11/1/89

Harding Lawson Associates

Transmittal/Memorandum

To: Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Lowell Miller

From: David Leland DL
Date: October 31, 1989
Subject: September 1989 Soil Treatment System Monitoring Report
Job No.: 09382,040.02

Remarks: Please find attached a copy of the "Report of System Monitoring: September 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California", describing the operations and monitoring of the in situ soil treatment system located at the Pacific Renaissance Plaza site in Oakland.

DFL/dc/df1005#1

cc:

A Report Prepared for

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

REPORT OF SYSTEM MONITORING
SEPTEMBER 1989
SOIL TREATMENT SYSTEM
PACIFIC RENAISSANCE PLAZA
OAKLAND, CALIFORNIA

HLA Job No. 9382,040.02

Submitted on behalf of:

City of Oakland Redevelopment Agency
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by

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October 31, 1989

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

This report describes the operation and monitoring of the in situ soil treatment system at the Pacific Renaissance Plaza (PRP) site in Oakland, California, for the period between September 6 and October 5, 1989. The PRP site, part of the Oakland Chinatown Redevelopment Project Area, is bounded by 9th, Franklin, and Webster streets and the East Bay Municipal Utility District (EBMUD) property line approximately 100 feet north of the centerline of 10th Street (Plate 1). The soil treatment system is designed to remove petroleum hydrocarbons from soil within the site boundaries before the soil is excavated during construction of the complex. The system began operation on March 4, 1989. Discussions with Pacific Renaissance Associates, the developer of the project, indicate that construction is scheduled to begin in February 1990.

This report has been prepared by Harding Lawson Associates (HLA) on behalf of the City of Oakland Redevelopment Agency (Agency). It is submitted in accordance with monitoring and reporting requirements set forth by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), in a letter to the City of Oakland dated February 22, 1989, and clarified in a letter dated March 17, 1989, from HLA to the RWQCB.

1.2 Previous Reports

Site history and characterization activities completed by HLA in 1988 are reported in *Site Characterization, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California (HLA, 1988)*. The site characterization report also presents a preliminary screening of soil treatment alternatives and an evaluation of the

potential for effectively removing hydrocarbons from soil at the site using biodegradation. The *Report of Waste Discharge, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California* (*HLA, 1989a*), discusses the design of the soil treatment system and presents the results of the biodegradation treatability study and the proposed operations and monitoring plan for the system. Site background, environmental setting, and previous investigations are also described in the report.

Characterization of the extent of soil contamination at the PRP site was updated in the *Report of System Monitoring: March 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California* (*HLA, 1989b*), using results of analyses of soil samples collected during treatment system well installation activities. System operation and monitoring from March through August are described in *HLA 1989b through g*. The objective of the system and a description of the process are presented in *HLA 1989e*.

2.0 TREATMENT SYSTEM OPERATIONS

System operational activities and adjustments made in September are summarized below:

- Pumps in each extraction well (with the exception of EW-2, EW-7, EW-12, EW-14, EW-15, and EW-21) were reconditioned; the pumps were removed from the wells and run in a chlorine/soap bath. Flowmeters and water-level probes for each of these wells were also cleaned.
- A flowmeter was installed at Extraction Well EW-22 on October 2.
- Injection Wells IW-5, IW-6, IW-7, IW-8, IW-10, and IW-11 were redeveloped by swabbing, bailing and pumping to increase flow.
- Concentration of nutrients in the injection water was reduced from 120 parts per million (ppm) to 60 ppm on September 29.
- The sand filter and bag filter configuration at the influent to the carbon treatment system was tested in early September and has been operating continuously since September 9.

3.0 TREATMENT SYSTEM MONITORING

3.1 Flow Rate, Water-Level, and Water Chemistry Monitoring

Flow rates, water levels, and water chemistry were monitored using procedures described in *HLA, 1989e*. Water samples were collected from selected extraction wells, injection wells, and monitoring wells and analyzed for inorganic and organic constituents and microbial populations. For each well, Table 1 presents the sampling frequency, analytical parameters, and EPA test methods used (for organic constituents). The sampling schedule may be modified in subsequent months in response to the operation and performance of the system.

3.2 Numerical Modeling of Ground-Water Flow

The numerical model of ground-water flow at the site, developed during the design phase of the project, is described in the *Report of Waste Discharge* (*HLA, 1989a*). The model is based on the U.S. Geological Survey ground-water flow computer code MODFLOW (*McDonald and Harbaugh, 1984*). Individual injection well, infiltration basin, and extraction well flow rates from September 6 to October 3 were averaged for use as model input (Tables 2 and 3) for simulating ground-water elevations at the site for October 3 (Plate 2).

4.0 RESULTS

4.1 Hydraulic Analysis

Flow rates for wells and infiltration basins installed by HLA were calculated based on readings from the flowmeters on the wellheads. Average injection and extraction rates for September are presented in Tables 2 and 3. From September 6 to October 3, the total flow rate for all injection wells was about 21.3 gallons per minute (gpm). The flow rate for injection wells located south of 10th Street, Wells IW-1 to IW-9, was about 20.1 gpm. The average flow rate into Basins BA-1 to BA-7 was about 5.1 gpm from September 6 to October 3, and the average flow rate into Basins BA-8 and BA-9 was about 1.0 gpm (Table 2). All the influent to these covered basins is assumed to infiltrate. Total flow into all injection wells and infiltration basins, calculated as a monthly average, was about 27.4 gpm.

During this monitoring period, the total flow rate for all extraction wells was 23.9 gpm. The flow rate for Wells EW-1 through EW-20 was about 23.6 gpm, and for Well EW-21 and Well EW-22 was about 0.5 gpm (Table 3). Extraction Well EW-22 was equipped with a totalizing flowmeter on October 2. The EBMUD dewatering wells still in operation were shut off on September 14. From September 6 to September 14, the total flow rate for all dewatering wells was estimated to be 5 gpm. The total extraction flow rate, calculated as a monthly average, is estimated to be 26.0 gpm. The average injection/infiltration rates and extraction rates were approximately equal in September.

Table 4 presents measurements of depth to water in monitoring wells and calculated water-level elevations from January 3 to October 3, 1989. Ground-water elevations on October 3, 1989, are shown on Plate 2 and represent conditions approximately 213 days after system startup. Contours of ground-water elevations simulated using the numerical model are also presented on Plate 2. Flow rates for the

infiltration basins were included in the model input for the October 3 simulation. In some cases, locations of injection and extraction points used in the model differ slightly from actual well locations because of the nature of discretization of the modeled area.

Water-level contours calculated using the site model can be used to assess the hydraulic control of injected water. Simulated contours for October 3 (Plate 2) indicate overall hydraulic control of injected water. Most injected water is recovered by the extraction wells without traveling off site. At the eastern and western ends of the site, some of the injected water may travel off site as it moves toward the extraction wells.

In general, the simulated water levels show good agreement with water-level elevations measured at monitoring wells. Plate 3 presents the results of a linear regression analysis of observed versus simulated ground-water elevations. The regression coefficient, R, is the measure of least squares best fit and was calculated to have a value of 0.93 for the October 3 results, where R = 1.00 represents a perfect match.

4.2 Distribution of Inorganic Constituents and Microbial Populations in Ground Water

Tables 5 and 6 present the inorganic chemical and microbiological analysis results for the bioremediation treatment system from startup through October 5, 1989. Nitrate and phosphate concentrations in ground water at the site for the October 5 sampling round are presented on Plate 4 and 5, respectively.

4.3 Distribution of Petroleum Hydrocarbons in Ground Water

Results of organic analyses of ground-water samples are presented in Table 7. Laboratory data sheets are presented in the Appendix. Petroleum hydrocarbon concentrations as TPH (gasoline) for the October 4-5 sampling round are presented on Plate 6.

Reported TPH values for samples from Monitoring Wells MW-7, MW-9, MW-10 and MW-13 are higher for the October sampling round than for the September round. Reported TPH values for the October round for remaining wells are similar to or less than values for September. TPH values in samples from the transect wells, MW-15, MW-16, and MW-17, continued to show declines from September to October. Petroleum hydrocarbons as TPH were not detected at MW-12 and MW-18, located west of the treatment area.

TPH values in ground-water samples from Extraction Wells EW-7, EW-8, EW-12, EW-14, EW-16, EW-19, and EW-21 increased from the previous sampling round, while concentrations in samples from EW-1, EW-10, and EW-15 remained stable or decreased.

5.0 ACTIVITIES PLANNED FOR OCTOBER THROUGH NOVEMBER 1989

On the basis of observed performance, selected injection wells will be redeveloped to improve the injection rate efficiency. Wells will be swabbed over the entire screened interval to remove silt from the slotted sections. The wells will be bailed to remove the silt and then pumped until the water is clear.

Monitoring of water levels, flow rates, and inorganic and organic constituent concentrations will continue.

An estimated four additional confirmation soil samples will be collected in late October to assess the progress of soil treatment. Borings will be drilled and samples collected, screened in the field for volatile organic components, and submitted to a state-certified laboratory for TPH and BTEX analyses.

To increase the flow of nutrient-enriched water in selected areas, one infiltration basin will be installed adjacent to 10th Street near the corner of Franklin Street, and three injection wells will be installed along 9th Street. Installation is scheduled for early November. Basins and wells will be equipped with individual flow meters to monitor infiltration and injection rates.

6.0 REFERENCES

Harding Lawson Associates, 1988. *Site Characterization, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California.* December 22.

Harding Lawson Associates, 1989a. *Report of Waste Discharge, Pacific Renaissance Plaza, Chinatown Redevelopment Area, Oakland, California.* February.

Harding Lawson Associates, 1989b. *Report of System Monitoring: March 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* May 4.

Harding Lawson Associates, 1989c. *Report of System Monitoring: April 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* May 31.

Harding Lawson Associates, 1989d. *Report of System Monitoring: March through May 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* July 10.

Harding Lawson Associates, 1989e. *Report of System Monitoring: June 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* August 2.

Harding Lawson Associates, 1989f. *Report of System Monitoring: July 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* September 5.

Harding Lawson Associates, 1989g. *Report of System Monitoring: June through August 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.* October 2.

McDonald, D.G., and A.W. Harbaugh, 1984. *A Modular Three-Dimensional Finite Difference Ground-Water Flow Model.* U.S. Geological Survey, Open-File Report 83-875.

Table 1. Schedule for Sampling, Measurement, and Analysis
Soil Treatment System
Pacific Renaissance Plaza

Sampling Station	Flow/Water Levels	Measurement/Analysis: Nitrate	Ammonia	Phosphate	Microbial Enumeration	Dissolved Iron	Dissolved Oxygen	EPA 8015 (TPH)	EPA 8010	EPA 8020 (BTEX)
Injection Wells										
Composite	D	B	B	B	--	--	--	--	--	--
IW-1	D	--	--	--	--	--	--	--	--	--
IW-2	D	--	--	--	--	--	--	--	--	--
IW-3	D	--	--	--	--	--	--	--	--	--
IW-4	D	--	--	--	--	--	--	--	--	--
IW-5	D	--	--	--	--	--	--	--	--	--
IW-6	D	--	--	--	--	--	--	--	--	--
IW-7	D	--	--	--	--	--	--	--	--	--
IW-8	D	--	--	--	--	--	--	--	--	--
IW-9	D	--	--	--	--	--	--	--	--	--
IW-10	D	--	--	--	--	--	--	--	--	--
IW-11	D	--	--	--	--	--	--	--	--	--
Extraction Wells										
Composite	D	B	B	B	--	--	--	M	M	M
EW-1	D	M	M	M	M	--	M	M	--	M
EW-2	D	--	--	--	--	--	M	--	--	--
EW-3	D	--	--	--	--	--	M	--	--	--
EW-4	D	B	B	B	B	--	M	M	--	M
EW-5	D	--	--	--	--	--	--	--	--	--

Table 1. Schedule for Sampling, Measurement, and Analysis (continued)
Soil Treatment System
Pacific Renaissance Plaza

Sampling Station	Flow/Water Levels	Measurement/Analysis								
		Nitrate	Ammonia	Phosphate	Microbial Enumeration	Dissolved Iron	Dissolved Oxygen	EPA 8015 (TPH)	EPA 8010	EPA 8020 (BTEX)
EW-6	D	--	--	--	--	--	--	--	--	--
EW-7	D	--	--	--	--	--	--	--	--	--
EW-8	D	B	B	B	B	--	M	M	--	M
EW-9	D	--	--	--	--	--	--	--	--	--
EW-10	D	M	M	M	M	--	M	M	--	M
EW-11	D	M	M	M	M	--	M	M	--	M
EW-12	D	B	B	B	B	--	M	M	--	M
EW-13	D	M	M	M	M	--	M	M	--	M
EW-14	D	M	M	M	M	--	M	M	--	M
EW-15	D	M	M	M	M	--	M	M	--	M
EW-16	D	B	B	B	B	--	M	M	--	M
EW-17	D	--	--	--	--	--	--	--	--	--
EW-18	D	--	--	--	--	--	--	--	--	--
EW-19	D	B	B	B	B	--	M	M	--	M
EW-20	D	--	--	--	--	--	--	--	--	--
EW-21	D	B	B	B	B	--	M	M	--	M
EW-22	D	--	--	--	--	--	--	--	--	--

Table 1. Schedule for Sampling, Measurement, and Analysis (continued)
Soil Treatment System
Pacific Renaissance Plaza

Sampling Station	Flow/Water Levels	Measurement/Analysis: Nitrate	Ammonia	Phosphate	Microbial Enumeration	Dissolved Iron	Dissolved Oxygen	EPA 8015 (TPH)	EPA 8010	EPA 8020 (BTEX)
Monitoring Wells										
MW-2	W	--	--	--	--	--	--	--	--	--
MW-3	W	--	--	--	--	--	--	--	--	--
MW-5	W	M	M	M	--	--	--	M	--	M
MW-6	W	--	--	--	--	--	--	--	--	--
MW-7	W	M	M	M	--	--	--	M	--	M
MW-8	W	--	--	--	--	--	--	--	--	--
MW-9	W	B	B	B	--	--	--	M	--	M
MW-10	W	B	B	B	--	--	--	M	--	M
MW-11	W	B	B	B	B	--	--	M	--	M
MW-12	W	B	B	B	--	--	--	M	--	M
MW-13	W	B	B	B	--	--	--	M	--	M
MW-14	W	B	B	B	M	--	--	M	--	M
MW-15	D	B	B	B	M	--	--	M	--	M
MW-16	D	B	B	B	B	--	--	M	--	M
MW-17	D	B	B	B	B	--	--	M	--	M
MW-18	W	B	B	B	--	--	--	M	--	M

Notes:
D = daily
W = weekly
B = biweekly
M = monthly
-- = no analysis or measurement

Table 2. Injection Well and Infiltration Basin Flow Rates - September 1989

Injection Well Flow Rates

Meter No.	03-Oct-89 Totalizer Reading	06-Sep-89 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
IW-1	1197058	1076181	38762	3.1
IW-2	1098629	989073	38762	2.8
IW-3	909466	769521	38762	3.6
IW-4	1033341	914649	38762	3.1
IW-5	334433	282868	38762	1.3
IW-6	540379	517570	38762	0.6
IW-7	1240569	1106911	38762	3.4
IW-8	448972	425123	38762	0.6
IW-9	672446	613648	38762	1.5
IW-10	99809	97757	38762	0.1
IW-11	390383	347258	38762	1.1
Total (1-9)	7475293	6695544	38762	20.1
Total (10,11)	490192	445015	38762	1.2
Total (1-11)	7965485	7140559	38762	21.3

Note: Totalizer readings in gallons.

Infiltration Basin Flow Rates

Meter No.	03-Oct-89 Totalizer Reading	06-Sep-89 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
BA-1	143571	109875	38880	0.9
BA-2	64918	43262	38880	0.6
BA-3	112800	88873	38880	0.6
BA-4	75577	56265	38880	0.5
BA-5	209752	133223	38880	2.0
BA-6*	2909	2909	38880	0.0
BA-7	82640	58806	38880	0.6
BA-8	72240	45854	38880	0.7
BA-9	35451	24342	38880	0.3
Total (1-7)	692167	493213	38880	5.1
Total (8,9)	107691	70196	38880	1.0
Total (1-9)	799858	563409	38880	6.1

Note: Totalizer readings in gallons.

*: Basin flow rate is included in BA-5

Table 3. Extraction Well Flow Rates - September 1989

Harding Lawson Associates

Meter No.	03-Oct-89 Totalizer Reading	06-Sep-89 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
EW-1	266687	229530	38765	1.0
EW-2	286368	235937	38765	1.3
EW-3	458751	383128	38765	2.0
EW-4	336341	292454	38765	1.1
EW-5	405158	356371	38765	1.3
EW-6	155344	140843	38765	0.4
EW-7	127723	121313	38765	0.2
EW-8	283158	254670	38765	0.7
EW-9	313040	265436	38765	1.2
EW-10	273315	247334	38765	0.7
EW-11	270622	231801	38765	1.0
EW-12	222856	191442	38765	0.8
EW-13	248824	222575	38765	0.7
EW-14	281477	236355	38765	1.2
EW-15	446564	381985	38765	1.7
EW-16	748854	643590	38765	2.7
EW-17	615480	543645	38765	1.9
EW-18	646545	600011	38765	1.2
EW-19	478024	407275	38765	1.8
EW-20	234614	199360	38765	0.9
EW-21	65871	52585	38765	0.3
EW-22 *	918	553 **	1838	0.2
Total (1-20)	7099745	6185055	38765	23.6
Total (21-22)*	66789	53138	38765	0.5
Total (1-22)	7166534	6238193	38765	23.9

Note: Totalizer readings in gallons.
*: Well EW-22 equipped with flow meter beginning 10/2/89.
**: Totalizer reading on 10/2/89.

Table 4. Water-Level Elevations - January through September 1989

Well No.	MW-2		MW-3		MW-5		MW-6		MW-7		MW-8		MW-9	
	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING
	40.05	39.55	39.02	38.35	38.45	37.86	39.95	39.59	39.35	39.10	40.63	40.47	38.65	38.50
DATE	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation
03-Jan-89	33.10	6.45	32.35	6.00	33.00	4.86	30.22	9.37	31.15	7.95	32.78	7.69	30.58	7.92
05-Jan-89	-	-	32.35	6.00	33.00	4.86	30.22	9.37	31.15	7.95	32.78	7.69	30.58	7.92
02-Feb-89	33.05	6.50	33.01	5.34	31.82	6.04	30.23	9.36	30.51	8.59	32.62	7.85	31.67	6.83
08-Feb-89	33.83	5.72	32.21	6.14	32.02	5.84	31.05	8.54	31.44	7.66	33.03	7.44	30.65	7.85
15-Feb-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Feb-89	30.59	8.96	29.26	9.09	31.90	5.96	30.05	9.54	30.21	8.89	31.96	8.51	30.16	8.34
25-Feb-89	29.85	9.70	28.68	9.67	30.32	7.54	30.57	9.02	31.10	8.00	31.90	8.57	30.80	7.70
02-Mar-89	-	-	-		-	-	-	-	-	-	-	-	30.05	8.45
11-Mar-89	-	-	-		-	-	-	-	-	-	-	-	23.06	15.44
18-Mar-89	-	-	32.20	6.15	32.01	5.85	-	-	31.52	7.58	-	-	22.45	16.05
25-Mar-89	-	-	27.76	10.59	27.53	10.33	-	-	30.08	9.02	-	-	22.62	15.88
30-Mar-89	-	-	-	-	-	-	-	-	-	-	-	-	23.00	15.50
04-Apr-89	28.52	11.03	27.56	10.79	-	-	28.00	11.59	29.00	10.10	30.45	10.02	22.61	15.89
08-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	23.12	15.38
11-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	23.37	15.13
12-Apr-89	28.59	10.96	27.63	10.72	-	-	27.17	12.42	28.96	10.14	30.45	10.02	-	-
18-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-Apr-89	-	-	-	-	-	-	-	-	28.13	10.97	-	-	23.36	15.14
25-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	22.80	15.70
02-May-89	28.71	10.84	26.84	11.51	-	-	27.49	12.10	28.54	10.56	29.80	10.67	22.73	15.77
09-May-89	27.99	11.56	26.58	11.77	26.11	11.75	27.34	12.25	28.34	10.76	29.68	10.79	23.04	15.46
17-May-89	27.80	11.75	26.62	11.73	-	-	27.11	12.48	28.16	10.94	29.27	11.20	23.33	15.17
22-May-89	27.52	12.03	28.17	10.18	25.98	11.88	26.89	12.70	27.69	11.41	28.68	11.79	23.94	14.56
31-May-89	27.99	11.56	26.28	12.07	-	-	27.11	12.48	28.28	10.82	29.31	11.16	24.17	14.33
05-Jun-89	27.60	11.95	25.83	12.52	24.96	12.90	27.00	12.59	28.18	10.92	29.41	11.06	19.72	18.78
14-Jun-89	27.58	11.97	26.00	12.35	25.52	12.34	26.88	12.71	28.09	11.01	29.20	11.27	20.53	17.97
19-Jun-89	-	-	-	-	-	-	-	-	-	-	-	-	20.31	18.19
28-Jun-89	-	-	27.88	10.47	25.39	12.47	-	-	-	-	-	-	21.26	17.24
05-Jul-89	27.34	12.21	25.92	12.43	25.50	12.36	26.66	12.93	27.68	11.42	28.99	11.48	21.88	16.62
21-Jul-89	-	-	24.73	13.62	25.44	12.42	-	-	27.60	11.50	-	-	21.39	17.11
28-Jul-89	-	-	-	-	-	-	-	-	-	-	-	-	21.36	17.14
01-Aug-89	27.22	12.33	26.67	11.68	25.36	12.50	26.61	12.98	27.44	11.66	28.79	11.68	21.60	16.90
09-Aug-89	27.18	12.37	25.91	12.44	25.36	12.50	26.57	13.02	27.40	11.70	28.74	11.73	21.66	16.84
15-Aug-89	27.24	12.31	25.95	12.40	25.48	12.38	27.63	11.96	27.62	11.48	28.79	11.68	21.80	16.70
30-Aug-89	27.21	12.34	-	-	25.69	12.17	26.60	12.99	27.52	11.58	28.66	11.81	22.98	15.52
06-Sep-89	27.22	12.33	25.93	12.42	25.55	12.31	26.61	12.98	27.38	11.72	28.77	11.70	21.97	16.53
28-Sep-89	-	-	-	-	-	-	-	-	-	-	-	-	22.37	16.13
03-Oct-89	26.71	12.84	25.24	13.11	24.75	13.11	26.30	13.29	27.35	11.75	28.29	12.18	22.55	15.95

Notes:

Elevations are in feet above mean sea level (MSL).
Depth to water in feet measured from top of casing.

Table 4. Water-Level Elevations - January through September 1989

Well No.	MW-10		MW-11		MW-12		MW-13		MW-14		MW-15		MW-16	
	GROUND SURFACE 36.74	TOP OF CASING 36.35	GROUND SURFACE 37.98	TOP OF CASING 37.55	GROUND SURFACE 37.70	TOP OF CASING 37.00	GROUND SURFACE 39.79	TOP OF CASING 40.77	GROUND SURFACE 39.27	TOP OF CASING 40.26	GROUND SURFACE 39.69	TOP OF CASING 40.73	GROUND SURFACE 39.55	TOP OF CASING 40.53
DATE	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation
03-Jan-89	27.34	9.01	30.30	7.25	-	-	-	-	-	-	-	-	-	-
05-Jan-89	27.34	9.01	30.30	7.25	-	-	-	-	-	-	-	-	-	-
02-Feb-89	28.11	8.24	30.03	7.52	-	-	-	-	-	-	-	-	-	-
08-Feb-89	27.65	8.70	29.52	8.03	-	-	-	-	-	-	-	-	-	-
15-Feb-89	-	-	-	-	28.89	8.11	-	-	-	-	-	-	-	-
18-Feb-89	27.65	8.70	28.02	9.53	-	-	-	-	-	-	-	-	-	-
25-Feb-89	27.12	9.23	29.05	8.50	30.87	6.13	32.63	8.14	31.07	9.19	32.83	7.90	32.43	8.10
02-Mar-89	27.23	9.12	28.98	8.57	28.46	8.54	32.79	7.98	32.28	7.98	32.40	8.33	32.50	8.03
11-Mar-89	23.59	12.76	28.93	8.62	28.22	8.78	30.12	10.65	28.64	11.62	27.10	13.63	25.64	14.89
18-Mar-89	23.17	13.18	27.79	9.76	27.85	9.15	30.29	10.48	28.20	12.06	26.62	14.11	24.74	15.79
25-Mar-89	23.19	13.16	28.10	9.45	27.47	9.53	29.76	11.01	27.79	12.47	26.28	14.45	24.88	15.65
30-Mar-89	23.56	12.79	28.48	9.07	27.43	9.57	30.12	10.65	27.99	12.27	26.50	14.23	25.48	15.05
04-Apr-89	23.34	13.01	28.61	8.94	28.44	8.56	29.60	11.17	27.84	12.42	26.84	13.89	25.53	15.00
08-Apr-89	23.50	12.85	29.31	8.24	-	-	30.49	10.28	27.81	12.45	26.81	13.92	25.74	14.79
11-Apr-89	23.64	12.71	29.45	8.10	-	-	30.62	10.15	28.04	12.22	27.21	13.52	26.24	14.29
12-Apr-89	-	-	-	-	28.64	8.36	-	-	-	-	-	-	-	-
18-Apr-89	-	-	-	-	-	-	-	-	-	-	27.08	13.65	26.02	14.51
19-Apr-89	23.41	12.94	26.77	10.78	26.98	10.02	30.19	10.58	27.13	13.13	-	-	-	-
25-Apr-89	23.39	12.96	29.18	8.37	27.47	9.53	30.40	10.37	27.75	12.51	27.01	13.72	25.97	14.56
02-May-89	23.54	12.81	28.44	9.11	27.36	9.64	29.42	11.35	27.50	12.76	25.91	14.82	24.42	16.11
09-May-89	23.86	12.49	27.09	10.46	26.85	10.15	29.86	10.91	27.38	12.88	26.63	14.10	25.37	15.16
17-May-89	23.63	12.72	28.88	8.67	27.63	9.37	29.10	11.67	27.73	12.53	27.25	13.48	26.23	14.30
22-May-89	23.54	12.81	28.56	8.99	27.62	9.38	30.24	10.53	27.95	12.31	27.25	13.48	26.34	14.19
31-May-89	24.54	11.81	29.18	8.37	28.16	8.84	30.34	10.43	27.99	12.27	27.42	13.31	26.31	14.22
05-Jun-89	23.22	13.13	28.92	8.63	28.08	8.92	29.88	10.89	26.18	14.08	25.83	14.90	24.67	15.86
14-Jun-89	22.66	13.69	28.66	8.89	27.97	9.03	29.31	11.46	26.54	13.72	24.54	16.19	24.73	15.80
19-Jun-89	22.74	13.61	28.20	9.35	27.47	9.53	29.06	11.71	26.21	14.05	24.11	16.62	22.06	18.47
28-Jun-89	22.66	13.69	28.57	8.98	27.83	9.17	29.47	11.30	26.65	13.61	24.97	15.76	23.01	17.52
05-Jul-89	23.41	12.94	27.61	9.94	27.10	9.90	29.15	11.62	26.78	13.48	25.23	15.50	23.52	17.01
21-Jul-89	23.04	13.31	27.58	9.97	27.03	9.97	28.71	12.06	26.62	13.64	25.19	15.54	23.42	17.11
28-Jul-89	23.03	13.32	27.48	10.07	-	-	28.61	12.16	26.38	13.88	24.32	16.41	22.29	18.24
01-Aug-89	23.19	13.16	26.64	10.91	26.35	10.65	28.74	12.03	26.43	13.83	24.78	15.95	22.94	17.59
09-Aug-89	21.77	14.58	27.17	10.38	26.85	10.15	29.21	11.56	26.68	13.58	25.28	15.45	23.45	17.08
15-Aug-89	22.86	13.49	27.16	10.39	26.98	10.02	29.42	11.35	26.97	13.29	25.85	14.88	24.07	16.46
30-Aug-89	23.20	13.15	26.87	10.68	26.44	10.56	29.17	11.60	27.42	12.84	26.24	14.49	24.86	15.67
06-Sep-89	23.78	12.57	26.92	10.63	26.33	10.67	28.88	11.89	27.17	13.09	26.00	14.73	24.45	16.08
28-Sep-89	22.40	13.95	28.26	9.29	-	-	29.83	10.94	26.75	13.51	26.28	14.45	24.93	15.60
03-Oct-89	21.60	14.75	27.30	10.25	26.85	10.15	29.53	11.24	26.85	13.41	26.50	14.23	25.19	15.34

Notes:

Elevations are in feet above mean sea level (MSL).
Depth to water in feet measured from top of casing.

Table 4. Water-Level Elevations - January through September 1989

Well No.	MW-17		MW-18	
	GROUND SURFACE	TOP OF CASING	GROUND SURFACE	TOP OF CASING
	39.16	40.16	36.56	35.88
DATE	Depth to Water	Elevation	Depth to Water	Elevation
03-Jan-89	-	-	-	-
05-Jan-89	-	-	-	-
02-Feb-89	-	-	-	-
08-Feb-89	-	-	-	-
15-Feb-89	-	-	26.89	8.99
18-Feb-89	-	-	-	-
25-Feb-89	32.02	8.14	26.90	8.98
02-Mar-89	-	-	26.66	9.22
11-Mar-89	23.45	16.71	26.28	9.60
18-Mar-89	23.35	16.81	26.18	9.70
25-Mar-89	23.35	16.81	25.70	10.18
30-Mar-89	-	-	-	-
04-Apr-89	24.18	15.98	26.10	9.78
08-Apr-89	24.28	15.88	25.82	10.06
11-Apr-89	24.83	15.33	-	-
12-Apr-89	-	-	26.16	9.72
18-Apr-89	24.64	15.52	-	-
19-Apr-89	-	-	25.89	9.99
25-Apr-89	24.57	15.59	27.91	7.97
02-May-89	22.71	17.45	25.76	10.12
09-May-89	23.89	16.27	25.38	10.50
17-May-89	24.85	15.31	25.59	10.29
22-May-89	25.28	14.88	25.27	10.61
31-May-89	24.91	15.25	26.04	9.84
05-Jun-89	22.62	17.54	25.98	9.90
14-Jun-89	20.44	19.72	25.89	9.99
19-Jun-89	19.72	20.44	25.91	9.97
28-Jun-89	20.89	19.27	25.76	10.12
05-Jul-89	21.56	18.60	25.68	10.20
21-Jul-89	21.52	18.64	25.58	10.30
28-Jul-89	20.25	19.91	-	-
01-Aug-89	21.15	19.01	25.32	10.56
09-Aug-89	21.59	18.57	25.31	10.57
15-Aug-89	21.21	18.95	25.49	10.39
30-Aug-89	23.24	16.92	25.37	10.51
06-Sep-89	22.75	17.41	25.24	10.64
28-Sep-89	23.34	16.82	-	-
03-Oct-89	23.65	16.51	25.38	10.50

Notes:

Elevations are in feet above mean sea level (MSL).
Depth to water in feet measured from top of casing.

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
EW-1								
	15-Mar-89	17.6	ND	NT	ND	ND	7.8E+6	1.2E+2
	29-Mar-89	9.7	3.5	NT	NT	ND	1.8E+6	3.8E+2
	04-Apr-89	13.2	3.8	NT	ND	ND	3.3E+5	2.2E+2
	11-Apr-89	24.6	2.8	NT	NT	ND	NT	NT
	18-Apr-89	30.8	1.0	4.1	ND	ND	3.3E+5	7.8E+1
	25-Apr-89	33.4	3.0	4.8	NT	ND	6.8E+4	2.1E+1
	02-May-89	37.0	5.0	4.9	NT	ND	4.5E+5	9.5E+1
	09-May-89	22.9	2.5	9.8*	NT	ND	5.2E+5	7.0E+2
	17-May-89	37.0	1.5	7.5	NT	ND	2.6E+5	1.4E+2
	23-May-89	15.8	5.3	11.1	NT	ND	NT	NT
	31-May-89	52.8	2.8	5.9	NT	ND	7.6E+5	4.6E+2
	05-Jun-89	25.9	ND	14.5	NT	ND	NT	NT
	14-Jun-89	17.6	2.3	12.6	NT	ND	NT	NT
	20-Jun-89	NT	NT	19.3	NT	NT	NT	NT
	27-Jun-89	52.8	NT	16.5	NT	NT	NT	NT
	06-Jul-89	47.3	4.0	13.3	NT	ND	9.3E+5	7.0E+3
	22-Jul-89	33.0	6.7	NT	NT	ND	NT	NT
	03-Aug-89	46.2	7.8	NT	NT	ND	NT	NT
	07-Sep-89	63.8	14.5	17.7	NT	ND	NT	NT
	18-Sep-89	74.8	17.0	12.2	NT	ND	NT	NT
	29-Sep-89	NT	NT	17.3	NT	NT	NT	NT
	05-Oct-89	59.4	21.5	14.9	NT	ND	NT	NT
EW-2								
	23-May-89	NT	NT	15.8	NT	NT	NT	NT
	31-May-89	NT	NT	12.7	NT	NT	NT	NT
	05-Jun-89	NT	NT	16.3	NT	NT	NT	NT
	14-Jun-89	NT	NT	15.6	NT	NT	NT	NT
	20-Jun-89	NT	NT	19.6	NT	NT	NT	NT
	27-Jun-89	NT	NT	18.9	NT	NT	NT	NT
	06-Jul-89	NT	NT	16.5	NT	NT	NT	NT
	21-Jul-89	NT	NT	16.5	NT	NT	NT	NT
	07-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	18-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-3								
	23-May-89	NT	NT	20.0	NT	NT	NT	NT
	31-May-89	NT	NT	18.3	NT	NT	NT	NT
	05-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	14-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	20-Jun-89	NT	NT	19.7	NT	NT	NT	NT
	27-Jun-89	NT	NT	NT	NT	NT	NT	NT
	06-Jul-89	NT	NT	14.0	NT	NT	NT	NT
	21-Jul-89	NT	NT	>20.0	NT	NT	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	07-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	18-Sep-89	NT	NT	19.9	NT	NT	NT	NT
	29-Sep-89	NT	NT	18.5	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-4								
	15-Mar-89	16.7	0.6	NT	ND	ND	5.1E+6	9.5E+1
	29-Mar-89	25.5	2.8	NT	NT	ND	5.3E+5	1.7E+2
	04-Apr-89	31.7	4.0	NT	ND	ND	2.5E+5	6.8E+1
	11-Apr-89	34.1	3.3	NT	NT	ND	4.3E+4	4.5E+1
	18-Apr-89	43.6	5.3	7.9	ND	ND	4.3E+4	1.1E+2
	25-Apr-89	49.3	5.0	4.8	NT	ND	9.0E+4	1.7E+2
	02-May-89	48.4	9.0	4.9	NT	ND	2.5E+5	2.0E+3
	09-May-89	70.4	11.8	9.8*	NT	ND	NT	NT
	17-May-89	50.6	16.0	7.5	NT	ND	NT	NT
	23-May-89	52.8	17.0	NT	NT	ND	5.8E+6	7.8E+1
	31-May-89	47.9	17.0	18.9	NT	ND	NT	NT
	05-Jun-89	49.1	16.6	>20.0	NT	ND	1.3E+5	4.9E+2
	14-Jun-89	27.1	17.0	14.5	NT	ND	6.1E+5	2.4E+5
	20-Jun-89	48.4	17.0	18.5	NT	ND	2.3E+6	2.2E+4
	27-Jun-89	NT	18.0	16.8	NT	ND	8.0E+5	1.4E+4
	06-Jul-89	48.4	17.0	13.9	NT	ND	NT	NT
	22-Jul-89	45.1	20.5	NT	NT	ND	NT	NT
	03-Aug-89	57.2	20.5	NT	NT	ND	NT	NT
	17-Aug-89	61.6	20.0	NT	NT	0.7	NT	NT
	07-Sep-89	83.6	12.0	9.0	NT	1.3	NT	NT
	18-Sep-89	72.6	24.6	8.1	NT	1.2	NT	NT
	29-Sep-89	NT	NT	8.6	NT	NT	NT	NT
	05-Oct-89	NT	NT	4.8	NT	NT	NT	NT
EW-5								
	29-Mar-89	28.0	3.8	NT	NT	ND	NT	NT
	18-Apr-89	NT	NT	8.6	NT	NT	NT	NT
	25-Apr-89	NT	NT	12.8	NT	NT	NT	NT
	02-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	NT	NT	15.0*	NT	NT	NT	NT
	17-May-89	NT	NT	NT	NT	NT	NT	NT
	23-May-89	NT	NT	>20.0	NT	NT	NT	NT
	31-May-89	NT	NT	17.8	NT	NT	NT	NT
	05-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	14-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	20-Jun-89	NT	NT	19.9	NT	NT	NT	NT
	27-Jun-89	NT	NT	19.6	NT	NT	NT	NT
	06-Jul-89	NT	NT	19.0	NT	NT	NT	NT
	18-Sep-89	NT	NT	18.5	NT	NT	NT	NT
	29-Sep-89	NT	NT	8.5	NT	NT	NT	NT
	05-Oct-89	NT	NT	16.5	NT	NT	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
EW-6								
	23-May-89	NT	NT	7.6	NT	NT	NT	NT
	31-May-89	NT	NT	17.5	NT	NT	NT	NT
	05-Jun-89	NT	NT	14.5	NT	NT	NT	NT
	14-Jun-89	NT	NT	12.3	NT	NT	NT	NT
	20-Jun-89	NT	NT	19.5	NT	NT	NT	NT
	27-Jun-89	NT	NT	12.0	NT	NT	NT	NT
	06-Jul-89	NT	NT	8.2	NT	NT	NT	NT
	18-Sep-89	NT	NT	10.3	NT	NT	NT	NT
	29-Sep-89	NT	NT	0.8	NT	NT	NT	NT
	05-Oct-89	NT	NT	0.8	NT	NT	NT	NT
EW-7								
	23-May-89	NT	NT	1.8	NT	NT	NT	NT
	31-May-89	NT	NT	11.2	NT	NT	NT	NT
	05-Jun-89	NT	NT	5.3	NT	NT	NT	NT
	14-Jun-89	NT	NT	5.6	NT	NT	NT	NT
	20-Jun-89	NT	NT	1.9	NT	NT	NT	NT
	27-Jun-89	NT	NT	8.0	NT	NT	NT	NT
	06-Jul-89	37.4	3.3	6.2	NT	ND	NT	NT
	18-Sep-89	NT	NT	1.5	NT	NT	NT	NT
	29-Sep-89	NT	NT	1.1	NT	NT	NT	NT
	05-Oct-89	39.2	11.0	1.0	NT	0.6	2.20E+06	--
EW-8								
	15-Mar-89	11.4	0.5	NT	ND	ND	NT	NT
	29-Mar-89	28.0	3.5	NT	NT	ND	NT	NT
	04-Apr-89	33.0	3.8	NT	ND	ND	3.1E+5	1.4E+2
	11-Apr-89	37.8	2.8	NT	NT	ND	2.0E+4	4.5E+1
	18-Apr-89	33.4	3.8	4.0	NT	ND	4.1E+5	1.4E+2
	25-Apr-89	47.5	8.0	10.9	NT	ND	3.4E+4	9.5E+1
	02-May-89	39.6	11.0	9.8	NT	ND	6.8E+4	5.6E+2
	09-May-89	39.6	15.5	12.1*	NT	ND	6.5E+5	1.8E+2
	17-May-89	57.2	14.3	6.9	NT	ND	NT	NT
	23-May-89	47.5	13.3	14.9	NT	ND	NT	NT
	31-May-89	57.2	13.0	NT	NT	ND	2.5E+5	3.8E+2
	05-Jun-89	57.2	15.8	15.9	NT	ND	NT	NT
	14-Jun-89	39.6	15.0	16.9	NT	ND	NT	NT
	20-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	27-Jun-89	55.0	15.5	15.6	NT	0.5	NT	NT
	06-Jul-89	36.4	16.4	10.7	NT	0.6	2.3E+6	4.9E+4
	22-Jul-89	33.7	18.3	NT	NT	0.8	6.4E+5	4.9E+4
	03-Aug-89	46.2	25.5	NT	NT	3.1	1.5E+7	1.2E+3
	17-Aug-89	49.5	20.0	NT	NT	1.3	2.9E+6	5.4E+3
	07-Sep-89	29.7	20.0	4.3	NT	2.9	NT	NT
	18-Sep-89	39.6	21.0	14.4	NT	2.0	NT	NT
	29-Sep-89	NT	NT	5.2	NT	NT	NT	NT
	05-Oct-89	59.0	25.0	9.2	NT	2.0	6.30E+06	--

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
EW-9								
	23-May-89	NT	NT	11.9	NT	NT	NT	NT
	31-May-89	NT	NT	17.2	NT	NT	NT	NT
	05-Jun-89	NT	NT	12.7	NT	NT	NT	NT
	14-Jun-89	NT	NT	19.1	NT	NT	NT	NT
	20-Jun-89	NT	NT	NT	NT	NT	NT	NT
	27-Jun-89	NT	NT	15.3	NT	NT	NT	NT
	06-Jul-89	NT	NT	12.8	NT	NT	NT	NT
	18-Sep-89	NT	NT	16.3	NT	NT	NT	NT
	29-Sep-89	NT	NT	14.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	13.6	NT	NT	NT	NT
EW-10								
	23-May-89	NT	NT	10.7	NT	NT	NT	NT
	31-May-89	NT	NT	11.1	NT	NT	NT	NT
	05-Jun-89	NT	NT	13.0	NT	NT	NT	NT
	14-Jun-89	NT	NT	16.0	NT	NT	NT	NT
	20-Jun-89	NT	NT	NT	NT	NT	NT	NT
	27-Jun-89	NT	NT	16.4	NT	NT	NT	NT
	06-Jul-89	NT	NT	13.5	NT	NT	NT	NT
	07-Sep-89	42.9	15.5	4.6	NT	ND	NT	NT
	18-Sep-89	48.4	NT	17.2	NT	NT	2.60E+07	2.20E+04
	29-Sep-89	NT	NT	7.2	NT	NT	NT	NT
	05-Oct-89	56.8	21.5	4.5	NT	NT	3.50E+06	--
EW-11								
	23-May-89	NT	NT	11.9	NT	NT	NT	NT
	31-May-89	NT	NT	15.5	NT	NT	NT	NT
	05-Jun-89	NT	NT	16.5	NT	NT	NT	NT
	14-Jun-89	NT	NT	17.4	NT	NT	NT	NT
	20-Jun-89	NT	NT	15.9	NT	NT	NT	NT
	27-Jun-89	NT	NT	12.9	NT	NT	NT	NT
	06-Jul-89	NT	NT	14.8	NT	NT	NT	NT
	07-Sep-89	49.9	14.3	18.1	NT	ND	NT	NT
	18-Sep-89	NT	NT	18.4	NT	NT	NT	NT
	29-Sep-89	NT	NT	17.7	NT	NT	NT	NT
	05-Oct-89	NT	NT	15.1	NT	NT	NT	NT
EW-12								
	15-Mar-89	13.2	1.0	NT	ND	ND	NT	NT
	29-Mar-89	22.0	3.3	NT	NT	ND	NT	NT
	04-Apr-89	22.9	3.8	NT	ND	ND	NT	NT
	11-Apr-89	20.2	3.8	NT	NT	ND	NT	NT
	18-Apr-89	28.6	1.3	5.6	NT	ND	NT	NT
	25-Apr-89	39.2	2.8	2.6	NT	ND	NT	NT
	02-May-89	33.4	3.0	4.9	NT	ND	1.0E+6	3.5E+2
	09-May-89	31.7	2.3	5.1*	NT	ND	4.6E+5	2.4E+2
	17-May-89	52.0	1.0	3.5	NT	ND	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	23-May-89	34.3	1.3	9.1	NT	ND	NT	NT
	31-May-89	30.3	2.5	11.3	NT	ND	NT	NT
	05-Jun-89	26.4	ND	13.6	NT	ND	NT	NT
	14-Jun-89	45.1	ND	14.1	NT	ND	5.3E+6	2.4E+5
	20-Jun-89	39.2	1.3	16.3	NT	ND	NT	NT
	27-Jun-89	11.0	2.8	NT	NT	ND	6.8E+6	1.7E+4
	06-Jul-89	41.8	3.8	NT	NT	ND	6.4E+5	4.9E+4
	22-Jul-89	26.8	7.0	NT	NT	ND	NT	NT
	03-Aug-89	48.4	8.5	NT	NT	ND	2.3E+5	2.1E+2
	17-Aug-89	59.0	10.6	NT	NT	ND	1.2E+5	2.4E+3
	07-Sep-89	58.3	17.0	3.8	NT	ND	NT	NT
	18-Sep-89	53.9	15.5	19.5	NT	ND	1.8E+5	7.0E+3
	29-Sep-89	NT	NT	18.7	NT	NT	NT	NT
	05-Oct-89	58.3	21.5	18.3	NT	ND	NT	NT
EW-13								
	23-May-89	NT	NT	14.6	NT	NT	NT	NT
	31-May-89	NT	NT	16.4	NT	NT	NT	NT
	05-Jun-89	NT	NT	17.9	NT	NT	NT	NT
	14-Jun-89	NT	NT	14.5	NT	NT	NT	NT
	20-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	27-Jun-89	NT	NT	14.5	NT	NT	NT	NT
	06-Jul-89	NT	NT	>20.0	NT	NT	NT	NT
	22-Jul-89	40.7	11.8	NT	NT	ND	4.1E+5	1.4E+4
	07-Sep-89	63.8	21.5	>20.0	NT	ND	NT	NT
	18-Sep-89	NT	NT	19.0	NT	NT	NT	NT
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-14								
	18-Apr-89	NT	NT	NT	NT	NT	1.1E+7	1.4E+3
	25-Apr-89	NT	NT	4.9	NT	NT	NT	NT
	02-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	NT	NT	9.6*	NT	NT	NT	NT
	17-May-89	48.4	5.0	7.0	NT	ND	2.5E+5	1.1E+3
	23-May-89	39.2	5.8	14.6	NT	ND	3.3E+5	7.9E+2
	31-May-89	44.0	6.8	14.1	NT	ND	NT	NT
	05-Jun-89	46.2	4.8	14.3	NT	ND	3.4E+6	3.5E+4
	14-Jun-89	48.4	5.8	14.3	NT	ND	1.3E+7	1.6E+5
	20-Jun-89	NT	NT	12.9	NT	NT	NT	NT
	27-Jun-89	NT	NT	11.9	NT	NT	NT	NT
	06-Jul-89	63.8	8.0	14.9	NT	ND	8.9E+6	3.3E+4
	22-Jul-89	44.0	12.0	NT	NT	ND	NT	NT
	07-Sep-89	53.9	22.0	14.8	NT	1.1	NT	NT
	18-Sep-89	45.1	18.0	17.4	NT	0.6	1.4E+7	1.1E+4
	29-Sep-89	NT	NT	18.0	NT	NT	NT	NT
	05-Oct-89	63.8	25.0	>20.0	NT	ND	1.9E+7	--

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
EW-15								
	18-Apr-89	NT	NT	NT	NT	NT	1.1E+6	1.4E+2
	25-Apr-89	45.8	23.0	1.1	ND	NT	1.6E+5	4.7E+2
	02-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	58.1	26.5	>20.0*	NT	1.2	1.8E+6	1.6E+4
	17-May-89	45.4	22.4	8.9	NT	1.8	3.9E+6	3.5E+3
	23-May-89	41.0	19.1	>20.0	NT	2.7	1.3E+7	1.3E+4
	31-May-89	63.8	21.5	>20.0	NT	3.5	6.6E+6	2.4E+5
	05-Jun-89	43.6	28.1	>20.0	NT	3.7	6.4E+6	1.6E+5
	14-Jun-89	48.4	15.8	18.2	NT	2.0	9.2E+6	2.4E+5
	20-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	27-Jun-89	NT	NT	18.5	NT	NT	NT	NT
	06-Jul-89	52.8	25.7	19.3	NT	2.5	4.9E+6	1.7E+5
	22-Jul-89	30.4	33.8	NT	NT	3.4	2.4E+6	2.4E+4
	03-Aug-89	50.6	33.8	NT	NT	4.0	3.3E+5	1.8E+3
	07-Sep-89	56.8	85.8	>20.0	NT	7.2	NT	NT
	18-Sep-89	64.9	38.0	>20.0	NT	5.8	2.1E+7	5.4E+4
	29-Sep-89	NT	NT	14.5	NT	NT	NT	NT
	05-Oct-89	59.4	45.0	>20.0	NT	5.2	3.5E+6	--
EW-16								
	15-Mar-89	1.8	0.5	NT	ND	ND	NT	NT
	29-Mar-89	18.4	3.0	NT	NT	ND	NT	NT
	04-Apr-89	31.7	5.0	NT	ND	ND	5.7E+5	3.9E+2
	11-Apr-89	28.6	4.8	NT	NT	ND	1.2E+5	2.2E+2
	18-Apr-89	37.8	14.0	1.0	ND	1.2	3.2E+6	1.4E+3
	25-Apr-89	47.5	11.0	NT	NT	ND	8.4E+5	7.0E+2
	02-May-89	46.2	15.0	9.3	NT	ND	3.5E+5	1.4E+4
	09-May-89	46.2	18.5	14.7*	NT	0.6	2.2E+6	1.3E+3
	17-May-89	36.3	13.3	3.7	NT	ND	4.4E+5	2.2E+3
	23-May-89	29.7	11.8	10.1	NT	ND	8.6E+5	1.4E+3
	31-May-89	35.2	11.8	11.1	NT	0.7	5.9E+6	3.5E+3
	05-Jun-89	31.5	12.5	12.6	NT	ND	1.8E+6	2.2E+3
	14-Jun-89	29.7	13.3	11.8	NT	ND	3.7E+7	2.4E+5
	20-Jun-89	8.8	13.5	15.8	NT	ND	2.0E+7	3.5E+4
	27-Jun-89	42.9	13.3	19.7	NT	ND	9.5E+5	2.4E+5
	06-Jul-89	55.0	16.0	15.8	NT	ND	9.1E+6	1.1E+5
	22-Jul-89	23.8	18.3	NT	NT	1.4	NT	NT
	03-Aug-89	42.9	20.0	NT	NT	2.1	NT	NT
	17-Aug-89	52.8	25.6	NT	NT	2.3	8.0E+5	3.1E+3
	07-Sep-89	55.0	25.0	18.8	NT	1.3	NT	NT
	18-Sep-89	NT	NT	19.8	NT	NT	NT	NT
	29-Sep-89	NT	NT	15.1	NT	NT	NT	NT
	05-Oct-89	55.0	25.8	14.0	NT	2.9	NT	NT
EW-17								
	18-Apr-89	NT	NT	16.8	NT	NT	NT	NT
	25-Apr-89	6.2	8.3	NT	ND	ND	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	02-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	66.0	19.8	18.0*	NT	ND	1.2E+6	1.6E+4
	17-May-89	46.2	15.8	7.8	NT	ND	8.5E+5	3.5E+3
	23-May-89	44.0	14.2	18.0	NT	ND	6.5E+5	9.5E+2
	31-May-89	46.2	14.0	19.6	NT	ND	6.5E+5	2.8E+3
	05-Jun-89	52.8	13.2	18.2	NT	ND	NT	NT
	14-Jun-89	45.1	14.2	17.0	NT	ND	NT	NT
	20-Jun-89	NT	NT	18.5	NT	NT	NT	NT
	27-Jun-89	NT	NT	16.1	NT	NT	NT	NT
	06-Jul-89	NT	NT	16.4	NT	NT	NT	NT
	18-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-18								
	18-Apr-89	NT	NT	10.5	NT	NT	NT	NT
	25-Apr-89	6.2	NT	9.2	NT	NT	NT	NT
	02-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	NT	NT	18.2*	NT	NT	NT	NT
	17-May-89	38.4	NT	8.0	NT	ND	NT	NT
	23-May-89	37.0	NT	17.8	NT	ND	7.0E+5	NT
	31-May-89	46.2	NT	17.8	NT	ND	5.4E+6	1.7E+3
	05-Jun-89	NT	NT	19.1	NT	NT	NT	NT
	14-Jun-89	42.9	NT	14.5	NT	ND	NT	NT
	20-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	27-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	06-Jul-89	NT	NT	>20.0	NT	NT	NT	NT
	18-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-19								
	15-Mar-89	NT	NT	NT	NT	NT	NT	NT
	29-Mar-89	NT	NT	NT	NT	NT	NT	NT
	04-Apr-89	18.5	4.0	NT	ND	ND	NT	NT
	11-Apr-89	33.4	4.0	NT	NT	ND	NT	NT
	18-Apr-89	41.8	7.0	9.0	NT	ND	NT	NT
	25-Apr-89	NT	NT	7.2	NT	NT	NT	NT
	02-May-89	50.6	2.5	7.2	NT	ND	NT	NT
	09-May-89	NT	6.8	13.5*	NT	NT	NT	NT
	17-May-89	38.4	3.3	8.3	NT	ND	1.1E+6	1.6E+4
	23-May-89	37.0	2.5	16.5	NT	ND	NT	NT
	31-May-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Jun-89	46.2	3.5	18.5	NT	ND	7.9E+5	1.1E+4
	14-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	20-Jun-89	NT	NT	>20.0	NT	NT	NT	NT
	27-Jun-89	NT	NT	19.5	NT	NT	NT	NT
	06-Jul-89	56.8	8.5	>20.0	NT	ND	2.5E+6	1.6E+6

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	22-Jul-89	44.0	11.0	NT	NT	ND	NT	NT
	03-Aug-89	46.9	16.0	NT	NT	ND	NT	NT
	17-Aug-89	61.6	17.2	NT	NT	NT	2.9E+4	1.7E+3
	07-Sep-89	61.6	24.6	>20.0	NT	>20.0	NT	NT
	18-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	70.4	27.5	>20.0	NT	ND	NT	NT
EW-20								
	14-Jun-89	NT	NT	19.1	NT	NT	NT	NT
	20-Jun-89	NT	NT	17.9	NT	NT	NT	NT
	27-Jun-89	NT	NT	17.5	NT	NT	NT	NT
	06-Jul-89	NT	NT	16.7	NT	NT	NT	NT
	22-Jul-89	NT	NT	17.1	NT	NT	NT	NT
	07-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	18-Sep-89	NT	NT	19.9	NT	NT	NT	NT
	29-Sep-89	NT	NT	14.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
EW-21								
	23-May-89	NT	NT	NT	NT	NT	NT	NT
	31-May-89	17.6	5.0	NT	NT	ND	3.7E+4	2.4E+4
	05-Jun-89	17.6	1.3	NT	NT	ND	9.3E+4	7.9E+3
	14-Jun-89	26.0	1.0	NT	NT	ND	5.8E+4	2.4E+4
	20-Jun-89	29.0	0.8	NT	NT	ND	1.5E+5	7.0E+3
	27-Jun-89	27.1	0.8	NT	NT	ND	NT	NT
	06-Jul-89	43.6	0.5	NT	NT	ND	NT	NT
	22-Jul-89	26.8	0.5	NT	NT	ND	NT	NT
	03-Aug-89	26.8	0.5	NT	NT	ND	NT	NT
	17-Aug-89	48.0	3.0	NT	NT	ND	2.9E+4	1.7E+3
	07-Sep-89	23.8	7.8	9.0	NT	ND	--	--
	18-Sep-89	39.2	9.5	9.4	NT	ND	--	--
	29-Sep-89	NT	NT	7.9	NT	NT	NT	NT
	05-Oct-89	39.4	9.5	10.3	NT	ND	--	--
Injection Composite								
	21-Mar-89	26.0	42.0	NT	NT	15	NT	NT
	18-Apr-89	37.8	110.0	NT	NT	37.4	NT	NT
	24-Apr-89	24.6	45.0	NT	NT	22.0	NT	NT
	01-May-89	23.2	40.0	NT	NT	8.3	NT	NT
	09-May-89	29.9	13.5	NT	NT	1.5	NT	NT
	17-May-89	24.6	37.5	NT	NT	6.1	NT	NT
	23-May-89	31.7	42.5	NT	NT	9.1	NT	NT
	31-May-89	45.1	50.0	NT	NT	14.5	NT	NT
	06-Jun-89	35.9	30.0	NT	NT	10.2	NT	NT
	20-Jun-89	35.9	35.0	NT	NT	8.8	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	27-Jun-89	26.4	29.0	NT	NT	9.8	NT	NT
	06-Jul-89	34.8	42.5	NT	NT	9.4	NT	NT
	22-Jul-89	23.8	42.5	NT	NT	10.2	NT	NT
	03-Aug-89	23.8	38.5	NT	NT	10.2	NT	NT
	17-Aug-89	17.6	80.0	NT	NT	16.0	NT	NT
	07-Sep-89	35.0	50.0	NT	NT	10.9	NT	NT
	18-Sep-89	55.0	58.0	NT	NT	17.4	NT	NT
	05-Oct-89	48.4	35.0	NT	NT	5.4	NT	NT
Extraction Composite								
	21-Mar-89	NT	NT	NT	NT	NT	NT	NT
	18-Apr-89	NT	NT	NT	NT	NT	NT	NT
	24-Apr-89	55	6.8	NT	NT	ND	NT	NT
	01-May-89	NT	NT	NT	NT	NT	NT	NT
	09-May-89	44.0	15.6	NT	NT	ND	NT	NT
	17-May-89	44.0	13.0	NT	NT	0.5	NT	NT
	23-May-89	45.4	15.5	NT	NT	ND	NT	NT
	31-May-89	48.4	11.0	NT	NT	ND	NT	NT
	06-Jun-89	38.5	12.0	NT	NT	ND	NT	NT
	20-Jun-89	27.1	14.0	NT	NT	ND	NT	NT
	27-Jun-89	50.6	13.6	NT	NT	ND	NT	NT
	06-Jul-89	66.0	16.6	NT	NT	0.5	NT	NT
	22-Jul-89	37.4	18.0	NT	NT	0.8	NT	NT
	03-Aug-89	48.4	21.4	NT	NT	1.4	NT	NT
	17-Aug-89	39.6	NT	NT	NT	1.7	NT	NT
	07-Sep-89	NT	NT	NT	NT	NT	NT	NT
	18-Sep-89	59.4	28.0	NT	NT	1.9	NT	NT
	05-Oct-89	61.6	27.5	NT	NT	4.0	NT	NT

NOTES:

HCU: Hydrocarbon Utilizers
TC: Total Count
LOD: Limit of Detection.
NA: Limit of Detection not applicable.
ND: Not detected at or above LOD.
NT: Not tested.
*: Dissolved oxygen samples collected on 5/12/89.
--: Results not available.
Inorganic constituents are reported in parts per million (ppm).
Microbial counts are reported in colony-forming units per milliliter of water (CFU/ml).
Analysis performed by HLA Laboratory.

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
MW-1								
	03-Aug-89	5.3	ND	NT	NT	ND	NT	NT
MW-5								
	06-Jun-89	10.1	2.5	1.7	NT	ND	NT	NT
	06-Jul-89	NT	2.5	1.7	NT	ND	NT	NT
MW-7								
	06-Jun-89	ND	4.8	1.8	NT	ND	NT	NT
	06-Jul-89	ND	ND	1.8	NT	ND	NT	NT
	22-Jul-89	ND	0.5	NT	NT	ND	NT	NT
	03-Aug-89	ND	3.3	NT	NT	ND	NT	NT
	07-Sep-89	ND	9.0	NT	NT	ND	NT	NT
	05-Oct-89	ND	8.0	NT	NT	ND	NT	NT
MW-8								
	06-Jun-89	NT	NT	4.2	NT	NT	NT	NT
	06-Jul-89	NT	NT	4.2	NT	NT	NT	NT
MW-9								
	03-Mar-89	37.0/32.0*	1.5	1.0**	ND	ND	5.3E+5	9.5E+2
	15-Mar-89	6.0	6.0	NT	ND	ND	5.9E+6	1.8E+2
	29-Mar-89	37.0	32.0	NT	NT	ND	1.8E+6	2.1E+2
	04-Apr-89	41.8	36.0	NT	ND	ND	3.6E+5	1.1E+2
	11-Apr-89	42.1	60.0	NT	NT	ND	3.6E+5	1.4E+2
	18-Apr-89	56.3	60.0	8.4	ND	0.9	1.2E+6	2.2E+2
	25-Apr-89	88.0	50.0	>20.0	NT	2.9	9.9E+5	3.5E+3
	02-May-89	74.8	62.5	18.2	NT	4.8	3.5E+6	5.4E+3
	09-May-89	44.0	37.5	16.6	NT	6.2	NT	NT
	17-May-89	41.0	21.3	8.5	NT	5.6	NT	NT
	23-May-89	54.1	20.0	NT	NT	3.9	NT	NT
	31-May-89	NT	NT	NT	NT	NT	NT	NT
	06-Jun-89	46.2	34.0	NT	NT	10.8	NT	NT
	14-Jun-89	63.8	14.0	13.9	NT	3.3	NT	NT
	06-Jul-89	56.8	30.0	NT	NT	NT	NT	NT
	22-Jul-89	37.4	29.0	NT	NT	4.4	NT	NT
	03-Aug-89	38.5	25.0	NT	NT	5.5	NT	NT
	17-Aug-89	74.4	20.0	NT	NT	3.9	NT	NT
	07-Sep-89	83.6	39.0	NT	NT	6.6	NT	NT
	05-Oct-89	105.6	41.3	NT	NT	5.6	NT	NT
MW-10								
	03-Mar-89	8.4/5.5*	1.0	4.0**	ND	ND	2.3E+5	3.5E+2
	15-Mar-89	5.5	1.2	NT	ND	ND	NT	NT
	29-Mar-89	11.4	4.5	NT	NT	ND	NT	NT
	04-Apr-89	15.0	1.3	NT	ND	ND	NT	NT
	11-Apr-89	16.5	2.3	NT	NT	ND	NT	NT
	18-Apr-89	16.0	5.3	5.0	NT	ND	NT	NT
	25-Apr-89	14.1	2.0	2.2	NT	ND	NT	NT
	02-May-89	19.4	6.5	2.6	NT	ND	NT	NT

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	09-May-89	17.6	1.8	3.1	NT	ND	NT	NT
	17-May-89	21.1	1.5	1.9	NT	ND	NT	NT
	23-May-89	17.6	1.3	NT	NT	ND	NT	NT
	31-May-89	NT	NT	NT	NT	NT	NT	NT
	06-Jun-89	17.6	2.3	2.0	NT	ND	NT	NT
	14-Jun-89	23.1	ND	2.1	NT	NT	NT	NT
	06-Jul-89	20.9	ND	NT	NT	NT	NT	NT
	22-Jul-89	17.6	0.5	NT	NT	ND	NT	NT
	03-Aug-89	23.8	ND	NT	NT	ND	NT	NT
	17-Aug-89	16.5	1.3	NT	NT	ND	NT	NT
	07-Sep-89	18.0	1.5	NT	NT	ND	NT	NT
	18-Sep-89	9.9	6.0	NT	NT	ND	NT	NT
	05-Oct-89	21.8	11.0	NT	NT	0.7	NT	NT
MW-11								
	03-Mar-89	ND/ND*	0.8	2.0**	ND	ND	1.1E+6	2.8E+3
	15-Mar-89	ND	1.0	NT	ND	ND	NT	NT
	29-Mar-89	31.7	4.3	NT	NT	ND	NT	NT
	04-Apr-89	37.0	5.0	NT	ND	ND	NT	NT
	11-Apr-89	40.7	24.0	NT	NT	ND	3.8E+5	1.1E+2
	18-Apr-89	56.3	26.0	5.7	ND	ND	1.2E+6	1.7E+2
	25-Apr-89	44.0	29.7	11.8	NT	ND	4.7E+5	1.1E+3
	02-May-89	74.8	41.3	17.1	NT	ND	2.4E+6	5.4E+3
	09-May-89	57.2	29.7	12.5	NT	ND	1.4E+6	5.4E+3
	17-May-89	46.2	21.5	9.9	NT	ND	3.5E+6	1.6E+4
	23-May-89	52.8	15.8	NT	NT	ND	2.0E+6	3.3E+3
	31-May-89	58.3	29.7	>20.0	NT	ND	7.0E+5	2.4E+5
	06-Jun-89	66.0	33.0	NT	NT	ND	5.0E+6	2.8E+4
	14-Jun-89	52.8	25.7	14.9	NT	0.5	1.2E+7	2.4E+5
	20-Jun-89	61.6	24.8	12.8	NT	0.9	7.1E+6	1.1E+4
	06-Jul-89	56.8	32.8	NT	NT	NT	8.5E+6	5.4E+5
	22-Jul-89	33.0	27.2	NT	NT	9.6	NT	NT
	03-Aug-89	52.8	19.1	NT	NT	4.3	1.9E+5	1.1E+4
	17-Aug-89	58.3	38.9	NT	NT	5.8	1.1E+6	1.8E+4
	07-Sep-89	61.6	47.2	NT	NT	7.4	1.3E+6	4.9E+3
	18-Sep-89	56.8	40.6	NT	NT	6.6	9.1E+6	9.5E+3
	05-Oct-89	70.4	47.5	NT	NT	7.5	2.1E+6	--
MW-12								
	03-Mar-89	11.4/6.2*	1.0	5.8**	ND	ND	7.1E+5	1.1E+1
	15-Mar-89	12.3	1.1	NT	ND	ND	NT	NT
	29-Mar-89	13.6	4.8	NT	NT	ND	NT	NT
	04-Apr-89	11.4	1.5	NT	ND	ND	NT	NT
	11-Apr-89	7.5	5.0	NT	NT	ND	NT	NT
	18-Apr-89	9.2	6.8	2.1	ND	ND	NT	NT
	25-Apr-89	3.5	1.8	1.4	NT	ND	NT	NT
	02-May-89	12.3	5.0	2.3	NT	ND	NT	NT
	09-May-89	9.7	2.5	2.2	NT	ND	NT	NT

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	17-May-89	9.6	2.5	3.5	NT	ND	NT	NT
	23-May-89	8.3	1.3	1.8	NT	ND	NT	NT
	31-May-89	10.3	2.5	2.1	NT	ND	NT	NT
	06-Jun-89	9.2	2.8	NT	NT	ND	NT	NT
	20-Jun-89	8.4	1.0	4.0	NT	ND	NT	NT
	06-Jul-89	4.8	ND	NT	NT	NT	NT	NT
	22-Jul-89	5.3	0.5	NT	NT	ND	NT	NT
	03-Aug-89	7.7	0.5	NT	NT	ND	NT	NT
	17-Aug-89	2.0	1.3	NT	NT	ND	NT	NT
	07-Sep-89	4.5	4.8	NT	NT	ND	NT	NT
	18-Sep-89	4.2	5.8	NT	NT	ND	NT	NT
	05-Oct-89	3.4	5.3	NT	NT	ND	NT	NT
MW-13								
	03-Mar-89	11.4/8.6*	1.0	2.0**	0.25	ND	4.1E+6	1.7E+2
	15-Mar-89	9.2	1.1	NT	ND	ND	NT	NT
	29-Mar-89	8.8	6.3	NT	NT	ND	NT	NT
	04-Apr-89	9.7	3.5	NT	ND	ND	NT	NT
	11-Apr-89	13.2	2.8	NT	NT	ND	NT	NT
	18-Apr-89	15.0	8.5	6.0	NT	ND	NT	NT
	25-Apr-89	20.2	2.5	NT	NT	ND	NT	NT
	02-May-89	37.8	2.3	6.8	NT	ND	NT	NT
	09-May-89	42.1	1.5	9.9	NT	ND	NT	NT
	17-May-89	37.0	1.5	10.3	NT	ND	NT	NT
	23-May-89	33.4	1.3	NT	NT	ND	NT	NT
	06-Jun-89	40.5	3.0	NT	NT	ND	NT	NT
	27-Jun-89	57.2	0.8	18.5	NT	ND	5.9E+5	1.1E+3
	06-Jul-89	36.5	ND	NT	NT	NT	5.6E+5	7.8E+2
	22-Jul-89	33.1	0.5	NT	NT	ND	NT	NT
	03-Aug-89	56.3	3.0	NT	NT	ND	NT	NT
	17-Aug-89	47.4	4.3	NT	NT	ND	NT	NT
	07-Sep-89	59.8	10.0	NT	NT	ND	NT	NT
	18-Sep-89	NT	--	NT	NT	NT	NT	NT
	05-Oct-89	35.2	9.0	NT	NT	ND	NT	NT
MW-14								
	03-Mar-89	37.0/22.0*	0.8	3.0**	ND	ND	3.6E+5	2.2E+2
	15-Mar-89	37.0	1.0	NT	ND	ND	NT	NT
	29-Mar-89	22.8	3.8	NT	NT	ND	NT	NT
	04-Apr-89	29.9	3.8	NT	ND	ND	NT	NT
	11-Apr-89	37.4	2.8	NT	NT	ND	NT	NT
	18-Apr-89	43.6	5.8	NT	NT	ND	NT	NT
	25-Apr-89	35.2	1.3	NT	NT	ND	NT	NT
	02-May-89	40.5	5.3	6.7	NT	ND	NT	NT
	09-May-89	45.8	1.8	11.7	NT	ND	NT	NT
	17-May-89	51.0	1.5	9.2	NT	ND	NT	NT
	23-May-89	52.4	1.5	NT	NT	ND	NT	NT
	31-May-89	70.4	2.5	16.2	NT	ND	4.2E+5	2.4E+5

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	06-Jun-89	44.7	2.0	NT	NT	ND	NT	NT
	27-Jun-89	48.4	0.8	12.0	NT	ND	1.1E+6	2.4E+5
	06-Jul-89	22.5	ND	NT	NT	NT	2.5E+6	2.4E+5
	22-Jul-89	33.4	0.5	NT	NT	ND	3.8E+6	9.5E+3
	03-Aug-89	38.7	3.0	NT	NT	ND	NT	NT
	17-Aug-89	35.2	4.3	NT	NT	ND	NT	NT
	07-Sep-89	59.8	7.5	NT	NT	ND	NT	NT
	05-Oct-89	63.8	14.8	NT	NT	ND	NT	NT
MW-15								
	03-Mar-89	42.2/19.0*	0.9	4.0**	ND	ND	4.5E+5	2.8E+2
	10-Mar-89	40.5	2.2	NT	NT	NT	1.0E+6	2.8E+2
	15-Mar-89	35.2	1.2	NT	ND	ND	6.9E+6	2.8E+2
	29-Mar-89	20.2	4.2	NT	NT	ND	9.1E+5	2.1E+2
	04-Apr-89	24.6	5.3	NT	ND	ND	4.4E+5	1.4E+2
	11-Apr-89	23.1	4.0	NT	NT	ND	2.7E+6	1.7E+2
	18-Apr-89	31.9	1.3	6.3	ND	ND	3.1E+6	2.9E+1
	25-Apr-89	42.2	1.8	9.6	ND	ND	2.2E+5	4.6E+1
	02-May-89	50.6	3.5	11.4	NT	ND	8.5E+5	1.2E+2
	09-May-89	33.0	1.8	9.6	NT	ND	2.4E+6	2.4E+3
	17-May-89	48.4	2.3	12.1	NT	ND	4.6E+5	2.8E+3
	23-May-89	48.4	1.8	11.3	NT	ND	1.0E+6	3.3E+2
	06-Jun-89	53.9	2.5	NT	NT	ND	NT	NT
	06-Jul-89	46.9	7.5	NT	NT	ND	3.8E+6	3.3E+4
	22-Jul-89	28.2	10.3	NT	NT	ND	1.7E+6	2.2E+3
	03-Aug-89	38.5	10.8	NT	NT	ND	NT	NT
	17-Aug-89	70.4	18.6	NT	NT	ND	NT	NT
	07-Sep-89	56.8	29.0	NT	NT	1.6	--	--
	18-Sep-89	56.8	32.0	NT	NT	1.6	--	--
	05-Oct-89	70.0	29.0	NT	NT	1.5	--	--
MW-16								
	03-Mar-89	49.3/17.0*	1.2	2.0**	ND	ND	8.4E+5	1.4E+2
	10-Mar-89	14.5	2.2	NT	ND	ND	1.4E+5	1.2E+3
	15-Mar-89	11.4	3.0	NT	ND	ND	6.0E+6	1.1E+3
	29-Mar-89	33.4	7.2	NT	NT	ND	1.6E+6	3.5E+3
	04-Apr-89	39.6	11.5	NT	0.2	NT	2.2E+6	1.2E+3
	11-Apr-89	37.8	16.0	NT	NT	ND	6.7E+5	1.4E+3
	18-Apr-89	52.8	20.0	14.0	ND	ND	1.3E+6	2.3E+2
	25-Apr-89	49.3	22.0	>20.0	ND	ND	5.1E+5	2.2E+2
	02-May-89	57.2	31.3	14.6	NT	ND	2.2E+6	1.7E+3
	09-May-89	59.4	23.6	15.3	NT	ND	4.0E+6	9.5E+2
	17-May-89	41.8	16.5	9.5	NT	ND	6.8E+5	1.4E+3
	23-May-89	46.2	23.9	17.3	NT	ND	1.0E+6	2.2E+3
	31-May-89	61.6	15.7	16.2	NT	ND	4.4E+5	4.9E+3
	06-Jun-89	43.6	18.2	NT	NT	ND	4.0E+6	2.8E+4
	20-Jun-89	61.6	7.6	5.3	NT	ND	1.1E+7	5.4E+4
	06-Jul-89	55.4	23.1	NT	NT	1.5	5.7E+6	4.9E+4

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	22-Jul-89	55.0	10.7	NT	NT	ND	NT	NT
	03-Aug-89	45.8	10.0	NT	NT	1.3	1.1E+5	1.8E+3
	17-Aug-89	74.8	19.0	NT	NT	1.5	8.1E+5	1.4E+4
	07-Sep-89	61.6	52.1	NT	NT	3.7	8.2E+5	1.1E+4
	18-Sep-89	28.2	42.9	NT	NT	5.4	1.4E+6	5.4E+4
	05-Oct-89	66.0	49.0	NT	NT	6.3	1.8E+6	--
MW-17								
	03-Mar-89	NT	NT	NT	NT	NT	NT	NT
	10-Mar-89	12.3	0.8	NT	ND	ND	1.6E+5	1.1E+3
	15-Mar-89	7.5	3.1	NT	ND	ND	1.1E+7	3.5E+3
	29-Mar-89	25.5	3.8	NT	NT	ND	2.6E+6	1.1E+3
	04-Apr-89	35.2	3.5	NT	ND	ND	3.3E+6	6.8E+2
	11-Apr-89	49.4	8.0	NT	NT	ND	1.5E+6	3.9E+2
	18-Apr-89	52.8	16.0	11.8	ND	ND	1.2E+6	1.4E+2
	25-Apr-89	51.0	11.6	13.5	ND	ND	6.0E+5	1.7E+2
	02-May-89	52.8	17.0	13.3	NT	ND	5.1E+6	3.5E+2
	09-May-89	44.9	5.0	6.6	NT	ND	6.5E+6	9.5E+2
	17-May-89	47.7	17.6	8.4	NT	ND	3.0E+6	5.4E+3
	23-May-89	57.2	14.5	17.0	NT	ND	1.1E+6	3.9E+2
	06-Jun-89	46.2	16.0	NT	NT	ND	3.0E+6	3.5E+4
	14-Jun-89	42.9	18.0	15.4	NT	ND	3.0E+6	4.3E+4
	27-Jun-89	56.8	11.0	NT	NT	ND	1.1E+7	9.2E+4
	06-Jul-89	50.6	13.0	NT	NT	ND	7.2E+6	1.1E+5
	22-Jul-89	45.8	20.0	NT	NT	ND	7.3E+5	7.9E+4
	03-Aug-89	70.4	14.0	NT	NT	1.0	8.3E+4	1.3E+3
	17-Aug-89	63.8	20.0	NT	NT	1.7	2.3E+5	9.2E+3
	07-Sep-89	79.2	32.0	NT	NT	1.4	9.2E+6	1.3E+4
	18-Sep-89	71.5	24.6	NT	NT	3.3	6.5E+5	1.7E+4
	05-Oct-89	75.9	39.0	NT	NT	5.8	9.3E+5	--
MW-18								
	03-Mar-89	15.4/9.3*	0.5	2.9**	ND	ND	1.3E+6	7.9E+1
	15-Mar-89	4.0	1.1	NT	ND	ND	NT	NT
	29-Mar-89	8.8	3.0	NT	NT	ND	NT	NT
	04-Apr-89	6.6	2.8	NT	ND	ND	NT	NT
	11-Apr-89	6.6	3.8	NT	NT	ND	NT	NT
	18-Apr-89	6.6	5.8	5.0	NT	ND	NT	NT
	25-Apr-89	2.2	1.3	3.0	NT	ND	NT	NT
	02-May-89	8.8	4.5	3.4	NT	ND	NT	NT
	09-May-89	11.6	1.8	4.1	NT	ND	NT	NT
	17-May-89	5.8	1.8	3.3	NT	ND	NT	NT
	23-May-89	14.5	1.5	3.9	NT	ND	NT	NT
	31-May-89	NT	NT	NT	NT	NT	NT	NT
	06-Jun-89	17.1	1.3	NT	NT	ND	NT	NT
	27-Jun-89	8.8	0.8	NT	NT	ND	NT	NT
	06-Jul-89	15.7	ND	NT	NT	NT	NT	NT
	22-Jul-89	17.2	0.5	NT	NT	ND	NT	NT

Table 6. Results of Inorganic Chemical and Microbial Analyses of Ground-Water Monitoring Well Samples

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON (Fe)	AMMONIA	MICROBIAL ENUMERATION TC	MICROBIAL ENUMERATION HCU
LOD		0.5(ppm)	0.5(ppm)	0.5(mg/l)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/ml)
	03-Aug-89	11.0	0.5	NT	NT	ND	NT	NT
	17-Aug-89	16.5	1.3	NT	NT	ND	NT	NT
	07-Sep-89	15.0	3.0	NT	NT	ND	NT	NT
	05-Oct-89	22.0	6.0	NT	NT	ND	--	--

NOTES:

HCU: Hydrocarbon Utilizers
TC: Total Count
LOD: Limit of Detection.
NA: Limit of Detection not applicable.
ND: Not detected at or above LOD.
NT: Not tested.
* : First value from HLA laboratory
Second value from Pace Laboratories, Inc.
**: Results from Pace Laboratories, Inc.
--: Results not available.

Inorganic constituents reported in parts per million (ppm).
Microbial counts reported in colony-forming units per milliliter of water (CFU/ml).
Analyses performed by HLA laboratory unless otherwise indicated.

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
MW-5						
	03-May-89	ND	ND	ND	0.029	ND
	06-Jun-89	ND	ND	ND	ND	ND
MW-7						
	04-Apr-89	ND	0.0007	0.0010	0.0012	ND
	03-May-89	ND	0.0012	0.0018	0.0048	0.27
	06-Jun-89	0.001	0.001	0.0022	0.0011	0.4
	07-Jul-89	0.0002	0.001	0.00034	0.0059	0.56
	02-Aug-89	ND	0.0015	0.0054	0.0059	0.7
	07-Sep-89	ND	ND	ND	0.0015	0.59
	05-Oct-89	ND	0.0011	0.0006	0.0013	0.73
MW-9						
	02-Mar-89	NT	NT	NT	NT	1.2
	04-Apr-89	0.19	0.35	0.041	0.36	1.5
	01-May-89	0.43	0.60	0.033	0.64	4.6
	06-Jun-89	0.36	0.106	0.110	0.10	1.6
	06-Jul-89	0.16	0.084	0.052	1.8	5.2
	02-Aug-89	0.032	0.034	0.012	1.6	4.9
	06-Sep-89	0.007	0.022	ND	0.36	1.5
	04-Oct-89	<0.025	0.08	<0.025	1.3	4.1
MW-10						
	02-Mar-89	NT	NT	NT	NT	2.8
	04-Apr-89	1.6	0.76	0.13	0.68	4.2
	01-May-89	1.2	0.67	0.16	0.67	3.4
	06-Jun-89 @	0.66/0.64	0.14/0.14	0.11/0.10	0.24/0.14	4.8/4.3
	06-Jul-89	2.0	2.2	0.54	1.8	12
	02-Aug-89 @	8.8/8.6	1.7/1.7	0.36/0.34	1.5/1.5	19/20
	06-Sep-89 @	8.1/11	5.2/6.3	0.82/0.93	5.5/6.1	36/34
	04-Oct-89	40	79	11	94	620
MW-11						
	02-Mar-89	NT	NT	NT	NT	15
	04-Apr-89	2.5	3.8	0.17	2.4	10
	19-Apr-89	3.8	2.8	ND	5.7	14
	01-May-89	1.3	1.7	0.069	1.7	5.2
	07-Jun-89	0.082	0.097	0.045	0.167	12
	06-Jul-89 @	2.1/2.3	2.5/2.8	0.14/0.16	2.6/3.0	15/15
	02-Aug-89	7.2	7.5	0.26	7.1	37
	06-Sep-89	5.0	6.5	0.41	5.2	47
	04-Oct-89	3.3	2.8	0.15	2.5	11

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
MW-12						
	15-Feb-89	ND	ND	ND	ND	ND
	03-Mar-89	NT	NT	NT	NT	ND
	05-Apr-89	0.0014	0.0023	ND	0.0054	ND
	02-May-89	0.026	0.003	ND	0.0063	0.10
	07-Jun-89	0.034	0.0037	ND	0.012	0.18
	06-Jul-89	0.029	0.0025	ND	0.0059	0.12
	02-Aug-89	0.023	0.002	ND	0.005	ND
	07-Sep-89 a	0.051/0.059	0.0016/0.002	ND/ND	0.0049/0.0058	ND/ND
	05-Oct-89 a	.037/.040	.0032/.0031	ND/ND	.0086/.0094	ND/ND
MW-13						
	02-Mar-89	NT	NT	NT	NT	1.4
	04-Apr-89	0.041	0.039	0.0038	0.28	0.71
	01-May-89	0.048	0.049	0.013	0.13	0.34
	07-Jun-89	0.051	0.037	0.02	0.082	0.98
	06-Jul-89	0.210	0.054	0.013	0.109	0.76
	02-Aug-89	0.098	0.011	0.0005	0.031	0.27
	07-Sep-89	0.039	0.0020	ND	0.0050	ND
	04-Oct-89	4.0	1.6	0.20	1.5	9.2
MW-14						
	02-Mar-89	NT	NT	NT	NT	ND
	04-Apr-89	0.44	0.063	ND	0.27	1.4
	01-May-89	0.35	0.011	ND	0.094	0.94
	07-Jun-89 a	0.057/ND	0.0022/ND	0.0005/ND	0.043/ND	1.1/0.64
	06-Jul-89	3.0	1.7	0.050	3.6	14
	01-Aug-89	0.49	0.084	ND	0.84	4.5
	06-Sep-89	1.0	0.090	ND	1.4	4.9
	04-Oct-89	0.70	0.015	ND	0.75	3.1
MW-15						
	03-Mar-89	NT	NT	NT	NT	3.9
	04-Apr-89	0.88	0.97	0.11	0.93	3.7
	02-May-89	1.5	1.1	0.086	0.74	2.7
	07-Jun-89	5.7	4.3	0.3	2.4	22
	05-Jul-89	2.0	3.0	0.26	2.0	12
	03-Aug-89	2.6	2.8	0.75	3.8	24
	06-Sep-89	1.1	1.4	0.23	1.3	7.3
	04-Oct-89	0.59	1.1	0.076	0.59	3.7

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
MW-16						
	02-Mar-89	NT	NT	NT	NT	2.1
	04-Apr-89	2.1	2.2	0.18	1.4	6.7
	02-May-89	0.74	0.94	0.11	0.95	2.7
	07-Jun-89	0.37	0.56	0.51	0.35	14
	05-Jul-89	1.9	2.7	1.8	4.5	16
	03-Aug-89 a	1.8/1.9	2.6/2.6	0.18/0.19	5.7/6.0	17/17
	06-Sep-89	0.96	3.3	0.26	1.3	8.9
	04-Oct-89	0.72	2.1	0.16	1.3	5.4
MW-17						
	04-Apr-89	3.1	2.9	0.27	3.9	12
	02-May-89	1.2	1.0	0.11	1.4	3.9
	07-Jun-89	1.2	1.2	ND	1.3	6.3
	05-Jul-89	3.0	3.3	2.7	3.9	18
	02-Aug-89	4.8	9.5	0.63	14	47
	03-Aug-89	5.1	6.1	0.73	12	NT
	06-Sep-89	2.8	4.5	0.32	8.4	21
	04-Oct-89	0.47	0.092	0.018	1.0	2.8
MW-18						
	15-Feb-89	ND	ND	ND	ND	ND
	03-Mar-89	NT	NT	NT	NT	ND
	05-Apr-89	ND	ND	ND	ND	ND
	02-May-89	ND	ND	ND	ND	ND
	07-Jun-89	ND	ND	ND	ND	ND
	06-Jul-89	ND	ND	ND	ND	ND
	02-Aug-89	ND	ND	ND	ND	ND
	06-Sep-89	ND	ND	ND	ND	ND
	05-Oct-89	ND	ND	ND	ND	ND
EW-1						
	04-Apr-89	1.6	1.0	0.087	1.8	5.9
	01-May-89	3.2	1.2	0.15	1.4	6.3
	05-Jun-89	7.7	5.0	0.2	3.5	24
	05-Jul-89	4.4	5.1	0.32	3.8	24
	02-Aug-89	3.1	4.0	0.4	2.9	23
	06-Sep-89	3.0	3.7	0.26	3.0	11
	05-Oct-89	1.3	1.7	LT 0.10	0.3	7.3

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
EW-4						
	04-Apr-89	NT	NT	NT	NT	2.5
	01-May-89	0.56	0.28	0.034	0.72	2.0
	05-Jun-89	0.4	0.2	ND	0.6	3.1
	05-Jul-89	0.29	0.15	0.021	1.2	4.3
	02-Aug-89	0.23	0.1	0.023	1.1	6.3
	06-Sep-89	0.17	0.03	LT 0.0005	0.80	3.0
EW-7						
	05-Jul-89	18	16	0.67	10	74
	05-Oct-89	38	46	LT 0.50	11	210
EW-8						
	01-May-89	1.1	0.49	0.021	0.30	2.3
	05-Jun-89	2.5	2.0	ND	1.4	8.3
	05-Jul-89	3.3	2.9	0.22	3.1	19
	02-Aug-89	5.7	5.6	0.33	5.8	37
	06-Sep-89	5.7	5.5	0.19	10	38
	05-Oct-89	13	4.6	LT 0.25	7.0	71
EW-10						
	07-Sep-89	8.1	7.4	0.80	9.2	42
	05-Oct-89	6.1	4.6	0.20	7.0	19
EW-11						
	07-Sep-89	7.7	8.0	0.52	5.3	25
EW-12						
	01-May-89	1.8	0.66	0.048	0.62	3.6
	05-Jun-89	25	20	0.8	11	71
	05-Jul-89	5.2	5.6	0.38	3.4	25
	02-Aug-89	4.5	5.4	0.39	3.3	25
	07-Sep-89	2.2	1.8	0.059	2.2	9.9
	05-Oct-89	4.4	5.5	LT 0.10	2.0	21
EW-13						
	19-Apr-89	0.068	0.0064	ND	0.20	0.79
	07-Sep-89	3.3	3.2	1.8	0.026	15
EW-14						
	05-Jul-89	1.8	1.7	0.08	1.1	8.7
	07-Sep-89	4.1	3.5	0.20	3.7	16
	05-Oct-89	4.3	5.2	LT 0.10	0.74	24

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
EW-15						
	19-Apr-89 #	13080	61000	16000	140000	660000
	05-Jul-89	2.0	2.8	0.26	2.9	19
	02-Aug-89	1.7	3.4	0.68	2.5	15
	07-Sep-89	8.4	7.6	0.20	6.3	37
	05-Oct-89	2.6	1.7	LT 0.10	0.62	12
EW-16						
	04-Apr-89 a	2.8/3.3	2.0/2.6	0.10/0.14	0.99/1.2	8.9/8.8
	19-Apr-89	0.002	0.0027	ND	0.0021	0.57
	01-May-89	5.0	4.6	0.34	2.5	12
	05-Jun-89	2.5	2.6	ND	1.8	9.5
	05-Jul-89	2.8	3.6	0.28	1.8	16
	02-Aug-89	1.1	1.2	0.86	1.2	6.6
	07-Sep-89	2.6	2.7	0.21	1.9	11
	05-Oct-89	3.6	2.9	0.15	2.4	16
EW-19						
	01-May-89	1.4	1.2	0.068	0.77	3.4
	05-Jun-89	0.9	0.6	ND	0.6	2.9
	05-Jul-89 a	2.2/1.4	0.62/0.71	0.041/0.043	0.72/0.8	4.8/5.3
	02-Aug-89	1.7	1.1	0.039	0.95	7.4
	07-Sep-89	2.5	2.1	0.15	1.5	9.1
	05-Oct-89	5.1	3.7	0.048	3.0	13
EW-21						
	05-Jun-89	ND	ND	ND	0.3	3.2
	05-Jul-89	0.0026	0.015	0.017	0.095	1.1
	02-Aug-89	0.0027	0.012	0.0054	0.031	0.48
	07-Sep-89	0.0060	0.0095	0.0020	0.0026	0.34
	05-Oct-89	0.0009	0.0098	0.0012	0.0093	0.50

Table 7. Results of Organic Chemical Analyses of Monitoring and System Well Samples

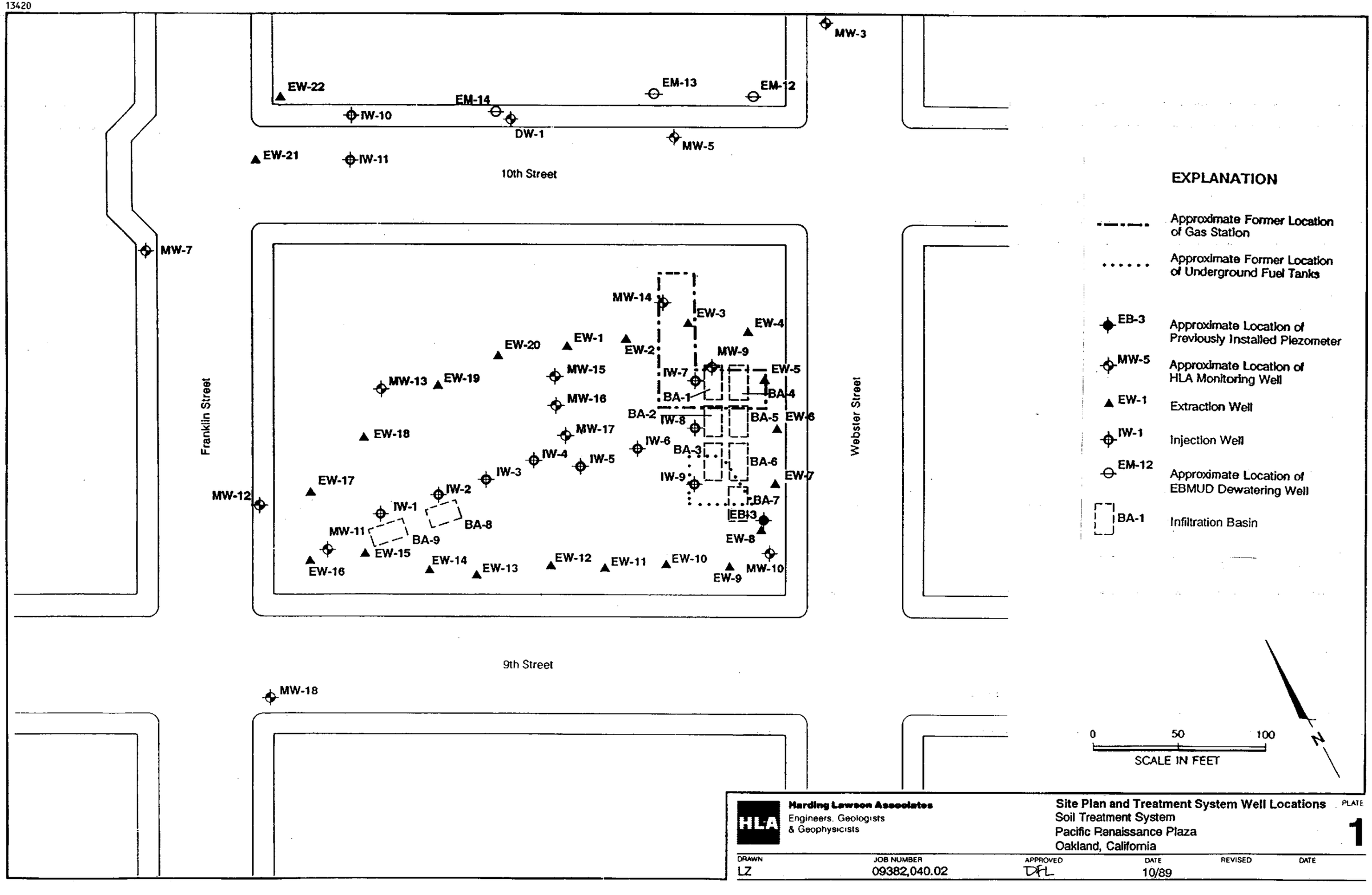
Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
BLANK						
	05-Apr-89	0.5	ND	ND	ND	ND
	01-May-89	ND	ND	ND	ND	ND
	06-Jun-89	ND	ND	ND	ND	ND
	06-Jul-89	ND	ND	ND	ND	ND
	01-Aug-89	ND	ND	ND	ND	ND
	02-Aug-89	ND	ND	ND	ND	ND
	03-Aug-89	ND	ND	ND	ND	ND
	06-Sep-89	ND	ND	ND	ND	ND
	07-Sep-89	ND	ND	ND	ND	ND
	04-Oct-89	ND	ND	ND	ND	ND

NOTES:

LOD: Limit of Detection.
ND: Not detected at or above LOD.
NT: Not tested.
*: LOD Changed to 0.0002 on 01-May-89
**: LOD Changed to 0.05 on 01-May-89
@: Two values indicate results of duplicate analyses.
LT: Less Than
#: Free product observed in well.
Organic constituents reported in milligrams per liter.
Analyses performed by PACE Laboratories, Inc.

13420



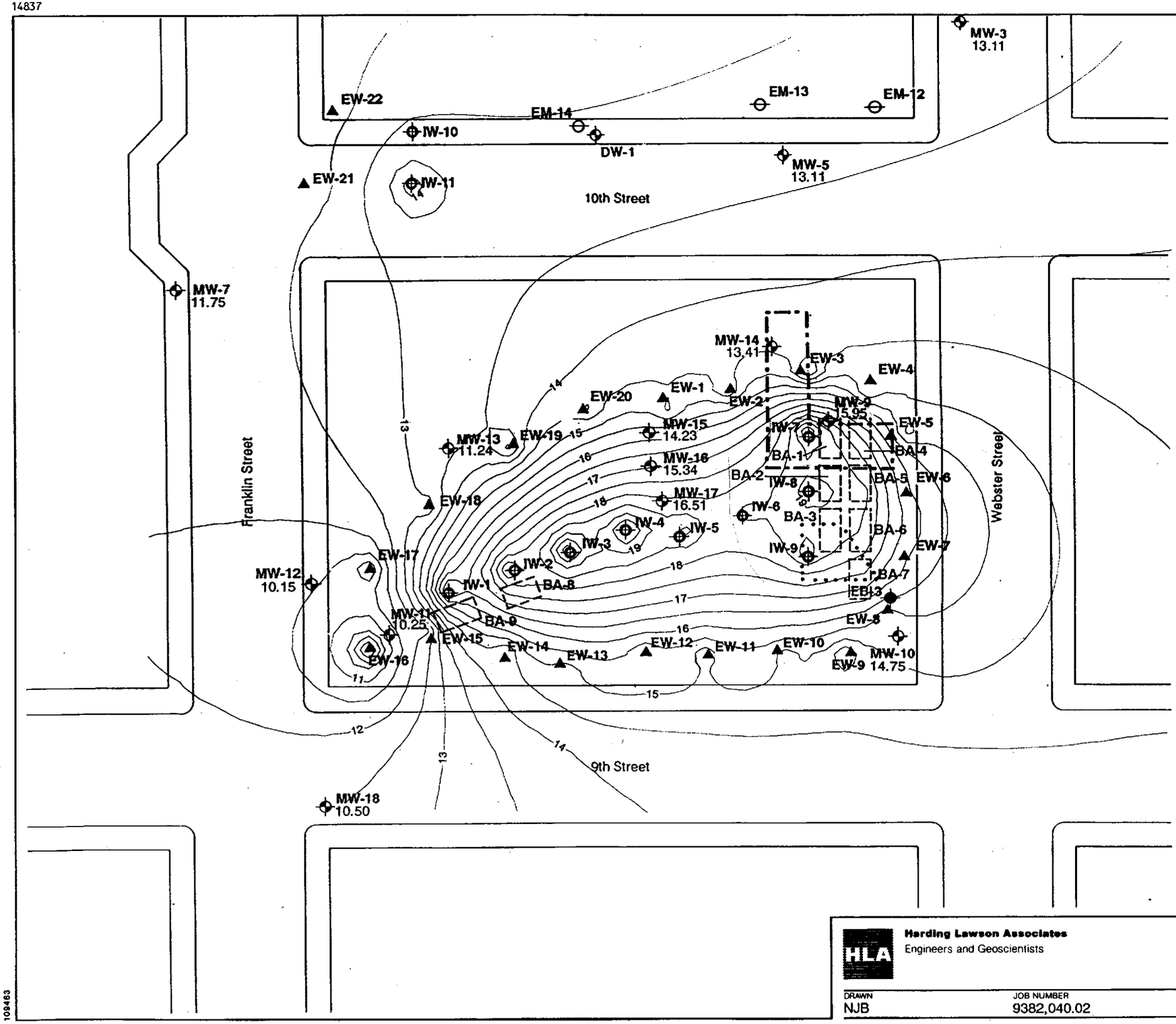
Harding Lawson Associates
Engineers, Geologists & Geophysicists

Site Plan and Treatment System Well Locations
Soil Treatment System
Pacific Renaissance Plaza
Oakland, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
LZ	09382,040.02	DFL	10/89		

14837



EXPLANATION

- Approximate Former Location of Gas Station
- Approximate Former Location of Underground Fuel Tanks
- EB-3 — Approximate Location of Previously Installed Piezometer
- MW-5 — Approximate Location of HLA Monitoring Well
- EW-1 — Extraction Well
- IW-1 — Injection Well
- EM-12 — Approximate Location of EBMUD Dewatering Well
- BA-1 — Infiltration Basin
- 18.78 — Observed Ground-Water Elevation (feet above MSL)
- Simulated Ground-Water Elevation Contour (contour interval 0.5 feet)

0 50 100
SCALE IN FEET

N

109463

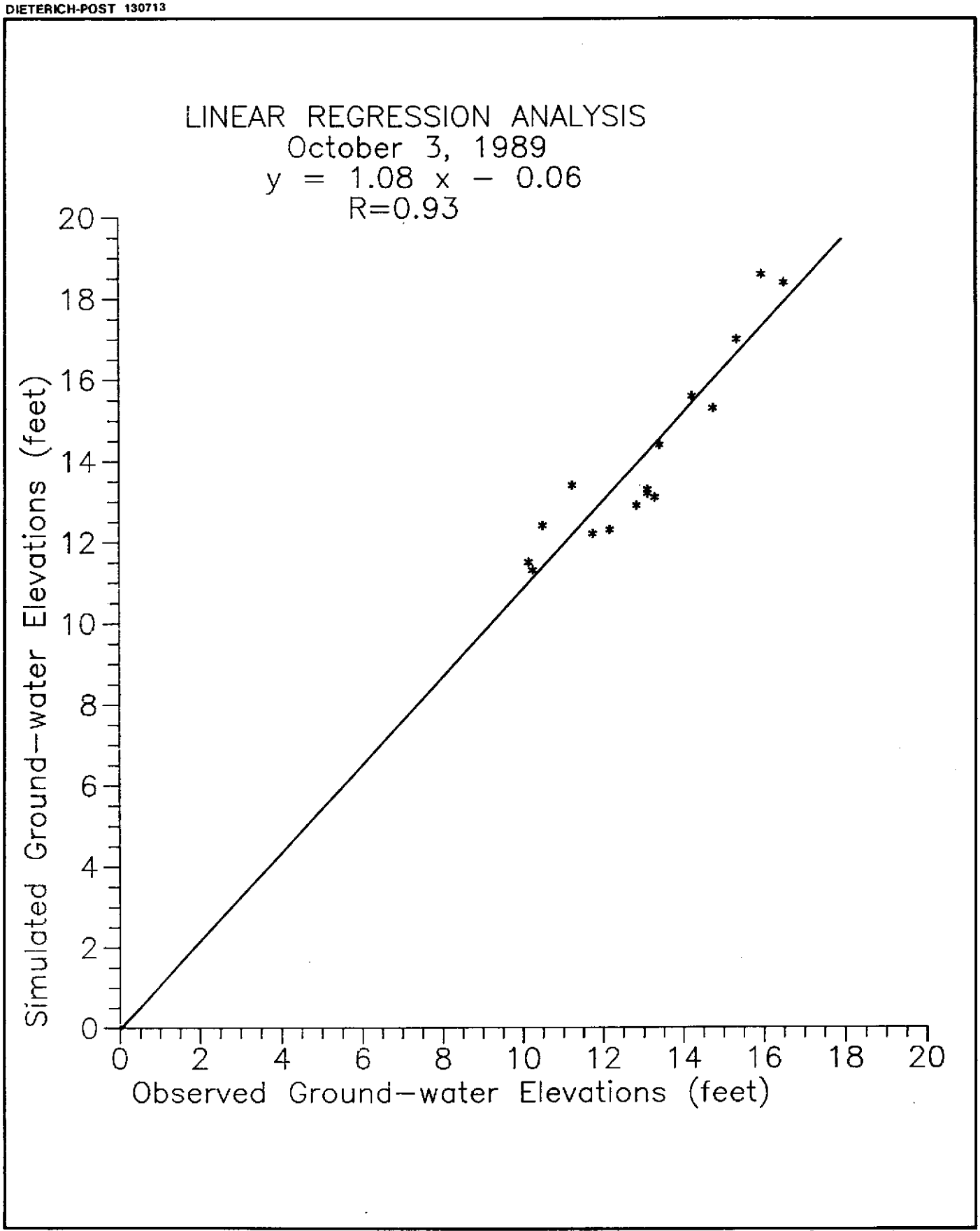
Harding Lawson Associates
Engineers and Geoscientists

Observed and Simulated Ground-Water Elevations - October 3, 1989
Soil Treatment System
Pacific Renaissance Plaza
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
NJB	9382,040.02	DFL	10/89		

DIETERICH-POST 130713



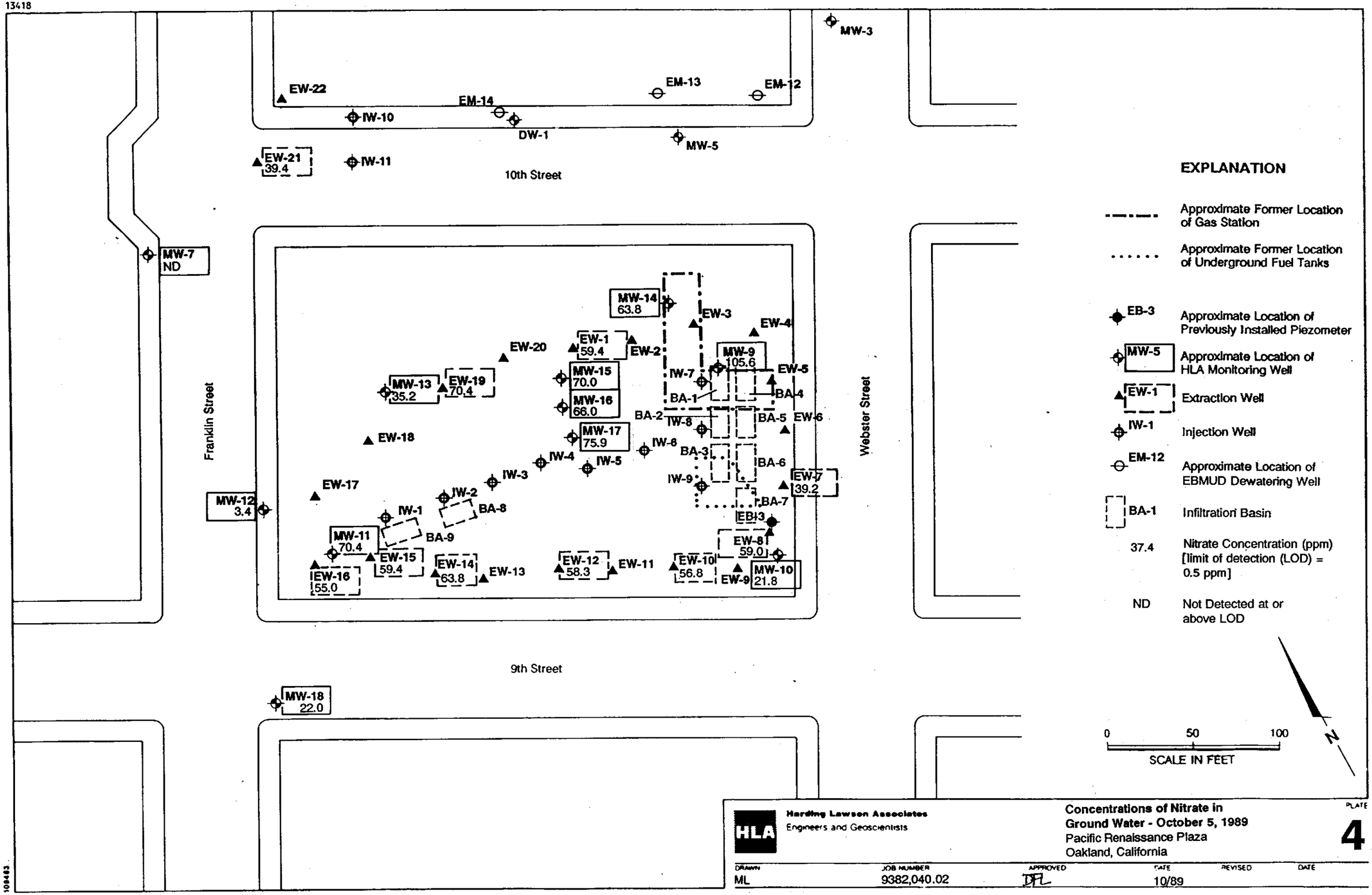
Harding Lawson Associates
Engineering and
Environmental Services

Linear Regression of Observed versus Simulated Ground-Water Elevations - October 3, 1989
Soil Treatment System
Pacific Renaissance Plaza
Oakland, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
	9382.040.02	DFL	10/89	

13418



108463

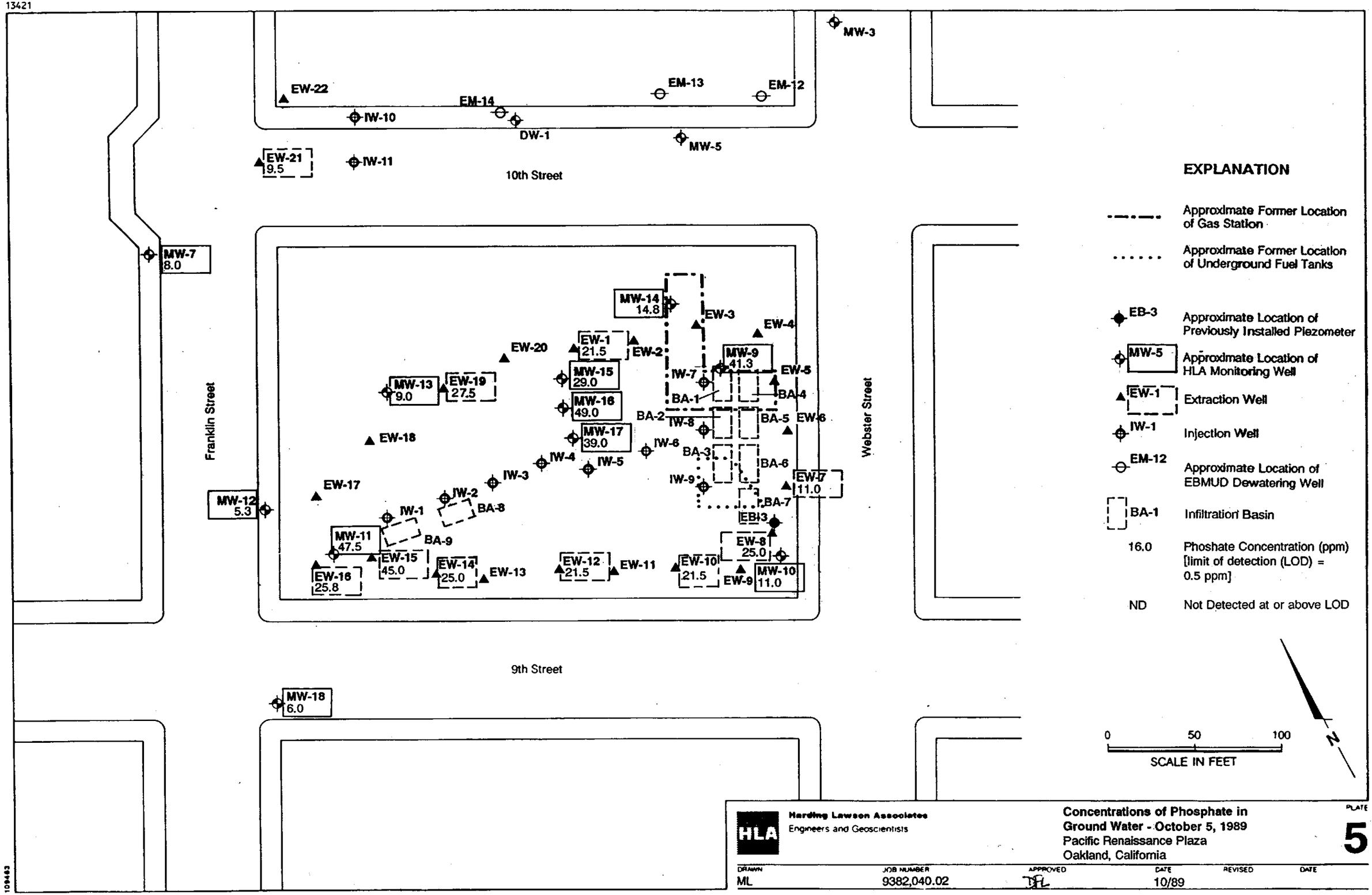
Harding Lawson Associates
Engineers and Geoscientists

Concentrations of Nitrate in Ground Water - October 5, 1989
Pacific Renaissance Plaza
Oakland, California

PLATE **4**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,040.02	DFL	10/89		

13421



109463

HLA

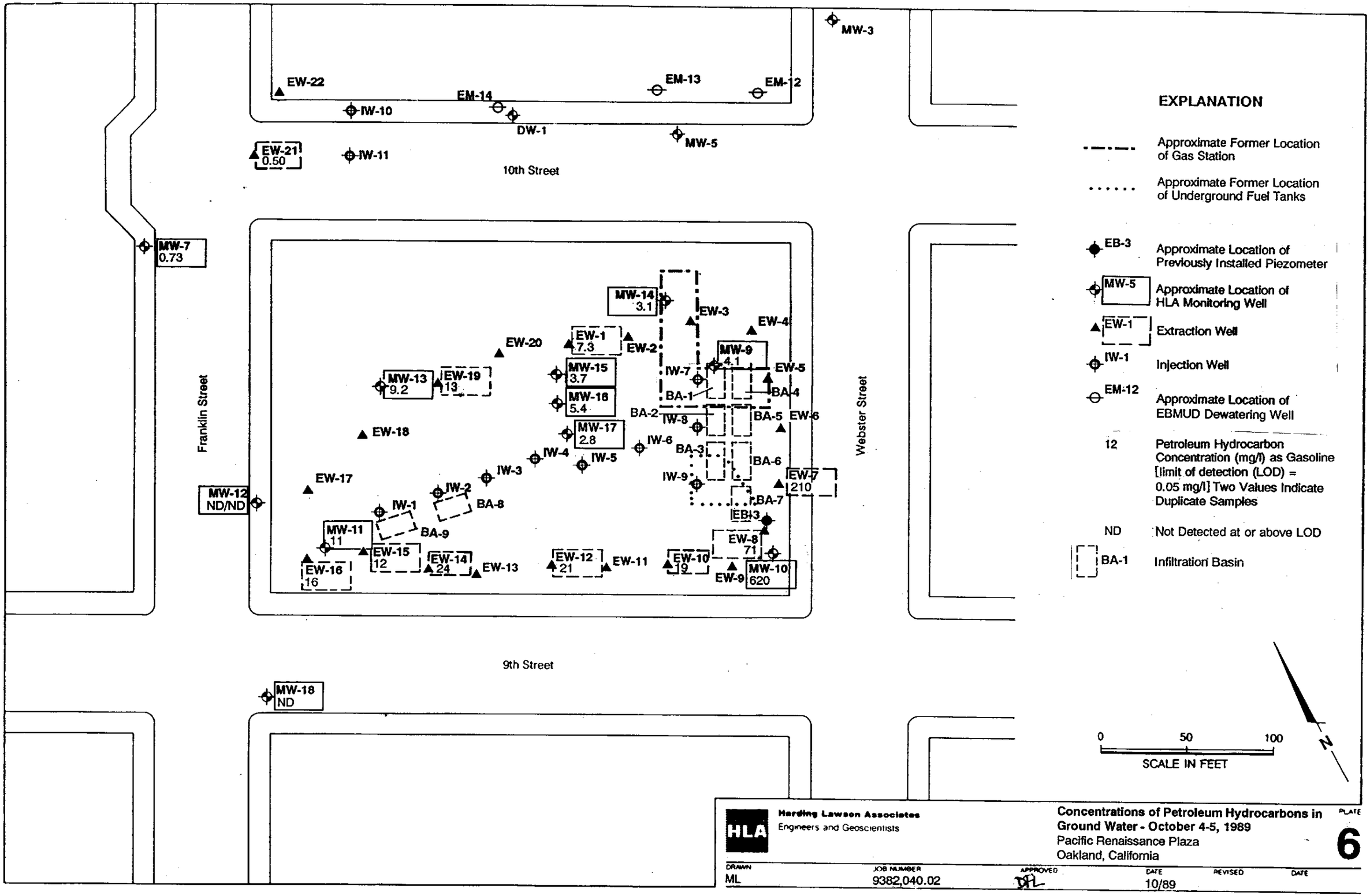
Harding Lawson Associates
Engineers and Geoscientists

Concentrations of Phosphate in Ground Water - October 5, 1989
Pacific Renaissance Plaza
Oakland, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,040.02	TFL	10/89		

13422



109483

Harding Lawson Associates
Engineers and Geoscientists

Concentrations of Petroleum Hydrocarbons in Ground Water - October 4-5, 1989
Pacific Renaissance Plaza
Oakland, California

PLATE **6**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,040.02	DPL	10/89		

Appendix

LABORATORY ANALYTICAL RESULTS FOR WATER SAMPLES

pace laboratories, inc

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

October 17, 1989

PRP Monitoring Wells
10-4-89

Mr. David Leland
Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

RE: PACE Project No. 491004.505

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received October 04, 1989.

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

Sincerely,

Stephen Nackord

Stephen F. Nackord
Director, Sampling and Analytical Services

Enclosures

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

October 17, 1989
PACE Project Number: 491004505
PACE WP Number: WPPLAB 1083

Attn: Mr. David Leland

Pacific Ren. Plaza

			MW-9	MW-14	MW-10
PACE Sample Number:			778950	778960	778970
Date Collected:			10/04/89	10/04/89	10/04/89
Date Received:			10/04/89	10/04/89	10/04/89
Parameter	Units	MDL	89100009	89100014	89100010
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	4.1	3.1	620
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	LT 0.025	0.70	40
Ethylbenzene	mg/L	0.0002	LT 0.025	ND	11
Toluene	mg/L	0.0002	0.080	0.015	79
Xylenes, total	mg/L	0.0002	1.3	0.75	94

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

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REPORT OF LABORATORY ANALYSIS

Offices:
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Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

Mr. David Leland
Page 2

October 17, 1989
PACE Project Number: 491004505

PACE Sample Number:			MW-11 778980	MW-15 778990	MW-16 779000
Date Collected:			10/04/89	10/04/89	10/04/89
Date Received:			10/04/89	10/04/89	10/04/89
Parameter	Units	MDL	89100011	89100015	89100016
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	11	3.7	5.4
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	3.3	0.59	0.72
Ethylbenzene	mg/L	0.0002	0.15	0.076	0.16
Toluene	mg/L	0.0002	2.8	1.1	2.1
Xylenes, total	mg/L	0.0002	2.5	0.59	1.3

MDL Method Detection Limit

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Novato, California
Leawood, Kansas

REPORT OF LABORATORY ANALYSIS

Mr. David Leland
Page 3

October 17, 1989
PACE Project Number: 491004505

			MW-17	Blank	MW-13
PACE Sample Number:			779010	779020	779030
Date Collected:			10/04/89	10/04/89	10/04/89
Date Received:			10/04/89	10/04/89	10/04/89
Parameter	Units	MDL	89100017	89100019	89100013
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	2.8	ND	9.2
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	0.47	ND	4.0
Ethylbenzene	mg/L	0.0002	0.018	ND	0.20
Toluene	mg/L	0.0002	0.092	ND	1.6
Xylenes, total	mg/L	0.0002	1.0	ND	1.5

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

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.

Douglas E. Oram, Ph.D.
Organic Chemistry Manager

[redacted]ardin[redacted]son [redacted]ciate[redacted]
200 Rush Landing Road
P.O. Box 6107
Novato, California 94948
415/892-0821
Telecopy: 415/892-1586

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: [illegible] Nelson
[illegible] Evans

Job Number: 9382.039.02

Name/Location: PRP Monterey

Project Manager: D. Ward

Recorder: Robert B. McCann
(Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
W 3	X							2	E	9	10	04	04	08	20	MW-9
W 3	X							2	E	9	10	04	04	15	55	MW-14
W 3	X							2	E	9	10	04	10	00	00	MW-10
W 3	X							2	E	9	10	04	10	03	00	MW-11
W 3	X							2	E	9	10	04	12	45		MW-15
W 3	X							2	E	9	10	04	13	10		MW-16
W 3	X							2	E	9	10	04	13	45		MW-17
W 3	X							2	E	9	10	04	14	10		Field Blank at MW-17
W 3	X							2	E	9	10	04	15	10		MW-13

ANALYSIS REQUESTED	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015	EPA 8020-BTXE only
								X	X
								X	X
								X	X
								X	X
								X	X
								X	X
								X	X
								X	X
								X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert B. McCann	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) [illegible]	DATE/TIME 11/4/94 1705
METHOD OF SHIPMENT	PACE	

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
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Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

October 31, 1989
PACE Project
Number: 491005505

PRP 10-5-89

Attn: Mr. David Leland

Pacific Ren. Plaza

			MW-19	MW-12	MW-12
PACE Sample Number:			779520	779530	779540
Date Collected:			10/05/89	10/05/89	10/05/89
Date Received:			10/05/89	10/05/89	10/05/89
Parameter	Units	MDL	89100018	89100012	89100020
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	ND	0.16	0.15
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	ND	0.040	0.037
Ethylbenzene	mg/L	0.0002	ND	ND	ND
Toluene	mg/L	0.0002	ND	0.0031	0.0032
Xylenes, total	mg/L	0.0002	ND	0.0094	0.0086

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

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REPORT OF LABORATORY ANALYSIS

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Novato, California
Leawood, Kansas

Mr. David Leland
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October 31, 1989
PACE Project
Number: 491005505

			MW-7	EW-1	EW-7
PACE Sample Number:			779550	779560	779570
Date Collected:			10/05/89	10/05/89	10/05/89
Date Received:			10/05/89	10/05/89	10/05/89
Parameter	Units	MDL	89100007	8910E001	8910E007
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	0.73	7.3	210
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	ND	1.3	38
Ethylbenzene	mg/L	0.0002	0.0006	LT 0.10	LT 0.50
Toluene	mg/L	0.0002	0.0011	1.7	46
Xylenes, total	mg/L	0.0002	0.0013	0.30	11

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

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REPORT OF LABORATORY ANALYSIS

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October 31, 1989
PACE Project
Number: 491005505

			EW-8	EW-10	EW-12
PACE Sample Number:			779580	779590	779600
Date Collected:			10/05/89	10/05/89	10/05/89
Date Received:			10/05/89	10/05/89	10/05/89
Parameter	Units	MDL	8910E008	8910E010	8910E012
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	71	19	21
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	13	6.1	4.4
Ethylbenzene	mg/L	0.0002	LT 0.25	0.20	LT 0.04
Toluene	mg/L	0.0002	17	4.6	5.5
Xylenes, total	mg/L	0.0002	5.4	7.0	2.0

MDL Method Detection Limit
LT Less than.

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REPORT OF LABORATORY ANALYSIS

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October 31, 1989
PACE Project
Number: 491005505

			EW-14	EW-15	EW-16
PACE Sample Number:			779610	779620	779630
Date Collected:			10/05/89	10/05/89	10/05/89
Date Received:			10/05/89	10/05/89	10/05/89
Parameter	Units	MDL	8910E014	8910E015	8910E016
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	24	12	16
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	4.3	2.6	3.6
Ethylbenzene	mg/L	0.0002	LT 0.04	LT 0.04	0.15
Toluene	mg/L	0.0002	5.2	1.7	2.9
Xylenes, total	mg/L	0.0002	0.74	0.62	2.4

MDL Method Detection Limit
LT Less than.

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REPORT OF LABORATORY ANALYSIS

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October 31, 1989
PACE Project
Number: 491005505

			EW-19	EW-21
PACE Sample Number:			779640	779650
Date Collected:			10/05/89	10/05/89
Date Received:			10/05/89	10/05/89
Parameter	Units	MDL	8910E019	8910E021
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/L	0.05	13	0.50
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-
Benzene	mg/L	0.0002	5.1	0.0009
Ethylbenzene	mg/L	0.0002	0.048	0.0012
Toluene	mg/L	0.0002	3.7	0.0098
Xylenes, total	mg/L	0.0002	3.0	0.0093

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.

Douglas E. Oram, Ph.D.
Organic Chemistry Manager

[redacted] Associates
200 Rush Landing Road
P.O. Box 6107
Novato, California 94948
415/892-0821
Telecopy: 415/892-1589

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: Bob Nelson, Dave Evans

Job Number: 93E2.039.02

Name/Location: PRP Monitoring

Project Manager: D. Gold

Recorder: Robert D. Nelson (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015 TPH	EPA 8020 (BTXE ONLY)
2 3	X						2		E91	00	01	E91	00	50	725	MW-18								X	X
2 3	X						2		E91	00	12	E91	00	50	810	MW-12								X	X
2 3	X						2		E91	00	03	E91	00	50	820	Duplicate of MW-12								X	X
2 3	X						2		E91	00	07	E91	00	50	E35	MW-7								X	X
2 3	X						2		E91	00	01	E91	00	51	150	EW-1								X	X
2 3	X						2		E91	00	07	E91	00	51	300	EW-7								X	X
2 3	X						2		E91	00	08	E91	00	51	325	EW-8								X	X
2 3	X						2		E91	00	10	E91	00	51	345	EW-10								X	X
2 3	X						2		E91	00	12	E91	00	51	355	EW-12								X	X
2 3	X						2		E91	00	14	E91	00	51	420	EW-14								X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert D. Nelson	RECEIVED BY: (Signature) D. Sanderson	DATE/TIME 10/6/89 19:30
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
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Harding Lawson Associates
200 Rush Landing Road
P.O. Box 6107
Novato, California 94948
415/892-0821
Telecopy: 415/892-1586

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: Bob Nelson

Job Number: PRP Monitoring

Name/Location: 9382.039.02

Project Manager: D. Leland

Recorder: Robert L. Nelson
(Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCL	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
N 3	X							2	89	10	E0154	89	10	05	1445	EW-15
N 3	X							2	E9	10	E0164	E9	10	05	1500	EW-16
N 3	X							2	E9	10	E0194	E9	10	05	1525	EW-A
N 3	X							2	89	10	E0214	E9	10	05	1545	EW-21
N 3	X															

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pltnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015 (TPH)	EPA 8010 (DCE ONLY)
							X	X
							X	X
							X	X
							X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert L. Nelson	RECEIVED BY: (Signature) Q.Q. Sanderson	DATE/TIME 10/5/89 19:30
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT		

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SEPTEMBER 1989
SOIL TREATMENT SYSTEM
PACIFIC RENAISSANCE PLAZA
OAKLAND, CALIFORNIA
October 31, 1989

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QUALITY CONTROL REVIEWER

Tamara L. Williams

Tamara L. Williams
Geologist - 3954