Harding Lawson Associates

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Transmittal/Memorandum

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

Attention: Mr. Lowell Miller

From: David F. Leland DFL
Date: July 9, 1990
Subject: Report of System Monitoring, Pacific Renaissance Plaza, Oakland, California
Job No.: 09382,040.02

Remarks:

Enclosed is the *Report of System Monitoring, March - May 1990, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California*, which describes the operations and monitoring of the in situ biotreatment system at the Pacific Renaissance Plaza site in Oakland. The report was prepared by Harding Lawson Associates on behalf of the Redevelopment Agency of the City of Oakland.

DFL/klc/dfl055#1

cc:

A Report Prepared for

Redevelopment Agency of the City of Oakland
One City Hall Plaza
Oakland, California 94612

REPORT OF SYSTEM MONITORING MARCH THROUGH MAY 1990 SOIL TREATMENT SYSTEM PACIFIC RENAISSANCE PLAZA OAKLAND, CALIFORNIA

HLA Job No. 9382,040.02

7/9/90

Submitted to:

California Regional Water Quality Control Board
San Francisco Bay Region
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July 9, 1990

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

This report describes the operation, monitoring and performance of the in situ soil treatment system at the Pacific Renaissance Plaza (PRP) site in Oakland, California, from March 1 to May 30, 1990. 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 center line of 10th Street (Plate 1). The soil treatment system was 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.

This report has been prepared by Harding Lawson Associates (HLA) on behalf of the Redevelopment Agency of the City of Oakland (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), as presented in a letter to the Agency 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 1989 through February 1990 are described in *HLA 1989b through i and 1990a through d*. 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 March, April, and May are summarized below:

March

- Pumps in Extraction Wells EW-10, EW-16, and EW-17 were reconditioned; the pumps were removed from the wells and run in a chlorine/soap bath. Water-level probes for all of the wells were also cleaned.
- Measuring chambers in the flowmeters on Extraction Wells EW-16, EW-17, and EW-18 were replaced; the flowmeter on EW-21 was cleaned.
- The sand filter at the influent of the carbon treatment system was backwashed twice daily on days when site personnel were present. The bag filters were changed approximately every two days. The carbon canisters were backwashed twice this month.
- The concentration of nutrients in the injection water for Injection Wells IW-1, IW-7, IW-8, IW-9, IW-10, IW-11, IW-12, IW-13, and IW-14 was maintained at approximately 30 parts per million (ppm).
- Water injected in Wells IW-2, IW-3, IW-4, IW-5, and IW-6 was recycled from the carbon treatment system effluent without the addition of nutrients or hydrogen peroxide.
- Injection Well IW-10 was shut off on March 21.

April

- Pumps in Extraction Wells EW-3 and EW-20 were reconditioned; the pumps were removed from the wells and run in a chlorine/soap bath. Water-level probes for all of the wells were also cleaned.
- The flowmeters on Extraction Wells EW-3 and EW-19 were out of service for 2 days; on EW-5 and EW-18 for 4 days; and on EW-4 for 11 days.
- Water-level probes in Extraction Well EW-9 and EW-20 were replaced.
- The sand filter at the influent of the carbon treatment system was backwashed twice daily on days when site personnel were present. The sand was changed once this month. The bag filters were changed

approximately every two days. The carbon canisters were backwashed three times this month.

- The concentration of nutrients in the injection water for Injection Wells IW-1, IW-8, IW-9, IW-10, IW-11, IW-12, IW-13, and IW-14 was maintained at approximately 30 parts per million (ppm).
- Water injected at Wells IW-2, IW-3, IW-4, IW-5, IW-6, and IW-7 was recycled from the carbon treatment system effluent without the addition of nutrients or hydrogen peroxide.
- Basins 4, 5, 6, and 7 were emptied for 5 days to kill mosquito larvae.

May

- Water-level probes for all of the wells were cleaned.
- The flowmeters on Extraction Wells EW-17, EW-18, and EW-20 were out of service for 1, 9, and 3 days, respectively.
- The sand filter at the influent of the carbon treatment system was backwashed twice daily on days when site personnel were present. The sand in the sand filter was replaced once. The bag filters were changed approximately every two to three days. Cartridge filters were changed twice. Carbon canisters C1 and C4 were backwashed once and twice, respectively, this month.
- The concentration of nutrients in the injection water for Injection Wells IW-1, IW-8, IW-9, IW-10, IW-11, IW-12, IW-13, and IW-14 was maintained at approximately 30 parts per million (ppm).
- Water injected in Wells IW-2, IW-3, IW-4, IW-5, IW-6, and IW-7 was recycled from the carbon system effluent without the addition of nutrients or hydrogen peroxide.
- The injection system was shut off on May 21.
- The extraction system was shut off on May 30.

3.0 TREATMENT SYSTEM MONITORING

Flow rates, water levels, and water chemistry were monitored using procedures described in *HLA, 1989e*. Water levels were measured at all monitoring wells. Water samples were collected from all extraction wells and the five offsite monitoring wells nearest the treatment system: MW-7, MW-12, MW-18, MW-19, and MW-20. Water samples from the extraction wells were analyzed for dissolved oxygen, except Extraction Wells EW-6, EW-15, and EW-22. Nitrate, phosphate, and ammonia were analyzed in water samples from these three wells. Water samples from Extraction Wells EW-6, EW-15, and EW-22 and the monitoring wells sampled were analyzed using EPA Test Method 8015 for TPH and EPA Test Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). Extraction Wells EW-6, EW-15, and EW-22 are in areas where soil boring data indicated the continued presence of petroleum hydrocarbons at concentrations in excess of 100 ppm total petroleum hydrocarbons (TPH). Microbial enumeration was performed on water from Extraction Well EW-21.

Soil samples were collected and analyzed for petroleum hydrocarbons and volatile organic constituents to assess the progress of soil treatment and to further characterize chemicals in site soils. On May 14 through 16, 1990, ten confirmation borings, designated BC-26 through BC-35, were drilled and sampled (Plate 1). Drilling was performed by Bayland Drilling of Suisin, California, using a CME-55 hollow-stem auger rig. An HLA geologist supervised the drilling; performed health and safety monitoring; and collected samples for lithological characterization, field screening of volatile organic compounds (VOCs), and chemical analyses. Soils were logged using the Unified Classification System (USCS). Field screening for VOCs was performed using a portable Century flame ionization organic vapor analyzer (OVA).

For Borings BC-26, BC-28, and BC-30 through BC-35, which are located within the soil treatment zone, soil samples were collected for analysis as discrete samples and as vertical composites. Soil samples from these borings were collected at 1.5-foot intervals starting from approximately 22.5 to 25.5 feet below ground surface (bgs) to the total depth of the borings (approximately 35 feet bgs) using a 1.5-foot long modified California split-barrel sampler lined with three 6-inch long 2.5-inch diameter stainless steel tubes. This sampling scheme provided a continuously sampled interval through the soil treatment zone. The bottom tube of each sample drive was sealed on both ends with aluminum foil, plastic end caps, and electrician's tape, labeled, and placed in an ice chest for cool storage. Soil in the second tube was screened in the field for VOCs using an OVA and checked for the presence of hydrocarbon odors and evidence of staining. The remaining tube of soil was used for lithological logging. Borings BC-27 and BC-29 were located outside the soil treatment zone, to confirm the absence of hydrocarbons in these areas; discrete and vertical composite samples from these borings were not collected.

Drilling and soil sampling equipment was decontaminated prior to and after use according to standard HLA protocol. HLA employees performing field work were safety trained and used Level D protective equipment. Soil cuttings were stockpiled on site.

Soil samples were submitted to Pace Laboratories, Inc., of Novato, California under chain of custody procedures for chemical analysis. Two samples (one discrete sample and one composite from four sample depths) from each boring, except Borings BC-27 and BC-29, were analyzed for TPH calibrated as gasoline and for BTEX using EPA Test Methods 8015 (modified) and 8020, respectively.

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 March, April, and May are presented in Tables 1 and 2.

Summary

From February 27 to May 21, when the injection system was shut off, the total flow from all injection operations was 2,628,878 gallons and the total flow from all extraction operations during that period was 2,649,902 gallons. The total extraction flow exceeded the total injection/infiltration flow by about 21,024 gallons. An additional 249,480 gallons were extracted following injection system shut down on May 21 and prior to extraction system shut down on May 30.

March

From February 27 to April 1, the total flow rate for all injection wells was about 18.39 gallons per minute (gpm). The average flow rate into Basins BA-1 to BA-7 was about 2.72 gpm; the average flow rate into Basins BA-8 and BA-9 was about 0.50 gpm, and into BA-10 about 0.82 gpm (Table 1). 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 22.42 gpm.

From February 27 to April 1, the total flow rate for all extraction wells was 23.75 gpm. The flow rate for Wells EW-1 through EW-20 was about 23.05 gpm, and for Well EW-21 and Well EW-22 was about 0.70 gpm (Table 2). The total of extraction rates exceeded the total of injection/infiltration rates by about 1.33 gpm during this period.

April

From April 1 to April 30, the total flow rate for all injection wells was about 17.90 gallons per minute (gpm). The average flow rate into Basins BA-1 to BA-7 was about 3.19 gpm; the average flow rate into Basins BA-8 and BA-9 was about 0.51 gpm and into BA-10 about 0.64 gpm (Table 1). Total flow into all injection wells and infiltration basins, calculated as a monthly average, was about 22.24 gpm.

From April 1 to April 30, the total flow rate for all extraction wells was 22.49 gpm. The flow rate for Wells EW-1 through EW-20 was about 21.82 gpm, and for Wells EW-21 and EW-22 was about 0.67 gpm (Table 2). The total of extraction rates exceeded the total of injection/infiltration rates by about 0.25 gpm during this period.

May

From April 30 to May 21, the total flow rate for all injection wells was about 15.59 gallons per minute (gpm). The average flow rate into Basins BA-1 to BA-7 was about 4.20 gpm; the average flow rate into Basins BA-8 and BA-9 was about 0.55 gpm and into BA-10 about 0.65 gpm (Table 1). Total flow into all injection wells and infiltration basins, calculated as an average from April 30 to May 21, was about 20.99 gpm. The injection system was shut off on May 21.

From April 30 to May 30, the total flow rate for all extraction wells was 19.25 gpm. The flow rate for Wells EW-1 through EW-20 was about 18.65 gpm, and for Wells EW-21 and EW-22 was about 0.59 gpm (Table 2). The total of injection/infiltration rates exceeded the total of extraction rates by about 1.74 gpm during the period from April 30 to May 21, when the injection system was shut off; extraction system operation continued until May 30.

Water Levels

Table 3 presents measurements of depth to water in monitoring wells and calculated water-level elevations from March 1989 to June 1990. Groundwater elevations on May 30, 1990 are shown on Plate 2 and represent conditions at shutdown, approximately 452 days after system startup.

4.2 Distribution of Inorganic Constituents and Microbial Populations in Groundwater

Tables 4 and 5 present the inorganic chemical and microbiological analysis results for the bioremediation treatment system from startup through May 1990.

4.3 Distribution of Petroleum Hydrocarbons in Groundwater

Results of analyses of groundwater samples for TPH as gasoline and benzene, toluene, ethylbenzene and xylenes are presented in Table 6. Laboratory data sheets for all organic analyses performed this quarter are presented in Appendix A. Results of analyses of samples collected from selected wells during April and May monitoring rounds are presented on Plate 3.

Based on comparison of March and May data, reported TPH values for samples from Monitoring Wells MW-7 and MW-19 increased during the quarter; BTEX concentration changes during the quarter were variable at these two wells. Reported TPH and BTEX values for the other three monitoring wells were stable or declining during the quarter. The highest TPH and BTEX values for samples from Monitoring Wells MW-12 and MW-20 were reported in April. Petroleum hydrocarbons as gasoline and BTEX were not detected during the May round at MW-18 and MW-20; only toluene was detected at MW-12. For samples collected in May, benzene was detected at one well, MW-19.

Reported TPH values for samples from Extraction Wells EW-6 and EW-22 declined during the quarter; TPH concentrations in samples from Extraction Well EW-15 increased.

4.4 Soil Analysis

Lithologic characterization of soils from confirmation borings indicated geologic materials similar to those observed and characterized during previous soil boring and well installation activities at the site, as described in *HLA, 1988* and *1989b*. Predominantly brown and yellowish brown silty clay (CL), silty sands (SM), poorly graded sands (SP), and clayey sands (SC) were encountered to the total depths of the borings.

Results of OVA headspace and laboratory analysis of soil samples from the confirmation borings are presented in Table 7. Locations of the confirmation borings are shown on Plate 1. Laboratory data sheets for soil samples are presented in Appendix B.

Of the seventeen soil samples analyzed from the confirmation borings, only two had TPH concentrations greater than 1,000 milligrams per kilogram (mg/kg); six samples had TPH concentrations ranging between 100 and 1,000 mg/kg; nine samples had TPH concentrations less than 100 mg/kg. The highest measured TPH concentration was 6,700 mg/kg in the 24.5 to 25-foot sample from BC-35. Analysis of a sample from the opposite end of the sample tube showed TPH at 540 mg/kg, suggesting that the presence of residual petroleum hydrocarbons in soils is localized.

BTEX compounds were detected in confirmation boring soil samples. The discrete sample from Boring BC-35 which showed 6,700 mg/kg TPH, showed the

maximum observed concentrations of benzene, toluene, ethylbenzene, and xylenes at 18 mg/kg benzene, 420 mg/kg toluene, 140 mg/kg ethylbenzene, and 710 mg/kg xylenes.

5.0 ACTIVITIES PLANNED JUNE THROUGH AUGUST 1990

The biotreatment system will be demobilized in June. The start of excavation is scheduled for July. Dewatering wells will be installed during the early stages of excavation. Developers of the PRP project anticipate activation of dewatering wells approximately six weeks after the start of excavation.

6.0 REFERENCES

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Table 1. Injection Well and Infiltration Basin Flow Rates
March 1990

Injection Well Flow Rates

Meter No.	01-Apr-90 Totalizer Reading	27-Feb-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
IW-1	1705909	1628551	47520	1.63
IW-2	1657964	1558923	47520	2.08
IW-3	1350226	1318933	47520	0.66
IW-4	1584401	1544246	47520	0.85
IW-5	534407	513677	47520	0.44
IW-6	744108	721950	47520	0.47
IW-7	1838480	1748470	47520	1.89
IW-8	595095	572578	47520	0.47
IW-9	912621	836894	47520	1.59
IW-10	0	0	47520	0.00
IW-11	0	0	47520	0.00
IW-12	540735	393933	47520	3.09
IW-13	403922	298365	47520	2.22
IW-14	483347	340653	47520	3.00
Total (1-9,12-14)	12351215	11477173	47520	18.39
Total (10,11)	0	0	47520	0.00
Total (1-14)	12351215	11477173	47520	18.39

Note: Totalizer readings in gallons.

Infiltration Basin Flow Rates

Meter No.	01-Apr-90 Totalizer Reading	27-Feb-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
BA-1	274539	252730	47520	0.46
BA-2	167216	150357	47520	0.35
BA-3	226822	206909	47520	0.42
BA-4	148746	135169	47520	0.29
BA-5	468308	430453	47520	0.80
BA-6 **				
BA-7	191663	172364	47520	0.41
BA-8	185833	167081	47520	0.39
BA-9	63879	59090	47520	0.10
BA-10	173885	134997	47520	0.82
Total (1-7)	1477294	1347982	47520	2.72
Total (8,9)	249712	226171	47520	0.50
Total (1-10)	1900891	1709150	47520	4.03

Note: Totalizer readings in gallons.

**: Basin flow rate is included in BA-5

Table 1. Injection Well and Infiltration Basin Flow Rates
April 1990

Injection Well Flow Rates

Meter No.	30-Apr-90 Totalizer Reading	01-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
IW-1	1776260	1705909	41760	1.68
IW-2	1748673	1657964	41760	2.17
IW-3	1367258	1350226	41760	0.41
IW-4	1606736	1584401	41760	0.53
IW-5	545986	534407	41760	0.28
IW-6	757040	744108	41760	0.31
IW-7	1895935	1838480	41760	1.38
IW-8	616968	595095	41760	0.52
IW-9	1014291	912621	41760	2.43
IW-10	0	0	41760	0.00
IW-11	0	0	41760	0.00
IW-12	667018	540735	41760	3.02
IW-13	487461	403922	41760	2.00
IW-14	615150	483347	41760	3.16
Total (1-9,12-14)	13098776	12351215	41760	17.90
Total (10,11)	0	0	41760	0.00
Total (1-14)	13098776	12351215	41760	17.90

Note: Totalizer readings in gallons.

Infiltration Basin Flow Rates

Meter No.	30-Apr-90 Totalizer Reading	01-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
BA-1	295914	274539	41760	0.51
BA-2	182724	167216	41760	0.37
BA-3	244730	226822	41760	0.43
BA-4	161289	148746	41760	0.30
BA-5	516911	468308	41760	1.16
BA-6 **				
BA-7	208903	191663	41760	0.41
BA-8	202334	185833	41760	0.40
BA-9	68830	63879	41760	0.12
BA-10	200617	173885	41760	0.64
Total (1-7)	1610471	1477294	41760	3.19
Total (8,9)	271164	249712	41760	0.51
Total (1-10)	2082252	1900891	41760	4.34

Note: Totalizer readings in gallons.

**: Basin flow rate is included in BA-5

Table 1. Injection Well and Infiltration Basin Flow Rates
May 1990

Injection Well Flow Rates

Meter No.	21-May-90 Totalizer Reading	30-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
IW-1	1820571	1776260	30240	1.47
IW-2	1799626	1748673	30240	1.68
IW-3	1380544	1367258	30240	0.44
IW-4	1624437	1606736	30240	0.59
IW-5	554409	545986	30240	0.28
IW-6	766628	757040	30240	0.32
IW-7	1917534	1895935	30240	0.71
IW-8	634287	616968	30240	0.57
IW-9	1071587	1014291	30240	1.89
IW-10	0	0	30240	0.00
IW-11	0	0	30240	0.00
IW-12	758571	667018	30240	3.03
IW-13	550669	487461	30240	2.09
IW-14	691240	615150	30240	2.52
Total (1-9,12-14)	13570103	13098776	30240	15.59
Total (10,11)	0	0	30240	0.00
Total (1-14)	13570103	13098776	30240	15.59

Note: Totalizer readings in gallons.

Infiltration Basin Flow Rates

Meter No.	21-May-90 Totalizer Reading	30-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
BA-1	311165	295914	30240	0.50
BA-2	194470	182724	30240	0.39
BA-3	260158	244730	30240	0.51
BA-4	172655	161289	30240	0.38
BA-5	572937	516911	30240	1.85
BA-6 **				
BA-7	226198	208903	30240	0.57
BA-8	214709	202334	30240	0.41
BA-9	72949	68830	30240	0.14
BA-10	220186	200617	30240	0.65
Total (1-7)	1737583	1610471	30240	4.20
Total (8,9)	287658	271164	30240	0.55
Total (1-10)	2245427	2082252	30240	5.40

Note: Totalizer readings in gallons.

**: Basin flow rate is included in BA-5

Table 2. Extraction Well Flow Rates - March 1990

Meter No.	01-Apr-90 Totalizer Reading	27-Feb-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
EW-1	525087	474566	47520	1.06
EW-2	569960	519058	47520	1.07
EW-3	943613	859521	47520	1.77
EW-4	659342	607670	47520	1.09
EW-5	622415	590826	47520	0.66
EW-6	206822	198549	47520	0.17
EW-7	181384	171317	47520	0.21
EW-8	493719	447179	47520	0.98
EW-9	611147	562075	47520	1.03
EW-10	456491	423984	47520	0.68
EW-11	555420	498166	47520	1.20
EW-12	445714	407416	47520	0.81
EW-13	447015	410674	47520	0.76
EW-14	503158	469879	47520	0.70
EW-15	873955	804032	47520	1.47
EW-16	1356082	1239883	47520	2.45
EW-17	1229844	1118736	47520	2.34
EW-18	1214491	1100216	47520	2.40
EW-19	874833	812808	47520	1.31
EW-20	456111	414810	47520	0.87
EW-21	175409	159387	47520	0.34
EW-22	119057	101716	47520	0.36
Total (1-20)	13226603	12131365	47520	23.05
Total (21-22)	294466	261103	47520	0.70
Total (1-22)	13521069	12392468	47520	23.75

Note: Totalizer readings in gallons.

Table 2. Extraction Well Flow Rates - April 1990

Meter No.	30-Apr-90 Totalizer Reading	01-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
EW-1	573920	525087	41760	1.17
EW-2	606090	569960	41760	0.87
EW-3	987893	943613	38880	1.14
EW-4	684488	659342	25920	0.97
EW-5	641704	622415	36000	0.54
EW-6	217170	206822	41760	0.25
EW-7	195374	181384	41760	0.34
EW-8	534314	493719	41760	0.97
EW-9	650615	611147	41760	0.95
EW-10	489007	456491	41760	0.78
EW-11	605435	555420	41760	1.20
EW-12	482219	445714	41760	0.87
EW-13	473284	447015	41760	0.63
EW-14	532844	503158	41760	0.71
EW-15	946994	873955	41760	1.75
EW-16	1456113	1356082	41760	2.40
EW-17	1324491	1229844	41760	2.27
EW-18	1294677	1214491	36000	2.23
EW-19	911275	874833	38880	0.94
EW-20	492661	456111	41760	0.88
EW-21	191060	175409	41760	0.37
EW-22	131336	119057	41760	0.29
Total (1-20)	14100568	13226603		21.82
Total (21-22)	322396	294466		0.67
Total (1-22)	14422964	13521069		22.49

Note: Totalizer readings in gallons.

Table 2. Extraction Well Flow Rates - May 1990

Harding Lawson Associates

Meter No.	30-May-90 Totalizer Reading	30-Apr-90 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
EW-1	612745	573920	43200	0.90
EW-2	642957	606090	43200	0.85
EW-3	1065727	987893	43200	1.80
EW-4	724079	684488	43200	0.92
EW-5	668642	641704	43200	0.62
EW-6	224414	217170	43200	0.17
EW-7	205489	195374	43200	0.23
EW-8	568923	534314	43200	0.80
EW-9	687923	650615	43200	0.86
EW-10	513453	489007	43200	0.57
EW-11	646445	605435	43200	0.95
EW-12	514605	482219	43200	0.75
EW-13	490103	473284	43200	0.39
EW-14	555560	532844	43200	0.53
EW-15	1007151	946994	43200	1.39
EW-16	1518358	1456113	43200	1.44
EW-17	1390800	1324491	41760	1.59
EW-18	1353429	1294677	30240	1.94
EW-19	967584	911275	43200	1.30
EW-20	517801	492661	38880	0.65
EW-21	205093	191060	43200	0.32
EW-22	142837	131336	43200	0.27
Total (1-20)	14876188	14100568		18.65
Total (21-22)	347930	322396		0.59
Total (1-22)	15224118	14422964		19.25

Note: Totalizer readings in gallons.

Table 3. Water Level Elevations - March 1989 through June 1990

Well No.	MW-2		MW-3		MW-5		MW-6		MW-7		MW-8		MW-9		MW-10	
	GROUND SURFACE 40.05	TOP OF CASING 39.55	GROUND SURFACE 39.02	TOP OF CASING 38.35	GROUND SURFACE 38.45	TOP OF CASING 37.86	GROUND SURFACE 39.95	TOP OF CASING 39.59	GROUND SURFACE 39.35	TOP OF CASING 39.10	GROUND SURFACE 40.63	TOP OF CASING 40.47	GROUND SURFACE 38.65	TOP OF CASING 38.50	GROUND SURFACE 36.74	TOP OF CASING 36.35
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	Depth to Water	Elevation
02-Mar-89	-	-	-		-	-	-	-	-	-	-	-	30.05	8.45	27.23	9.12
11-Mar-89	-	-	-		-	-	-	-	-	-	-	-	23.06	15.44	23.59	12.76
18-Mar-89	-	-	32.20	6.15	32.01	5.85	-	-	31.52	7.58	-	-	22.45	16.05	23.17	13.18
25-Mar-89	-	-	27.76	10.59	27.53	10.33	-	-	30.08	9.02	-	-	22.62	15.88	23.19	13.16
30-Mar-89	-	-	-	-	-	-	-	-	-	-	-	-	23.00	15.50	23.56	12.79
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	23.34	13.01
08-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	23.12	15.38	23.50	12.85
11-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	23.37	15.13	23.64	12.71
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	23.41	12.94
25-Apr-89	-	-	-	-	-	-	-	-	-	-	-	-	22.80	15.70	23.39	12.96
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	23.54	12.81
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	23.86	12.49
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	23.63	12.72
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	23.54	12.81
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	24.54	11.81
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	23.22	13.13
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	22.66	13.69
19-Jun-89	-	-	-	-	-	-	-	-	-	-	-	-	20.31	18.19	22.74	13.61
28-Jun-89	-	-	27.88	10.47	25.39	12.47	-	-	-	-	-	-	21.26	17.24	22.66	13.69
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	23.41	12.94
21-Jul-89	-	-	24.73	13.62	25.44	12.42	-	-	27.60	11.50	-	-	21.39	17.11	23.04	13.31
28-Jul-89	-	-	-	-	-	-	-	-	-	-	-	-	21.36	17.14	23.03	13.32
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	23.19	13.16
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	21.77	14.58
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	22.86	13.49
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	23.20	13.15
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	23.78	12.57
28-Sep-89	-	-	-	-	-	-	-	-	-	-	-	-	22.37	16.13	22.40	13.95
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	21.60	14.75
01-Nov-89	26.49	13.06	25.07	13.28	24.55	13.31	26.12	13.47	26.96	12.14	28.14	12.33	22.33	16.17	22.57	13.78
20-Nov-89	26.28	13.27	24.91	13.44	-	-	25.96	13.63	26.80	12.30	28.00	12.47	22.46	16.04	22.30	14.05
04-Dec-89	26.18	13.37	24.76	13.59	24.04	13.82	25.88	13.71	26.87	12.23	27.91	12.56	22.22	16.28	20.89	15.46
21-Dec-89	26.40	13.15	26.05	12.30	24.55	13.31	25.10	14.49	26.93	12.17	27.98	12.49	22.98	15.52	22.07	14.28
02-Jan-90	26.40	13.15	25.08	13.27	24.58	13.28	25.00	14.59	26.96	12.14	27.91	12.56	23.38	15.12	22.32	14.03
31-Jan-90	26.04	13.51	24.74	13.61	24.29	13.57	25.80	13.79	26.61	12.49	27.70	12.77	23.18	15.32	21.76	14.59
27-Feb-90	26.02	13.53	24.68	13.67	23.99	13.87	25.69	13.90	26.54	12.56	27.59	12.88	23.12	15.38	21.65	14.70
11-Apr-90	25.89	13.66	24.57	13.78	24.01	13.85	25.62	13.97	26.51	12.59	27.46	13.01	22.58	15.92	20.33	16.02
18-May-90	25.84	13.71	24.51	13.84	24.05	13.81	25.63	13.96	25.94	13.16	27.35	13.12	23.28	15.22	20.52	15.83
24-May-90	-	-	-	-	-	-	-	-	26.46	12.64	-	-	25.04	13.46	22.37	13.98
30-May-90	25.86	13.69	24.67	13.68	24.51	13.35	25.56	14.03	26.69	12.41	27.34	13.13	25.93	12.57	23.24	13.11
06-Jun-90	25.78	13.77	24.50	13.85	23.86	14.00	25.55	14.04	26.11	12.99	27.39	13.08	24.14	14.36	21.68	14.67

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

Table 3. Water Level Elevations - March 1989 through June 1990

Well No.	MW-11		MW-12		MW-13		MW-14		MW-15		MW-16		MW-17		MW-18	
	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	GROUND SURFACE	TOP OF CASING
	37.98	37.55	37.70	37.00	39.79	40.77	39.27	40.26	39.69	40.73	39.55	40.53	39.16	40.16	36.52	35.88
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	Depth to Water	Elevation
02-Mar-89	28.98	8.57	28.46	8.54	32.79	7.98	32.28	7.98	32.40	8.33	32.50	8.03	-	-	26.66	9.22
11-Mar-89	28.93	8.62	28.22	8.78	30.12	10.65	28.64	11.62	27.10	13.63	25.64	14.89	23.45	16.71	26.28	9.60
18-Mar-89	27.79	9.76	27.85	9.15	30.29	10.48	28.20	12.06	26.62	14.11	24.74	15.79	23.35	16.81	26.18	9.70
25-Mar-89	28.10	9.45	27.47	9.53	29.76	11.01	27.79	12.47	26.28	14.45	24.88	15.65	23.35	16.81	25.70	10.18
30-Mar-89	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	28.61	8.94	28.44	8.56	29.60	11.17	27.84	12.42	26.84	13.89	25.53	15.00	24.18	15.98	26.10	9.78
08-Apr-89	29.31	8.24	-	-	30.49	10.28	27.81	12.45	26.81	13.92	25.74	14.79	24.28	15.88	25.82	10.06
11-Apr-89	29.45	8.10	-	-	30.62	10.15	28.04	12.22	27.21	13.52	26.24	14.29	24.83	15.33	-	-
12-Apr-89	-	-	28.64	8.36	-	-	-	-	-	-	-	-	-	-	26.16	9.72
18-Apr-89	-	-	-	-	-	-	-	-	27.08	13.65	26.02	14.51	24.64	15.52	-	-
19-Apr-89	26.77	10.78	26.98	10.02	30.19	10.58	27.13	13.13	-	-	-	-	-	-	25.89	9.99
25-Apr-89	29.18	8.37	27.47	9.53	30.40	10.37	27.75	12.51	27.01	13.72	25.97	14.56	24.57	15.59	27.91	7.97
02-May-89	28.44	9.11	27.36	9.64	29.42	11.35	27.50	12.76	25.91	14.82	24.42	16.11	22.71	17.45	25.76	10.12
09-May-89	27.09	10.46	26.85	10.15	29.86	10.91	27.38	12.88	26.63	14.10	25.37	15.16	23.89	16.27	25.38	10.50
17-May-89	28.88	8.67	27.63	9.37	29.10	11.67	27.73	12.53	27.25	13.48	26.23	14.30	24.85	15.31	25.59	10.29
22-May-89	28.56	8.99	27.62	9.38	30.24	10.53	27.95	12.31	27.25	13.48	26.34	14.19	25.28	14.88	25.27	10.61
31-May-89	29.18	8.37	28.16	8.84	30.34	10.43	27.99	12.27	27.42	13.31	26.31	14.22	24.91	15.25	26.04	9.84
05-Jun-89	28.92	8.63	28.08	8.92	29.88	10.89	26.18	14.08	25.83	14.90	24.67	15.86	22.62	17.54	25.98	9.90
14-Jun-89	28.66	8.89	27.97	9.03	29.31	11.46	26.54	13.72	24.54	16.19	24.73	15.80	20.44	19.72	25.89	9.99
19-Jun-89	28.20	9.35	27.47	9.53	29.06	11.71	26.21	14.05	24.11	16.62	22.06	18.47	19.72	20.44	25.91	9.97
28-Jun-89	28.57	8.98	27.83	9.17	29.47	11.30	26.65	13.61	24.97	15.76	23.01	17.52	20.89	19.27	25.76	10.12
05-Jul-89	27.61	9.94	27.10	9.90	29.15	11.62	26.78	13.48	25.23	15.50	23.52	17.01	21.56	18.60	25.68	10.20
21-Jul-89	27.58	9.97	27.03	9.97	28.71	12.06	26.62	13.64	25.19	15.54	23.42	17.11	21.52	18.64	25.58	10.30
28-Jul-89	27.48	10.07	-	-	28.61	12.16	26.38	13.88	24.32	16.41	22.29	18.24	20.25	19.91	-	-
01-Aug-89	26.64	10.91	26.35	10.65	28.74	12.03	26.43	13.83	24.78	15.95	22.94	17.59	21.15	19.01	25.32	10.56
09-Aug-89	27.17	10.38	26.85	10.15	29.21	11.56	26.68	13.58	25.28	15.45	23.45	17.08	21.59	18.57	25.31	10.57
15-Aug-89	27.16	10.39	26.98	10.02	29.42	11.35	26.97	13.29	25.85	14.88	24.07	16.46	21.21	18.95	25.49	10.39
30-Aug-89	26.87	10.68	26.44	10.56	29.17	11.60	27.42	12.84	26.24	14.49	24.86	15.67	23.24	16.92	25.37	10.51
06-Sep-89	26.92	10.63	26.33	10.67	28.88	11.89	27.17	13.09	26.00	14.73	24.45	16.08	22.75	17.41	25.24	10.64
28-Sep-89	28.26	9.29	-	-	29.83	10.94	26.75	13.51	26.28	14.45	24.93	15.60	23.34	16.82	-	-
03-Oct-89	27.30	10.25	26.85	10.15	29.53	11.24	26.85	13.41	26.50	14.23	25.19	15.34	23.65	16.51	25.38	10.50
01-Nov-89	28.12	9.43	27.28	9.72	29.27	11.50	26.97	13.29	26.55	14.18	25.39	15.14	23.98	16.18	25.68	10.20
20-Nov-89	27.43	10.12	26.73	10.27	29.18	11.59	26.68	13.58	26.45	14.28	25.31	15.22	23.91	16.25	25.46	10.42
04-Dec-89	27.59	9.96	26.82	10.18	29.16	11.61	26.20	14.06	25.92	14.81	24.83	15.70	23.31	16.85	25.45	10.43
21-Dec-89	26.38	11.17	26.36	10.64	29.15	11.62	26.84	13.42	26.33	14.40	25.09	15.44	23.53	16.63	25.32	10.56
02-Jan-90	26.63	10.92	26.79	10.21	29.32	11.45	26.94	13.32	26.15	14.58	25.22	15.31	23.85	16.31	25.37	10.51
31-Jan-90	26.33	11.22	26.22	10.78	29.09	11.68	26.80	13.46	26.42	14.31	25.25	15.28	23.71	16.45	25.10	10.78
27-Feb-90	26.39	11.16	26.37	10.63	29.29	11.48	26.89	13.37	26.78	13.95	25.72	14.81	24.29	15.87	25.19	10.69
11-Apr-90	26.37	11.18	26.32	10.68	29.20	11.57	26.60	13.66	-	-	-	-	-	-	25.09	10.79
18-May-90	24.89	12.66	24.90	12.10	27.96	12.81	26.71	13.55	26.58	14.15	25.78	14.75	24.69	15.47	24.62	11.26
24-May-90	27.65	9.90	26.75	10.25	30.18	10.59	27.68	12.58	28.67	12.06	28.35	12.18	27.78	12.38	25.12	10.76
30-May-90	27.96	9.59	27.07	9.93	30.48	10.29	27.92	12.34	29.00	11.73	28.91	11.62	28.54	11.62	25.33	10.55
06-Jun-90	25.24	12.31	24.92	12.08	27.98	12.79	26.38	13.88	27.11	13.62	26.84	13.69	26.55	13.61	24.78	11.10

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

Table 3. Water Level Elevations - March 1989 through June 1990

Well No.	MW-19		MW-20	
	GROUND SURFACE 37.15	TOP OF CASING 36.62	GROUND SURFACE 38.32	TOP OF CASING 37.86
DATE	Depth to Water	Elevation	Depth to Water	Elevation
02-Mar-89	-	-	-	-
11-Mar-89	-	-	-	-
18-Mar-89	-	-	-	-
25-Mar-89	-	-	-	-
30-Mar-89	-	-	-	-
04-Apr-89	-	-	-	-
08-Apr-89	-	-	-	-
11-Apr-89	-	-	-	-
12-Apr-89	-	-	-	-
18-Apr-89	-	-	-	-
19-Apr-89	-	-	-	-
25-Apr-89	-	-	-	-
02-May-89	-	-	-	-
09-May-89	-	-	-	-
17-May-89	-	-	-	-
22-May-89	-	-	-	-
31-May-89	-	-	-	-
05-Jun-89	-	-	-	-
14-Jun-89	-	-	-	-
19-Jun-89	-	-	-	-
28-Jun-89	-	-	-	-
05-Jul-89	-	-	-	-
21-Jul-89	-	-	-	-
28-Jul-89	-	-	-	-
01-Aug-89	-	-	-	-
09-Aug-89	-	-	-	-
15-Aug-89	-	-	-	-
30-Aug-89	-	-	-	-
06-Sep-89	-	-	-	-
28-Sep-89	-	-	-	-
03-Oct-89	-	-	-	-
01-Nov-89	-	-	-	-
20-Nov-89	-	-	-	-
04-Dec-89	-	-	-	-
21-Dec-89	22.32	14.30	26.63	11.23
02-Jan-90	22.60	14.02	26.80	11.06
31-Jan-90	22.20	14.42	26.44	11.42
27-Feb-90	22.04	14.58	26.45	11.41
11-Apr-90	21.23	15.39	26.44	11.42
18-May-90	21.38	15.24	25.61	12.25
24-May-90	22.28	14.34	26.31	11.55
30-May-90	22.91	13.71	26.68	11.18
06-Jun-90	22.13	14.49	25.90	11.96

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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater 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/
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
	02-Nov-89	59.4	24.0	16.2	NT	ND	NT	NT
	04-Dec-89	54.2	21.3	10.2	NT	ND	NT	NT
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	04-Jan-90	58.0	22.4	NT	NT	0.7	NT	NT
	22-Jan-90	NT	NT	9.4	NT	NT	NT	NT
	01-Feb-90	52.4	19.2	NT	NT	ND	NT	NT
	08-Feb-90	NT	NT	11.2	NT	NT	NT	NT
	15-Feb-90	NT	NT	17.1	NT	NT	NT	NT
	22-Feb-90	NT	NT	13.0	NT	NT	NT	NT
	01-Mar-90	72.9	19.2	9.9	NT	ND	NT	NT
	16-Mar-90	NT	NT	5.2	NT	NT	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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	MCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	29-Sep-89	NT	NT	>20.0	NT	NT	NT	NT
	05-Oct-89	NT	NT	>20.0	NT	NT	NT	NT
	04-Dec-89	NT	NT	19.0	NT	NT	NT	NT
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	02-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	01-Mar-90	NT	NT	>20.0	NT	NT	NT	NT
	16-Mar-90	NT	NT	15.5	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
	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
	04-Dec-89	NT	NT	13.5	NT	NT	NT	NT
	21-Dec-89	NT	NT	15.2	NT	NT	NT	NT
	02-Jan-90	NT	NT	11.1	NT	NT	NT	NT
	22-Jan-90	NT	NT	13.4	NT	NT	NT	NT
	08-Feb-90	NT	NT	14.1	NT	NT	NT	NT
	15-Feb-90	NT	NT	12.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	12.7	NT	NT	NT	NT
	01-Mar-90	NT	NT	11.7	NT	NT	NT	NT
	16-Mar-90	NT	NT	14.4	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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	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
	23-Oct-89	70.4	17.0	9.1	NT	1.2	2.9E+5	5.4E+3
	02-Nov-89	69.5	18.0	4.7	NT	0.9	1.0E+6	2.3E+2
	04-Dec-89	78.5	20.3	>20.0	NT	1.6	NT	NT
	21-Dec-89	NT	NT	4.1	NT	NT	NT	NT
	04-Jan-90	72.9	16.5	8.4	NT	1.8	NT	NT
	22-Jan-90	NT	NT	3.0	NT	NT	NT	NT
	01-Feb-90	58.0	10.1	NT	NT	1.6	2.1E+5	9.2E+4
	08-Feb-90	NT	NT	6.2	NT	NT	NT	NT
	15-Feb-90	NT	NT	3.2	NT	NT	NT	NT
	22-Feb-90	NT	NT	4.1	NT	NT	NT	NT
	01-Mar-90	56.1	9.9	4.6	NT	1.2	NT	NT
	16-Mar-90	NT	NT	>20.0	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
	04-Dec-89	NT	NT	19.4	NT	NT	NT	NT
	21-Dec-89	NT	NT	12.0	NT	NT	NT	NT
	02-Jan-90	NT	NT	11.2	NT	NT	NT	NT
	22-Jan-90	NT	NT	12.9	NT	NT	NT	NT
	08-Feb-90	NT	NT	15.1	NT	NT	NT	NT
	15-Feb-90	NT	NT	12.5	NT	NT	NT	NT

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	22-Feb-90	NT	NT	12.4	NT	NT	NT	NT
	01-Mar-90	NT	NT	12.5	NT	NT	NT	NT
	16-Mar-90	NT	NT	6.8	NT	NT	NT	NT
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
	02-Nov-89	34.8	11.0	2.6	NT	ND	1.6E+7	3.5E+4
	20-Nov-89	33.7	6.7	2.0	NT	0.5	9.5E+6	2.2E+4
	04-Dec-89	29.9	6.4	1.1	NT	0.5	3.8E+6	7.9E+3
	21-Dec-89	2.1	8.0	2.9	NT	0.9	1.5E+5	4.8E+3
	04-Jan-90	2.4	8.8	2.6	NT	1.1	1.9E+5	7.9E+3
	22-Jan-90	NT	NT	1.3	NT	NT	NT	NT
	01-Feb-90	4.3	4.5	NT	NT	1.1	5.7E+6	9.2E+4
	08-Feb-90	NT	NT	3.3	NT	NT	NT	NT
	15-Feb-90	NT	NT	1.5	NT	NT	NT	NT
	22-Feb-90	NT	NT	NT	NT	NT	NT	NT
	01-Mar-90	8.0	4.8	2.2	NT	0.9	NT	NT
	16-Mar-90	NT	NT	3.3	NT	NT	NT	NT
	11-Apr-90	40.2	13.6	NT	NT	1.1	NT	NT
	19-May-90	15.0	10.7	NT	NT	ND	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	2.2E+6	7.9E+3
	23-Oct-89	26.9	4.8	0.9	NT	ND	3.5E+5	3.5E+3
	02-Nov-89	17.6	3.5	1.5	NT	ND	1.4E+6	1.7E+4
	20-Nov-89	29.9	1.6	2.9	NT	ND	4.5E+6	3.5E+4
	04-Dec-89	36.5	2.4	4.5	NT	ND	9.3E+6	1.3E+4
	21-Dec-89	41.5	1.6	0.5	NT	ND	5.2E+6	3.5E+4
	04-Jan-90	7.3	4.3	NT	ND	ND	2.2E+6	1.4E+4
	22-Jan-90	NT	NT	3.9	NT	NT	NT	NT

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	01-Feb-90	51.4	5.1	NT	NT	ND	3.7E+6	1.3E+4
	08-Feb-90	NT	NT	3.7	NT	NT	NT	NT
	15-Feb-90	NT	NT	2.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	2.7	NT	NT	NT	NT
	01-Mar-90	37.4	4.3	2.3	NT	ND	NT	NT
	16-Mar-90	NT	NT	1.8	NT	NT	NT	NT
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	6.3E+6	3.5E+4
	23-Oct-89	46.2	22.0	10.8	NT	1.9	1.2E+6	2.2E+4
	02-Nov-89	40.7	19.6	9.7	NT	1.5	3.8E+6	1.1E+4
	20-Nov-89	39.3	18.1	7.4	NT	2.9	4.1E+6	2.2E+4
	04-Dec-89	28.1	11.2	1.1	NT	5.6	7.1E+6	9.2E+4
	21-Dec-89	43.9	17.1	12.3	NT	2.9	3.7E+6	5.4E+4
	04-Jan-90	45.8	18.1	11.8	NT	4.0	2.7E+6	2.4E+5
	22-Jan-90	NT	NT	3.9	NT	NT	NT	NT
	01-Feb-90	55.2	19.7	NT	NT	3.5	2.4E+5	2.4E+3
	08-Feb-90	NT	NT	10.4	NT	NT	NT	NT
	15-Feb-90	NT	NT	NT	NT	NT	NT	NT
	22-Feb-90	NT	NT	12.2	NT	NT	NT	NT
	01-Mar-90	54.2	19.2	11.2	NT	3.8	NT	NT
	16-Mar-90	NT	NT	10.2	NT	NT	NT	NT
EW-9								
	23-May-89	NT	NT	11.9	NT	NT	NT	NT
	31-May-89	NT	NT	17.2	NT	NT	NT	NT

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	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
	04-Dec-89	40.2	16.5	9.3	NT	2.6	NT	NT
	21-Dec-89	50.5	18.1	19.1	NT	3.6	NT	NT
	04-Jan-90	48.6	19.7	13.8	NT	3.8	NT	NT
	22-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	01-Feb-90	49.6	17.6	NT	NT	2.8	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	13.8	NT	NT	NT	NT
	22-Feb-90	NT	NT	14.4	NT	NT	NT	NT
	01-Mar-90	50.5	19.7	15.5	NT	2.8	NT	NT
	16-Mar-90	NT	NT	>20.0	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	2.6E+7	2.2E+4
	29-Sep-89	NT	NT	7.2	NT	NT	NT	NT
	05-Oct-89	56.8	21.5	4.5	NT	NT	3.5E+6	1.4E+4
	23-Oct-89	55.0	21.6	14.9	NT	ND	2.8E+6	1.8E+4
	02-Nov-89	51.7	22.6	15.8	NT	0.6	NT	NT
	20-Nov-89	46.8	21.3	10.5	NT	1.2	7.6E+6	1.4E+4
	04-Dec-89	NT	NT	14.7	NT	NT	NT	NT
	21-Dec-89	46.8	17.1	15.4	NT	2.3	5.6E+6	9.2E+4
	02-Jan-90	NT	NT	9.3	NT	NT	NT	NT
	22-Jan-90	NT	NT	11.6	NT	NT	NT	NT
	08-Feb-90	NT	NT	12.2	NT	NT	NT	NT
	15-Feb-90	NT	NT	10.9	NT	NT	NT	NT
	22-Feb-90	NT	NT	18.6	NT	NT	NT	NT
	01-Mar-90	NT	NT	9.4	NT	NT	NT	NT
	16-Mar-90	NT	NT	14.5	NT	NT	NT	NT
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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	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
	23-Oct-89	57.6	17.0	16.1	NT	ND	NT	NT
	20-Nov-89	43.9	20.8	18.8	NT	1.2	NT	NT
	04-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	21-Dec-89	NT	NT	>20.0	NT	ND	NT	NT
	02-Jan-90	NT	NT	>20.0	NT	ND	NT	NT
	22-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	01-Mar-90	NT	NT	>20.0	NT	NT	NT	NT
	16-Mar-90	NT	NT	>20.0	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
	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
	04-Dec-89	41.1	20.3	>20.0	NT	ND	NT	NT
	21-Dec-89	NT	NT	17.8	NT	NT	NT	NT
	04-Jan-90	48.6	17.1	15.6	NT	ND	6.6E+5	1.3E+4

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	22-Jan-90	NT	NT	18.6	NT	NT	NT	NT
	01-Feb-90	41.1	12.8	NT	NT	ND	7.4E+5	3.3E+3
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	15.4	NT	NT	NT	NT
	22-Feb-90	NT	NT	14.7	NT	NT	NT	NT
	01-Mar-90	42.1	16.0	11.1	NT	ND	NT	NT
	16-Mar-90	NT	NT	15.5	NT	NT	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
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	02-Jan-90	NT	NT	19.9	NT	NT	NT	NT
	22-Jan-90	NT	NT	8.1	NT	NT	NT	NT
	08-Feb-90	NT	NT	10.6	NT	NT	NT	NT
	15-Feb-90	NT	NT	9.2	NT	NT	NT	NT
	22-Feb-90	NT	NT	12.5	NT	NT	NT	NT
	01-Mar-90	NT	NT	10.3	NT	NT	NT	NT
	16-Mar-90	NT	NT	7.0	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	2.4+5

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	21-Dec-89	NT	NT	10.6	NT	NT	NT	NT
	02-Jan-90	NT	NT	18.1	NT	NT	NT	NT
	22-Jan-90	NT	NT	17.1	NT	NT	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	12.3	NT	NT	NT	NT
	22-Feb-90	NT	NT	15.0	NT	NT	NT	NT
	01-Mar-90	NT	NT	13.8	NT	NT	NT	NT
	16-Mar-90	NT	NT	8.1	NT	NT	NT	NT
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	5.4E+4
	23-Oct-89	52.1	39.0	>20.0	NT	6.1	7.6E+6	4.9E+4
	02-Nov-89	46.9	36.3	>20.0	NT	7.7	1.4E+6	1.3E+4
	20-Nov-89	51.4	29.3	>20.0	NT	7.0	7.0E+6	2.4E+4
	04-Dec-89	61.7	30.7	>20.0	NT	8.0	4.1E+5	2.4E+4
	21-Dec-89	68.3	29.3	16.9	NT	6.7	2.6E+6	2.8E+4
	04-Jan-90	80.4	30.4	17.1	NT	6.8	NT	NT
	22-Jan-90	NT	NT	18.2	NT	NT	NT	NT
	01-Feb-90	87.9	30.4	NT	NT	5.8	7.0E+4	2.4E+3
	08-Feb-90	NT	NT	13.2	NT	NT	NT	NT
	15-Feb-90	NT	NT	11.4	NT	NT	NT	NT
	22-Feb-90	NT	NT	19.4	NT	NT	NT	NT
	01-Mar-90	65.5	26.1	12.6	NT	4.4	3.6E+5	7.9E+3
	16-Mar-90	NT	NT	11.2	NT	NT	NT	NT
	11-Apr-90	56.1	26.7	NT	NT	3.6	NT	NT
	19-May-90	48.6	21.3	NT	NT	0.8	NT	NT
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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	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
	02-Nov-89	28.2	20.0	13.3	NT	2.2	NT	NT
	21-Dec-89	NT	NT	16.7	NT	NT	NT	NT
	02-Jan-90	NT	NT	19.2	NT	NT	NT	NT
	22-Jan-90	NT	NT	19.2	NT	NT	NT	NT
	08-Feb-90	NT	NT	14.8	NT	NT	NT	NT
	15-Feb-90	NT	NT	14.6	NT	NT	NT	NT
	22-Feb-90	NT	NT	19.9	NT	NT	NT	NT
	01-Mar-90	NT	NT	16.4	NT	NT	NT	NT
	16-Mar-90	NT	NT	18.7	NT	NT	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
	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
	21-Dec-89	NT	NT	19.3	NT	NT	NT	NT

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater 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/
	02-Jan-90	NT	NT	16.9	NT	NT	NT	NT
	22-Jan-90	NT	NT	17.1	NT	NT	NT	NT
	08-Feb-90	NT	NT	15.9	NT	NT	NT	NT
	15-Feb-90	NT	NT	13.9	NT	NT	NT	NT
	22-Feb-90	NT	NT	14.4	NT	NT	NT	NT
	01-Mar-90	NT	NT	19.3	NT	NT	NT	NT
	16-Mar-90	NT	NT	14.0	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
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	02-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Jan-90	NT	NT	18.0	NT	NT	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	14.3	NT	NT	NT	NT
	22-Feb-90	NT	NT	19.5	NT	NT	NT	NT
	01-Mar-90	NT	NT	19.0	NT	NT	NT	NT
	16-Mar-90	NT	NT	13.4	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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater 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/
	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
	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
	23-Oct-89	59.4	27.0	>20.0	NT	ND	NT	NT
	02-Nov-89	57.9	32.5	>20.0	NT	ND	NT	NT
	04-Dec-89	51.4	25.3	>20.0	NT	ND	NT	NT
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	04-Jan-90	54.2	20.3	>20.0	NT	0.9	NT	NT
	22-Jan-90	NT	NT	19.4	NT	NT	NT	NT
	02-Feb-90	60.8	20.3	NT	NT	1.2	NT	NT
	08-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	15-Feb-90	NT	NT	16.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	19.5	NT	NT	NT	NT
	01-Mar-90	65.5	21.9	18.0	NT	1.2	NT	NT
	16-Mar-90	NT	NT	9.5	NT	NT	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
	21-Dec-89	NT	NT	>20.0	NT	NT	NT	NT
	02-Jan-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Jan-90	NT	NT	19.5	NT	NT	NT	NT
	08-Feb-90	NT	NT	10.3	NT	NT	NT	NT
	15-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	22-Feb-90	NT	NT	>20.0	NT	NT	NT	NT
	01-Mar-90	NT	NT	13.7	NT	NT	NT	NT
	16-Mar-90	NT	NT	11.3	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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	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	NT	NT
	18-Sep-89	39.2	9.5	9.4	NT	ND	NT	NT
	29-Sep-89	NT	NT	7.9	NT	NT	NT	NT
	05-Oct-89	39.4	9.5	10.3	NT	ND	NT	NT
	23-Oct-89	48.0	9.1	13.8	NT	ND	NT	NT
	02-Nov-89	39.2	12.0	15.4	NT	ND	NT	NT
	20-Nov-89	40.2	10.9	12.4	NT	ND	NT	NT
	05-Dec-89	29.9	8.8	12.6	NT	ND	5.7E+5	1.1E+4
	21-Dec-89	25.2	7.5	5.8	NT	0.5	5.1E+5	2.2E+3
	04-Jan-90	27.1	6.9	6.7	NT	ND	2.8E+5	4.9E+3
	22-Jan-90	NT	NT	6.4	NT	NT	NT	NT
	01-Feb-90	23.4	6.7	NT	NT	ND	1.7E+5	2.4E+3
	08-Feb-90	NT	NT	7.6	NT	NT	NT	NT
	15-Feb-90	NT	NT	5.1	NT	NT	NT	NT
	22-Feb-90	NT	NT	3.5	NT	NT	NT	NT
	01-Mar-90	20.6	5.9	4.7	NT	ND	1.9E+5	2.2E+4
	16-Mar-90	NT	NT	4.4	NT	NT	NT	5.4E+4
EW-22								
	20-Nov-89	38.3	7.2	NT	NT	ND	NT	NT
	21-Dec-89	NT	NT	4.9	NT	NT	NT	NT
	02-Jan-90	21.5	4.0	4.5	NT	ND	NT	NT
	22-Jan-90	NT	NT	3.8	NT	NT	NT	NT
	01-Feb-90	9.4	5.1	NT	NT	1.2	9.4E+6	1.3E+4
	08-Feb-90	NT	NT	3.9	NT	NT	NT	NT
	15-Feb-90	NT	NT	4.3	NT	NT	NT	NT
	22-Feb-90	NT	NT	3.5	NT	NT	NT	NT
	01-Mar-90	11.2	3.2	2.9	NT	ND	9.0E+6	--
	16-Mar-90	NT	NT	2.1	NT	NT	NT	NT
	11-Apr-90	13.1	3.2	NT	NT	ND	NT	NT
	19-May-90	15.3	8.0	NT	NT	ND	NT	NT
Injection Composite								
	21-Mar-89	26.0	42.0	NT	NT	15.0	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

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from System Wells

WELL	DATE	NITRATE	PHOSPHATE	DISSOLVED OXYGEN	DISSOLVED IRON	AMMONIA	MICROBIAL ENUMERATION TC	HCU
LOD		0.5(ppm)	0.5(ppm)	0.1(ppm)	0.1(ppm)	0.5(ppm)	NA (CFU/ml)	NA (CFU/
	20-Jun-89	35.9	35.0	NT	NT	8.8	NT	NT
	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
	23-Oct-89	33.4	40.5	NT	NT	6.2	NT	NT
	02-Nov-89	18.7	39.0	NT	NT	7.3	NT	NT
	20-Nov-89	33.7	40.0	NT	NT	9.6	NT	NT
	04-Dec-89	27.1	36.0	NT	NT	8.7	NT	NT
	21-Dec-89	NT	NT	NT	NT	NT	NT	NT
	03-Jan-90	28.1	34.7	NT	NT	6.7	NT	NT
	01-Feb-90	21.5	36.8	NT	NT	5.5	NT	NT
	01-Mar-90	9.7	29.9	NT	NT	5.5	NT	NT
	16-Mar-90	7.7	29.3	NT	NT	5.3	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
	23-Oct-89	57.2	26.0	NT	NT	2.9	NT	NT
	02-Nov-89	NT	NT	NT	NT	NT	NT	NT
	20-Nov-89	46.8	21.9	NT	NT	2.2	NT	NT
	04-Dec-89	46.8	22.4	NT	NT	2.9	NT	NT
	21-Dec-89	51.4	21.3	NT	NT	2.1	NT	NT
	02-Jan-90	55.2	20.8	NT	NT	2.1	NT	NT
	01-Feb-90	57.0	21.3	NT	NT	2.7	NT	NT

Table 4. Results of Inorganic Chemical and Microbial Analyses of Groundwater 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/
	01-Mar-90	62.6	20.8	NT	NT	1.5	NT	NT
	16-Mar-90	54.2	20.8	NT	NT	1.8	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 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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
	02-Nov-89	ND	ND	5.3	NT	ND	NT	NT
	06-Dec-89	ND	5.3	5.9	NT	ND	NT	NT
	03-Jan-90	ND	1.6	NT	NT	ND	NT	NT
	01-Feb-90	ND	1.6	NT	NT	ND	NT	NT
	28-Feb-90	ND	1.6	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
	02-Nov-89	NT	NT	6.5	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	15.5	NT	6.6	NT	NT
	05-Oct-89	105.6	41.3	13.5	NT	5.6	NT	NT
	02-Nov-89	78.3	18.6	18.9	NT	2.3	1.7E+6	7.0E+3
	05-Dec-89	91.6	20.3	11.0	NT	2.0	NT	NT
	02-Jan-90	87.9	26.7	NT	NT	1.3	NT	NT
	01-Feb-90	74.8	24.0	NT	NT	0.9	NT	NT

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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)
	28-Feb-90	74.8	24.5	NT	NT	0.8	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
	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	6.2	NT	ND	NT	NT
	18-Sep-89	9.9	6.0	NT	NT	ND	NT	NT
	05-Oct-89	21.8	11.0	6.1	NT	0.7	NT	NT
	23-Oct-89	23.8	3.0	6.5	NT	ND	3.2E+6	7.0E+3
	02-Nov-89	21.1	1.5	8.9	NT	ND	NT	NT
	20-Nov-89	7.1	0.5	6.5	NT	ND	1.9E+6	5.4E+4
	05-Dec-89	23.6	7.7	6.5	NT	ND	1.1E+5	2.4E+4
	03-Jan-90	1.1	2.1	NT	NT	0.5	3.1E+6	3.5E+4
	01-Feb-90	8.0	3.2	NT	NT	ND	1.1E+6	1.7E+4
	28-Feb-90	8.6	2.4	NT	NT	ND	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

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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)
	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	15.3	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	19.4	NT	7.5	2.1E+6	1.1E+4
	23-Oct-89	50.6	41.3	11.4	NT	4.7	NT	NT
	02-Nov-89	56.5	40.0	16.4	NT	6.1	1.7E+6	7.9E+3
	20-Nov-89	52.4	28.0	16.1	NT	4.6	NT	NT
	05-Dec-89	55.2	33.6	14.0	NT	8.0	7.8E+5	1.4E+4
	03-Jan-90	59.8	25.1	NT	NT	3.6	1.2E+6	1.7E+4
	01-Feb-90	67.3	26.7	NT	NT	2.3	1.4E+6	1.3E+4
	28-Feb-90	61.7	24.0	NT	NT	3.2	NT	NT
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
	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
	02-Nov-89	7.0	2.3	4.9	NT	ND	NT	NT
	05-Dec-89	2.6	5.3	5.5	NT	ND	NT	NT
	03-Jan-90	1.7	1.6	NT	NT	ND	NT	NT
	01-Feb-90	0.9	1.3	NT	NT	ND	NT	NT
	01-Mar-90	0.9	1.6	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

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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)
	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
	05-Oct-89	35.2	9.0	12.8	NT	ND	NT	NT
	02-Nov-89	41.8	3.0	13.1	NT	ND	NT	NT
	06-Dec-89	34.6	6.7	12.6	NT	ND	NT	NT
	03-Jan-90	42.1	0.5	NT	NT	ND	NT	NT
	01-Feb-90	47.7	3.2	NT	NT	ND	NT	NT
	01-Mar-90	43.9	2.7	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
	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	13.0	NT	ND	NT	NT
	07-Sep-89	59.8	7.5	NT	NT	ND	NT	NT
	05-Oct-89	63.8	14.8	>20.0	NT	ND	NT	NT
	02-Nov-89	72.6	11.0	>20.0	NT	ND	NT	NT
	05-Dec-89	61.7	10.9	16.5	NT	ND	NT	NT
	03-Jan-90	46.8	12.8	NT	NT	ND	NT	NT
	01-Feb-90	35.5	10.7	NT	NT	ND	NT	NT
	28-Feb-90	43.9	9.6	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

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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)
	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	16.5	NT	1.6	NT	NT
	18-Sep-89	56.8	32.0	NT	NT	1.6	NT	NT
	05-Oct-89	70.0	29.0	>20.0	NT	1.5	NT	NT
	02-Nov-89	60.7	36.0	>20.0	NT	1.9	1.3E+5	4.9E+3
	05-Dec-89	54.2	30.4	19.2	NT	3.2	NT	NT
	21-Dec-89	43.9	27.2	NT	NT	2.3	1.2E+5	4.9E+3
	02-Jan-90	55.2	28.3	NT	NT	6.7	NT	NT
	01-Feb-90	57.0	28.3	NT	NT	2.7	NT	NT
	01-Mar-90	80.4	25.1	NT	NT	2.0	NT	NT
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
	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	16.6	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	>20.0	NT	6.3	1.8E+6	7.9E+3

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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)
	23-Oct-89	48.4	36.5	>20.0	NT	4.7	NT	NT
	02-Nov-89	48.4	35.0	>20.0	NT	5.5	NT	NT
	20-Nov-89	42.1	26.7	18.2	NT	4.1	4.4E+5	1.1E+4
	05-Dec-89	55.2	32.0	>20.0	NT	5.8	9.2E+5	2.8E+4
	02-Jan-90	65.5	30.4	NT	NT	3.8	2.7E+6	5.4E+4
	01-Feb-90	51.4	29.9	NT	NT	3.3	3.9E+5	9.2E+4
	01-Mar-90	58.9	26.7	NT	NT	6.0	NT	NT
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	2.4E+4
	23-Oct-89	52.8	38.0	>20.0	NT	4.7	8.4E+5	1.6E+5
	02-Nov-89	57.2	36.0	>20.0	NT	6.9	NT	NT
	20-Nov-89	52.4	24.0	15.4	NT	4.8	NT	NT
	05-Dec-89	65.5	28.8	19.4	NT	7.3	NT	NT
	03-Jan-90	53.3	30.4	NT	NT	9.2	3.7E+5	1.1E+4
	01-Feb-90	NT	NT	NT	NT	NT	NT	NT
	01-Mar-90	59.8	27.2	NT	NT	3.6	NT	NT
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

Table 5. Results of Inorganic Chemical and Microbial Analyses of Groundwater Samples from Monitoring Wells

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	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
	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	NT	NT
	02-Nov-89	15.0	2.3	NT	NT	ND	NT	NT
	06-Dec-89	13.5	5.9	6.1	NT	ND	NT	NT
	03-Jan-90	11.6	1.6	NT	NT	ND	NT	NT
	01-Feb-90	4.9	0.8	NT	NT	ND	NT	NT
	01-Mar-90	9.2	2.7	NT	NT	ND	NT	NT
MW-19								
	03-Jan-90	ND	2.4	NT	NT	ND	NT	NT
	01-Feb-90	5.8	1.3	NT	NT	ND	NT	NT
	01-Mar-90	6.4	3.7	NT	NT	ND	NT	NT
MW-20								
	03-Jan-90	10.1	2.1	NT	NT	ND	NT	NT
	01-Feb-90	7.3	1.3	NT	NT	ND	NT	NT
	28-Feb-90	9.7	1.3	NT	NT	ND	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.
* : 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 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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	0.00152	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
	02-Nov-89	0.0002	0.001	0.0055	0.0036	0.63
	06-Dec-89	0.0006	0.0087	0.0059	0.0036	0.32
	03-Jan-90	0.0007	0.0007	0.0006	0.0013	0.18
	01-Feb-90	ND	0.0009	ND	0.0003	ND
	28-Feb-90	ND	0.0006	0.0004	0.0052	0.09
	11-Apr-90	ND	0.0007	0.0033	0.0029	0.130
	18-May-90	ND	0.0008	0.0014	0.0008	0.43
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	LT 0.025	0.08	LT 0.025	1.3	4.1
	01-Nov-89	0.0012/0.0007	0.014/0.015	ND/ND	0.67/0.69	3.1/2.9
	05-Dec-89	LT 0.0010	0.006	LT 0.0010	0.39	1.9
	02-Jan-90	0.011	0.041	0.0060	0.22	2.2
	31-Jan-90	0.0048	0.0026	LT 0.0010	0.12	1.0
	28-Feb-90	0.0013	0.0015	0.0003	0.10	0.69
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
	01-Nov-89	21	10	2.0	12	95
	05-Dec-89	21	14	2.6	17	90
	03-Jan-90	17	2.2	2.4	9.1	70

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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**
	31-Jan-90	8.1	1.2	0.51	1.6	25
	28-Feb-90	2.5	0.13	0.029	0.7	4.9
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 a	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
	01-Nov-89	2.1	2.8	0.11	1.8	13
	05-Dec-89	1.3	1.5	0.084	1.3	7.6
	03-Jan-90	0.11	0.27	0.017	0.53	2.7
	31-Jan-90	0.072	0.18	0.0052	0.31	1.7
	28-Feb-90	0.17	0.43	0.014	0.48	1.8
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	0.0033	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	0.0016/0.0022	ND/ND	0.0049/0.0058	ND/ND
	05-Oct-89 a	0.037/0.040	0.0032/0.0031	ND/ND	0.0086/0.0094	ND/ND
	02-Nov-89	0.0056	0.0011	ND	0.0019	0.071
	06-Dec-89	0.0062	0.0012	ND	0.0017	0.06
	03-Jan-90	0.0086	0.0010	ND	0.0012	0.09
	01-Feb-90	0.0018/0.0024	0.0010/0.0004	ND/ND	0.0005/0.0004	ND/ND
	01-Mar-90	0.0016	0.0014	ND	0.0003	ND
	11-Apr-90	0.0066	0.0174	0.0015	0.0116	0.147
	18-May-90	ND	0.0009	ND	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
	01-Nov-89	1.7	0.086	0.091	0.37	5.6
	06-Dec-89 a	1.2/1.1	0.15/0.14	0.21/0.19	0.46/0.42	5.1/4.4

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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**
	03-Jan-90	0.92	0.13	0.20	0.38	3.7
	31-Jan-90	0.029	0.029	0.037	0.062	0.81
	01-Mar-90	0.042	0.0033	0.010	0.014	2.5
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 @	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
	01-Nov-89	0.36	0.0058	ND	0.24	1.4
	05-Dec-89	0.35	0.0065	LT 0.0010	0.25	1.3
	02-Jan-90	0.080	0.0017	ND	0.091	0.63
	31-Jan-90	0.094	0.047	0.0061	0.10	0.42
	28-Feb-90	0.13	0.0007	ND	0.014	0.22
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
	01-Nov-89	1.6	2.3	0.23	1.7	9.7
	05-Dec-89	1.7	2.6	0.22	1.3	10
	02-Jan-90	0.37	0.65	0.053	0.35	2.6
	31-Jan-90	0.45	0.65	0.080	0.17	3.7
	01-Mar-90	0.78	1.1	0.085	0.49	3.2
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 @	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
	02-Nov-89	0.74	2.8	0.37	2.4	11
	05-Dec-89	0.38	0.79	0.087	0.75	3.6
	02-Jan-90	0.25	0.39	0.037	0.36	1.9
	31-Jan-90	1.2	2.0	0.21	1.5	7.1
	01-Mar-90	1.9	3.0	0.26	1.8	9.7

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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-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
	01-Nov-89	0.19	0.011	0.11	0.18	0.93
	05-Dec-89	0.16	0.036	0.0071	0.13	0.76
	03-Jan-90	0.056	0.0030	0.0010	0.022	0.25
	31-Jan-90	0.13	0.013	0.0014	0.050	0.30
	01-Mar-90	0.25/0.24	0.073/0.071	0.0069/0.0066	0.069/0.065	0.59/0.56
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
	01-Nov-89	ND	ND	ND	ND	ND
	06-Dec-89	ND	0.0009	ND	0.0013	ND
	02-Jan-90	0.016	0.0080	0.0014	0.0098	0.10
	01-Feb-90	ND	ND	ND	ND	ND
	01-Mar-90	0.0003	ND	ND	0.0002	ND
	11-Apr-90	0.0004	0.0006	0.0005	0.0003	ND
	18-May-90	ND	ND	ND	ND	ND
MW-19						
	15-Dec-89	5.0	0.30	0.078	0.61	12
	03-Jan-90	3.0	0.46	0.12	1.1	13
	01-Feb-90	1.1	0.022 LT	0.0040	0.032	1.9
	01-Mar-90	4.2	0.92	0.24	0.82	9.2
	11-Apr-90	3.8	1.1	0.82	0.34	10
	18-May-90	5.6	0.75	0.70	0.78	11
MW-20						
	15-Dec-89	ND	ND	ND	ND	ND
	03-Jan-90	0.0004	0.0004	ND	0.0008	ND
	01-Feb-90	ND	0.0014	ND	0.0005	ND
	28-Feb-90	ND	ND	ND	0.0005	ND
	11-Apr-90	0.0028	0.0110	0.0011	0.0066	ND
	18-May-90	ND	ND	ND	ND	ND

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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-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
	02-Nov-89	2.4	4.0	0.23	2.1	19
	05-Dec-89	1.3	2.2	0.016	1.3	7.5
	04-Jan-90	1.7	3.2	0.25	1.7	13.0
	01-Feb-90	1.2	1.8	0.073	1.1	7.6
	01-Mar-90	1.2	1.4	0.037	1.0	4.7
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	0.038	LT 0.0005	0.80	3.0
	02-Nov-89	0.12	0.089	0.009	0.48	5.3
	05-Dec-89	0.17	0.029	0.011	0.62	3.5
	04-Jan-90	0.17/0.2	0.027/0.0085	0.0085/0.0027	0.19/0.21	1.4/1.7
	01-Feb-90	0.38	0.035	0.0080	0.38	1.6
	01-Mar-90	0.0039	0.0019	0.0008	0.0040	0.33
EW-6						
	02-Nov-89	20	22	0.54	12	100
	05-Dec-89	20	24	1.3	13	93
	04-Jan-90	25	34	2.0	16	160
	01-Feb-90	26	49	3.1	22	120
	01-Mar-90	29	38	2.2	14	120
	11-Apr-90	6.3	8.1	0.51	13	28
	18-May-90	12	20	1.1	8.5	59
EW-7						
	05-Jul-89	18	16	0.67	10	74
	05-Oct-89	38	46	LT 0.50	11	210
	02-Nov-89	30	39	1.8	15	170
	05-Dec-89	27	36	1.9	17	130
	04-Jan-90	11	11	0.36	7.0	59
	01-Feb-90	9.4	8.2	0.19	4.4	38
	01-Mar-90	4.0	1.5	LT 0.5	6.7	19
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

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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**
	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
	02-Nov-89	8.1	8.6		0.21	6.2	56
	05-Dec-89	8.8	0.51		0.037	3.0	8.8
	04-Jan-90	2.3	2.0		0.078	1.8	14
	01-Feb-90	4.0	3.8		0.020	5.3	15
	01-Mar-90	0.0038	0.0012		0.0005	0.33	1.1
EW-9							
	21-Nov-89	ND	ND		ND	ND	ND
	05-Dec-89	4.5	6.7		0.35	5.7	27
	04-Jan-90	3.0	3.5		0.17	2.9	17
	02-Feb-90	2.0	2.9		0.17	2.4	14
	01-Mar-90	2.2	3.0		0.22	3.5	12
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
	02-Nov-89	1.7	1.2		0.048	3.3	14
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
	05-Dec-89	3.2	4.7		0.20	2.3	17
	04-Jan-90	1.8	2.4		0.10	1.7	9.1
	02-Feb-90	4.8	6.6		3.9	4.5	17
	01-Mar-90	1.7	2.5		0.15	1.8	9.3
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
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
	02-Nov-89	ND	0.0014		ND	0.0029	0.16

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

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**
	05-Dec-89	3.1	4.1	0.32	3.0	19
	04-Jan-90	0.72	0.69	0.026	0.43	3.5
	02-Feb-90	2.7	3.9	0.19	2.4	16
	01-Mar-90 ##	--	--	--	--	--
	11-Apr-90	1.8	2.8	0.11	2.7	7.6
	18-May-90	5.1	9.0	0.4	4.2	32
EW-16						
	04-Apr-89 @	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
	02-Nov-89	1.8	1.7	0.82	0.33	11
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 @	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
	02-Nov-89	0.35	0.29	0.028	0.31	3.2
	05-Dec-89	1.2	0.84	0.092	0.92	5.3
	04-Jan-90	1.0	1.5	0.082	0.9	5.3
	02-Feb-90	0.56	0.47	0.044	0.64	2.1
	01-Mar-90 ##	--	--	--	--	--
EW-20						
	04-Jan-90	1.3	11.0	0.83	8.4	36.0
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
	02-Nov-89	0.002	0.028	0.0068	0.14	0.88
	05-Dec-89	0.0034	0.064	0.019	0.14	0.97
	04-Jan-90	0.004	0.10	0.041	0.35	1.8
	02-Feb-90	0.0053	0.33	0.13	0.84	3.6
	01-Mar-90	0.0029	0.23	0.052	0.48	1.5
EW-22						
	21-Nov-89	0.056	0.015 LT	0.005	0.12	6.1
	02-Feb-90	2.1	17	1.1	13	43
	01-Mar-90	2.2	16	1.1	11	42

Table 7. Results of Organic Chemical Analyses of Soil Samples for Characterization

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

LOCATION		DEPTH (ft)	OVA HEADSPACE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD (mg/kg)				0.005	0.005	0.005	0.005	1.0
CONFIRMATION BORINGS								
BC-26		25.5-26	10	NT	NT	NT	NT	NT
5/14/90	*	27-27.5	400	NT	NT	NT	NT	NT
	*	28-28.5	NT	NT	NT	NT	NT	NT
		29-29.5	>1000	0.027	0.086	0.076	0.070	11
	*	30-30.5	>1000	NT	NT	NT	NT	NT
	*	32-32.5	950	NT	NT	NT	NT	NT
		33-33.5	550	NT	NT	NT	NT	NT
		35-35.5	>1000	NT	NT	NT	NT	NT
		Composite (27-33 feet)		LT 0.050	LT 0.050	LT 0.050	0.48	20
BC-28		10-10.5	0	NT	NT	NT	NT	NT
5/14/90		14-14.5	35	NT	NT	NT	NT	NT
		19-19.5	2	NT	NT	NT	NT	NT
		22.5-23	0	NT	NT	NT	NT	NT
		24-24.5	250	NT	NT	NT	NT	NT
	*	25-25.5	>1000	NT	NT	NT	NT	NT
	*	26-26.5	>1000	NT	NT	NT	NT	NT
		26.5-27	NT	LT 0.10	0.43	0.30	2.4	50
	*	27.5-28	>1000	NT	NT	NT	NT	NT
	*	29-29.5	>1000	NT	NT	NT	NT	NT
		35-35.5	100	NT	NT	NT	NT	NT
		Composite (25-30 feet)		LT 0.050	0.088	0.097	0.650	17
BC-30		14.5-15	200	NT	NT	NT	NT	NT
5/15/90		19.5-20	370	NT	NT	NT	NT	NT
	*	24-24.5	>1000	NT	NT	NT	NT	NT
	*	26-26.5	>1000	NT	NT	NT	NT	NT
		27-27.5	>1000	8.1	130	34	240	1600
	*	28-28.5	>1000	NT	NT	NT	NT	NT
	*	29-29.5	>1000	NT	NT	NT	NT	NT
		30.5-31	>1000	NT	NT	NT	NT	NT
		32.5-33	>1000	NT	NT	NT	NT	NT
		34.5-35	80	NT	NT	NT	NT	NT
		Composite (24-30 feet)		LT 1.0	3.6	6.1	38	410
BC-31	*	25-25.5	>1000	NT	NT	NT	NT	NT
5/15/90	*	26-26.5	>1000	NT	NT	NT	NT	NT
		27-27.5	>1000	ND	ND	ND	ND	ND
	*	28-28.5	950	NT	NT	NT	NT	NT
	*	29-29.5	450	NT	NT	NT	NT	NT
		30-30.5	45	NT	NT	NT	NT	NT
		Composite (25-30 feet)		LT 0.10	0.24	0.27	4.9	68
BC-32		14.5-15	2	NT	NT	NT	NT	NT
5/15/90		19.5-20	2	NT	NT	NT	NT	NT
	*	23-23.5	>1000	NT	NT	NT	NT	NT
	*	24-24.5	NT	NT	NT	NT	NT	NT
		25.5-26	>1000	4.0	45	19	110	740
	*	26-26.5	>1000	NT	NT	NT	NT	NT

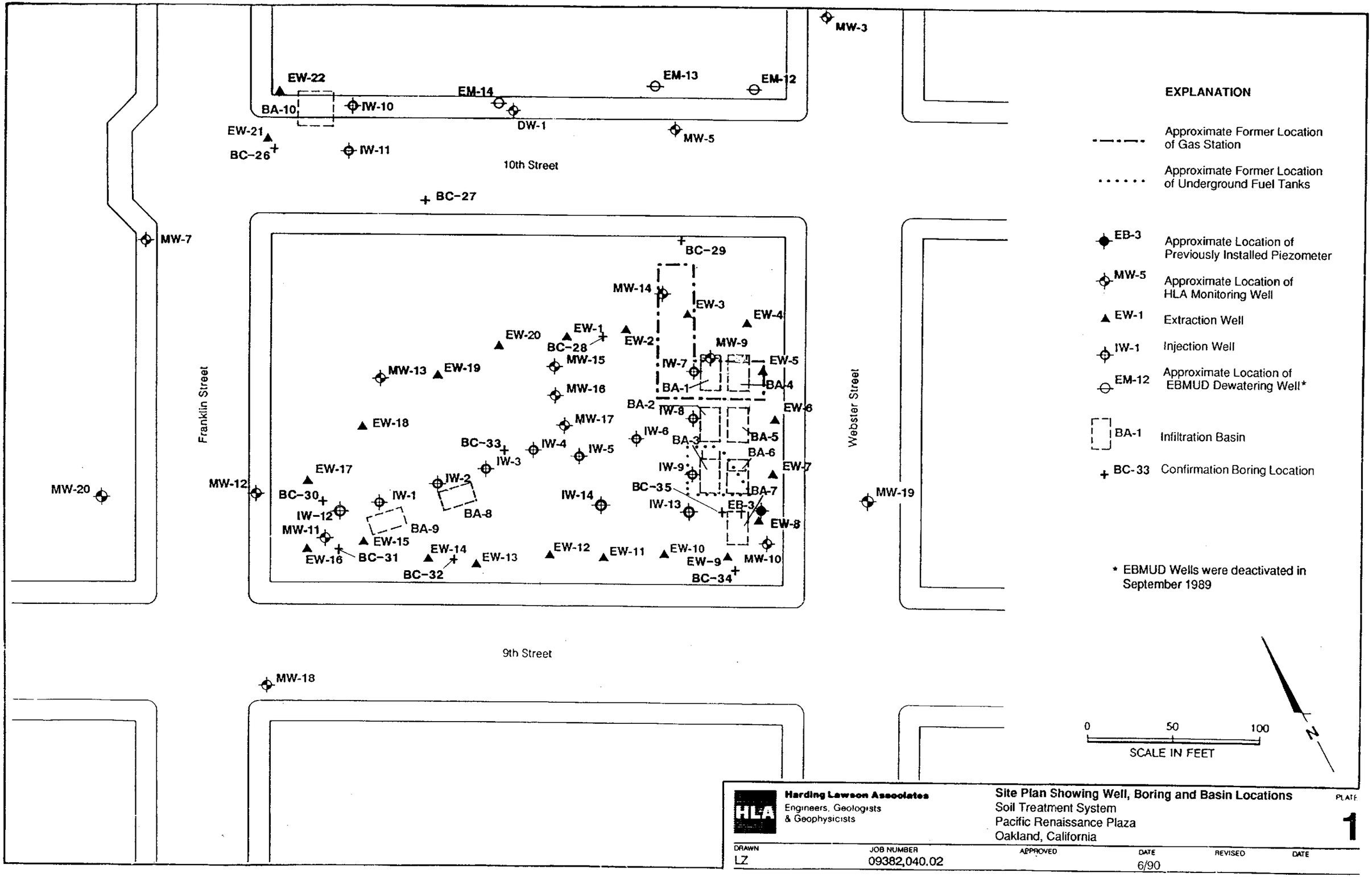
Table 7. Results of Organic Chemical Analyses of Soil Samples for Characterization

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

LOCATION		DEPTH (ft)	OVA HEADSPACE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD (mg/kg)				0.005	0.005	0.005	0.005	1.0
	*	27-27.5	NT	NT	NT	NT	NT	NT
		29.5-30	800	NT	NT	NT	NT	NT
		34.5-35	150	NT	NT	NT	NT	NT
		Composite (23-28 feet)		1.2	9.0	3.7	23	340
BC-33		4.5-5	0	NT	NT	NT	NT	NT
5/15/90		9-9.5	0	NT	NT	NT	NT	NT
		14.5-15	0	NT	NT	NT	NT	NT
		19.5-20	1	NT	NT	NT	NT	NT
	*	24-24.5	5	NT	NT	NT	NT	NT
	*	25.5-26	90	NT	NT	NT	NT	NT
		26-26.5	>1000	0.48	1.0	0.07	0.88	19
	*	27-27.5	NT	NT	NT	NT	NT	NT
	*	28.5-29	>1000	NT	NT	NT	NT	NT
		29.5-30	550	NT	NT	NT	NT	NT
		34.5-35	20	NT	NT	NT	NT	NT
		Composite (24-29 feet)		1.0	12	6.2	37	310
BC-34	*	23-23.5	>1000	NT	NT	NT	NT	NT
	*	24-24.5	>1000	NT	NT	NT	NT	NT
5/16/90		24.5-25	NT	0.90	6.1	2.7	15	170
	*	25.5-26	>1000	NT	NT	NT	NT	NT
	*	26.5-27	>1000	NT	NT	NT	NT	NT
		28-28.5	>1000	NT	NT	NT	NT	NT
		Composite (23-27 feet)		0.11	0.30	0.083	0.61	9.5
BC-35		7.5-8	5	NT	NT	NT	NT	NT
5/16/90		9.5-10	7	NT	NT	NT	NT	NT
		14-14.5	1	NT	NT	NT	NT	NT
		19.5-20	2	NT	NT	NT	NT	NT
	*	23-23.5	40	NT	NT	NT	NT	NT
	*	23.5-24	NT	NT	NT	NT	NT	NT
		24.5-25	>1000	18	420	140	710	6700
	#	24.5-25	>1000	3.0	40	1.4	71	540
	*	26-26.5	>1000	NT	NT	NT	NT	NT
	*	27-27.5	>1000	NT	NT	NT	NT	NT
		29.5-30	>1000	NT	NT	NT	NT	NT
		34.5-35	>1000	NT	NT	NT	NT	NT
		Composite (23-28 feet)		LT 0.25	1.3	1.3	9.6	98

NOTES - LOD: Limit of Detection unless otherwise noted
LT: Not detected at or above concentration shown
NT: Not tested
TPH: Total petroleum hydrocarbons
*: Sample used in composite sample
#: Second analysis performed on core extracted from opposite end of sample tube
OVA headspace in parts per million (ppm)
Organic constituents reported in milligrams per kilogram (mg/kg)
Laboratory analyses performed by PACE Laboratories, Novato, CA

18497



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
- BC-33 — Confirmation Boring Location

* EBMUD Wells were deactivated in September 1989

0 50 100
SCALE IN FEET

N

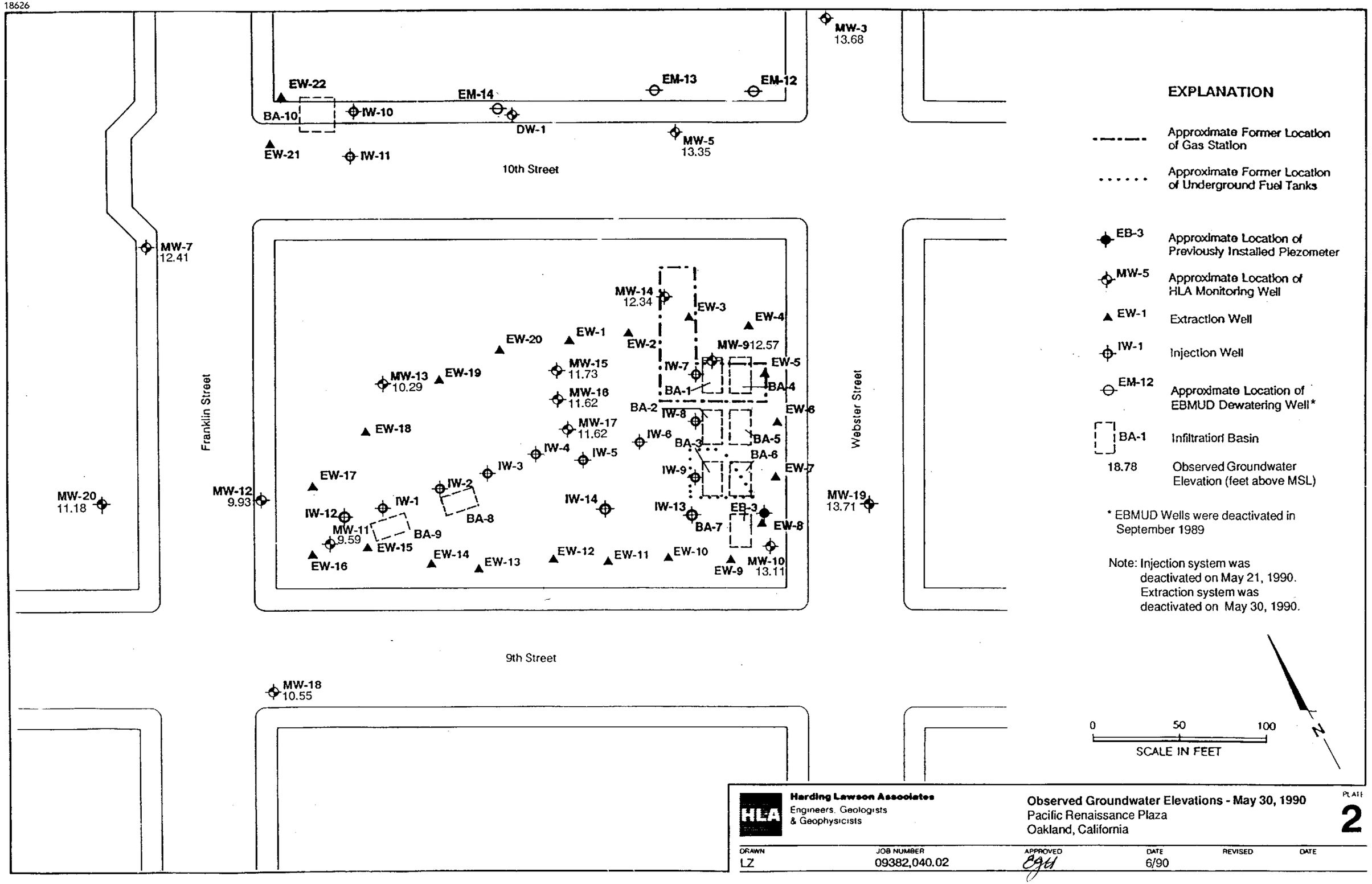
Harding Lawson Associates
Engineers, Geologists & Geophysicists

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

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
LZ	09382,040.02		6/90		

18626



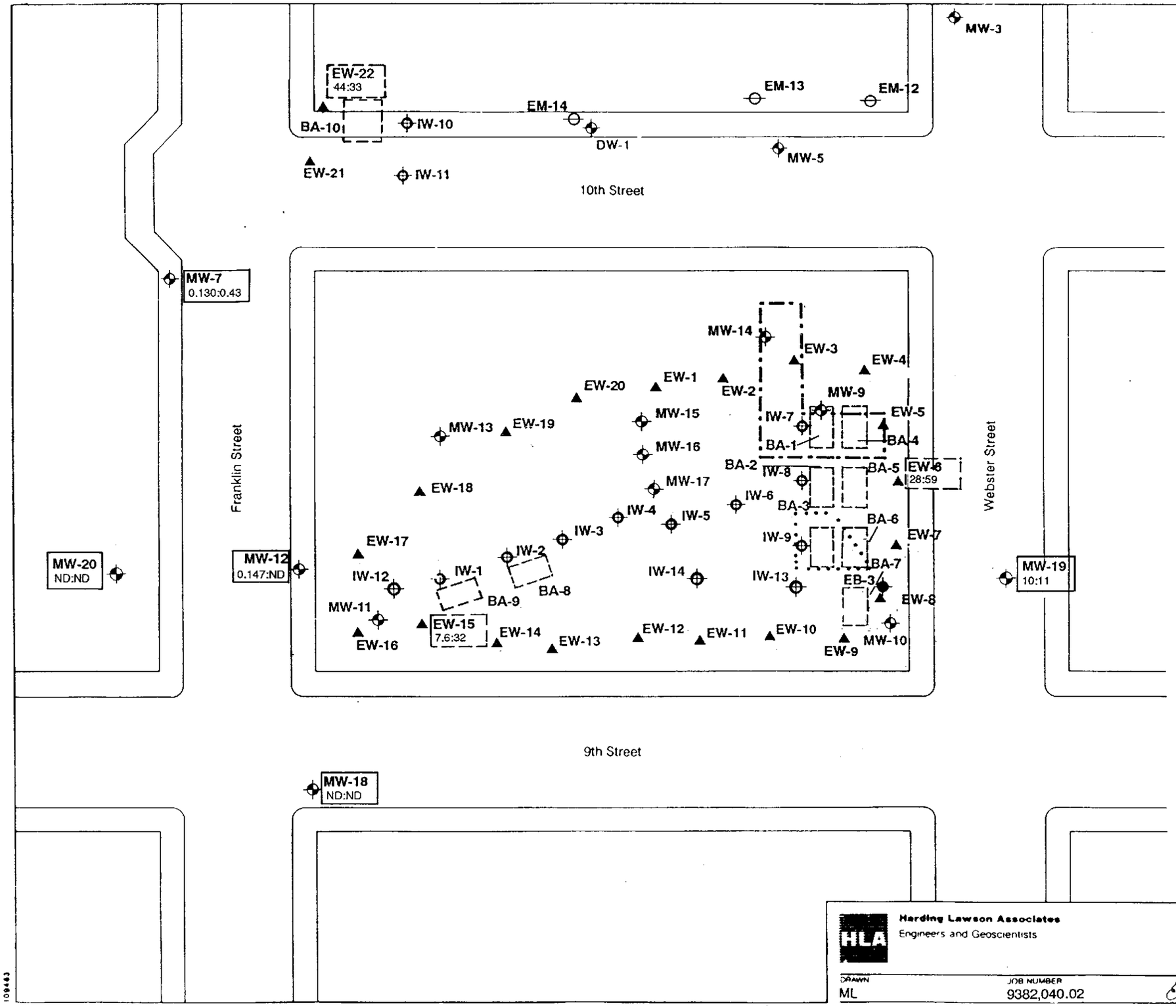
Harding Lawson Associates
Engineers, Geologists & Geophysicists

Observed Groundwater Elevations - May 30, 1990
Pacific Renaissance Plaza
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
LZ	09382,040.02	Eqh	6/90		

18625



Harding Lawson Associates
Engineers and Geoscientists

Concentrations of Petroleum Hydrocarbons in Groundwater - April and May 1990
Pacific Renaissance Plaza
Oakland, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,040.02		6/90		

109443

Appendix A

LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

EW and MW Wells
Apr '90 (9 Wells)

April 26, 1990

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

RE: PACE Project No. 400411.505
PRP Oakland

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received April 11, 1990.

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.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

April 26, 1990
PACE Project
Number: 400411505

Attn: Mr. David Leland

PRP Oakland

Parameter	Units	MDL	MW-19	MW-~~18~~ 18	MW-20
PACE Sample Number:			738800	738810	738820
Date Collected:			04/11/90	04/11/90	04/11/90
Date Received:			04/11/90	04/11/90	04/11/90
ORGANIC ANALYSIS			90151101	90151102	90151103
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	10	ND	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	3.8	0.0004	0.0028
Ethylbenzene	mg/L	0.0002	0.82	0.0005	0.0011
Toluene	mg/L	0.0002	1.1	0.0006	0.0110
Xylenes, Total	mg/L	0.0002	0.34	0.0003	0.0066

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

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

April 26, 1990
PACE Project
Number: 400411505

PRP Oakland

			MW-12	MW-7	EW-6
PACE Sample Number:			738830	738840	738850
Date Collected:			04/11/90	04/11/90	04/11/90
Date Received:			04/11/90	04/11/90	04/11/90
Parameter	Units	MDL	90151104	90151105	90151106
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	0.147	0.130	28
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	0.0066	ND	6.3
Ethylbenzene	mg/L	0.0002	0.0015	0.0033	0.51
Toluene	mg/L	0.0002	0.0174	0.0007	8.1
Xylenes, Total	mg/L	0.0002	0.0116	0.0029	13

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

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

April 26, 1990
PACE Project
Number: 400411505

PRP Oakland

			EW-15	EW-22
PACE Sample Number:			738860	738870
Date Collected:			04/11/90	04/11/90
Date Received:			04/11/90	04/11/90
Parameter	Units	MDL	90151107	90151108
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	7.6	44
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-
Benzene	mg/L	0.0002	1.8	3.0
Ethylbenzene	mg/L	0.0002	0.11	1.3
Toluene	mg/L	0.0002	2.8	23
Xylenes, Total	mg/L	0.0002	2.7	16

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 supervision.

Stephen F. Nackord
Director, Sampling and Analytical Services

Hard[illegible]aws[illegible]soc[illegible]
200 Rush Landing Road
P.O. Box 6107
Novato, California 94948
415/892-0821
Telecopy: 415/892-1586

CHAIN OF CUSTODY FORM

400411 · 505

Lab: Pace

Samplers: David M Evans

Job Number: 09382,039.02

Name/Location: PRP

Project Manager: Dave Leland

Recorder: David M Evans (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
23	X							3	90	15	110	90	04	11	0940	73880 MW-19	X						X	
23	X							3	90	15	102	90	04	11	1015	81 MW-18	X						X	
23	X							3	90	15	103	90	04	11	1130	82 MW-20	X						X	
23	X							3	90	15	104	90	04	11	1225	83 MW-12	X						X	
23	X							3	90	15	105	90	04	11	1310	84 MW-7	X						X	
23	X							3	90	15	106	90	04	11	1402	85 EW-6	X						X	
23	X							3	90	15	107	90	04	11	1500	86 EW-15	X						X	
23	X							3	90	15	108	90	04	11	1520	87 EW-22	X						X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD .CD	QA CODE	MISCELLANEOUS
						Regular turn around Time Please call with result

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) David M Evans	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) David M Evans — DATE/TIME 4/11/90	RECEIVED FOR LAB BY: (Signature) M Eyerley — DATE/TIME 4/11 19:30	
METHOD OF SHIPMENT: Hand delivered in cooler w/ice		

ON 6/5

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6533

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REPORT OF LABORATORY ANALYSIS

MW SAMPLES - MAY '90

June 05, 1990

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

RE: PACE Project No. 400518.510
PRP Sampling

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 18, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

June 05, 1990
PACE Project
Number: 400518510

Attn: Mr. David Leland

PRP Sampling

			MW-19	MW-18	MW-20
PACE Sample Number:			754820	754830	754840
Date Collected:			05/18/90	05/18/90	05/18/90
Date Received:			05/18/90	05/18/90	05/18/90
Parameter	Units	MDL	90200001	90200002	90200003
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	11	ND	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	5.6	ND	ND
Ethylbenzene	mg/L	0.0002	0.70	ND	ND
Toluene	mg/L	0.0002	0.75	ND	ND
Xylenes, Total	mg/L	0.0002	0.78	ND	ND

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

11 Digital Drive
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TEL: 415-883-6100
FAX: 415-883-2673

REPORT OF LABORATORY ANALYSIS

June 05, 1990
PACE Project
Number: 400518510

PRP Sampling

			MW-12	MW-7
PACE Sample Number:			754850	754860
Date Collected:			05/18/90	05/18/90
Date Received:			05/18/90	05/18/90
Parameter	Units	MDL	90200004	90200005
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	ND	0.43
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-
Benzene	mg/L	0.0002	ND	ND
Ethylbenzene	mg/L	0.0002	ND	0.0014
Toluene	mg/L	0.0002	0.0009	0.0008
Xylenes, Total	mg/L	0.0002	ND	0.0008

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 supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

[redacted]ard[redacted]ews[redacted]soc[redacted]

7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: 415/892-0831
Telex: 340523

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: JAMES W. ANDERSON
WILLIAM J. FELLER
ROBERT L. NELSON

Job Number: 09382.039.02

Name/Location: PRP SAMPLING

Project Manager: DAVID LELAND

Recorder: [signature] (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 (BTXE)	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb. EPA 8015 (TPH)
23	X							3	90	20	0001	90	05	20	0939			X					X
23	X							3	90	20	0002	90	05	20	1019			X					X
23	X							3	90	20	0003	90	05	20	1102			X					X
23	X							3	90	20	0004	90	05	20	1339			X					X
23	X							3	90	20	0005	90	05	20	1420			X					X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						REGULAR TURN AROUND TIME
						date sampled is really 5-18-90 (TT)

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) [signature]	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) [signature] DATE/TIME 5/18/1990 18:17	RECEIVED FOR LAB BY: (Signature) [signature] DATE/TIME 5/18/90 1825	
METHOD OF SHIPMENT		

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REPORT OF LABORATORY ANALYSIS

EW SAMPLES - MAY '90
CANON SYSTEM (LI)

May 30, 1990

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

RE: PACE Project No. 400521.501
PRP/Oakland

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 19, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

May 30, 1990
PACE Project
Number: 400521501

Attn: Mr. David Leland

PRP/Oakland

			EW-6	EW-15	EW-22
PACE Sample Number:			755590	755600	755610
Date Collected:			05/19/90	05/19/90	05/19/90
Date Received:			05/19/90	05/19/90	05/19/90
Parameter	Units	MDL	90200014	90200015	90200016
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Total Purgeable Fuels, as Gasoline	mg/L	0.05	59	32	33
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/L	0.0002	12	5.1	1.6
Ethylbenzene	mg/L	0.0002	1.1	0.4	LT 0.10
Toluene	mg/L	0.0002	20	9.0	7.2
Xylenes, Total	mg/L	0.0002	8.5	4.2	9.7

MDL Method Detection Limit
LT Less than.

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FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

Mr. David Leland
Page 2

May 30, 1990
PACE Project
Number: 400521501

PRP/Oakland

PACE Sample Number:			755620	755630
Date Collected:			05/19/90	05/19/90
Date Received:			05/19/90	05/19/90
Parameter	Units	MDL	90200017	90200018
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Chlorine, Total Residual	mg/L	0.05	ND	ND

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 supervision.

Robert P. Chrin
Inorganic Chemistry Manager

Ruth J. Siegmund
Organic Chemistry Manager

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Offices: Minneapolis, Minnesota; Tampa, Florida; Iowa City, Iowa; San Francisco, California; Kansas City, Missouri; Los Angeles, California; Charlotte, North Carolina; Asheville, North Carolina

[redacted]

7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: 415/892-0831
Telex: 340523

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: JAMES W. ANDERSON

Job Number: 9382.039.02

Name/Location: PRP / OAKLAND

Project Manager: DAVID LELAND

Recorder: [signature] (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	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015 (TPH)	NITRATE, AMMONIA, PHOSPHATE	RESIDUAL CHLORINE	ANALYSIS REQUESTED
23	X				1				90	20	0013	90	05	19	0921	~~75558~~								X	X		
23	X				1			3	90	20	0014	90	05	19	0938	75559	X						X	X			3
23	X				1			3	90	20	0015	90	05	19	1000	75560	X						X	X			3
23	X				1			2	90	20	0016	90	05	19	1027	75561	X						X	X			2
23	X				1				90	20	0017	90	05	19	1034	75562									X		
23	X				1				90	20	0018	90	05	19	1034	75563									X		

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						REGULAR TURN AROUND TIME

CHAIN OF CUSTODY RECORD

	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature) [signature]		
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) [signature] 5/19/1990 11:50	RECEIVED FOR LAB BY: (Signature) [signature] PACE	DATE/TIME 5/19/90 11:50
METHOD OF SHIPMENT		

GV 9/2

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Appendix B

LABORATORY ANALYTICAL RESULTS FOR SOIL SAMPLES

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CONFIRMATION BORINGS
BC-26, BC-28

May 29, 1990

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

RE: PACE Project No. 400514.505
PRP Confirmation

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 14, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

pace INCORPORATED
THE ASSURANCE OF QUALITY

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

May 29, 1990
PACE Project
Number: 400514505

Attn: Mr. David Leland

PRP Confirmation

Parameter	Units	MDL	B-24 Composite	B-26 29'	B-28 Composite
PACE Sample Number:			751460	751470	751520
Date Collected:			05/14/90	05/14/90	05/14/90
Date Received:			05/14/90	05/14/90	05/14/90
			Composite 902026-27+ 28+30+31	9020 2629	Composite 902028-25+ 26+275+29
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	20	11	17
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/kg wet	0.005	LT 0.050	0.027	LT 0.050
Ethylbenzene	mg/kg wet	0.005	LT 0.050	0.076	0.097
Toluene	mg/kg wet	0.005	LT 0.050	0.086	0.088
Xylenes, Total	mg/kg wet	0.005	0.48	0.070	0.650

MDL Method Detection Limit
LT Less than.

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Mr. David Leland
Page 2

May 29, 1990
PACE Project Number: 400514505

PRP Confirmation

B-28, 26.5'

PACE Sample Number:			751530
Date Collected:			05/14/90
Date Received:			05/14/90
Parameter	Units	MDL	9020 28265
ORGANIC ANALYSIS			
PURGEABLE FUELS AND AROMATICS			
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	50
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-
Benzene	mg/kg wet	0.005	LT 0.10
Ethylbenzene	mg/kg wet	0.005	0.30
Toluene	mg/kg wet	0.005	0.43
Xylenes, Total	mg/kg wet	0.005	2.4

MDL Method Detection Limit
LT Less than.

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

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

[redacted]
Harding Lawson Associates
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: 415/892-0831
Telex: 340523

CHAIN OF CUSTODY FORM

400514 · 505

Lab: PACE

Samplers: Robert L. Nelson

Job Number: 09382,039.02

Name/Location: PRP Confirmation

Project Manager: David Leland

Recorder: Robert L. Nelson
(Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr Wk Seq	DATE: Yr Mo Dy Time	STATION DESCRIPTION/ NOTES
SO			X		1			90 20 26 27	90 05 14 08 15	75142
SO			X		1	Comp.		90 20 26 28	90 05 14 08 20	75143
SO			X		1	75146		90 20 26 30	90 05 14 08 40	75144
SO			X		1			90 20 26 31	90 05 14 08 45	75145
SO			X		1			90 20 26 29	90 05 14 08 30	75147
SO			X		1			90 20 28 25	90 05 14 13 12	75148
SO			X		1	Comp.		90 20 28 26	90 05 14 13 12	75149
SO			X		1	75152		90 20 28 27	90 05 14 13 19	78150
SO			X		1			90 20 28 28	90 05 14 13 30	75151
SO			X		1			90 20 28 26	90 05 14 13 19	75153

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	TPH Light	TPH EPA 9071	BTEX EPA 8020	CAM METALS - Title 22 CCR
							X		X	
							X		X	X
							X		X	X
							X		X	X
							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
				Composite 9020-2627
				" 2628
				" 2630
				" 2631
				Individual 9020-2629
				Composite 9020-2825
				" 28-26
				" 2827 2829
				Individual 9020 2826

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert L. Nelson	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) Tina Towne	DATE/TIME 9/4/1900
METHOD OF SHIPMENT		

* Ton K/1,75171 on F/1

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

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pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

June 04, 1990

CONFIRMATION BORINGS
BC-30, BC-31, BC-32,
BC-33

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

RE: PACE Project No. 400515.505
PRP Confirmation

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 15, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Offices: Minneapolis, Minnesota; Tampa, Florida; Iowa City, Iowa; San Francisco, California; Kansas City, Missouri; Los Angeles, California; Charlotte, North Carolina; Asheville, North Carolina

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

June 04, 1990
PACE Project
Number: 400515505

Attn: Mr. David Leland

PRP Confirmation

Parameter	Units	MDL	752070	752080	752130
PACE Sample Number:			752070	752080	752130
Date Collected:			05/15/90	05/15/90	05/15/90
Date Received:			05/15/90	05/15/90	05/15/90
			Composite 902030-24+ 26+28+29	9020 3027	Composite 902031-25+ 26+28+29
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	410	1600	68
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/kg wet	0.005	LT 1.0	8.1	LT 0.10
Ethylbenzene	mg/kg wet	0.005	6.1	34	0.27
Toluene	mg/kg wet	0.005	3.6	130	0.24
Xylenes, Total	mg/kg wet	0.005	38	240	4.9

MDL Method Detection Limit
LT Less than.

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

REPORT OF LABORATORY ANALYSIS

Mr. David Leland
Page 2

June 04, 1990
PACE Project
Number: 400515505

PRP Confirmation

PACE Sample Number:			752140	752190	752200
Date Collected:			05/15/90	05/15/90	05/15/90
Date Received:			05/15/90	05/15/90	05/15/90
				Composite	
				902032-23+	
Parameter	Units	MDL	9020 3127	24+26+27	9020 32255
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	340	740
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/kg wet	0.005	ND	1.2	4.0
Ethylbenzene	mg/kg wet	0.005	ND	3.7	19
Toluene	mg/kg wet	0.005	ND	9.0	45
Xylenes, Total	mg/kg wet	0.005	ND	23	110

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

11 Digital Drive
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FAX: 415-883-2673

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. David Leland
Page 3

June 04, 1990
PACE Project Number: 400515505

PRP Confirmation

PACE Sample Number:			752250	752260
Date Collected:			05/15/90	05/15/90
Date Received:			05/15/90	05/15/90
			Composite	
			902033-24+	
Parameter	Units	MDL	255+27+285	9020 3326
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	310	19
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-
Benzene	mg/kg wet	0.005	1.0	0.48
Ethylbenzene	mg/kg wet	0.005	6.2	0.07
Toluene	mg/kg wet	0.005	12	1.0
Xylenes, Total	mg/kg wet	0.005	37	0.88

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 supervision.

Ruth J. Siegmund
Organic Chemistry Manager

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

[redacted] Mar[redacted] Law[redacted] Assoc[redacted]
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: 415/892-0831
Telex: 340523

CHAIN OF CUSTODY FORM

400515 · 505

Lab: PACE

Samplers: Robert L. Nelson

Job Number: 0382,039.02

Name/Location: PRP Confirmation

Project Manager: David Leland

Recorder: Robert L. Nelson (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
50			X		1	75203		90	20	3024	90	05	15	0757	composite 75207
50			X		1		04	90	20	3026	90	05	15	0811	
50			X		1		05	90	20	3028	90	05	15	0816	
50			X		1		06	90	20	3029	90	05	15	0830	
50			X		1	75208		90	20	3027	90	05	15	0810	
50			X		1		09	90	20	3125	90	05	15	1000	composite 75213
50			X		1		10	90	20	3126	90	05	15	1008	
50			X		1		11	90	20	3128	90	05	15	1020	
50			X		1		12	90	20	3129	90	05	15	1025	
50			X		1	75214		90	20	3127	90	05	15	1020	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	TPH Light	BTEX (EPA 9071	TCG-EPA 5020	CAM METALS	Title 22 CCR
							X	X			
							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
						Composite: 9020 3024
						" 3026
						" 3028
						" 3029
						Individual 9020 3027
						Composite 9020 3125
						" 3126
						" 3128
						" 3129
						analyze indiv. 3127

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Robert L. Nelson		
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) Lana Towne	DATE/TIME 5/15/1930
METHOD OF SHIPMENT		

3TON B/4

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[redacted] Law[redacted]ssoc[redacted]
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
415/892-0821
Telecopy: 415/892-0831
Telex: 340523

400515 · 505

CHAIN OF CUSTODY FORM

Lab: PACE

Samplers: Robert L. Nelson

Job Number: 9382,039.02

Name/Location: PRP Confirmation

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			SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
SO			X		1	75215				90	20	3223	90	05	15	1240	
SO			X		1				16	90	20	3224	90	05	15	1240	composite 75219
SO			X		1				17	90	20	3226	90	05	15	1255	
SO			X		1				18	90	20	3227	90	05	15	1255	
SO			X		1	75220				90	20	3225	90	05	15	1248	
SO			X		1				21	90	20	3324	90	05	15	1440	
SO			X		1				22	90	20	3325	90	05	15	1445	composite 75225
SO			X		1				23	90	20	3327	90	05	15	1452	
SO			X		1				24	90	20	3328	90	05	15	1500	
SO			X		1	75226				90	20	3326	90	05	15	1452	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	TPH Light	BTEX EPA 8020
							X	X
							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
						Composite: 9020 3223
						" 3224
						3226
						3227
						Individual 9020 3225
						Composite: 9020 3324
						" 3326
						3327
						3328
						Individual: 9020 3326

BT on B/4

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Robert L. Nelson		
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) Tina Louise Pace	DATE/TIME 5/15 1930

METHOD OF SHIPMENT

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INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

CONFIRMATION BORINGS
BC-34, BC-35

May 31, 1990

JUN 90 P: 28

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

RE: PACE Project No. 400516.506
PRP Confirmation

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 16, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

May 31, 1990
PACE Project
Number: 400516506

Attn: Mr. David Leland

PRP Confirmation

PACE Sample Number:			752640	752650	752700
Date Collected:			05/16/90	05/16/90	05/16/90
Date Received:			05/16/90	05/16/90	05/16/90
			Composite		Composite
			902035-23+		902034-23+
Parameter	Units	MDL	235+26+27	9020 35245	24+255+265
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	-	-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	98	6700	9.5
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	-	-
Benzene	mg/kg wet	0.005	LT 0.25	18	0.11
Ethylbenzene	mg/kg wet	0.005	1.3	140	0.083
Toluene	mg/kg wet	0.005	1.3	420	0.30
Xylenes, Total	mg/kg wet	0.005	9.6	710	0.61

MDL Method Detection Limit
LT Less than.

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. David Leland
Page 2

May 31, 1990
PACE Project Number: 400516506

PRP Confirmation

PACE Sample Number:			752710
Date Collected:			05/16/90
Date Received:			05/16/90
Parameter	Units	MDL	9020 34245
ORGANIC ANALYSIS			
PURGEABLE FUELS AND AROMATICS			
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	170
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-
Benzene	mg/kg wet	0.005	0.90
Ethylbenzene	mg/kg wet	0.005	2.7
Toluene	mg/kg wet	0.005	6.1
Xylenes, Total	mg/kg wet	0.005	15

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 supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Harding Lawson Associates
Environmental Services Division
200 Rush Landing Road
Novato, California 94947
(415) 892-0821

CHAIN OF CUSTODY FORM

PACE

Samplers: Robert L. Nelson

Job Number: 9382,039.02

Name/Location: PRP Confirmation

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			SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
SO			X		1			75260		90	20	3523	90	05	16	1015	Composite 75264
SO			X		1				61	90	20	3523.5	90	05	16	1030	
SO			X		1				62	90	20	3526	90	05	16	1040	
SO			X		1				63	90	20	3527	90	05	16	1050	
SO			X		1			75265		90	20	3524.5	90	05	16	1030	
SO			X		1				66	90	20	3423	90	05	16	0823	
SO			X		1				67	90	20	3424	90	05	16	0829	Composite 75270
SO			X		1				68	90	20	3425.5	90	05	16	0840	
SO			X		1				69	90	20	3426.5	90	05	16	0850	
SO			X		1			75271		90	20	3424.5	90	05	16	0829	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	TPH Light	BTEX EPA 8020
							X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Composite: 9020-3523
						" 3523.5
						" 3526
						" 3527
						Individual: 9020 3524.5
						Composite: 9020 3423
						" 3424
						" 3425.5
						" 3426.5
						Individual 9020 3424.5

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert L. Nelson	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) Anne Jonne	DATE/TIME 5/16 1105
METHOD OF SHIPMENT		

T K/3

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

BC-35

June 12, 1990

N 90 9 : 18

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

RE: PACE Project No. 400606.500
PRP Confirmation

Dear Mr. Leland:

Enclosed is the report of laboratory analyses for samples received May 16, 1990.

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing Road
Novato, CA 94945

June 12, 1990
PACE Project
Number: 400606500

Attn: Mr. David Leland

PRP Confirmation

BC-35

PACE Sample Number:				762530
Date Collected:				05/16/90
Date Received:				05/16/90
				90203524.5
Parameter		Units	MDL	(75265)
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				-
Purgeable Fuels, as Gasoline (EPA 8015)		mg/kg wet	1.0	540
PURGEABLE AROMATICS (BTXE BY EPA 8020):				-
Benzene		mg/kg wet	0.005	3.0
Ethylbenzene		mg/kg wet	0.005	1.4
Toluene		mg/kg wet	0.005	40
Xylenes, Total		mg/kg wet	0.005	71

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 supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

pace laboratories, inc.

4006 06.500

18121

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Harding Lawson Associates
Address: 200 Rush Landing Road
Novato CA 94945
Phone:

Report To: David Leland
Bill To: Same
P.O. # / Billing Reference: 9382.039.02
Project Name / No.: FRP Confirmation

Pace Client No.: 780086
Pace Project Manager: Lip
Pace Project No.: 4006 06.5
*Requested Due Date: 1 week T

Sampled By (PRINT): Rob Nilson
Sampler Signature
Date Sampled: 5/16/90

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST: TPH/BTEX*	REMARKS
1	~~FS205 9382.039.02~~		Soil	76253	1					X	Past holding time
2	(4005163.506)										
3											
4											
5											
6											
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT / DATE	SHIPMENT METHOD RETURNED / DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		Received Pace by Tina Jacobson	5/16/90	16:00

Additional Comments

* Requested by David Leland 6/6/90
Analyze opposite end of brass tube.
BA

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

DISTRIBUTION

REPORT OF SYSTEM MONITORING
MARCH THROUGH MAY 1990
SOIL TREATMENT SYSTEM
PACIFIC RENAISSANCE PLAZA
OAKLAND, CALIFORNIA
July 9, 1990

Copy No. 6

		Copy No.
1 copy:	California Regional Water Quality Control Board San Francisco Bay Region 1800 Harrison Street, Suite 700 Oakland, California 94612 Attention: Mr. Don Dalke	1
4 copies:	Redevelopment Agency of the City of Oakland One City Hall Plaza Oakland, California 94612 Attention: Mr. Peter Chen	2-5
1 copy:	Alameda County Department of Environmental Health 80 Swan Way, Room 200 Oakland, California 94621 Attention: Mr. Lowell Miller	6
1 copy:	Job File	7
1 copy:	QC/Bound Report File	8

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QUALITY CONTROL REVIEWER

Tamara L. Williams

Tamara L. Williams
Geologist - 3954