EXXON COMPANY, U.S.A.

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ENVIRONMENTAL ENGINEERING
W. Y. WANG
SENIOR ENVIRONMENTAL ENGINEER

91 SEP 27

26 September, 1991

Exxon RAS 7-3006
720 High Street
Oakland, California

Mr. Larry Seto
Alameda County Environmental Health Department
Hazardous Materials Division
80 Swan Way, Suite 200
Oakland, California 94621

Dear Mr. Seto:

Attached for your review and comment is the Letter Report on Soil Stockpile Disposal and Ground-water Monitoring for Second Quarter 1991 for the above referenced Exxon Company, U.S.A. facility in the City of Oakland. The report, prepared by Applied GeoSystems of Fremont, California, details the results of the monitoring event performed in June, 1991 as well as remediation and disposal of soil excavated from the new tank cavity.

Applied GeoSystems is currently designing a ground water remediation system for this site. Should you have any questions, comments, or require additional information, please do not hesitate to contact me at (510) 246-8768.

Sincerely,

William Y. Wang

WYW:hs
0326E.2
Attachment

c - w/attachment:
Mr. L. Feldman - San Francisco Bay Region Water Quality Control Board

w/o attachment:
Mr. D. J. Bertoch
Mr. P. J. Brininstool
Mr. J. R. Hastings
Mr. D. Higgins - Applied GeoSystems, San Jose

Applied GeoSystems, Inc.
A RESNA Company

RESNA
Environmental Solutions
Through Applied Science,
Engineering & Construction

42501 Albrae Street, Suite 100
Fremont, CA 94538
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LETTER REPORT
on
SOIL STOCKPILE DISPOSAL AND GROUND-WATER MONITORING FOR SECOND QUARTER 1991
at
Exxon Station No. 7-3006
720 High Street
Oakland, California

AGS Job No. 87042-9

SITE CONTACTS

Site Name: Exxon Station No. 7-3006
Site Address: 720 High Street
Oakland, California 94601
(415) 533-6066

Owner: Victor Chu

Exxon's Environmental Engineer:

Bill Wang
Senior Environmental Engineer
Environmental Engineering, Marketing Department
Exxon Company, U.S.A.
2300 Clayton Road
Concord, California 94520
(415) 246-8768

Consultant: Applied GeoSystems (AGS)
42501 Albrae Street, Suite 100
Fremont, California 94538
(415) 651-1906

SITE BACKGROUND

The site is located at 720 High Street, in a predominantly industrial area of Oakland, California (Site Vicinity Map, Plate P-1). It is bounded on the northwest by High Street, on the southwest by Coliseum Way, on the northeast by a former dry-cleaning facility, and on the south by Alameda Avenue. AGS drilled borings B-14 through B-20 in November 1989 and drilled borings B-21 through B-30 in November 1990. AGS installed ground-water monitoring wells MW-2 through MW-9 in September 1987, MW-1 in May 1988, MW-10 through MW-13 in November 1989, and MW-14 and MW-15 in November 1990. The locations of the borings, wells, and pertinent site facilities are shown on the Generalized Site Plan, Plate P-2.

SITE ACTIVITIES MARCH THROUGH JULY 1991

Activities conducted at the site during the past quarter were mainly ground-water monitoring and soil stockpile disposal (see Attached Field Procedures):

- Depths to ground water were measured and subjective evaluations were performed on initial water samples from each well on May 2 and June 20, 1991.
- On June 20, 1991, each well without free product was purged and ground-water samples were collected (MW-1, MW-7, MW-9 through MW-11, and MW-13 through MW-15) and submitted for analysis.
- Free product was bailed when encountered on May 2 and June 20, 1991.
- Initial soil stockpile sampling was performed in January 1991 in conjunction with the excavation of a new tank pit, which was performed the by station owner's contractor (AGS Report No. 87042-9A, dated May 13, 1991). Because the new tank pit walls collapsed during rains in March, additional soil was excavated and placed into two smaller stockpiles. Soil sampling of the two new stockpiles was performed on March 27, 1991.
- The first batch (650 cubic yards) of soil was removed from the site and disposed of at the City of Mountain View landfill on April 25 and 29, 1991. The remaining soil (350 cubic yards) was spread on the station property for aeration. The rest of the soil was resampled on May 17 and disposed of at the same landfill on June 10 and 11, 1991.

SITE ACTIVITIES PLANNED FOR JULY THROUGH OCTOBER 1991

Activities planned for the next quarter:

- Design a remediation system for ground water.
- Prepare a Remedial Action Plan for the County of Alameda.
- Prepare permit applications for ground-water discharge.
- Continue monthly ground-water monitoring and product removal.
- Conduct quarterly ground-water sampling and analysis in September 1991.
- Report monthly monitoring and quarterly analytical results.

- Prepare engineering drawings and submit with permit applications for remediation system installation.

A - GROUND WATER ASSESSMENT

RESULTS OF SUBJECTIVE EVALUATIONS

In May and June 1991, floating product at thicknesses of 0.02, 0.03, and 0.04 foot was observed in initial water samples collected from wells MW-2, MW-3, and MW-4, respectively. Product thicknesses decreased compared to those observed in March 1991. During both May and June 1991, a sheen was observed in the samples from MW-6, MW-8, and MW-12. The ground-water level dropped an average of 0.45 foot between March and May 1991 and 0.37 foot between May and June 1991. Cumulative results of subjective evaluations and water-level data are presented in Table 1.

GROUND-WATER GRADIENT AND FLOW DIRECTION

The monitoring wells at this site are constructed in various permeable zones; for continuity, the ground-water elevation data from wells constructed in the shallow gravel were used to estimate the difference in ground-water elevation across the site on May 2 and June 20, 1991 (Table 2). The ground-water elevation contours are shown on the Ground-Water Elevation Maps, Plates P-3 and P-4. Plates P-3 and P-4 suggest that ground water flowed toward the southwest with estimated gradients of 0.02 and 0.03, respectively. This is consistent with previous flow directions and gradient results. Plate P-3 suggest that the ground-water level and gradient in the northern portion of the site may be affected by the open excavation on the adjacent site.

ANALYTICAL METHODS AND RESULTS OF GROUND-WATER SAMPLES

Ground-water samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd) by Environmental Protection Agency (EPA) modified Method 8015 and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 602. Samples were analyzed at Applied Analytical laboratory in Fremont, California (Hazardous Waste Testing Laboratory Certification No. 1211). Copies of Chain of Custody Records and Analysis Reports are attached.

In wells with detectable hydrocarbons, concentrations of TPHg ranged from 0.11 to 44 parts per million (ppm), and benzene concentrations ranged from 0.27 to 5.6 ppm. No TPHd was detected in the collected ground-water samples. In general, concentrations of gasoline hydrocarbons decreased compared to the March 1991 results (Table 3), possibly as a result of the lower water level observed in June 1991. To illustrate the distribution of hydrocarbons, concentration maps were prepared for TPHg and benzene (Plates P-5 and P-6). The maps suggest that dissolved hydrocarbons are mainly found beneath the western

half of the site, with the highest concentrations northwest of the former main service island and in the vicinity of the former fuel tanks.

REMEDIATION OF GROUND-WATER

Ground-water wells with floating product have been periodically bailed. Alternate remedial technologies to contain and treat impacted groundwater are currently being evaluated. A remedial action plan, that will present the evaluation of remedial technologies is currently in preparation.

B - SOIL DISPOSAL

Soil excavated from the new tank pit was sampled in January 1991 (AGS Report No. 87042-9A, dated May 13, 1991). Forty soil samples were collected for analyses from the main stockpile at locations shown on Plate P-7. Soil samples were composited at the laboratory into ten composites (S-012291-SP1 through SP10). Composite soil samples were analyzed for TPHg, TPHd, total oil and grease (TOG), BTEX, and total lead. Three composite samples were also analyzed for organic lead. No levels of TOG and TPHd were detected. Detectable concentrations of TPHg in the composite soil samples were up to 40 ppm. Total lead concentrations ranged from 150 to 200 ppm. However, no organic lead was detected in the three soil composites analyzed, which suggests that the total lead detected is not related to a leaded gasoline release. The results of analyses of the main stockpile soil samples are presented in Table 5.

The new tank pit walls collapsed due to the rains in March, and additional soil was excavated and placed in stockpiles SP11 and SP12. Soil sampling of the two new stockpiles was performed on March 27, 1991. One composite soil sample was collected from each stockpile for laboratory analyses. Soil stockpile layout and sampling locations are shown on Plate P-7.

ANALYTICAL METHODS AND RESULTS OF SOIL STOCKPILE SAMPLES

Soil samples collected from stockpiles SP11 and SP12 were composited in the laboratory and analyzed for TPHg, TPHd, and BTEX by Environmental Protection Agency (EPA) modified Methods 5030/8015 and 3550/8015, and Method 5030/8020, respectively. Samples were analyzed at Applied Analytical laboratory in Fremont, California. Analysis for total lead in the composite samples and in the extract solution after performing the waste extraction test (WET) method were performed by Chromalab, Inc. in San Ramon, California (Hazardous Waste Testing Laboratory Certification No. E694). Lead analysis was performed to evaluate soil stockpile disposal options. Copies of Chain of Custody Records and Analysis Reports are attached.

No levels of TPHg and TPHd were detected in samples from the two stockpiles. No BTEX was detected except 0.007 ppm toluene and 0.006 ppm total xylenes in the composite sample from stockpile SP11. Total lead concentrations were 63 and 93 ppm and extractable lead concentrations were 0.12 and 0.17 ppm for composite samples from stockpiles SP11 and SP12, respectively (Table 5).

Soil with no detectable TPHg concentrations was removed from the site and disposed of in the City of Mountain View landfill on April 25 and 29, 1991 (approximately 650 yards). The remaining soil, approximately 350 yards, was spread on the station property as shown on Plate P-8 for aeration and was resampled on May 17, 1991. Five composite soil samples were obtained from the remaining soil (S-051791-SP1 through SP5). Soil composites were analyzed for TPHg, TPHd, and BTEX at Applied Analytical in Fremont. Table 5 presents the results of the analyses, and copies of the Chain of Custody Record and Analysis Report are attached. No TPHg, TPHd, or BTEX were detected in any of the composites. The final stockpile was disposed of at the Mountain View Landfill on June 10 and 11, 1991. Authorizations from the City of Mountain View Landfill for disposal of the soil are attached.

RECOMMENDATIONS

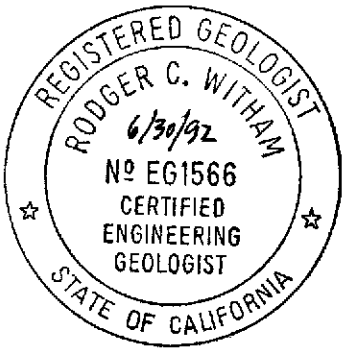
We recommend that copies of this report be sent to

- Mr. Larry Seto, Alameda County Health Agency, Department of Environmental Health, 80 Swan Way, Room 200, Oakland, California 94621, and

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

Please call if you have any questions.

Sincerely,
Applied GeoSystems



Rasmi El-Jurf
Project Engineer

Rodger C. Witham
Project Manager

Enclosures:
Results of Subjective Evaluation of Water Samples, Table 1
Summary of Ground-Water Elevations, Table 2
Results of Latest Ground-Water Analyses, Table 3
Results of Ground-Water Analyses, Table 4
Results of Analyses of Soil Samples from Stockpiles, Table 5
Site Vicinity Map, Plate P-1
Generalized Site Plan, Plate P-2
Ground-Water Elevation Map (May 2, 1991), Plate P-3
Ground-Water Elevation Map (June 20, 1991), Plate P-4
Concentration of TPHg in Ground Water, Plate P-5
Concentration of Benzene in Ground Water, Plate P-6
Soil Stockpile Sampling Locations, January and March 1991, Plate P-7
Soil Stockpile Sampling Locations, May 1991, Plate P-8
Field Procedures
Chain of Custody Records and Certified Analysis Reports
City of Mountain View Authorizations for Disposal of Soil

RESNA

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 1 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-1				
04/25/89	7.55	NONE	NONE	NONE
04/27/89	10.16	NONE	SLIGHT	NONE
09/06/89	10.88	NONE	SLIGHT	NONE
09/22/89	11.06	NONE	NONE	NONE
11/01/89	10.82	NONE	NONE	NONE
11/15/89	11.07	NONE	NONE	NONE
12/06/89	10.33	NONE	NONE	NONE
02/20/90	8.81	NONE	NONE	NONE
04/19/90	9.33	NONE	NONE	NONE
07/03/90	8.44	NONE	NONE	NONE
07/26/90	8.99	NONE	NONE	NONE
08/20/90	9.50	NONE	NONE	NONE
09/19/90	9.99	NONE	NONE	NONE
11/27/90	10.62	NONE	NONE	NONE
01/17/91	10.31	NONE	NONE	NONE
03/26/91	7.97	NONE	NONE	NONE
05/02/91	8.88	NONE	NONE	NONE
06/20/91	9.62	NONE	NONE	NONE
MW-2				
04/25/89	9.27	2.16	N/A	NONE
07/19/89	10.81	1.56	N/A	NONE
07/27/89	10.18	0.13	N/A	HEAVY
09/06/89	10.89	0.09	N/A	SLIGHT
09/22/89	11.56	0.56	N/A	SLIGHT
11/01/89	10.85	0.09	N/A	NONE
11/15/89	11.05	0.07	N/A	NONE
12/06/89	10.23	0.13	N/A	NONE
02/20/90	8.86	0.29	N/A	NONE
04/19/90	9.09	0.10	N/A	NONE
07/03/90	8.75	0.05	N/A	NONE
07/26/90	8.71	0.10	N/A	NONE
08/20/90	9.25	0.02	N/A	NONE
09/19/90	9.79	0.02	N/A	NONE
11/27/90	10.40	0.07	N/A	NONE
01/17/91	10.03	0.05	N/A	NONE
03/26/91	8.98	0.08	N/A	NONE
05/02/91	8.73	0.02	N/A	NONE
06/20/91	9.11	0.02	N/A	NONE

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 2 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-3				
04/25/89	7.57	0.08	N/A	NONE
07/19/89	10.33	0.66	N/A	NONE
07/27/89		covered by soil		
09/06/89	11.22	0.07	N/A	SLIGHT
09/22/89	11.38	0.28	N/A	SLIGHT
11/01/89	10.90	0.01	N/A	NONE
11/15/89	11.18	0.11	N/A	NONE
12/06/89	10.29	NONE	SLIGHT	NONE
02/20/90	8.73	0.04	N/A	NONE
04/19/90	9.20	0.09	N/A	NONE
07/03/90	8.50	0.03	N/A	NONE
07/26/90	8.58	0.04	N/A	NONE
08/20/90	9.21	0.01	N/A	NONE
09/19/90	10.02	0.35	N/A	NONE
11/27/90	10.72	0.42	N/A	NONE
01/17/91	10.05	0.10	N/A	NONE
03/26/91	7.65	0.10	N/A	NONE
05/02/91	8.54	0.03	N/A	NONE
06/20/91	8.89	0.03	N/A	NONE
MW-4				
04/25/89	7.26	0.16	N/A	NONE
07/19/89	10.32	0.72	N/A	NONE
07/27/89		covered by soil		
09/06/89	11.40	0.07	N/A	SLIGHT
09/22/89	11.64	0.19	N/A	SLIGHT
11/01/89	11.00	NONE	SLIGHT	NONE
11/15/89	11.18	0.10	N/A	NONE
12/06/89	10.25	NONE	SLIGHT	NONE
02/20/90	8.40	NONE	N/A	NONE
04/19/90	9.04	0.03	N/A	NONE
07/03/90	8.00	—	N/A	MODERATE
07/26/90	8.57	0.04	N/A	NONE
08/20/90	9.08	0.01	N/A	NONE
09/19/90	9.76	0.03	N/A	NONE
11/27/90	10.83	0.09	N/A	NONE
01/17/91	9.96	0.20	N/A	NONE
03/26/91	6.20	0.09	N/A	NONE
05/02/91	7.50	0.04	N/A	NONE
06/20/91	7.79	0.04	N/A	NONE

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 3 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-5				
04/25/89	8.06	0.32	NONE	NONE
07/18/89		well destroyed		
MW-6				
04/25/89	8.02	NONE	NONE	NONE
09/06/89	13.64	0.08	N/A	SLIGHT
09/22/89	13.79	0.07	N/A	SLIGHT
11/01/89	12.78	NONE	SLIGHT	NONE
11/15/89	12.91	NONE	SLIGHT	NONE
12/06/89	11.84	NONE	NONE	NONE
02/20/90	9.08	NONE	NONE	NONE
04/19/90	9.72	NONE	NONE	NONE
07/03/90	8.00	NONE	NONE	NONE
07/26/90	8.70	NONE	NONE	NONE
08/20/90	9.62	NONE	NONE	NONE
09/19/90	10.25	NONE	MODERATE	NONE
11/27/90	10.82	NONE	SLIGHT	NONE
01/17/91	9.93	NONE	NONE	NONE
03/26/91	8.45	NONE	NONE	NONE
05/02/91	8.90	NONE	NONE	NONE
06/20/91	9.47	NONE	SLIGHT	NONE
MW-7				
04/25/89	8.66	NONE	NONE	NONE
09/06/89	11.72	NONE	SLIGHT	NONE
09/22/89	11.89	NONE	NONE	NONE
12/06/89	10.46	NONE	NONE	NONE
02/20/90	8.44	NONE	NONE	NONE
04/19/90	9.54	NONE	NONE	NONE
07/03/90	7.45	NONE	NONE	NONE
07/26/90	8.08	NONE	NONE	NONE
08/20/90	8.82	NONE	NONE	NONE
09/19/90	9.01	NONE	NONE	NONE
11/27/90	9.54	NONE	NONE	NONE
01/17/91	8.50	NONE	NONE	NONE
03/26/91	5.92	NONE	NONE	NONE
05/02/91	7.72	NONE	NONE	NONE
06/20/91	8.19	NONE	NONE	NONE

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 4 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-8				
04/25/89	8.31	0.66	N/A	NONE
07/19/89	10.97	1.25	N/A	NONE
07/27/89	10.34	0.08	N/A	HEAVY
09/06/89	11.09	0.17	N/A	SLIGHT
09/22/89	11.58	0.36	N/A	SLIGHT
11/01/89	11.03	NONE	NONE	NONE
11/15/89	11.25	0.01	N/A	NONE
12/06/89	10.30	NONE	SLIGHT	NONE
02/20/90	8.00	0.01	N/A	NONE
04/19/90	8.50	NONE	NONE	NONE
07/03/90	7.55	NONE	NONE	NONE
07/26/90	7.86	NONE	NONE	NONE
08/20/90	8.92	NONE	NONE	NONE
09/19/90	9.55	NONE	NONE	NONE
11/27/90	10.29	0.01	N/A	NONE
01/17/91	9.97	NONE	HEAVY	NONE
03/26/91	8.45	NONE	MODERATE	NONE
05/02/91	8.85	NONE	LIGHT	NONE
06/20/91	9.45	NONE	SLIGHT	NONE
MW-9				
04/25/89	8.25	NONE	NONE	NONE
09/06/89		covered by soil		
09/22/89		covered by soil		
12/06/89	10.12	NONE	NONE	NONE
02/20/90	9.38	NONE	NONE	NONE
04/19/90	9.40	NONE	NONE	NONE
07/03/90	8.79	NONE	NONE	NONE
07/26/90	8.70	NONE	NONE	NONE
08/20/90	9.09	NONE	NONE	NONE
09/19/90	9.52	NONE	NONE	NONE
11/27/90	9.89	NONE	NONE	NONE
01/17/91		covered by soil		
03/26/91		covered by soil		
05/02/91	9.10	NONE	NONE	NONE
06/20/91	8.76	NONE	NONE	NONE

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 5 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-10				
12/06/89	10.46	NONE	NONE	NONE
02/20/90	8.12	NONE	NONE	NONE
04/19/90	8.54	NONE	NONE	NONE
07/03/90	7.88	NONE	NONE	NONE
07/26/90	8.19	NONE	NONE	NONE
08/20/90	10.33	NONE	NONE	NONE
09/19/90	9.49	NONE	NONE	NONE
11/27/90	9.89	NONE	NONE	NONE
01/17/91	9.19	NONE	NONE	NONE
03/26/91	7.48	NONE	NONE	NONE
05/02/91	8.16	NONE	NONE	NONE
06/20/91	8.75	NONE	NONE	NONE
MW-11				
12/06/89	10.62	NONE	NONE	NONE
02/20/90	9.20	NONE	NONE	NONE
04/19/90	9.80	NONE	NONE	NONE
07/03/90	8.90	NONE	NONE	NONE
07/26/90	9.36	NONE	NONE	NONE
08/20/90	9.90	NONE	NONE	NONE
09/19/90	10.39	NONE	NONE	NONE
11/27/90	10.97	NONE	NONE	NONE
01/17/91	10.76	NONE	NONE	NONE
03/26/91	8.80	NONE	NONE	NONE
05/02/91	9.38	NONE	NONE	NONE
06/20/91	10.16	NONE	NONE	NONE
MW-12				
12/06/89	8.00	NONE	NONE	NONE
02/20/90	6.33	NONE	NONE	NONE
04/19/90	7.18	NONE	NONE	NONE
07/03/90	7.41	NONE	NONE	NONE
07/26/90	6.54	NONE	NONE	NONE
08/20/90	7.23	NONE	NONE	NONE
09/19/90	7.77	NONE	NONE	NONE
11/27/90	8.15	NONE	NONE	NONE
01/17/91	8.06	NONE	NONE	NONE
03/26/91	7.21	NONE	NONE	NONE
05/02/91	7.60	NONE	LIGHT	NONE
06/20/91	8.02	NONE	LIGHT	NONE

TABLE 1
RESULTS OF SUBJECTIVE EVALUATION OF WATER SAMPLES
(page 6 of 6)

Date	Depth to Water (ft)	Floating Product (ft)	Sheen	Emulsion
MW-13				
12/06/89	9.35	NONE	NONE	NONE
02/20/90	7.73	NONE	NONE	NONE
04/19/90	8.68	NONE	NONE	NONE
07/03/90	8.00	NONE	NONE	NONE
07/26/90	7.95	NONE	NONE	NONE
08/20/90	8.66	NONE	NONE	NONE
09/19/90	9.13	NONE	NONE	NONE
11/27/90	9.49	NONE	NONE	NONE
01/17/91	9.61	NONE	NONE	NONE
03/26/91	9.25	NONE	NONE	NONE
05/02/91	9.31	NONE	NONE	NONE
06/20/91	9.73	NONE	NONE	NONE
MW-14				
11/27/90	9.88	NONE	NONE	NONE
01/17/91	9.13	NONE	NONE	NONE
03/26/91	8.51	NONE	NONE	NONE
05/02/91	8.45	NONE	NONE	NONE
06/20/91	8.38	NONE	NONE	NONE
MW-15				
11/27/90	8.67	NONE	NONE	NONE
01/17/91	8.03	NONE	NONE	NONE
03/26/91		covered by soil		
05/02/91	7.09	NONE	NONE	NONE
06/20/91	7.06	NONE	NONE	NONE

N/A = Not applicable.

TABLE 2
SUMMARY OF GROUND-WATER ELEVATIONS

Well Number	Casing Elevation (ft)	Depth to Water (ft)	Ground-Water Elevation (ft)
May 2, 1991			
MW-1	12.87	8.88	3.99
MW-7	14.84	7.72	7.12
MW-10	14.05	8.16	5.89
MW-12	12.61	7.60	5.01
MW-13	14.20	9.31	4.89
MW-14	15.18	8.45	6.73
MW-15	13.73	7.09	6.64
June 20, 1991			
MW-1	12.87	9.62	3.25
MW-7	14.84	8.19	6.65
MW-10	14.05	8.75	5.30
MW-12	12.61	8.02	4.59
MW-13	14.20	9.73	4.47
MW-14	15.18	8.38	6.80
MW-15	13.73	7.06	6.67

TABLE 3
RESULTS OF LATEST GROUND-WATER ANALYSES
June 20, 1991

Well No.	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
MW-1	W-10-MW1	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
MW-2				free product					
MW-3				free product					
MW-4				free product					
MW-6				sheen					
MW-7	W-8-MW-7	3.1	0.27	0.0088	0.033	0.019	<0.10	--	--
MW-8				sheen					
MW-9	W-9-MW-9	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
MW-10	W-9-MW10	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
MW-11	W-10-MW11	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
MW-12				sheen					
MW-13	W-10-MW13	44	5.6	3.1	0.75	2.6	<0.10	--	--
MW-14	W-8-MW14	0.11	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
MW-15	W-7-MW15	0.38	<0.0005	<0.0005	<0.0005	0.0013	<0.10	--	--

TPHg = Total petroleum hydrocarbons as gasoline; TPHd = Total petroleum hydrocarbons as diesel;
TOG = Total oil and grease; VOC = Volatile organic compounds; and < = Less than the method detection limit
*: W-7-MW1 = water sample - depth - well number

TABLE 4
RESULTS OF GROUND-WATER ANALYSES
(page 1 of 5)

Date	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
05/88	W-11-MW1*	0.240	0.090	0.005	0.015	0.025	--	--	ND
12/89	W-11-MW1	0.63	0.012	0.0056	0.0037	0.025	0.24	--	--
04/90	W-09-MW1	<0.020	<0.0005	<0.00050	<0.00050	<0.00050	<0.10	--	--
07/90	W-11-MW1	0.13	0.006	<0.00050	<0.00050	<0.00050	0.16	--	--
11/90	W-10-MW1	<0.050	0.0007	<0.00050	<0.00050	<0.00050	<0.10	--	--
03/91	W-07-MW1	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
06/91	W-10-MW1	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
09/87	W-25-MW2	1.445	0.233	0.81	0.056	0.209	--	--	--
05/88	free product								
12/89	free product								
04/90	free product								
07/90	free product								
11/90	free product								
03/91	free product								
06/91	free product								
09/87	W-25-MW3	2.101	0.360	1.062	0.068	0.298	0.66	--	--
05/88	W-14-MW3	8.7	3.98	0.28	0.24	0.6	--	--	--
12/89	free product								
04/90	free product								
07/90	free product								
11/90	free product								
03/91	free product								
06/91	free product								

See notes on page 5 of 5.

TABLE 4
RESULTS OF GROUND-WATER ANALYSES
(page 2 of 5)

Date	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
09/87	W-25-MW4	0.925	0.070	0.007	0.010	0.016	0.74	--	--
05/88	free product								
12/89	free product								
04/90	free product								
07/90	emulsion								
11/90	free product								
03/91	free product								
06/91	free product								
09/87	W-25-MW5	26.66	0.56	1.71	1.58	7.15	37.22	--	--
05/88	free product								
07/89	well destroyed								
05/88	W-15-MW6	29.3	12.82	0.55	1.44	5.50	--	--	--
12/89	W-18-MW6	9.0	0.37	0.013	0.0026	0.43	4.8	--	--
04/90	W-30-MW6	27	3.0	0.12	0.49	2.1	26	--	--
07/90	W-30-MW6	30	5.5	1.4	1.2	3.1	13	--	--
11/90	W-10-MW6	15	4.4	0.12	0.8	2.3	7.6	--	--
03/91	W-08-MW6	55	10	0.38	1.6	6.9	<0.10	--	--
06/90	sheen								

See notes on page 5 of 5.

TABLE 4
RESULTS OF GROUND-WATER ANALYSES
(page 3 of 5)

Date	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
09/87	W-25-MW7	1.531	0.258	0.002	<0.002	0.042	2.79	--	ND
05/88	W-15-MW7	--	0.300**	<0.010**	<0.010**	<0.010**	0.190	--	ND
12/89	W-11-MW7	1.70	0.22	0.0053	0.0050	0.0086	2.5	<5	ND
04/90	W-10-MW7	2.7	0.22	0.0086	0.0070	0.020	3.5	--	ND
07/90	W-17-MW7	2.5	0.38	0.013	0.016	0.035	0.91	--	ND
11/90	W-09-MW7	2.3	0.63	0.016	0.032	0.029	1.3	--	0.0024■
03/91	W-06-MW7	3.5	0.42	0.018	0.017	0.027	<0.10	--	ND
06/91	W-08-MW7	3.1	0.27	0.0088	0.033	0.019	<0.10	--	--
09/87	W-25-MW8	1.325	0.081	0.074	0.042	0.182	--	--	--
05/88	free product								
12/89	W-11-MW8	42	2.6	0.63	0.21	3.7	34	--	--
04/90	W-14-MW8	49	2.1	0.82	1.1	4.8	53	--	--
07/90	W-23-MW8	44	4.0	1.5	2.0	6.3	32	--	--
11/90	free product								
03/91	sheen								
06/91	sheen								
05/88	W-14-MW9	<0.05	<0.0005	0.001	<0.001	<0.001	--	--	ND
12/89	W-14-MW9	0.1	0.0018	0.0037	0.0014	0.0088	0.11	<5	ND
04/90	W-10-MW9	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	ND
07/90	W-10-MW9	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	ND
11/90	W-09-MW9	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	ND
03/91	covered by soil								
06/91	W-09-MW-9	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--

See notes on page 5 of 5.

TABLE 4
RESULTS OF GROUND-WATER ANALYSES
(page 4 of 5)

Date	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
12/89	W-12-MW10	0.32	0.0037	0.014	0.0056	0.032	<0.10	--	--
04/90	W-09-MW10	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	ND
07/90	W-11-MW10	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	--
11/90	W-09-MW10	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
03/91	W-07-MW10	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
06/91	W-09-MW10	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
12/89	W-11-MW11	0.078	0.0059	0.00063	<0.0005	48	<0.10	--	--
04/90	W-12-MW11	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	--
07/90	W-12-MW11	<0.020	<0.00050	<0.00050	<0.00050	<0.00050	<0.10	--	--
11/90	W-10-MW11	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
03/91	W-08-MW11	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
06/91	W-10-MW11	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
12/89	W-08-MW12	85	6.7	6.3	1.8	7.8	40	--	--
04/90	W-07-MW12	110	6.6	7.4	1.8	11	97	--	--
07/90	W-08-MW12	92	11	11	3.1	13	50	--	--
11/90	W-08-MW12	69	11	10	3.1	12	31	--	--
03/91	W-08-MW12	100	15	16	2.4	11	<0.10	--	--
06/91	sheen								

See notes on page 5 of 5.

TABLE 4
RESULTS OF GROUND-WATER ANALYSES
(page 5 of 5)

Date	Sample No.	TPHg ppm	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHd ppm	TOG ppm	VOC ppm
12/89	W-10-MW13	52	2.1	2.0	1.4	6.1	31	--	--
04/90	W-09-MW13	59	1.8	1.5	1.4	7.2	54	--	--
07/90	W-10-MW13	53	4.5	3.1	2.2	7.8	26	--	--
11/90	W-09-MW13	20	4.5	1.1	0.88	3.3	1.6	--	--
03/91	W-09-MW13	72	10	8.3	1.7	6.9	<0.10	--	--
06/91	W-10-MW13	44	5.6	3.1	0.75	2.6	<0.10	--	--
11/90	W-09-MW14	0.39	<0.0005	<0.0005	0.0036	0.0037	0.12	--	--
03/91	W-07-MW14	0.20	<0.0005	0.0015	0.0008	0.0036	<0.10	--	--
06/91	W-08-MW14	0.11	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	--	--
11/90	W-08-MW15	2.7	0.21	0.0055	0.6	0.25	0.34	--	--
03/91	covered by soil								
06/91	W-07-MW15	0.38	<0.0005	<0.0005	<0.0005	0.0013	<0.10	--	--

TPHg = Total petroleum hydrocarbons as gasoline
TPHg = Total petroleum hydrocarbons as diesel
TOG = Total oil and grease
< = Not detected at method detection limit
■ = Chloromethane
ND = No VOC detected other than BTEX
* = W-11-MW1 = water sample - depth - well number
** = Analyzed by Environmental Protection Agency Method 624 (volatile organic compounds)

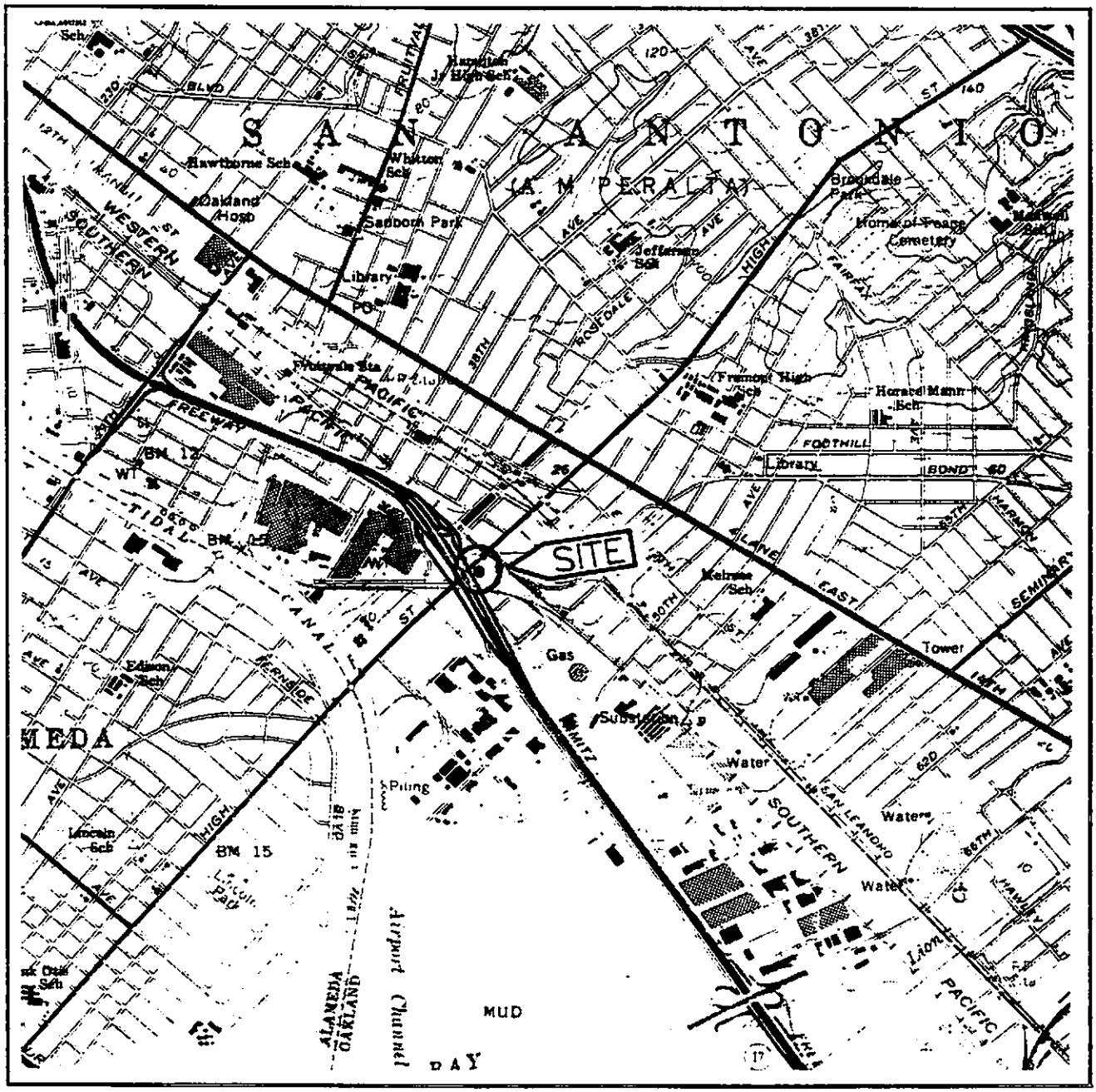
TABLE 5
RESULTS OF ANALYSES OF SOIL SAMPLES FROM STOCKPILES

Sample No.	Benzene ppm	Toluene ppm	Ethyl-benzene ppm	Xylenes ppm	TPHg ppm	TPHd ppm	TOG ppm	Total Lead ppm	Organic Lead ppm
S-012291-SP1A-D	<0.005	<0.005	<0.005	0.007	<1.0	<10	<50	150	--
S-012291-SP2A-D	<0.005	<0.005	<0.005	0.006	<1.0	<10	<50	160	--
S-012291-SP3A-D	<0.005	<0.005	<0.005	0.010	<1.0	<10	<50	150	--
S-012291-SP4A-D	0.16	0.34	0.097	1.1	23	<10	<50	180	<0.5
S-012291-SP5A-D	0.079	0.50	0.35	3.7	40	<10	<50	200	<0.5
S-012291-SP6A-D	<0.005	0.061	0.10	0.15	5.8	<10	<50	170	--
S-012291-SP7A-D	<0.005	0.026	0.054	0.28	4.8	<10	<50	180	<0.5
S-012291-SP8A-D	<0.005	0.010	0.006	0.039	1.5	<10	<50	160	--
S-012291-SP9A-D	<0.005	0.11	0.085	0.43	6.8	<10	<50	150	--
S-012291-SP10A-D	<0.005	0.030	0.021	0.22	6.0	<10	<50	170	--
S-032791-SP11A-D	<0.005	0.007	<0.005	0.006	<1.0	<10	--	63 (0.12*)	--
S-032791-SP12A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	93 (0.17*)	--
S-051791-SP1A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	--	--
S-051791-SP2A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	--	--
S-051791-SP3A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	--	--
S-051791-SP4A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	--	--
S-051791-SP5A-D	<0.005	<0.005	<0.005	<0.005	<1.0	<10	--	--	--

* = total lead concentration in extract solution after using Waste Extraction Test
ppm = parts per million; TPHg = total petroleum hydrocarbons as gasoline; TPHd = total petroleum hydrocarbons as diesel; and < = less than detection limit shown

Sample Designation: S-012291-SP10A-D

- S = Soil sample
- 012291 = Date (January 22, 1991)
- SP10 = stock pile area 10
- A-D = Composite of samples A through D



Source: U.S. Geological Survey
7.5–Minute Quadrangle
Oakland East, California

N

Approximate Scale

2000 1000 0 2000 4000

feet

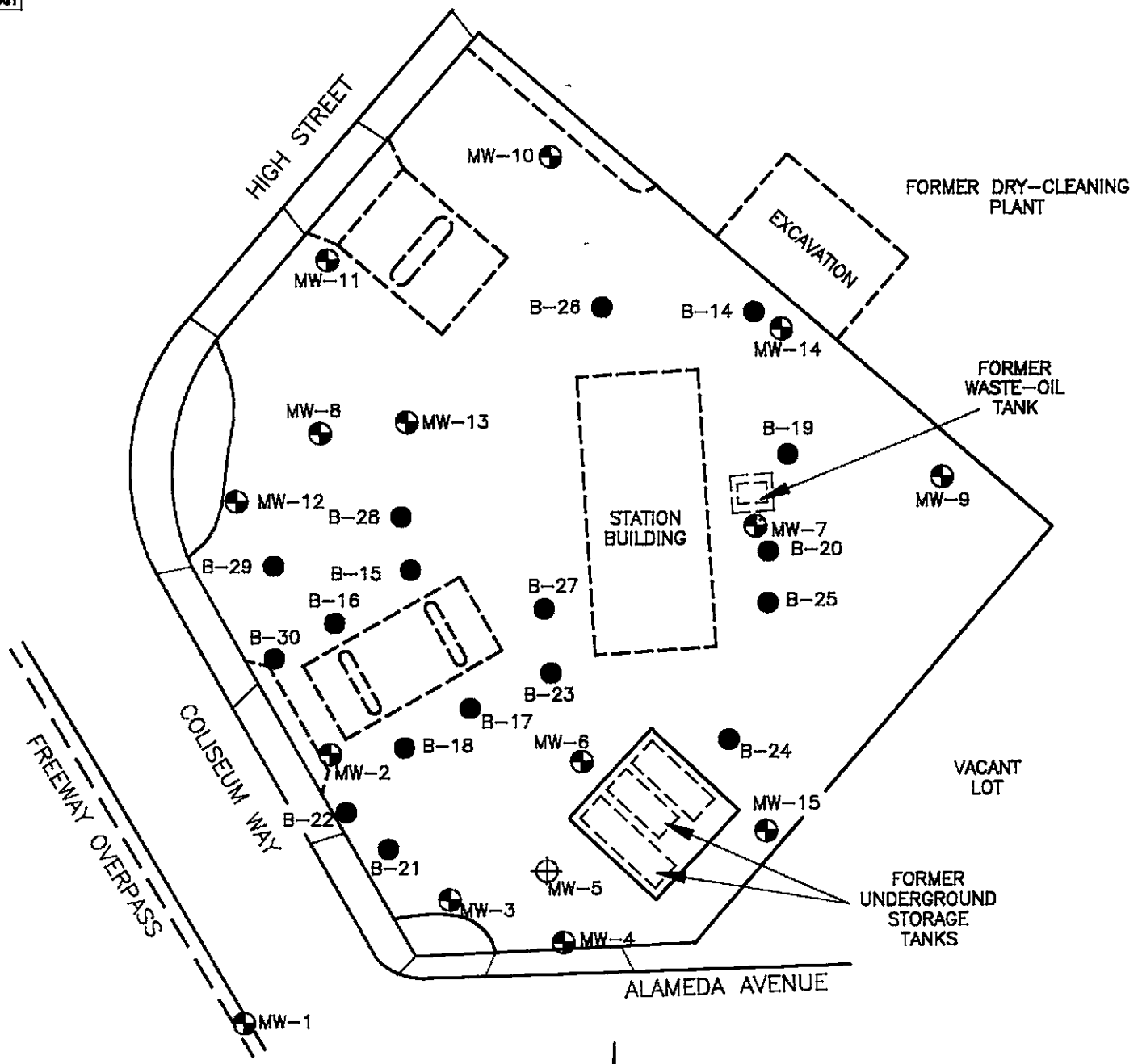
Applied GeoSystems

PROJECT NO. 87042-9

SITE VICINITY MAP
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE
P - 1

87042GG1



B-20 ● = Soil boring drilled by Applied GeoSystems

MW-9 ⊕ = Monitoring well installed by Applied GeoSystems

MW-5 ⊕ = Monitoring well (destroyed) installed by Applied GeoSystems

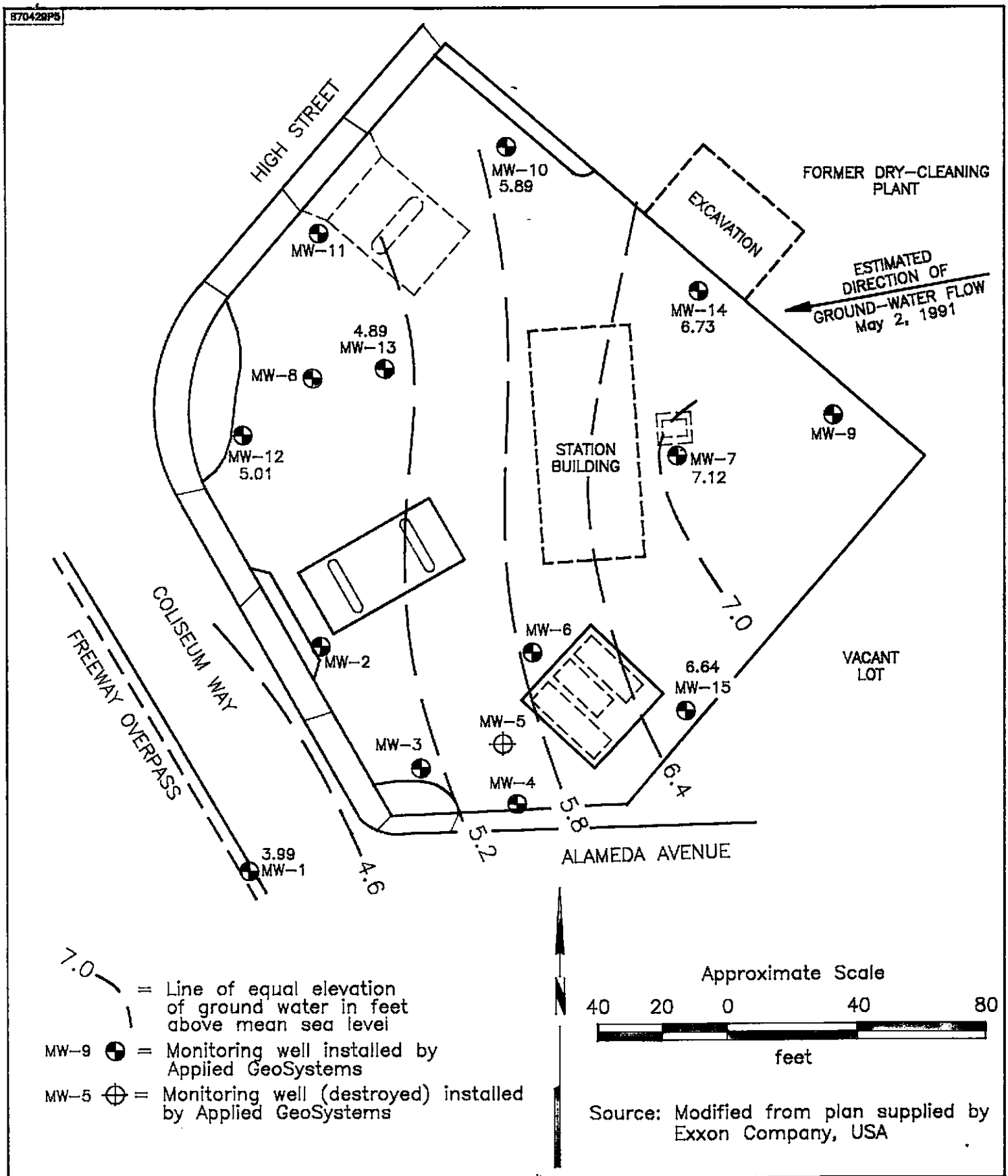
Source: Modified from plan supplied by Exxon Company, USA

Applied GeoSystems

PROJECT NO. 87042-9

GENERALIZED SITE PLAN
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE
P-2



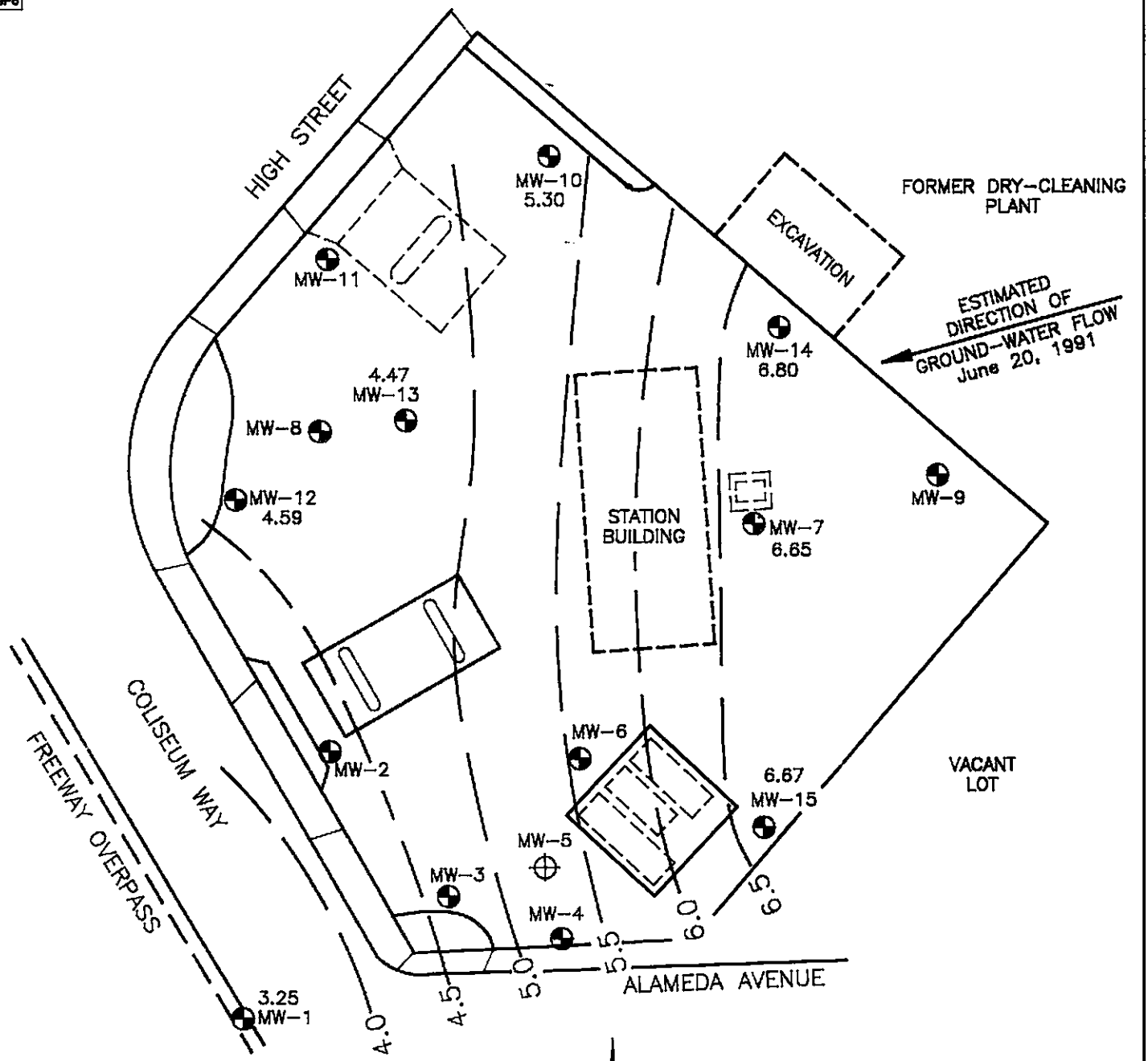
Applied GeoSystems

PROJECT NO. 87042-9

GROUND-WATER ELEVATION MAP
May 2, 1991
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE
P-3

870429P6



6.5 = Line of equal elevation of ground water in feet above mean sea level

MW-9 = Monitoring well installed by Applied GeoSystems

MW-5 = Monitoring well (destroyed) installed by Applied GeoSystems

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by Exxon Company, USA

Applied GeoSystems

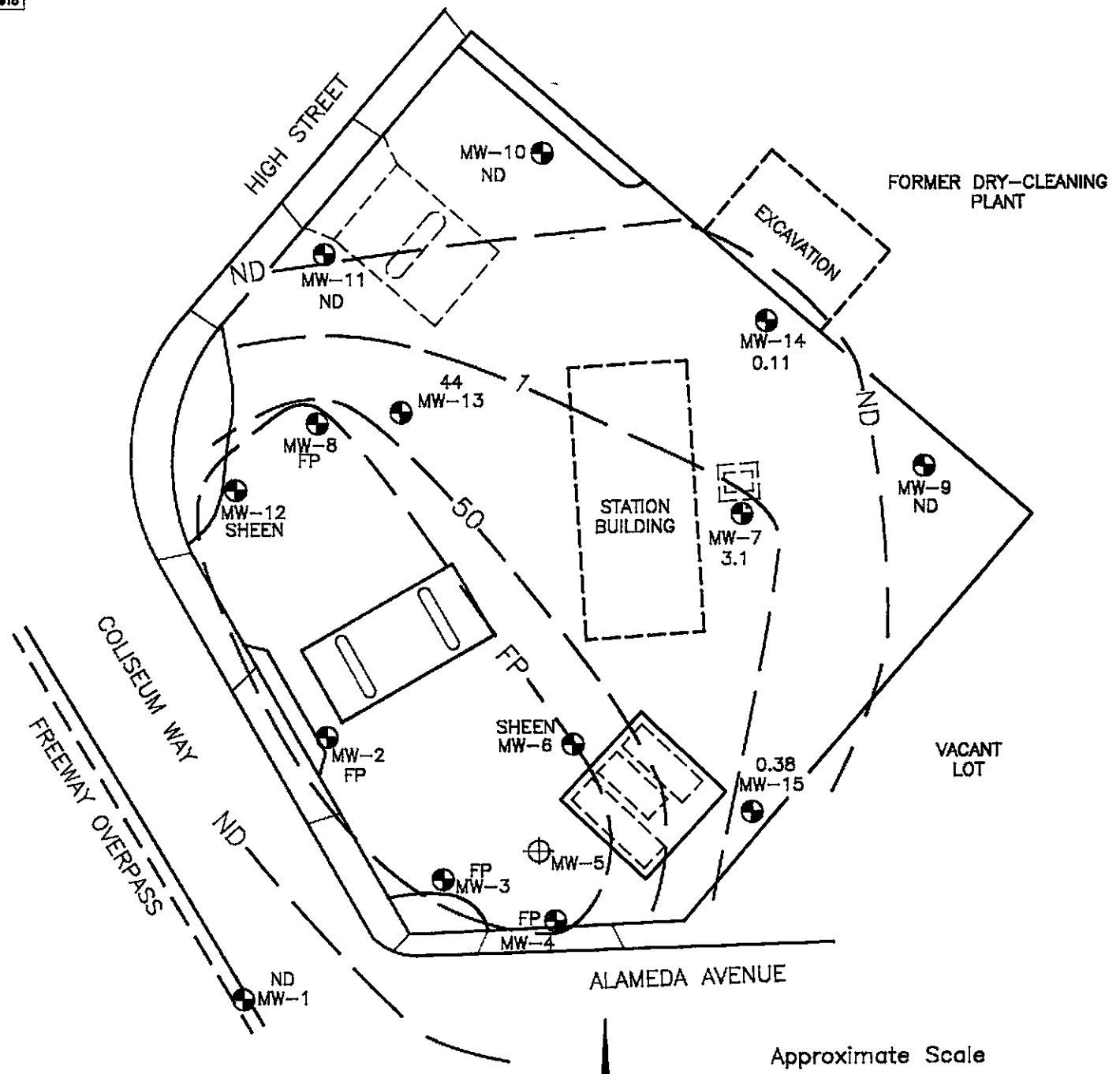
PROJECT NO. 87042-9

GROUND-WATER ELEVATION MAP
June 20, 1991
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE

P-4

87042976



50 = Line of equal concentration in parts per million

44 = Concentration in parts per million

FP = Free product

ND = Nondetectable

MW-9 = Monitoring well installed by Applied GeoSystems

MW-5 = Monitoring well (destroyed) installed by Applied GeoSystems

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by Exxon Company, USA

TPHg = Total petroleum hydrocarbons as gasoline

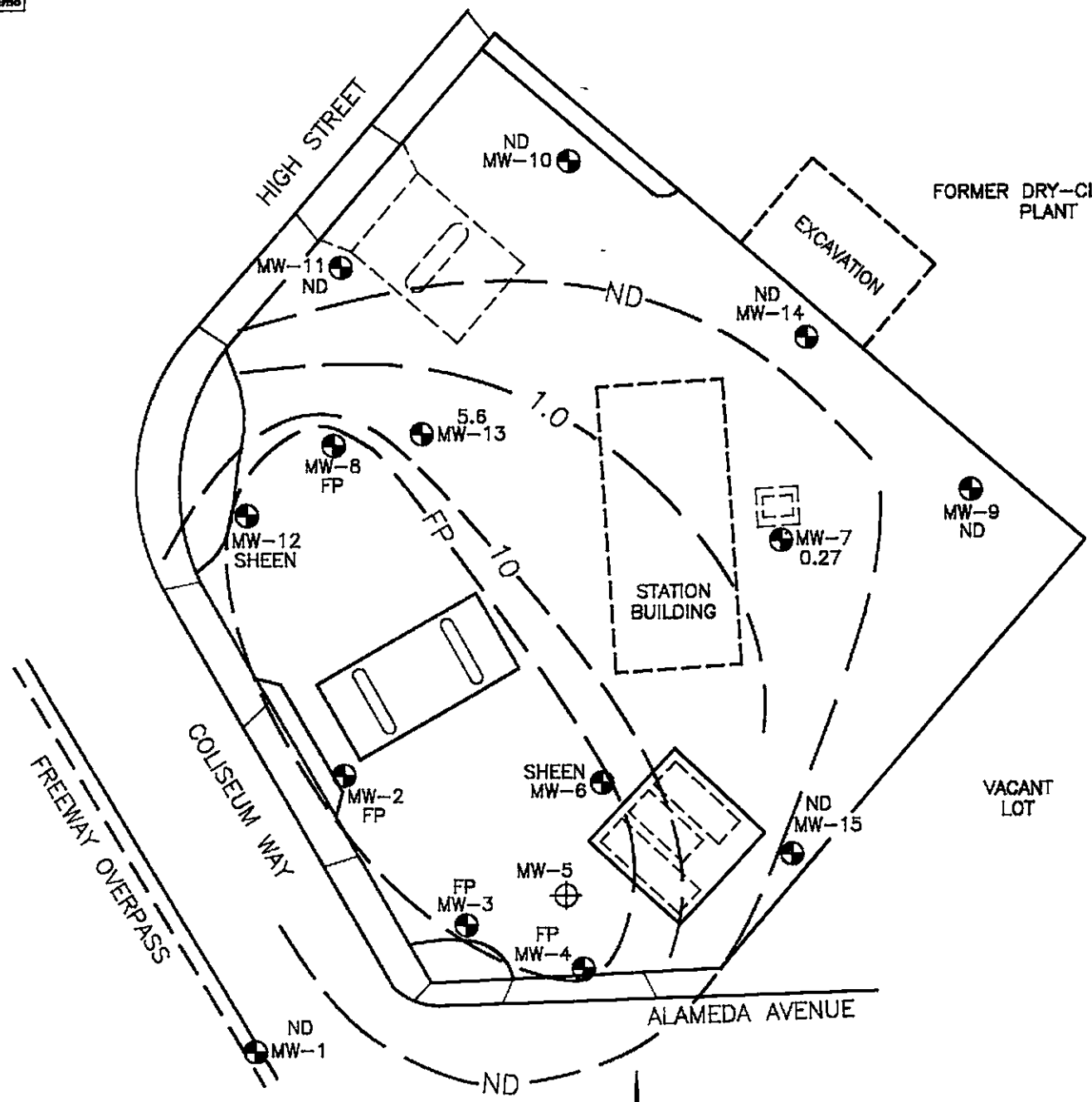
Applied GeoSystems

PROJECT NO. 87042-9

CONCENTRATION OF TPHg IN GROUND WATER
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE P-5

87042988



10 = Line of equal concentration in parts per million

5.6 = Concentration in parts per million

FP = Free product

ND = Nondetectable

MW-9 ⊕ = Monitoring well installed by Applied GeoSystems

MW-5 ⊕ = Monitoring well (destroyed) installed by Applied GeoSystems

N

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by Exxon Company, USA

Applied GeoSystems

PROJECT NO. 87042-9

CONCENTRATION OF BENZENE IN GROUND WATER
Exxon Station No. 7-3006
720 High Street
Oakland, California

PLATE P-6

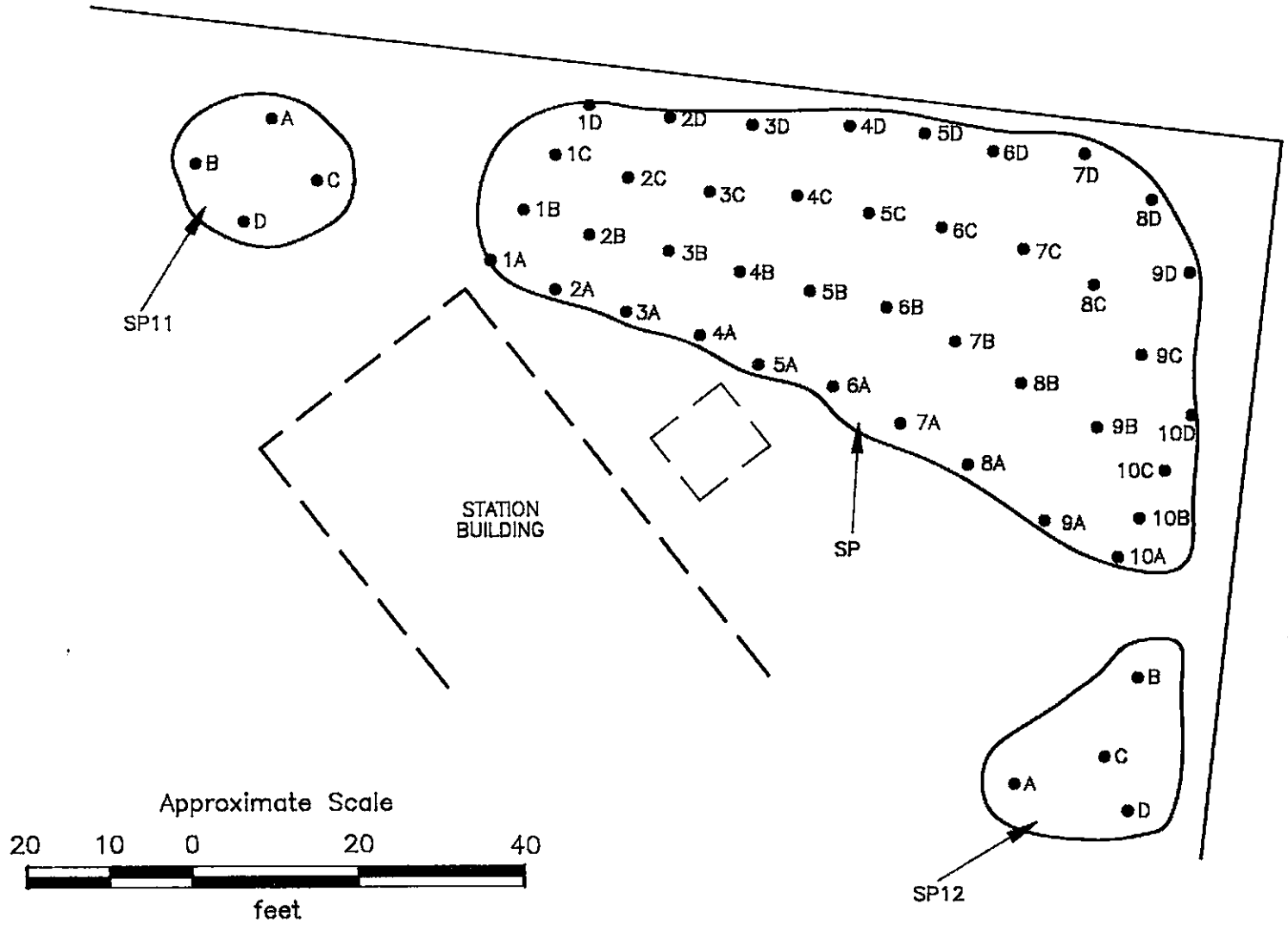


PLATE	SOIL STOCKPILE SAMPLING LOCATIONS January and March 1991 Exxon Station No. 7-3006 720 High Street Oakland, California	Applied GeoSystems
P-7		PROJECT NO. 87042-9

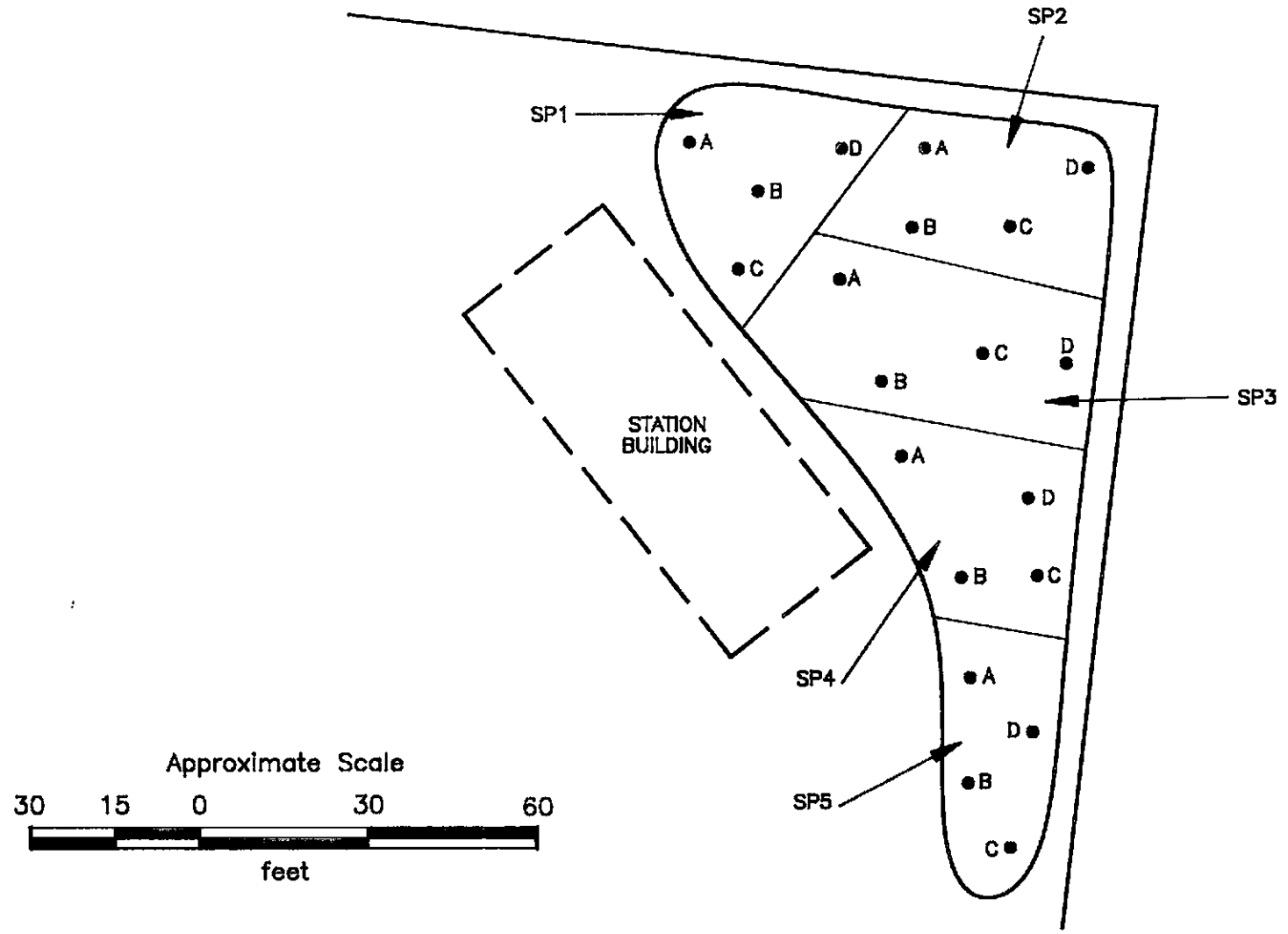


PLATE	SOIL STOCKPILE SAMPLING LOCATIONS May 1991 Exxon Station No. 7-3006 720 High Street Oakland, California	Applied GeoSystems PROJECT NO. 87042-9
P-8		

FIELD PROCEDURES

Monitoring and Subjective Analysis of Ground Water

The depth to static water level was measured to the nearest 0.01 foot with a Solinst electronic water-level indicator. In wells with free product, an Oil Recovery Systems oil-water interface probe was used to measure the depth of the product and the depth of the product-water interface. Ground-water samples were then collected for subjective analysis from each well by gently lowering approximately half the length of a Teflon bailer past the air-water interface. The bailer was washed with Alconox (a commercial biodegradable detergent) and rinsed with deionized water before each use. The samples were retrieved and examined for evidence of floating product, sheen, and emulsion.

Ground-Water Sampling for Laboratory Analyses

Before collecting ground-water samples, the wells were purged of approximately 3 well volumes of water or until temperature, pH, and conductivity stabilized. A water sample was collected from each well after the well had recharged to more than 80 percent of the static level. A clean bailer was used for collecting each water sample. 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 samples slowly decanted into laboratory-cleaned sample containers. For TPHg and BTEX analyses, 40-milliliter, volatile organic analysis glass sample vials with Teflon-lined caps were used. Hydrochloric acid was added to the samples as a preservative. For TPHd analyses, 1-liter glass bottles were used. The sample vials were promptly capped, labeled, and placed in iced storage for transport to a State-certified analytical laboratory for testing. A Chain of Custody Record was initiated in the field and chain-of-custody protocol was observed throughout subsequent handling of the samples.

The purged ground water and product were stored onsite in sealed, properly labeled, 17E, 55-gallon, liquid-waste drums approved for this use by the Department of Transportation. The water was removed from the site on August 6, 1991.

Soil Stockpile Sampling

Soil samples from stockpiles were collected at random depths by a hand-auger lined with a clean brass sleeve. Four samples per approximately 50 cubic yards of soil were collected. The hand-auger was washed with a trisodium phosphate solution and tap water for a final rinse before it was driven into soil sampling locations. After recovering the sampler, the soil sample was removed and promptly sealed in its brass sleeve with aluminum foil, plastic caps and duct tape. The sample was then labeled, placed in iced storage and transported to Applied Analytical Laboratory, a state certified hazardous waste testing laboratory located in Fremont, California for compositing and analyses.

Applied GeoSystems

CHAIN-OF-CUSTODY RECORD

PROJ. NO.	PROJECT NAME
97042-9	EXXON OAKLAND
P.O. NO.	SAMPLERS (Signature)
	LOUIS R WIEN

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)	Total Lead	CAM WET Pb				Preserved?	REMARKS	LABORATORY I.D. NUMBER
3/27/91	1230	S-32791-SP1A-D	4	V	V	V	V	X				ICE		
3/27/91	12:45	S-32791-SP2A-D	4	V	V	V	V	X				ICE		

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
LOUIS R WIEN	3/27/91 17:24	
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature):
	3/27/91 17:24	Martha

Laboratory: Applied Analytical

Turn Around: 2wk

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

Proj. Mgr.: JO ELLEN

CHAIN-OF-CUSTODY RECORD

CHROMALAB FILE # 391142
1905

PROJ. NO.	PROJECT NAME
870429	Exxon - Oakland
P.O. NO.	SAMPLERS (Signature)

DATE MM/DD/YY	TIME		No. of Cont-ainers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)	Total Pb					Preserved?	REMARKS	LABORATORY I.D. NUMBER
3/27/91		S-32791-SP11(A-D)	1				X						composite	
↓		S-32791-SP12(A-D)	1				X						composite	

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
Anthony Guerra	3/28 11:30	T. Dawson
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature):
	3/28 3:00	T. Dawson

Laboratory: Chromalab

Turn Around: wk

SEND RESULTS TO:
Applied Analytical
42501 Albrae Street
Fremont, California

(415) 623-0775

Proj. Mgr.: Laura Funk

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:	Ms. JoEllen Kuszmaul	Date Sampled:	03-27-91
	Applied GeoSystems	Date Received:	03-27-91
	42501 Albrae Street	BTEX Analyzed:	04-10-90
	Fremont, CA 94538	TPHg Analyzed:	04-10-90
Project:	AGS 87042-9	TPHd Analyzed:	04-05-91
		Matrix:	Soil

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit:	0.005	0.005	0.005	0.005	1.0	10
SAMPLE Laboratory Identification						
S-32791-SP11A-D S1103657	ND	0.007	ND	0.006	ND	ND
S-32791-SP12A-D S1103658	ND	ND	ND	ND	ND	ND

ppm = parts per million = mg/kg = milligrams per kilogram.
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 11, 1991
Date Reported

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

April 2, 1991 ChromaLab File No.: 0391142

APPLIED ANALYTICAL, INC.

Attn: Laura Kuck

RE: Two soil samples for total Lead analysis

Project Name: EXXON - OAKLAND
Project Number: 87042-9
Date Sampled: March 27, 1991 Date Submitted: March 28, 1991
Date Extracted: April 2, 1991 Date Analyzed: April 2, 1991

RESULTS:

Sample No.	Lead (mg/Kg)
S-32791-SP11-A,B,C,D	63
S-32791-SP12-A,B,C,D	93
BLANK	N.D.
SPIKED RECOVERY	100.7%
DETECTION LIMIT	0.05
METHOD OF ANALYSIS	7420

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam
Laboratory Director

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

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

April 9, 1991 ChromaLab File No.: 0391142

APPLIED ANALYTICAL, INC.

Attn: Laura Kuck

RE: Two soil samples for CAM WET Lead analysis

Project Name: EXXON - OAKLAND
Project Number: 87042-9
Date Sampled: March 27, 1991 Date Submitted: March 28, 1991
Date Extracted: April 6-9, 1991 Date Analyzed: April 6-9, 1991

RESULTS:

Sample No.	CAM WET Lead (mg/l)
S-32791-SP11 (A-D)	0.12
S-32791-SP12 (A-D)	0.17
BLANK	N.D.
SPIKED RECOVERY	98.7%
DETECTION LIMIT	0.10
METHOD OF ANALYSIS	1310/3010/7420

ChromaLab, Inc.

David Duong
Chief 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

091587

PROJ. NO.	PROJECT NAME
870429	EXXON - OAKLAND
P.O. NO.	SAMPLERS (Signature)
	ERIC TWITTY

DATE MM/DD/YY	TIME		No. of Containers	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)					Preserved?	REMARKS	LABORATORY I.D. NUMBER
				ANALYSIS									
5/17/91	PM.	S-0517-SP1 (A-D)	4	X	X	X						Composite	
		S-0517-SP2 (A-D)	4	X	X	X							
		S-0517-SP3 (A-D)	4	X	X	X							
		S-0517-SP4 (A-D)	4	X	X	X							
		S-0517-SP5 (A-D	4	X	X	X							

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
[signature]	5/17 5:22	
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature):
		[signature]

Laboratory: Applied Analytical

Turn Around: 5 DAY

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

Proj. Mgr.: [illegible]

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. Rasmi El-Jurf
Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
Project: AGS 87042-9

Date Sampled: 05-17-91
Date Received: 05-17-91
BTEX Analyzed: 05-22-91
TPHg Analyzed: 05-22-91
TPHd Analyzed: 05-28-91
Matrix: Soil

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit:	0.005	0.005	0.005	0.005	1.0	10
SAMPLE Laboratory Identification						
S-0517-SP1(A-D) S1105296	ND	ND	ND	ND	ND	ND
S-0517-SP2(A-D) S1105297	ND	ND	ND	ND	ND	ND
S-0517-SP3(A-D) S1105298	ND	ND	ND	ND	ND	ND
S-0517-SP4(A-D) S1105299	ND	ND	ND	ND	ND	ND
S-0517-SP5(A-D) S1105300	ND	ND	ND	ND	ND	ND

ppm = parts per million = mg/kg = milligrams per kilogram.
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

May 30, 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

091705

PROJ. NO.	PROJECT NAME
870429	Exxon - Oakland
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
6/20/91	ND	W-10-MW1	5				HCl/ICE	3 Voa's; 2 l	
	1/10	W-8-MW7	5						
	ND	W-9-MW9	5						
	ND	W-9-MW10	5						
	ND	W-10-MW11	5						
	1/100	W-10-MW13	5						
	Low level	W-8-MW14	5						
6/20/91		W-7-MW15	5				HCl/ICE		

RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
	6/20/91 7:00	
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE / TIME	RECEIVED FOR LABORATORY BY (Signature):
	6/20/91 7:05 PM	David J. Wintergreen

Laboratory: Applied Analytical

Turn Around: 2 wk

SEND RESULTS TO:

Applied GeoSystems
42501 Albrae Street
Fremont, CA 94538
(415) 651-1906

Proj. Mgr.: Rashmi

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. Rasmi El-Jurf	Date Sampled:	06-20-91
	Applied GeoSystems	Date Received:	06-20-91
	42501 Albrae Street	BTEX Analyzed:	06-28-91
	Fremont, CA 94538	TPHg Analyzed:	06-28-91
Project:	AGS 87042-9	TPHd Analyzed:	06-28-91
		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-10-MW1 W1106291	ND	ND	ND	ND	ND	ND
W-8-MW7 W1106292	270	8.8	33	19	3100	ND
W-9-MW9 W1106293	ND	ND	ND	ND	ND	ND
W-9-MW10 W1106294	ND	ND	ND	ND	ND	ND
W-10-MW11 W1106295	ND	ND	ND	ND	ND	ND

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

July 3, 1991
Date Reported

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. Rasmi El-Jurf	Date Sampled:	06-20-91
	Applied GeoSystems	Date Received:	06-20-91
	42501 Albrae Street	BTEX Analyzed:	06-28-91
	Fremont, CA 94538	TPHg Analyzed:	06-28-91
Project:	AGS 87042-9	TPHd Analyzed:	06-28-91
		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-10-MW13 W1106296	5600	3100	750	2600	44000	ND
W-8-MW14 W1106297	ND	ND	ND	ND	110	ND
W-7-MW15 W1106298	ND	ND	ND	1.3	380	ND

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

July 3, 1991
Date Reported

CITY OF MOUNTAIN VIEW

Utilities Department/
Solid Waste
(415) 903-6227

231 North Whisman Road
Mountain View, CA 94043

April 12, 1991

Applied GeoSystems
Attention Mr. William T. DeLon
43255 Mission Boulevard
Fremont, CA 94539

AUTHORIZATION FOR DISPOSAL OF CONTAMINATED SOILS

Dear Mr. DeLon:

Reference:	Your letter of March 6, 1991 with analysis from Applied Analytical Environmental Laboratories No. AGS87042-9
Source of Material:	Exxon Station No. 7-3006, 720 High Street, Oakland, California
Quantity:	Approximately 250 cubic yards

Subject to the materials accepted having at or less than the amount of compounds present as indicated by your analysis and subject to the materials meeting the California Water Quality Control Board's Standards for the City of Mountain View Landfill, the materials are acceptable for disposal. Please inform me in advance of disposal as to the date and time of delivery and the trucking company being used. Current policy requires a disposal fee of $4.50 per cubic yard, unless mixed with refuse or plastic, in which case the charge is $16.00 or $18.50 per cubic yard, depending on truck type. This may be paid at the landfill gatehouse using either cash (no company or personal checks), credit card (VISA or Mastercard) or the City's coupon system.

Please feel free to contact me at (415) 903-6227 if you have any questions.

Sincerely,

For Terry E. Dill
Landfill Operations Specialist

TED/JDH/KAW/698-4-12-91F

CITY OF MOUNTAIN VIEW

Utilities Department • Solid Waste Division
231 North Whisman Road • Post Office Box 7540 • Mountain View, CA 94039-7540 • 415-903-6329 • FAX 415-962-0911

June 10, 1991

Applied Geo Systems
Attention Mr. Rasmi El-Jurf
43255 Mission Boulevard
Fremont, CA 94539

AUTHORIZATION FOR DISPOSAL OF CONTAMINATED SOILS

Dear Mr. El-Jurf:

Reference:	Your letter of June 3, 1991 with analysis from Applied Analytical Environmental Laboratories, No. AGS 87042-9
Source of Material:	Exxon Station No. 7-3006, 720 High Street, Oakland, California
Quantity:	Approximately 600 cubic yards

Subject to the materials accepted having at or less than the amount of compounds present as indicated by your analysis and subject to the materials meeting the California Water Quality Control Board's Standards for the City of Mountain View Landfill, the materials are acceptable for disposal. Please inform me in advance of disposal as to the date and time of delivery and the trucking company being used. Current policy requires a disposal fee of $4.50 per cubic yard, unless mixed with refuse or plastic, in which case the charge is $16.00 or $18.50 per cubic yard, depending on truck type. This may be paid at the landfill gatehouse using either cash (no company or personal checks), credit card (VISA or Mastercard) or the City's coupon system.

Please feel free to contact me at (415) 903-6227 if you have any questions.

Sincerely,

Terry E. Dill
Landfill Operations Specialist

TED/JDH/MJG
698-6-7-91F3