Previous data suggest that the ground-water flow is generally southward and the hydraulic gradient below much of the site is very shallow.

Laboratory Methods and Results of Ground-Water Sampling

The ground-water samples from MW-4, MW-5d, and MW-8 were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by Environmental Protection Agency (EPA) modified Method 8015, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 602. The analyses were performed by Applied Analytical laboratories (Hazardous Waste Testing Laboratory Certificate 1211), Fremont, California.

The laboratory analyses indicate no detectable TPHg and BTEX in the ground-water samples from wells MW-4, MW-5d, and MW-8 (Table 2). These results are consistent with previous sampling results (Table 3). Chain of Custody Records and certified analysis reports are enclosed (Appendix A).

REMEDIATION

Ground-Water Recovery

During this monitoring period, ground-water recovery was not undertaken because of insufficient water in the uppermost aquifer to pump. Recovery activities will resume when the ground water rises to a sufficient level for pumping.

Soil-Vapor Extraction System

A 100 cubic feet per minute vacuum pump and catalytic oxidizer were installed at the site in November to extract and treat soil vapors. The intent of the vapor extraction program is to remove vapors from the sand and gravel of the uppermost aquifer before the water level in this aquifer rises, and reduce potential future impact to the ground water. The vacuum system is connected to six wells; shallow well VR-1, installed in the backfill material of the former UST pit; shallow wells VR-3 and VR-4, installed in the unsaturated silty clay overlying the uppermost aquifer; and deeper wells VR-2, MW-1, and MW-9, installed in sand and gravel in the uppermost aquifer.

The vapor extraction system was permitted by the Bay Area Air Quality Management District under Authority to Construct No. 5125, dated August 2, 1990, and permit to operate, dated January 4, 1991. After start up testing in late November, the system began operating on December 7, 1990. During January 1991, influent vapor samples were collected on a biweekly basis and after January were collected on a monthly basis. Results of sampling in December 1990 and biweekly sampling performed on January 4 and 14, 1991, were reported in AGS Report No. 18034-8, dated January 16, 1991.

To remove vapors from the unsaturated silty clay, deep wells installed in the sand and gravel of the uppermost aquifer were closed on January 14, 1991, while shallow vapor wells overlying the uppermost aquifer were opened. Extraction from the silty clay was conducted between January 14 and January 28, 1991, and subsequently an influent vapor sample was collected on January 28, 1991, for laboratory analysis. On January 28, 1991, vapor wells in the unsaturated silty clay were closed and the vapor wells in the sand and gravel were opened. Except for one interruption in February, extraction from the sand and gravel was performed between January 28 and March 18, 1991, and an influent vapor sample was collected on March 18, 1991, for analysis. No vapor sample was collected in February because the system was temporarily shut down. Sampling was performed using procedures described in Appendix A. Chain of Custody Records and certified analysis reports are also enclosed (Appendix A).

Laboratory Methods and Results of Vapor Sampling

Influent vapor samples collected in January and March 1991 were analyzed for TPHg and BTEX by Modified Method CA-ADDL004. The samples were analyzed by Chromalab, Inc., (Certification No. E694) of San Ramon, California. Cumulative results of the influent and effluent vapor samples collected since the system began operating are presented in Table 4.

Laboratory results from the influent vapor sample collected on January 28, 1991, show only a slight fluctuation of TPHg and BTEX concentrations from concentrations detected on January 4 and 14, 1991. Results from January 28 show influent TPHg concentrations of 0.96 ppm and BTEX concentrations ranging from 0.0005 to 0.028 ppm. Laboratory results from the March 18, 1991, influent vapor sampling show 0.91 ppm TPHg and BTEX ranging from 0.0015 to 0.0091 ppm, indicating little change since the January 28, 1991, results. The trend in concentration of TPHg for influent vapor samples are presented on Plate 3.

Please call if you have questions.

Sincerely,
Applied GeoSystems

Keith M. McVicker
Project Geologist

Joan E. Tiernan
Registered Civil Engineer
No. 044600

Enclosures: Table 1, Cumulative Results of Subjective Evaluations
Table 2, Current Results of Ground-Water Samples
Table 3, Cumulative Results of Ground-Water Samples
Table 4, Results of Influent and Effluent Vapor Samples
Plate 1, Site Vicinity Map
Plate 2, Generalized Site Plan
Plate 3, Concentrations of TPHg for Influent and Effluent Vapor Samples
Appendix A: Field Procedures
Chain of Custody Records and Laboratory Analysis Reports

Submitted: April 17, 1991
Revised: May 7, 1991

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 1 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-1 (Wellhead Elevation = 321.44 ft)				
04/06/88	36.34	285.00	None	None
04/08/88	36.29	285.15	None	None
04/19/88	36.36	285.08	None	None
06/06/88	38.16	283.28	None	None
06/23/88	38.71	282.73	None	None
06/28/88	39.16	282.28	--	--
07/06/88	39.73	281.71	None	None
07/13/88	40.22	281.22	None	None
08/12/88		Well buried under excavated soil		
08/26/88	41.90	279.54	--	--
09/07/88	42.27	279.17	None	None
12/07/88	43.94	277.50	None	None
12/19/88	43.70	277.74	None	None
02/09/89	42.53	278.91	--	--
03/08/89	41.96	279.48	None	None
04/03/89	41.59	279.85	--	--
04/26/89	41.67	279.77	--	--
06/30/89	43.79	277.65	None	None
07/17/89	44.74	276.70	None	None
07/18/89	44.76	276.68	--	--
07/19/89	44.82	276.62	--	--
07/20/89	44.85	276.59	None	None
07/21/89	44.95	276.49	--	--
07/26/89	45.42	276.02	None	None
08/02/89	--	--	--	--
08/03/89	46.18	275.26	--	--
08/17/89	47.12	274.32	--	--
09/13/89	49.08	272.36	None	None
11/28/89	50.21	271.23	None	None
01/09/90	49.31	272.13	None	None
01/26/90	49.29	272.15	None	None
02/23/90	49.02#	272.42	None	None
02/23/90	49.02	272.42	None	None
03/26/90	48.71#	272.73	None	None
03/26/90	48.70	272.74	None	None
04/18/90	48.79	272.65	None	None
05/17/90	49.40	272.04	None	None
06/11/90	50.83	270.61	None	None
07/30/90	52.17	269.27	None	None
08/27/90	53.44	268.00	None	None
09/28/90	53.40	268.04	None	None
12/27/90	--	--	--	--
03/20/91	53.35	268.08	--	--

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 2 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-2				
04/02/88	--	--	3.0	Heavy
04/04/88	--	--	18.0	Heavy
04/05/88	--	--	18.0	Heavy
04/06/88	39.31	--	38.4	Heavy
04/08/88	--*	--	--*	--*
04/19/88	38.90	--	29.76**	Heavy
06/06/88	38.78	--	3.12	Heavy
06/23/88	39.23	--	1.50	Heavy
06/28/88	39.72	--	--	--
07/06/88	40.31	--	None	Slight
07/12/88		Well destroyed due to excavation (old pit)		
MW-3				
04/06/88	37.19	--	None	None
04/08/88	37.14	--	None	None
04/19/88	37.22	--	None	None
06/06/88	39.02	--	None	None
06/23/88	39.58	--	None	None
06/28/88	40.04	--	--	--
07/06/88	40.60	--	None	None
07/13/88	41.09	--	None	None
08/12/88		Well buried under excavated soil		
08/26/88	42.77	--	--	--
08/29/88		Well destroyed due to excavation (new pit)		
MW-4 (Wellhead elevation = 321.56 ft)				
04/08/88	36.41	285.15	None	None
04/19/88	36.51	285.05	None	None
06/06/88	38.26	283.30	None	None
06/23/88	38.83	282.73	None	None
06/28/88	39.28	282.28	--	--
07/06/88	39.85	281.71	None	None
07/13/88	40.31	281.25	None	None
08/12/88		Well buried under excavated soil		
08/26/88	42.01	279.55	--	--
09/07/88		Not accessible due to construction		
12/07/88		Not accessible due to construction		
12/19/88	43.83	277.73	None	None
02/09/89	42.67	278.89	--	--
03/08/89	42.11	279.45	None	None
04/03/89	41.73	279.83	--	--
04/26/89	41.79	279.77	--	--
06/30/89	43.88	277.68	None	None
07/17/89	44.85	276.71	None	None
07/18/89	44.88	276.68	--	--
07/19/89	44.92	276.64	--	--
07/20/89	44.98	276.58	None	None
07/21/89	45.04	276.52	--	--
07/26/89	45.50	276.06	None	None
08/02/89	--	--	--	--
08/03/89	46.28	275.28	--	--
08/17/89	47.22	274.34	--	--
09/13/89	49.19	272.37	None	None

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 3 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-4				
11/28/89	50.34	271.22	None	None
01/09/90	49.47	272.09	None	None
01/26/90	49.36	272.20	None	None
02/23/90	49.18#	272.38	None	None
02/23/90	49.15	272.41	None	None
03/26/90	48.84#	272.72	None	None
03/26/90	48.83	272.73	None	None
04/18/90	48.90	272.66	None	None
05/17/90	50.03	271.53	None	None
06/11/90	50.98	270.58	None	None
07/30/90	53.57	267.99	None	None
08/27/90	53.61	267.95	None	None
09/28/90	53.57	267.99	None	None
12/27/90	53.68	267.88	None	None
03/20/91	53.56	268.00	None	None
B-4				
04/02/88	--	--	None	None
MW-5d (Wellhead Elevation = 321.79 ft)				
05/25/88	38.55	283.24	None	None
06/06/88	38.90	282.89	None	None
06/23/88	39.56	282.23	None	None
06/28/88	40.23	281.33	--	--
07/06/88	40.69	281.10	None	None
07/13/88	41.22	280.57	None	None
08/12/88	42.34	279.45	--	--
08/26/88	42.60	279.19	--	--
09/07/88	42.99	278.80	--	--
12/07/88	44.58	277.21	None	None
02/09/89		Casing head damaged by construction		
03/08/89		Casing head cut to lower elevation		
	42.49	279.30	None	None
04/03/89	42.21	279.58	--	--
04/26/89	42.36	279.43	--	--
06/30/89	44.79	277.00	None	None
07/17/89	45.73	276.06	None	None
07/18/89	45.75	276.04	--	--
07/19/89	44.89	276.90	--	--
07/20/89	46.02	275.77	None	None
07/21/89	46.18	275.38	--	--
07/26/89	46.83	274.96	None	None
08/02/89	--	--	--	--
08/03/89	47.67	274.12	--	--
08/17/89	48.27	273.52	--	--
09/13/89	50.60	271.19	None	None
11/28/89	51.16	270.63	None	None
01/09/90	50.42	271.37	None	None
01/26/90	50.10	271.66	None	None
02/23/90	50.08	271.77	None	None
03/26/90	49.80#	271.99	None	None
03/26/90	49.77	272.02	None	None

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 4 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-5d				
04/18/90	49.80	271.99	None	None
05/17/90	51.32	270.47	None	None
06/11/90	52.10	269.69	None	None
07/30/90	53.47	268.32	None	None
08/27/90	58.24	263.55	None	None
09/28/90	60.70	261.09	None	None
12/27/90	62.52	259.27	None	None
03/20/91	59.18	262.61	None	None
MW-5s (Wellhead Elevation = 321.64 ft)				
05/25/88	38.46	283.18	None	None
06/06/88	38.86	282.78	None	None
06/23/88	39.52	282.12	None	None
06/28/88	39.84	281.80	--	--
07/06/88	40.45	281.19	None	None
07/13/88	40.90	280.74	None	None
07/22/88	41.30	280.34	None	None
08/05/88	23.84▼	297.80	None	None
08/12/88	42.21	279.43	--	--
08/26/88	42.55	279.09	--	--
09/07/88	42.94	278.70	None	None
12/07/88	44.67	276.97	None	None
02/09/89	43.19	278.45	--	--
03/08/89		Casing head cut to lower elevation		
	42.11	279.53	None	None
04/26/89	41.84	279.80	--	--
06/30/89	43.95	277.69	None	None
07/17/89	44.91	276.73	None	None
07/18/89	44.93	276.71	--	--
07/19/89	44.98	276.66	--	--
07/20/89	45.02	276.62	None	None
07/21/89	45.10	276.54	--	--
07/26/89	45.57	276.07	None	None
08/02/89	--	--	--	--
08/03/89	46.31	275.33	--	--
08/17/89	47.25	274.39	--	--
09/13/89	49.22	272.42	None	None
11/28/89	50.39	271.25	None	None
01/09/90	49.51	272.13	None	None
01/26/90	49.40	272.24	None	None
02/23/90	49.20#	272.44	None	None
02/23/90	49.20	272.44	None	None
03/26/90	48.89#	272.75	None	None
03/26/90	48.88	272.76	None	None
04/18/90	48.95	272.69	None	None
05/17/90	50.06	271.58	None	None
06/11/90	50.98	270.66	None	None
07/30/90	53.40	268.24	None	None
08/27/90	53.60	268.04	None	None
09/28/90	53.55	268.09	None	None
12/27/90	53.61	268.03	None	None
03/20/91	53.56	268.08	None	None

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 5 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-6				
05/11/88	37.71	--	None	None
06/06/88	38.70	--	None	None
06/23/88	39.23	--	None	None
06/28/88	39.74	--	None	None
07/13/88	40.78	--	None	None
08/05/88	41.72	--	None	None
08/12/88	42.14		--	--
08/17/88		Well buried under excavated soil		
08/26/88	42.51	--	--	--
09/07/88	42.85	--	None	None
10/24/88		Well destroyed for station construction		
MW-7 (Wellhead Elevation = 321.27 ft)				
07/13/88	40.50	280.77	None	None
07/22/88	41.85#	279.42	None##	None##
08/05/88	41.45#	279.82	None##	None##
08/12/88	42.69	278.58	--	--
09/07/88	42.60	278.67	--	--
12/07/88		Not accessible		
01/17/89	43.20	278.07	--	--
02/09/89		Not accessible, pump equipment in well		
10/12/89	49.93	271.34	None	None
11/28/89	57.61#	264.03	--	--
01/09/90	57.57#	263.70	--	--
01/26/90	57.54#	263.73	None	None
01/26/90	49.08	272.19	None	None
02/23/90	55.26#	266.01	None	None
02/23/90	48.93	272.34	None	None
03/26/90	57.52#	263.73	None	None
03/26/90	48.60	272.67	None	None
04/18/90	57.55#	263.72	None	None
05/17/90	57.40#	263.87	None	None
06/11/90	50.68	270.59	None	None
07/30/90	--	--	None	None
08/27/90	53.05	268.22	None	None
09/28/90	--	--	--	--
12/27/90	--	--	--	--
03/20/91	54.11	267.16	--	--

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 6 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-8 (Wellhead Elevation = 321.86 ft)				
10/01/89	53.88	267.98	None	None
11/28/89	53.74	268.12	None	None
01/09/90	57.90	263.96	None	None
01/26/90	53.57	268.29	None	None
02/23/90	52.16	269.70	None	None
03/26/90	52.80#	269.06	None	None
04/18/90	51.60	270.26	None	None
05/17/90	58.21	263.65	None	None
06/11/90	58.65	263.21	None	None
07/30/90	64.33	257.53	None	None
08/27/90	70.41	251.45	None	None
09/28/90	71.93	249.93	None	None
12/27/90	66.60	255.26	None	None
03/20/91	60.75	261.11	None	None
MW-9 (Wellhead elevation = 321.44 ft)				
10/12/89	50.24	271.20	None	None
11/28/89	50.59	270.85	1.0	Heavy
12/01/89	50.32	271.12	0.25	Heavy
12/07/89	50.13	271.31	1.92	Heavy
12/13/89	49.91	271.53	None	Slight
12/20/89	49.78	271.66	None	Slight
01/02/90	--	--	None	Slight
01/09/90	49.39	272.05	None	Slight
01/26/90	49.30	272.14	None	None
02/23/90	49.06#	272.38	None	None
02/23/90	49.05	272.39	None	None
03/26/90	48.75#	272.69	None	None
03/26/90	48.73	272.71	None	Very Slight
04/18/90	48.81	272.63	None	Slight
05/17/90	49.96	271.48	None	Slight
06/11/90	51.58	269.86	4.5	--
07/30/90	Dry	--	--	--
08/27/90	Dry	--	--	--
09/28/90	Dry	--	--	--
12/27/90	--	--	--	--
03/20/91	Dry	--	None	Very Slight
MW-10 (Wellhead Elevation = 322.99 ft)				
10/12/89	51.93	271.06	None	None
11/28/89	51.88	271.11	None	None
12/20/89	51.47	271.52	None	None
01/09/90	50.98	272.01	None	None
01/26/90	50.87	272.12	None	None
02/23/90	50.67#	272.32	None	None
02/23/90	50.65	272.34	None	None
03/26/90	50.36#	272.63	None	None
03/26/90	50.35	272.64	None	None
04/18/90	50.45	272.54	None	None
06/11/90	51.16	271.83	None	None
07/30/90	55.72	267.27	None	None
08/27/90	57.75	265.24	None	None
09/28/90	--	--	--	--
12/27/90	58.08	264.91	None	None
03/20/91	57.80	265.19	None	None

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE EVALUATIONS
(page 7 of 7)

Date	Depth to Water (ft)	Ground-Water Elevation (ft)	Floating Product (in)	Sheen
MW-11 (Wellhead Elevation = 321.77 ft)				
11/10/89	50.64	271.13	None	None
11/28/89	50.51	271.26	None	Very Slight
12/20/89	51.47	270.30	None	None
01/09/90	49.68	272.09	None	None
01/26/90	49.55	272.22	None	None
02/23/90	49.37#	272.40	None	None
02/23/90	49.35	272.42	None	None
03/26/90	49.03#	272.74	None	None
03/26/90	49.03	272.74	None	None
04/18/90	49.12	272.65	None	None
05/17/90	50.30	271.47	None	None
06/11/90	51.16	270.61	None	None
07/30/90	53.50	268.27	None	None
08/27/90	53.65	268.12	None	None
09/28/90	53.62	268.15	None	None
12/27/90	53.63	268.14	None	None
03/20/91	53.26	268.51	None	None

Depth to ground water is in feet below top of casing.
Elevation is in feet above mean sea level.
– = Not measured
NA = Not applicable
* = 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.
= Water level during pumping of MW-7.
= Water inspected in oil-water separator tank.

TABLE 2
CURRENT RESULTS OF GROUND-WATER ANALYSES
(March 20, 1991)

Well No.	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)
MW-4	W-53-MW4	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-5d	W-59-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-8	W-60-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.05

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 compound)
< = 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

Sample designation: W-50-MW1

- W = water
- 50 = depth of sample to the nearest foot
- MW1 = monitoring well number

TABLE 3
CUMULATIVE RESULTS OF GROUND-WATER ANALYSES
(page 1 of 4)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-1								
4/02/88	W-38-MW1	<0.0005	0.0017	<0.0005	<0.0005	<0.02	--	--
7/06/88	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	--	--
9/07/88	W-43-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/08/89	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	--	--
8/02/89	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	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
6/11/90	W-52-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
7/30/90	W-53-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/27/90	W-53-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/28/90	W-53-MW1	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
MW-2								
7/06/88	W-41-MW	25.7	18.5	2.9	21.4	62	--	--
7/12/88				Well destroyed				
MW-3								
4/06/88	W-39-MW3	<0.0005	<0.0005	<0.0005	<0.0005	0.02	--	--
7/06/88	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	--	--
8/29/88				Well destroyed				
MW-4								
4/11/88	W-37-MW4	0.0018	0.0163	0.0006	0.0071	0.08	--	--
7/06/88	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	--	--
9/07/88				(Well not accessible)				
3/08/89	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	--	--
8/02/89	W-46-MW4	--	--	--	--	--	--	ND*
9/13/89	W-50-MW4	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
12/20/89	W-50-MW-4	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/26/90	W-49-MW-4	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/01/90	W-54-MW-4	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
12/27/90	W-54-MW-4	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
03/20/91	W-53-MW-4	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--

See notes on page 4 of 4.

TABLE 3
CUMULATIVE RESULTS OF GROUND-WATER ANALYSES
(page 2 of 4)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (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	--	--
7/06/88	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	--	--
3/08/89	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	--	--
8/02/89	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	--	--
12/27/90	W-63-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
03/20/91	W-59-MW5d	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
MW-5s								
5/25/88	W-41-MW5b	<0.0005	0.0009	<0.0005	<0.0005	<0.02	--	--
7/06/88	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	--	--
8/05/88	W-25-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/07/88	W-43-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/08/89	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	--	--
8/02/89	W-47-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
9/13/89	W-50-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
12/20/89	W-50-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/26/90	W-49-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/01/90	W-55-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
12/27/90	W-54-MW5s	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
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	--	--
8/05/88	W-42-MW6	0.2450	0.0052	0.0471	0.0237	1.18	--	--
9/07/88	W-43-MW6	0.474	0.016	0.262	0.136	2.92	--	--
10/24/88				Well destroyed				

See notes on page 4 of 4.

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

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (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	--	--
8/05/88	W-45-MW7	0.0733	0.0528	0.0023	0.0281	0.27	--	--
2/09/89	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	--	--
8/02/89	W-TAP-MW7	0.0016	<0.0005	<0.0005	0.00060	0.031	--	--
9/13/89	W-Influent	<0.0005	0.0026	<0.0005	0.012	0.087	--	--
12/20/89	W-TAP-MW7	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
Well No. 7 (City of Pleasanton)								
7/20/89	Well 7	--	--	--	--	--	ND*	--
8/02/89	W-TAP-CW7	--	--	--	--	--	--	ND*
3/26/90	W-TAP-MW7	<0.00050	<0.00050	<0.00050	<0.00050	<0.020	--	--
MW-8								
10/03/89	W-53-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
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	--	--
2/09/90	W-52-MW8	<0.0005	<0.0005	<0.0005	0.0011	<0.02	--	--
	(Blank)	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
3/26/90	W-55-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
	(Blank)	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
4/18/90	W-52-MW8	<0.00050	0.00058	<0.00050	0.0011	<0.020	--	--
5/17/90	W-60-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
6/11/90	W-62-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/01/90	W-61-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/27/90	W-70-MW8	<0.0005	<0.0005	0.0005	0.0005	<0.02	--	--
9/28/90	W-71-MW8	<0.0005	<0.0005	<0.0005	0.0005	<0.05	--	--
12/27/90	W-67-MW8	<0.0005	<0.0005	<0.0005	0.0006	<0.05	--	--
03/20/91	W-60-MW8	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	--	--
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						
MW-10								
10/12/89	W-52-MW10	<0.0005	<0.0005	<0.0005	0.0015	0.02	--	--
12/20/89	W-52-MW10	<0.0005	<0.0005	<0.0005	0.0018	<0.02	--	--
3/26/90	W-51-MW10	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--
8/01/90	W-57-MW10	<0.0005	<0.0005	<0.0005	<0.0005	<0.02	--	--

See notes on page 4 of 4.

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

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
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	<0.0005	<0.0005	<0.0005	0.0027	0.032	--	--
7/30/90	W-54-MW11	<0.0005	<0.0005	<0.0005	0.0038	0.026	--	--

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 compound)
< = 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

Sample designation: W-50-MW1
- W = water
- 50 = depth of sample to the nearest foot)
- MW1 = monitoring well number

TABLE 4
RESULTS OF INFLUENT AND EFFLUENT VAPOR SAMPLES

Date	Sample No.	TPHg	Benzene	Toluene	Ethyl-benzene	Total xylenes
11/30/90	influent	1800*	19*	21*	15*	52*
12/11/90	influent	1.4	<0.0001	0.0005	0.0003	0.0008
12/14/90	influent	0.94	<0.0005	0.011	0.0083	0.025
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
12/17/90	influent	0.20	0.0024	0.0016	0.0010	0.0026
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
12/28/90	influent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
1/4/91	influent	0.94	0.013	0.0005	0.0006	0.0015
1/14/91	influent	1.2	0.0023	0.0013	0.0009	0.0039
1/28/91	influent	0.96	0.028	0.0008	0.0005	0.0005
2/28/91	System inoperative					
3/18/91	influent	0.91	0.0037	0.0015	0.0018	0.0091

Results are in parts per million (ppm).
* = Results in milligrams per cubic meter (mg/m3).
TPHg = Total petroleum hydrocarbons as gasoline.
< = Less than the method detection limits of the laboratory.

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 and sheen. The bailer was washed with Alconox, a commercial biodegradable detergent, and rinsed with deionized water before each use.

Ground-Water Sampling

Wells MW-4, MW-5d, 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.

Influent and Effluent Vapor Sampling

Influent and effluent vapors samples were collected at the catalytic oxidizer's inlet and outlet ports using evacuated aerosol containers (280 cubic centimeter Vacuum Samplers). These Vacuum Samplers were fitted with a septum port and needle guide, through which the containers were filled for subsequent laboratory analysis.

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

PROJ. NO.	PROJECT NAME
18034-8	EXXON DFAFS (HAYWARD)
P.O. NO.	SAMPLERS (Signature)
	LOUIS R WIES

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)						Preserved?	REMARKS	LABORATORY I.D. NUMBER
3/20/91	2:30	W-53-MW4	3	✓	✓							HCl/ICE		
	2:45	W-59-MW5D	3	✓	✓									
✓	3:00	W-60-MW8	3	✓	✓							✓		

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):	Laboratory:
LOUIS R WIES	3/24/91 1622		APPLIED ANALYTICAL
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):	
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature):	Turn Around: 2 WK
		Anthony Green 3-20-91	

SEND RESULTS TO:
Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
(415) 651-1906

Proj. Mgr.: KEITH MCWICKER

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: 03-20-91
Date Received: 03-20-91
BTEX Analyzed: 04-03-91
TPHg Analyzed: 04-03-91
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	50	100
SAMPLE Laboratory Identification						
W-53-MW4 W1103548	ND	ND	ND	ND	ND	NR
W-59-MW5D W1103549	ND	ND	ND	ND	ND	NR
W-60-MW8 W1103550	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.

Laboratory Representative

April 4, 1991
Date Reported

APPLIED ANALYTICAL LABORATORY IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1211)

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

CHROMALAB FILE # 191054

1366

PROJECT NO: 18034-7

PROJECT NAME: EXXON / Pleasanton

P.O. NO:

SAMPLERS (Signature): RASmi

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)				Preserved?	REMARKS	LABORATORY I.D. NUMBER
				ANALYSIS								
1/14/91	AM	A— in	1	X	X						—	

RELINQUISHED BY (Signature): [signature] DATE / TIME: 1/14 12:45 RECEIVED BY (Signature):

RELINQUISHED BY (Signature): DATE / TIME: RECEIVED BY (Signature):

RELINQUISHED BY (Signature): DATE / TIME: 1/14/91 12:45 RECEIVED BY (Signature): PM [signature]

Laboratory: CHROMALAB

Turn Around: NTA

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

Proj. Mgr.: Rodger

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

January 15, 1991 ChromaLab File No.: 0191054

APPLIED GEOSYSTEMS, INC.

Attn: Rodger

RE: One air sample for Gasoline/BTEX analysis

Project Name: EXXON / PLEASANTON
Project Number: 18034-7
Date Sampled: Jan. 14, 1991 Date Submitted: Jan. 14, 1991
Date Extracted: Jan. 14, 1991 Date Analyzed: Jan. 14, 1991

RESULTS:

Sample No.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
A-IN	1200	2.3	1.3	0.9	3.9
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	97.0%	94.5%	92.2%	99.6%	90.3%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/ 8015	602	602	602	602

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798
Federal ID #68-0140157

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

CHROMALAB FILE # 191116

PROJECT NO.	PROJECT NAME	SAMPLERS (Signature)
1834-8	Exxon / Pleasanton	
P.O. NO.		

Invoice # 1501

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)						Preserved?	REMARKS	LABORATORY I.D. NUMBER
				ANALYSIS										
11/28/91	1:00P	A - in	1	X	X									

RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)	Laboratory:	SEND RESULTS TO
	11/29 1:00		Chromalab	Applied GeoSystems 42501 Albrae Street Suite 100 Fremont, California 94639 (415) 651-1906
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)		
RELINQUISHED BY (Signature)	DATE / TIME	RECEIVED BY (Signature)	Turn Around: NTP	Proj. Mgr.: Enkeyer
	11/29/91 1:00			

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

February 13, 1991 ChromaLab File No.: 0191116

APPLIED GEOSYSTEMS, INC.

Attn: Rasmi

RE: One gas sample for Gasoline/BTEX analysis

Project Name: EXXON / PLEASANTON
Project Number: 18034-8
Date Sampled: Jan. 28, 1991 Date Submitted: Jan. 28, 1991
Date Extracted: Jan. 28, 1991 Date Analyzed: Jan. 28, 1991

RESULTS:

Sample No.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
A-IN	960	28	0.8	0.5	0.5
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	97.0%	94.5%	92.2%	99.6%	90.3%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOF OF ANALYSIS	5030/ 8015	602	602	602	602

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

CHROMALAB FILE # 391077

1810

PROJECT NO.	PROJECT NAME	SAMPLERS (Signature)
7034-9	Exxon - Pleasanton	[signature]

DATE (MM/DD/YY)	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)					Preserved?	REMARKS	LABORATORY I.D. NUMBER
ANALYSIS													
3/18/91	AM	A - W1	1	X	X							Air Sample	

RELINQUISHED By (Signature)	DATE / TIME	RECEIVED By (Signature)
[signature]	3/18 10:32	[signature]
RELINQUISHED By (Signature)	DATE / TIME	RECEIVED By (Signature)
RELINQUISHED By (Signature)	DATE / TIME	RECEIVED FOR LABORATORY By (Signature)

Laboratory: CHROMALAB

Turn Around: 24-hour

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

Proj. Mgr.:

APPLIED ANALYTICAL

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

March 19, 1991 ChromaLab File No.: 0391077

APPLIED ANALYTICAL, INC.

Attn: Laura Kuck

RE: One rush air sample for Gasoline/BTEX analysis

Project Name: EXXON - PLEASANTON
Project Number: 18034-9
Date Sampled: March 18, 1991 Date Submitted: March 18, 1991
Date Extracted: March 18, 1991 Date Analyzed: March 18, 1991

RESULTS:

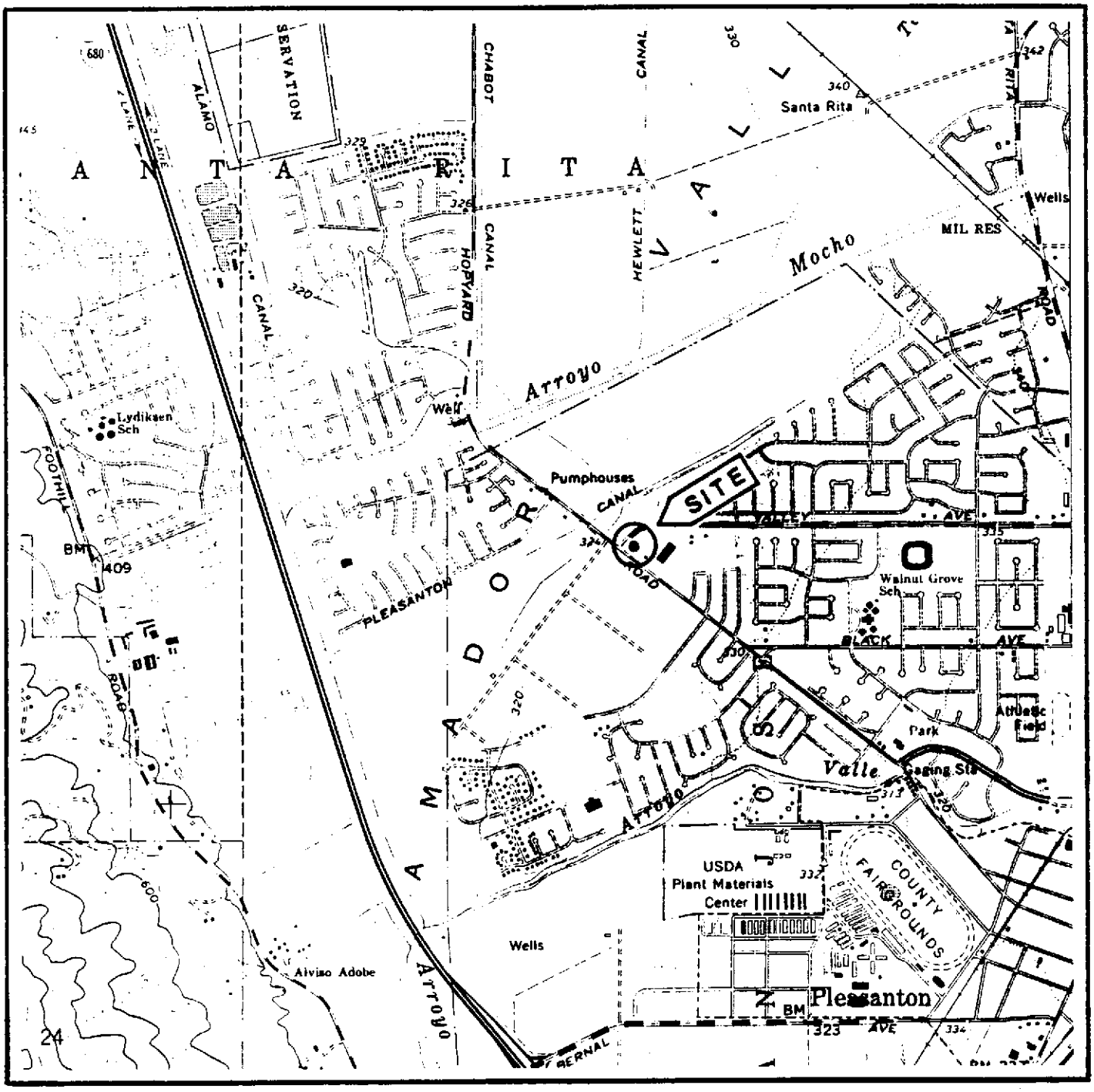
Sample No.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
A-IN	910	3.7	1.5	1.8	9.1
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	101.0%	90.3%	104.1%	98.7%	94.8%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/ 8015	602	602	602	602

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798
Federal ID #68-0140157

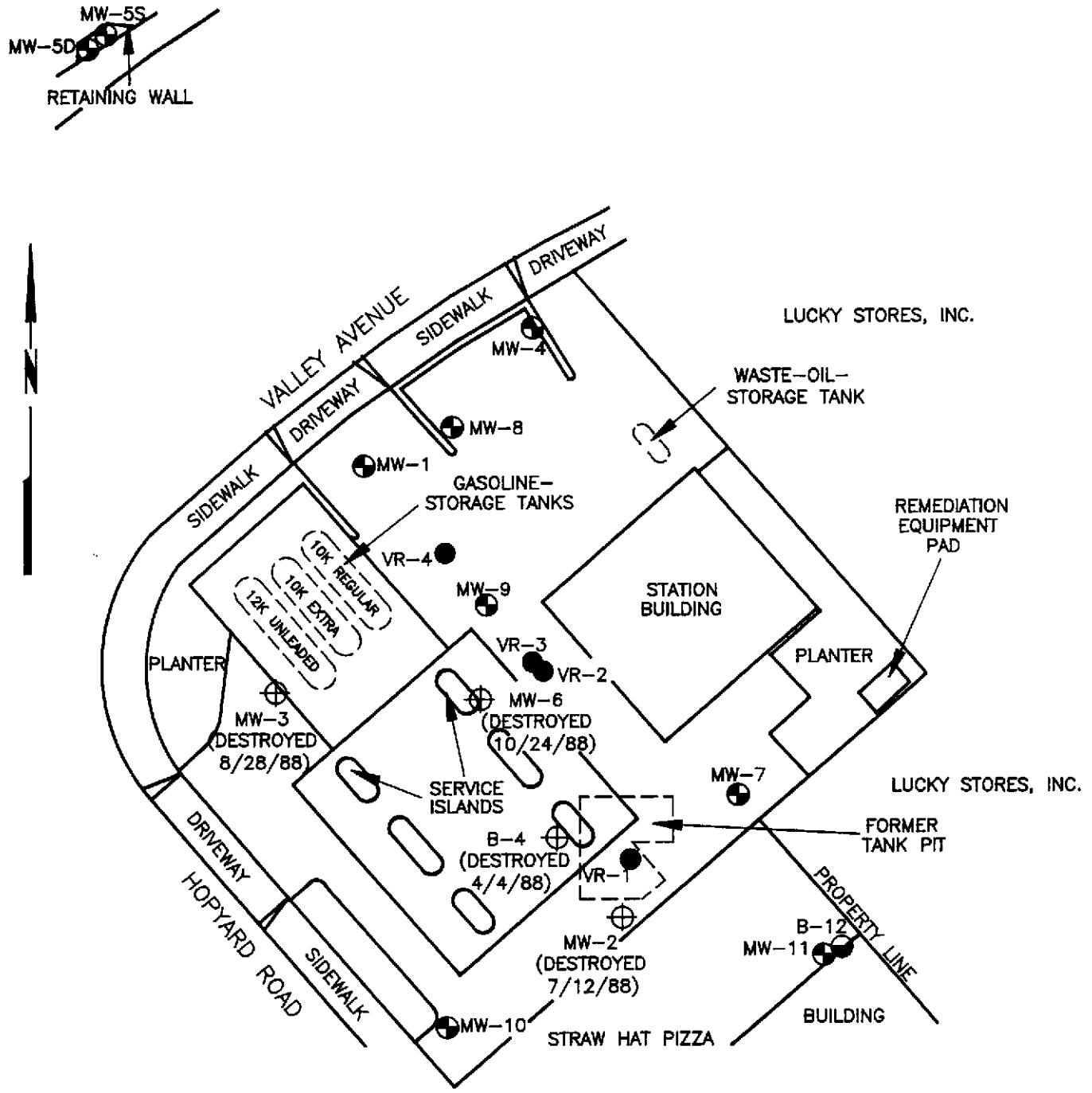


Source: U.S. Geological Survey
7.5-Minute Quadrangle
Dublin, California
Photorevised 1980

N

Approximate Scale
2000 1000 0 2000 4000
feet

Applied GeoSystems	SITE VICINITY MAP Exxon Station No. 7-3399 2991 Hopyard Road Pleasanton, California	PLATE 1
PROJECT NO. 18034-9		



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. 18034-9

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

PLATE 2

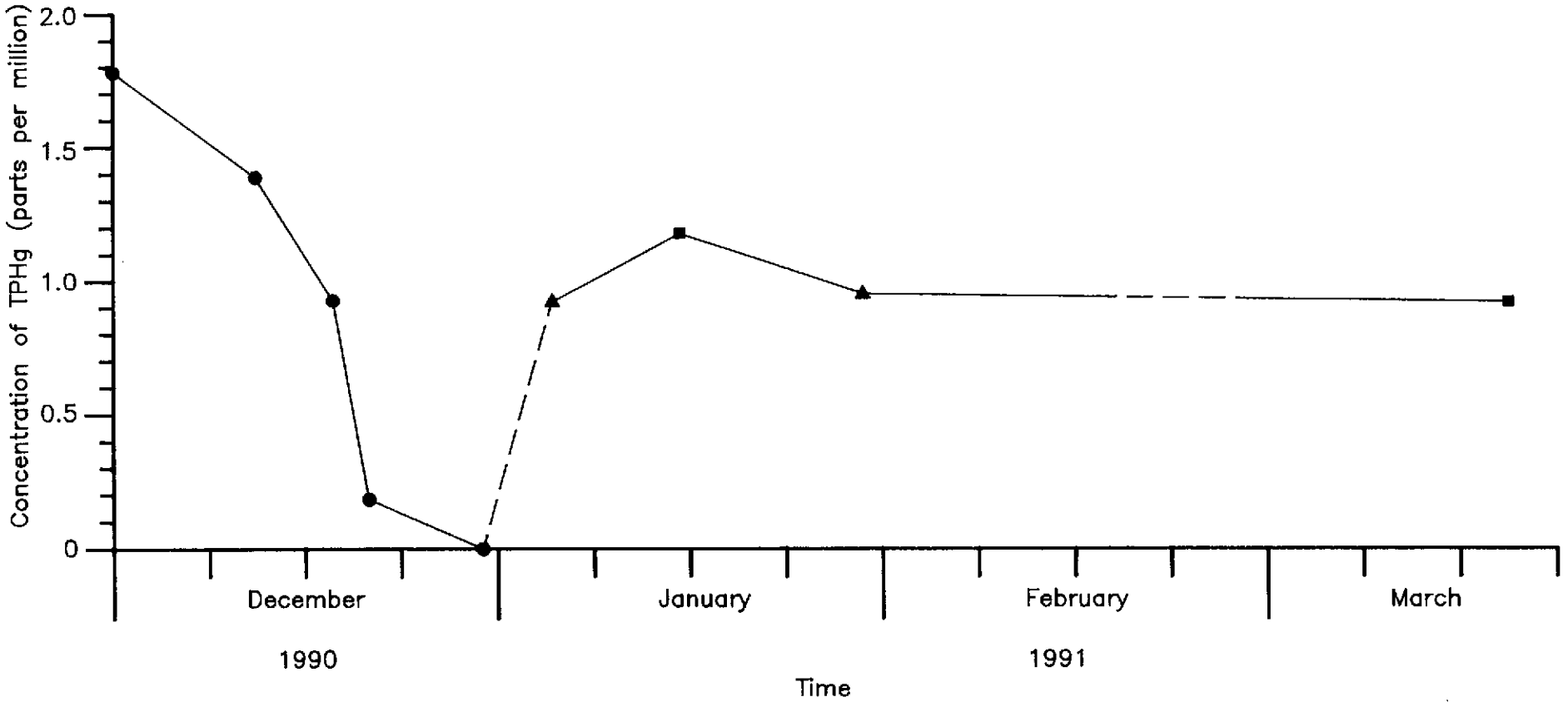


PLATE 3	CONCENTRATION OF TPHg FOR INFLUENT VAPOR SAMPLES Exxon Station No. 7-3399 2991 Hopyard Road Pleasanton, California	Applied GeoSystems PROJECT NO. 18034-9