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ENVIRONMENTAL
PROTECTION

February 13, 1997

NOTICE OF DISTRIBUTION

**SITE: FORMER DESERT PETROLEUM STATION #793
4035 PARK BLVD.
OAKLAND, CALIFORNIA**

FINAL COPIES OCTOBER-DECEMBER 1996 QUARTERLY GROUNDWATER
MONITORING REPORT:

Mr. John Rutherford DESERT PETROLEUM P.O. Box 1601 Oxnard, CA 93032	2 Reports
Jennifer Eberle ALAMEDA COUNTY ENVIRONMENTAL DEPT. 1131 Harbor Bay Park Way, 2nd Floor Alameda CA 94502	1 Report
Mr. Tony Razi 3609 E. 14th Street Oakland, CA 94601	1 Report



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CALIF CONTRACTOR # 513857 A CORPORATION
REGISTERED GEOLOGISTS

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, California 93032
(805) 644-6784
FAX (805) 654-0720

February 13, 1996

1997

Dear Mr. Rutherford:

The following report documents the ~~Fourth Quarter~~ 1996 collection and certified laboratory analysis of groundwater samples from five monitoring wells and three water recovery wells associated with former Desert Petroleum Station #793.

SITE LOCATION AND DESCRIPTION

Former Desert Petroleum #793 is a non-active service station, located on the northwest corner of the intersection of Park Blvd. and Hampel Street at 4035 Park Blvd., Oakland, California (Figure 1). The site is located in projected section 32; T1S; R3W; MDB&M at an approximate elevation of 210 feet above mean sea level (Figure 2).

LOCAL GEOLOGY

Geomorphology

The site is located on the western slope of the Berkeley Hills. The Berkeley Hills are a northwest-southeast trending range within the Coastal Range Province of California. Erosion of the Coastal Ranges has filled the valleys within and bordering the Coastal Range with sequences of gravels, silts, sands, and clays.

Stratigraphy

The native soil from surface to 13 feet below ground surface (bgs) consists of dark brown silty clay. The dark brown clay is underlain by a light brown stiff clay that includes subrounded to rounded metavolcanic gravel. This clay extends to approximately 23 feet bgs at the northwest corner of the site. The gravel and clay is underlain by a fine to medium sand, clayey sand, and silty sand.

COLLECTION AND ANALYSIS OF GROUNDWATER SAMPLES, 12/11/96

WEGE and Lawrence Tank Testing personnel conducted a quarterly groundwater monitoring round at the site on December 11, 1996. Water samples were collected from monitor wells MW1, RS-2, RS-5, and RS-6 located on-site and RS-7 located in the center of Brighton Avenue to the northeast of the site (Figure 3). Water samples were also collected from the three on-site water recovery wells (R1-R3). See Appendix A for QA/QC, details, methods, procedures, abbreviations, and acronyms used in sampling and analysis.

Depth to Water Measurements

Depth to water was measured at all monitor wells and the three on-site water recovery wells (R1-R3). The depth to water measurements were made using a product/water interface probe. Measurements were made from the surveyed elevation at of the top of casing at each well. Table 1 shows the elevation of groundwater with respect to mean sea level for all monitor wells on December 11, 1996.

Purging of Monitor Wells

The monitor wells were purged of 3 volumes of water by Lawrence Tank Testing using a truck mounted vacuum lift pump and one inch diameter PVC tubing. The specific volume of water removed from each well is recorded on the well sampling data sheets (Appendix B).

Collection and Certified Analysis of Groundwater Samples

After purging, the wells were allowed to recover to at least 80% of their original well volumes. A groundwater sample was then collected from each well with a disposable polyethylene bailer and decanted with no headspace into two 40 ml VOA vials containing 0.5 ml HCL acid as a preservative.

North State Environmental Laboratories analyzed all water samples for concentrations of TPH-G, BTEX, and MTBE using EPA methods 5030/8015M/8020 (Appendix A).

Disposition of Waste Water

The waste water generated from the purging of the monitor wells during sampling was contained on-site in labeled 55 gallon DOT approved drums. The drummed wastewater was removed from the site and transported to a recycling facility by Evergreen Environmental Services on February 3, 1997.

RESULTS OF QUARTERLY GROUNDWATER MONITORING

Groundwater Gradient and Flow Direction

Figure 4 shows the groundwater elevation gradients and flow direction that were derived from the depth to water measurements from on-site monitor wells on December 11, 1996. The groundwater elevation has increased by an average of approximately 1.5 feet in the monitor wells since the previous quarterly monitoring round on September 4, 1994 (Table 1).

The current flow direction is to northwest. The hydraulic gradient averages 0.15 feet/linear foot downgradient from the overexcavated area at the site (Figure 4).

The current flow direction and hydraulic gradient is consistent with previous gradient determinations by WEGE.

Results of Certified Analysis of Groundwater Samples

The results of the certified analyses of groundwater samples collected on December 11, 1996 are shown in Table 1. Copies of the laboratory reports are included as Appendix C of this report.

TPH-G concentrations in water samples from the five monitor wells and three recovery wells ranged from a maximum of 85,000 ug/l at monitor well RS-5 to less than laboratory detection limits (50 ug/l) in monitor wells MW1 and RS-2 and recovery wells R-1 and R-3.

Benzene concentrations ranged from a maximum of 7000 ug/l in monitor well RS-5 to less than laboratory detection limits (0.5 ug/l) in monitor wells MW1 and RS-2, and recovery wells R-1 and R-3.

MTBE concentrations ranged from a maximum of 570 ug/l in monitor well RS-5 to less than laboratory detection limits of 0.5 ug/l in monitor wells MW1 and RS-6.

Figure 5 shows the areal distribution of TPH-G, BTEX, and MTBE in groundwater in ug/l as determined from groundwater samples collected from the monitor wells on December 11, 1996. There are no significant trends in the petroleum hydrocarbon concentrations observed at the monitor wells since the previous monitoring round on September 4, 1996.

LIMITATIONS

This report is based upon the following:

- A. The observations of field personnel.
- B. The results of laboratory analyses performed by a state certified laboratory.
- C. Referenced documents.
- D. Our understanding of the regulations of the State of California, Alameda County and the City of Oakland.

Changes in groundwater conditions can occur due to variations in rainfall, temperature, local and regional water use, and local construction practices. In addition, variations in the soil and groundwater conditions could exist beyond the points explored in this investigation.

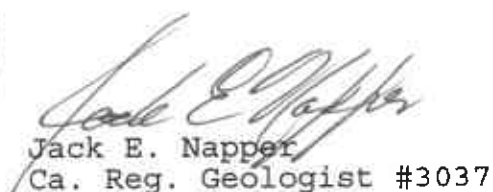
State Certified Laboratory analytical results are included in this report. This laboratory follows EPA and State of California approved procedures; however, WEGE is not responsible for errors in these laboratory results.

The services performed by Western Geo-Engineers, a corporation, under California Registered Geologist #3037 and/or Contractors License #513857, have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California and the Oakland area. Our work and/or supervision of remediation and/or abatement operations, active or preliminary, at this site is in no way meant to imply that we are owners or operators of this site. Please note that known contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

Sincerely,



David Threlfall
Geologist



Jack E. Napper
Ca. Reg. Geologist #3037

cc: Ms. Jennifer Eberie, HMS, Alameda County Health
(510)271-4530

TABLE 1

GROUND WATER ELEVATIONS AND CERTIFIED ANALYTICAL LABORATORY RESULTS FROM WATER SAMPLES
 DESERT PETROLEUM, INC. SITE #793
 4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

(All concentrations in parts per billion (ug/L, ppb))

(AMSL = Above mean sea level)

WELL ID#	DATE SAMPLED	WELL CASING ELEVATION (FEET AMSL)	DEPTH TO GROUND WATER (FEET)	GROUND WATER ELEVATION (FEET AMSL)	TPH-G (UG/L)	BENZENE (UG/L)	TOLUENE (UG/L)	ETHYL-BENZENE (UG/L)	XYLENES (UG/L)	MTBE (UG/L)
RS-1	12/14/89	240	24.25	215.75	19000	2600	2700	200	1200	
RS-1	12/90				15000	3500	330	170	760	
RS-1	2/91				6900	910	200	39	540	
RS-1	6/91				1600	56	180.000	12	26	
RS-1	9/91				4100	730	7.6	5.1	24	
RS-1	12/91				8300	950	160	71	190	
RS-1	11/09/92	100.18	17.05	83.13	1700	730	9.6	16	14	
RS-1	04/07/94	100.18	13	87.18	860	84	12	16	110	
RS-1	06/19/94	228.15	13.37	214.78	1400	150	12	52	87	
RS-1	09/17/94	228.15	16.33	211.82	310	30	1.8	2.8	3.9	
RS-1	03/12/95	228.15	4.66	223.49	ND	ND	ND	ND	ND	
RS-1	DESTROYED BY OVER-EXCAVATION OF UST-DISPENSER AREAS (8/14/95									
RS-1	REPLACED WITH MW-1 9/5/95.									
MW-1	10/04/95	232.57	12.38	220.19	ND	ND	ND	ND	ND	
MW-1	12/21/95	232.57	13.4	219.17	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-1	03/27/96	232.57	5.53	227.04	< 50	< 0.5	< 0.5	< 0.5	< 2	< 50
MW-1	06/11/96	232.57	9.02	223.55	< 50	< 0.5	< 0.5	< 0.5	< 2	< 50
MW-1	09/04/96	232.57	11.84	220.73	< 50	< 0.5	< 0.5	< 0.5	< 2	< 5
MW-1	12/11/96	232.57	12.98	219.59	< 50	< 0.5	0.9	< 0.5	< 1	< 0.5
RS-2	06/19/94	227.19	10.89	216.3	140	9.2	34	4.3	24.0	
RS-2	03/12/95	227.19	5.26	221.93	ND	ND	ND	ND	ND	
RS-2	10/04/95	230.43	15.05	215.38	ND	ND	ND	ND	ND	
RS-2	12/21/95	230.43	9.95	220.48	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
RS-2	03/27/96	230.43	6.28	224.15	< 50	< 0.5	< 0.5	< 0.5	< 2	< 50
RS-2	06/11/96	230.43	8.00	222.43	< 50	1.2	2.8	< 0.5	< 2	< 50
RS-2	09/04/96	230.43	9.89	220.54	< 50	< 0.5	< 0.5	< 0.5	< 2	< 5
RS-2				222.05	< 50	< 0.5	< 0.5	< 0.5	< 2	6
RS-5	12/14/89	241.26	25.97	215.29	57000	3100	4300	670	3400	
RS-5	2/91					FLOATING PRODUCT				
RS-5	6/91					FLOATING PRODUCT				
RS-5	9/91					FLOATING PRODUCT				
RS-5	12/91					FLOATING PRODUCT				
RS-5	11/09/92	98.99	20.73	78.26	50000	650	4800	1100	15000	
RS-5	04/07/94	98.99	18.16	80.83	27000	5000	8700	550	2800	
RS-5	06/19/94	227.65	18.11	209.54	20000	2100	5300	470	2500	
RS-5	09/17/94	227.65	19.63	208.02	9300	230	340	110	700	
RS-5	03/12/95	227.65	14.54	213.11	93000	6400	2000	19000	10000	
RS-5	10/04/95	230.64	17.53	213.11	16000	420	2100	320	1800	
RS-5	12/21/95	230.64	17.47	213.17	48000	3500	9200	840	4800	56
RS-5	03/27/96	230.64	13.51	217.13	68000	4900	18000	1700	11000	< 3000

TABLE 1

GROUND WATER ELEVATIONS AND CERTIFIED ANALYTICAL LABORATORY RESULTS FROM WATER SAMPLES
 DESERT PETROLEUM, INC. SITE #793
 4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

(All concentrations in parts per billion [ug/L, ppb])
 (AMSL = Above mean sea level)

WELL ID#	DATE SAMPLED	WELL CASING ELEVATION (FEET AMSL)	DEPTH TO GROUND WATER (FEET)	GROUND WATER ELEVATION (FEET AMSL)	TPH-G (UG/L)	BENZENE (UG/L)	TOLUENE (UG/L)	ETHYL-BENZENE (UG/L)	XYLENES (UG/L)	MTBE (UG/L)
RS-5	06/11/96	230.64	14.25	216.39	66000	6300	20000	2100	12000	< 3000
RS-5	09/04/96	230.64	16.50	214.14	31000	2100	11000	1100	6800	400
RS-5	12/11/96	230.64	15.88	214.76	85000	7000	21000	1800	6900	570
RS-6	12/14/89	240.23	22.52	217.71	11000	1400	1700	160	660	
RS-6	2/91					FLOATING PRODUCT				
RS-6	6/91				95000	4200	4200	650	3700	
RS-6	9/91					FLOATING PRODUCT				
RS-6	12/91				64000	3700	2300	730	4100	
RS-6	11/09/92	99.27	19.43	79.84	19000	1600	710	500	1600	
RS-6	04/07/94	99.27	14.42	84.85	16000	1200	1300	290	1100	
RS-6	06/19/94	227.22	14.45	212.77	23000	1300	2200	590	2200	
RS-6	09/17/94	227.22	19.52	207.7	24000	630	790	250	1100	
RS-6	03/12/95	227.22	8.9	218.32	3200	450	13	82	230	
RS-6	10/04/95	230.22	17.78	212.44	3700	170	250	38	290	
RS-6	12/21/95	230.22	14.98	215.24	3100	120	30	16	150	58
RS-6	03/27/96	230.22	10.00	220.22	6900	180	440	79	360	< 300
RS-6	06/11/96	230.22	12.00	218.22	7400	220	150	30	100	<1000
RS-6	09/04/96	230.22	15.00	215.22	1400	68	2.6	7.7	9.2	14
RS-6	12/11/96	230.22	12.36	217.86	1600	39	16	10	18	< 0.5
RS-7	7/90				5600000	24000	210000	50000	740000	
RS-7	2/91					FLOATING PRODUCT				
RS-7	6/91					FLOATING PRODUCT				
RS-7	9/91					FLOATING PRODUCT				
RS-7	12/91				270000	11000	22000	2000	13000	
RS-7	11/09/92	67.88	4.62	63.26	81000	12000	16000	1900	13000	
RS-7	04/07/94	67.88	4.03	63.85	74000	16000	16000	1400	8500	
RS-7	06/19/94	195.92	4.07	191.85	83000	22000	19000	1500	9500	
RS-7	09/17/94	195.92	4.05	191.87	270000	13000	15000	2100	1100	
RS-7	03/12/95	195.92	3.72	192.2	35000	5100	560	6300	3600	
RS-7	10/04/95	199.35	4.03	195.32	96000	14000	14000	1300	7000	
RS-7	12/21/95	199.35	3.95	195.4	70000	9300	12000	860	5600	210
RS-7	03/27/96	199.35	3.80	195.55	64000	8900	14000	1100	8300	< 3000
RS-7	06/11/96	199.35	3.79	195.56	65000	12000	17000	1600	9700	<5000
RS-7	09/04/96	199.35	3.99	195.36	20000	4900	2100	670	4400	100
RS-7	12/11/96	199.35	3.78	195.57	17000	4400	7500	570	4600	180
RECOVERY 1	09/04/96	230.73	15.00	215.73	1800	1100	3	29	< 10	< 30
RECOVERY 1	12/11/96	230.73	10.30	220.43	<50	<0.5	< 0.5	< 0.5	< 1	4
RECOVERY 2	09/04/96	230.68	13.44	217.24	14000	7600	<10	170	190	<100
RECOVERY 2	12/11/96	230.68	12.42	218.26	480	300	1	< 0.5	30	16

TABLE 1

GROUND WATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES
 DESERT PETROLEUM, INC. SITE #793
 4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

(All concentrations in parts per billion (ug/L, ppb))
 (AMSL = Above mean sea level)

WELL ID#	DATE SAMPLED	WELL CASING ELEVATION (FEET AMSL)	DEPTH TO GROUND WATER (FEET)	GROUND WATER ELEVATION (FEET AMSL)	TPH-G (UG/L)	BENZENE (UG/L)	TOLUENE (UG/L)	ETHYL-BENZENE (UG/L)	XYLENES (UG/L)	MTBE (UG/L)
RECOVERY 3	09/04/96	230.32	9.90	220.42	<50	<0.5	<0.5	<0.5	<2	<5
RECOVERY 3	09/04/96	230.32	9.90	220.42	<50	<0.5	<0.5	<0.5	<2	<5

ND BELOW LABORATORY DETECTION LIMITS
 TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

-WEGE-

DESERT STATION #793
4035 Park Blvd.
Oakland, California

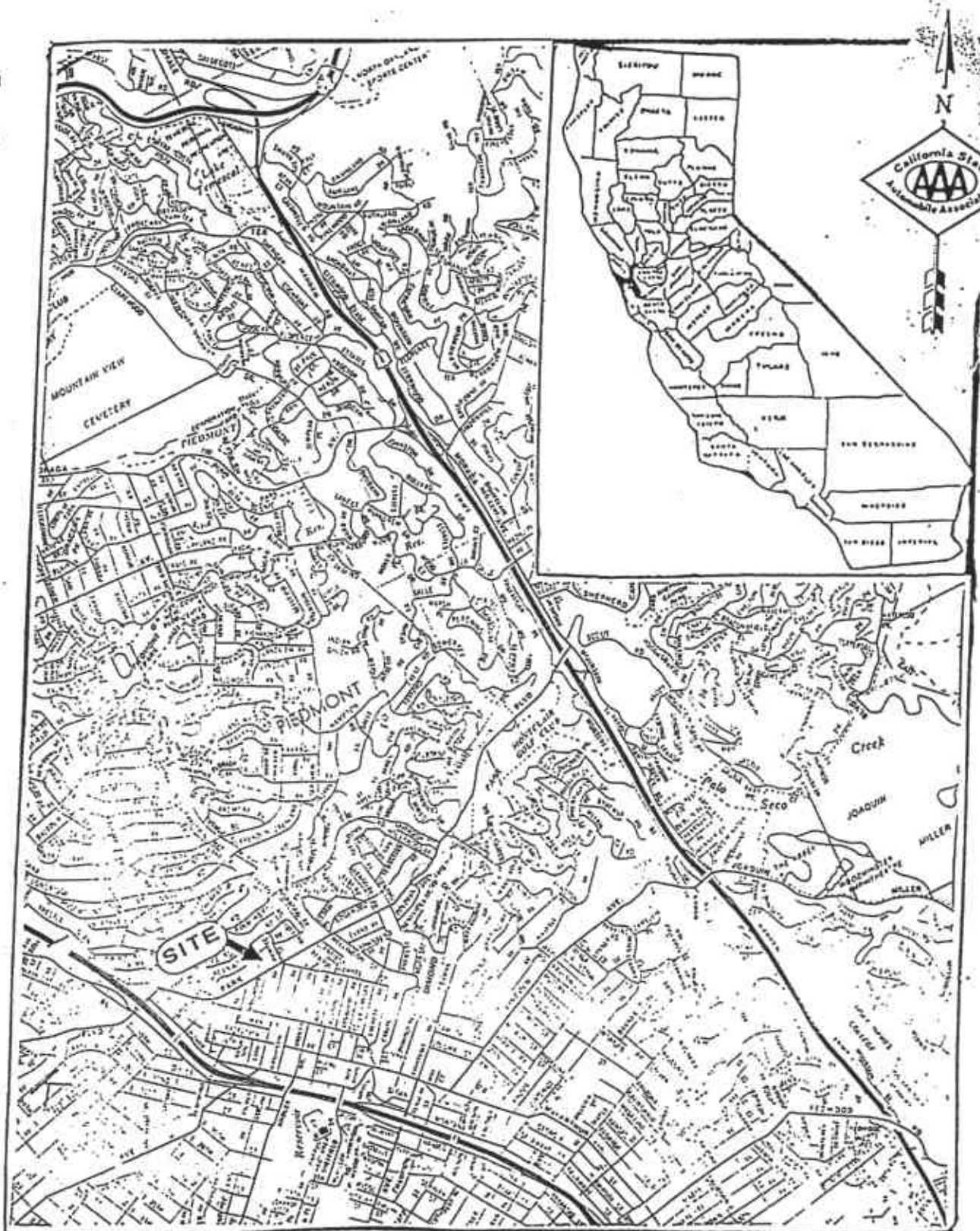


FIGURE 1

Location (AAA Map)



ESTERN
GEO-ENGINEERS

DESERT STATION #793
4035 Park Blvd.
Oakland, California

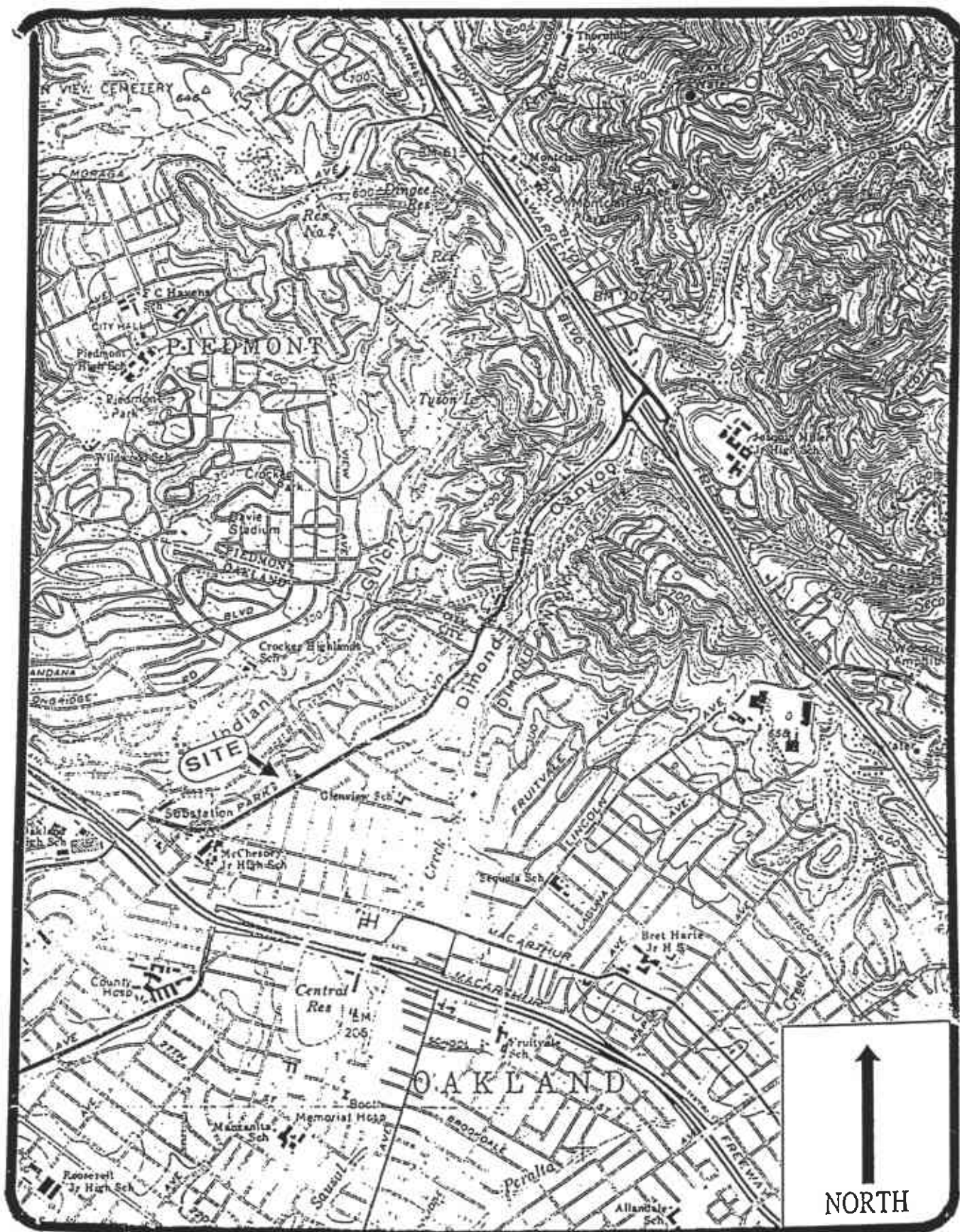


FIGURE 2,, USGS TOPOGRAPHIC MAP

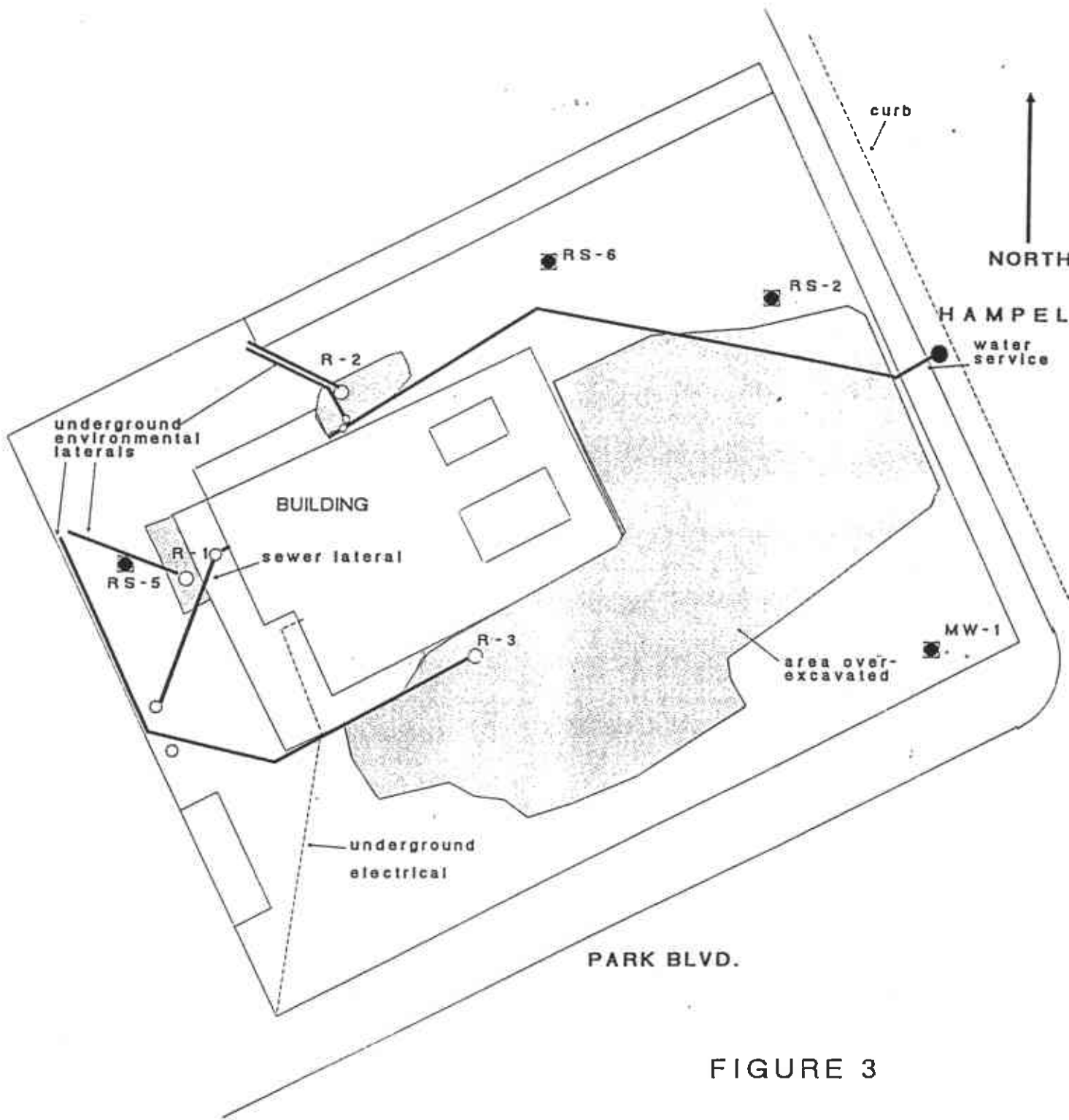
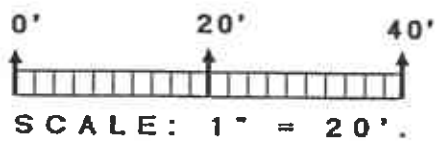


FIGURE 3

SITE BASE MAP

DESERT PETROLEUM STATION #793
 4035 PARK BLVD..
 OAKLAND, CALIFORNIA 94602



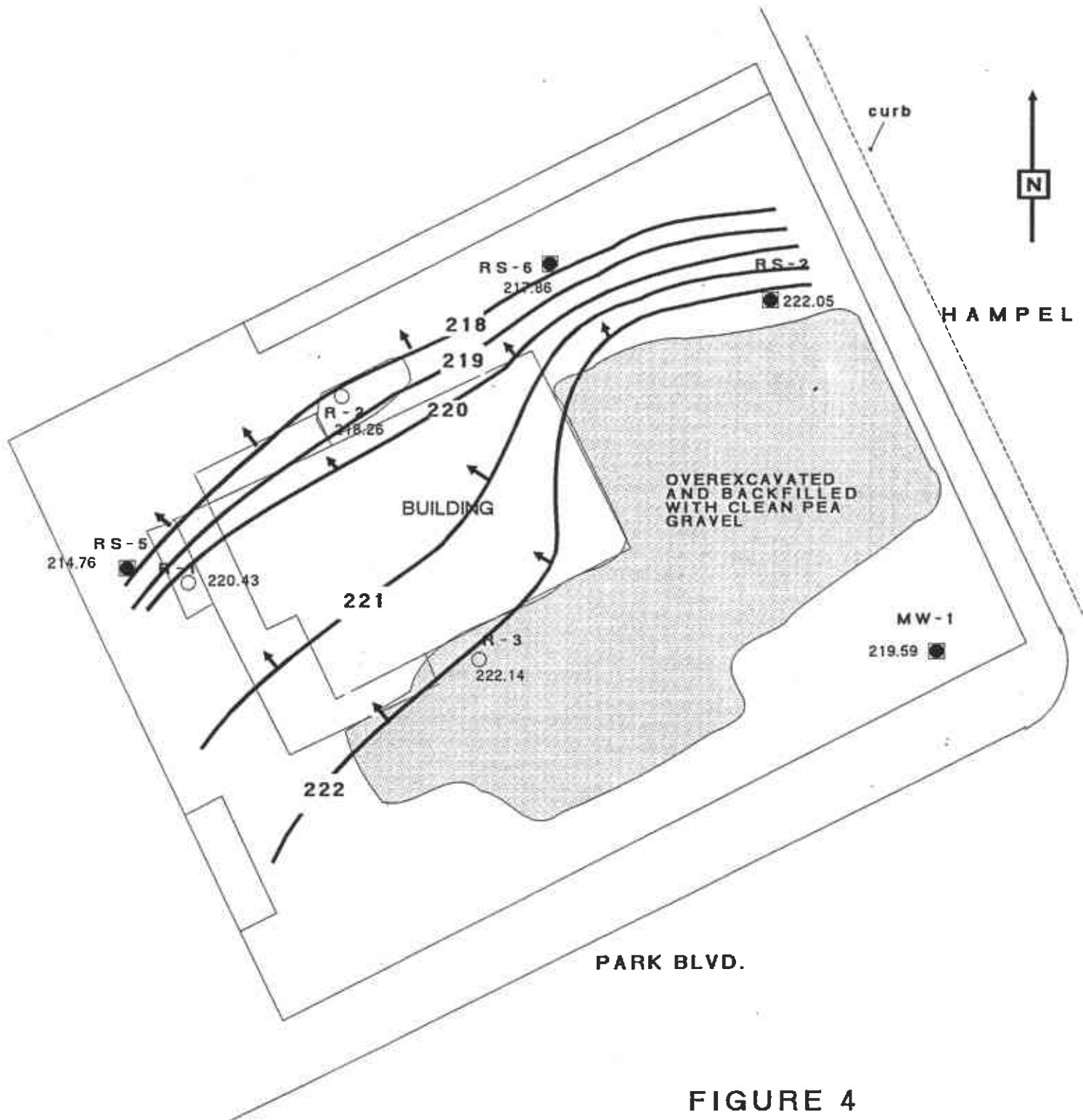
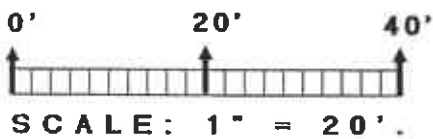


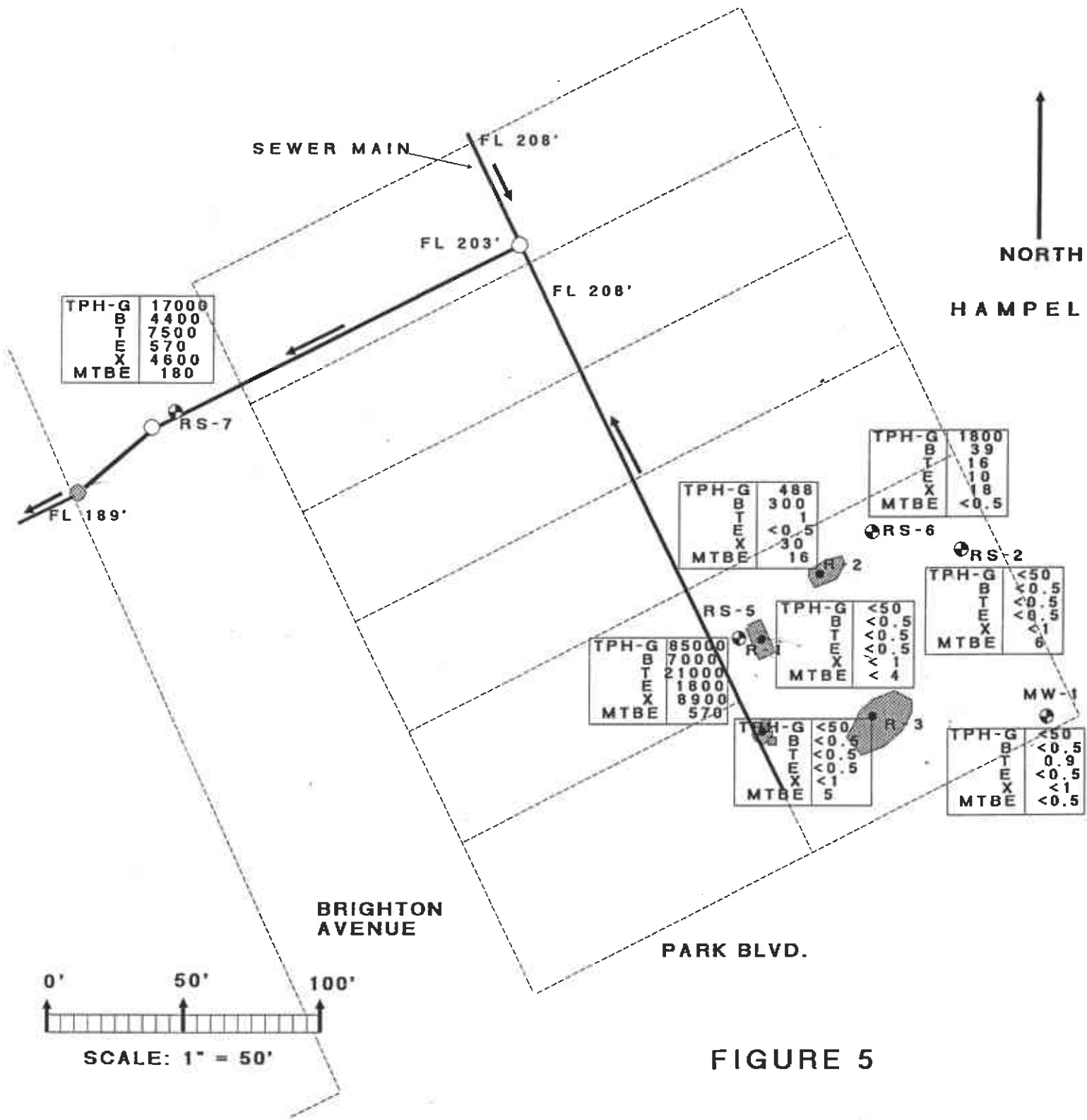
FIGURE 4

GROUNDWATER ELEVATION
 CONTOUR INTERVAL EQUALS
 ONE FOOT. ELEVATIONS ARE
 MEASURED IN FEET AMSL

**GROUNDWATER ELEVATION GRADIENTS
 AND FLOW DIRECTION FOR 12/11/96**



**DESERT PETROLEUM STATION #793
 4035 PARK BLVD..
 OAKLAND, CALIFORNIA 94602**



EXPLANATION

- MW-1 MONITOR WELL LOCATION WITH ID# AND GROUNDWATER ANALYTICAL RESULTS. ALL CONCENTRATIONS IN UG/L.
- TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = XYLENES
- MTBE = METHYL TRIBUTYL ETHER
- R-1 INJECTION/RECOVERY TRENCHES AND RECOVERY WELLS

ANALTICAL RESULTS FROM GROUND WATER SAMPLES COLLECTED FROM MONITOR WELLS ON 12/11/96

**DESERT PETROLEUM STATION #793
4035 PARK BLVD.
OAKLAND, CALIFORNIA**

APPENDIX A

**METHODS AND PROCEDURES
QA/QC**

APPENDIX A.

METHODS AND PROCEDURES, QA/QC

This Appendix documents the specific methods, procedures, and materials used to collect and analyze groundwater samples and monitoring the vapor recovery system.

Gauging and Measuring Monitor Wells.

Prior to sampling a well, WEGE personnel obtain three measurements: the depth to groundwater (DTW) and the product thickness using a battery powered depth to water-product interface probe and or by using a specially designed bailer. And the vacuum influence at the well head, using a water manometer that is attached to a sample port in the well head. The DTW probe is lowered into the well casing until the instrument signals that the top of water has been reached. The distance from the top of water to the top of casing is read from the tape that is attached to the probe. The tape is calibrated in 0.01 foot intervals for accuracy to 0.01 foot. The measured distance is subtracted from the established elevation at the top of casing to determine the elevation of groundwater with respect to mean sea level. The probe is washed with TSP (Tri Sodium Phosphate) and rinsed in distilled water before each measurement. WEGE has designed and built bailers that will collect a sample of the contents of a well to show the exact thickness of any floating product. Some of the abbreviations used in water sampling and or measuring or monitoring are: DTW, Depth to Water (from surface reference ie usually TOC); TOC, Top of Casing; MSL, Mean Sea Level; AMSL and BMSL, Above and Below MSL; BS, Below Surface; TOW, Top of Water; TSP, Tri Sodium Phosphate.

Purging Standing Water from Monitor Wells

If no product is present, WEGE personnel purge the well. This is accomplished by removing groundwater from the well until the water quality parameters (temperature, pH, and conductivity) stabilize, or until the well is emptied of water. Periodic measurements of groundwater temperature, pH, and conductivity were taken with a Hydac Monitor or other meter and recorded along with the volume of groundwater removed from the well. Purging is done by one or more methods singularly or in combination. Bailers, pneumatic or electric sample pumps, or vacuum pump tanks or trucks may be used. The usual amount of water removed is three well volumes. The water collected during purging is either safely stored onsite for later disposition, transported to an approved onsite or offsite sewer discharge system, or an approved onsite or offsite treatment system.

Collection of Water Sample for Analysis

The well is allowed to recover after purging and a groundwater sample is collected. A fresh bailer is used to collect enough water for the requirements of the laboratory for the analyses needed or required. The water samples are decanted from the bailer into the appropriate number and size containers. These containers are furnished pre-cleaned to exact EPA protocols, with and without preservatives added, by the analytical laboratory or a chemical supply company. The bottles are filled, with no headspace, and then capped with plastic caps with teflon liners.

The vials or bottles containing the groundwater samples are labeled with site name, station, date, time, sampler, and analyses to be performed, and documented on a chain of custody form. They were placed in ziplock bags and stored in a chest cooled to 4°C with ice. The preserved samples are chain of custody delivered to the chosen laboratory.

Analytical Results

TPH is the abbreviations used for Total Petroleum Hydrocarbons used by the laboratories for water and soil analyses. The letter following TPH indicates a particular distinction or grouping for the results. The letters "g", "d", "k", or "o" indicate gasoline, diesel, kerosene, or oil, respectively, ie TPH-d for diesel range TPH.

MBTEX acronym or abbreviation used for Methyl Tertiary Butyl Ether (MTBE), Benzene, Toluene, Ethylbenzene and all of the Xylenes.

The less than symbol, <, used with a "parts per value" indicates the lower detection limit for a given analytical result and the level, if present, of that particular analyte is below or less than that lower detection limit.

Other abbreviations commonly used are ppm, ppb, mg/Kg, ug/Kg, ml/l and ul/l are parts per million, parts per billion, milligrams per kilogram, micrograms per kilogram, milliliters per liter, microliters per liter, respectively.

Chain of Custody Documentation

All water samples that are collected by WEGE and transported to a certified analytical laboratory are accompanied by chain-of-custody (COC) documentation. This documentation is used to record the movement and custody of a sample from collection in the field to final analysis and storage. Samples to be analyzed at the certified laboratory were logged on the COC sheet provided by the laboratory. The same information provided on the sample labels (site name, sample location, date, time, and analysis to be performed) are also noted on the COC form. Each person relinquishing custody of the sample set signs the COC form indicating the date and time of the transfer to the recipient. A copy of the COC follows the samples or their extracts throughout the laboratory to aid the analyst in identifying the samples and to assure analysis within holding times.

Copies of the COC documentation are included with the laboratory results in Appendix B of this report.

APPENDIX B

**MONITOR WELL SAMPLING
DATA SHEETS**

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-11-96	TIME 9:32
WELL MW-1	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 12.78 DTB: 18.30		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
9:38	1st bailer	73.2	7.45	.21 X1000
9:40	2 1/2	72.8	na1	.16
9:42		72.4		.14
9:44		73.0		.13
9:46		73.2		.13
9:48		73.3		.13

FINAL VOLUME PURGED 4 gal
TIME SAMPLED 9:50
SAMPLE ID. MW-1
SAMPLE CONTAINERS 2 vials
ANALYSIS TO BE RUN TPH _g /BTEX MTBE
LABORATORY AEN
NOTES: 1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-12-96	TIME 11:10
WELL R-1	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 10.30 DTB: 16.90		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
11:21	1st bailer	68.3	na	.08 x1000
11:22	30	68.1		.07
11:24		68.1		.07
11:25		68.2		.07
11:26		68.1		.07

FINAL VOLUME PURGED 31 1/4 gal
TIME SAMPLED 11:27
SAMPLE ID. R-1
SAMPLE CONTAINERS 2 Voas
ANALYSIS TO BE RUN TPH ₉ /BTEX MTBE
LABORATORY AEN
NOTES: 1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-12-96	TIME 10:39
WELL R-2	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 12.42 DTB: 16.80		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
10:40	1st bailer	68.8	mo/	.14 X1000
10:43	22	68.1		.14
10:44		68.0		.14
10:46		68.1		.14
10:48		68.0		.14

FINAL VOLUME PURGED	23 1/4 gal
TIME SAMPLED	10:50
SAMPLE ID.	R-2
SAMPLE CONTAINERS	2 vials
ANALYSIS TO BE RUN	TPH ₂ /BTEX MTBE
LABORATORY	AEN
NOTES:	1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-11-96	TIME 11:36
WELL A-3	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 8.18 DTB: 11.75		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
11:37	1st bailer	71.7	mal	.15 X1000
11:40	25	71.8		.16
11:42		72.2		.16
11:44		72.4		.16
11:46		72.2		.16
11:48		72.3		.16
		Sampling		

FINAL VOLUME PURGED 26 1/2 gal
TIME SAMPLED 11:49
SAMPLE ID. A-3
SAMPLE CONTAINERS 2 vials
ANALYSIS TO BE RUN TPH ₉ /BTEX MTBE
LABORATORY AEM
NOTES: 1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-17-96	TIME 9:52
WELL RS-2	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 8.38 DTB: 18.40		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
9:55	1st bailer	70.4	na	0.08 x1000
10:00	12	70.7		.14
10:02		71.5		.13
10:03		72.1		.13
10:05		72.4		.12
10:06		72.6		.12
10:07		72.4		.12

FINAL VOLUME PURGED 13 3/4 gal
TIME SAMPLED 10:02
SAMPLE ID. RS-2
SAMPLE CONTAINERS 2 vials
ANALYSIS TO BE RUN TPH ₉ /BTEX MIBE
LABORATORY AEN
NOTES: 1st bailer clear No odor

10.32
16.90

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-11-96	TIME 11:00
WELL RS-5	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 15.8 DTB: 39.20		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
11:02	1st bailer	68.9	mal	.12 X1000*
11:15	45	70.0		.12
11:17		69.8		.12
11:18		69.8		.12
11:19		69.9		.12

FINAL VOLUME PURGED 46 1/4 gal
TIME SAMPLED 11:20
SAMPLE ID. RS-5
SAMPLE CONTAINERS 2 vials
ANALYSIS TO BE RUN TPH ₄ /BTEX MTBE
LABORATORY AEN
NOTES: 1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-17-96	TIME 10:10
WELL RS-6	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 12.36 DTB: 34.0		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LTT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
10:12	1st bailer	69.6	Ma/	.13 X1000
10:20	2g	68.8		.14
10:22	2	69.3		.14
10:24	10	69.5		.14
10:26		69.6		.14
10:28		69.8		.14

FINAL VOLUME PURGED 4 1/2 gal
TIME SAMPLED 10:30
SAMPLE ID. RS-6
SAMPLE CONTAINERS 2 voas
ANALYSIS TO BE RUN TPH ₄ /BTEX MTBE
LABORATORY AEM
NOTES: 1st bailer clear No odor

WELL SAMPLING DATA SHEET

SITE DP 793	DATE 12-12-96	TIME 11:52
WELL RS-7	SAMPLED BY. mp	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 3.78 DTB: 7.0		
FLUID ELEVATION		
BAILER TYPE disposable bailer		
PUMP Paul LIT		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
11:53	1st bailer	68.0	na	.13 X1000
11:55	6	67.4		.12
11:56		66.9		.12
11:57		66.5		.12
11:58		66.4		.12
11:59		66.6		.12
			Sampling	

FINAL VOLUME PURGED	7 1/2 gal
TIME SAMPLED	12:00
SAMPLE ID.	RS-7
SAMPLE CONTAINERS	2 vials
ANALYSIS TO BE RUN	TPH ₂ /BTEX MTBE
LABORATORY	AEN
NOTES:	1st bailer clear No odor

APPENDIX C

**CERTIFIED ANALYTICAL
LABORATORY REPORT**

COC DOCUMENTATION



North State Environmental Analytical Laboratory

Chain of Custody/Request for Analysis

96-924

(415) 588-9652

Client: <i>Western Geo-Engineers</i>		Phone: <i>916 668-5300</i>		Report to: <i>George Converse</i>			Turnaround Time			
Mailing Address: <i>1386 E. Decatur St. Woodland, CA 95776</i>				Billing to: <i>WGE</i>			8 Hr <input type="checkbox"/>		24 Hr <input type="checkbox"/>	
Site Address: <i>DP 793</i>				PO # / Billing Reference:			40 Hr <input type="checkbox"/>		5 Days <input type="checkbox"/>	
Sampler: <i>Matt Penick</i>		Date: <i>12-13-96</i>					Other <input type="checkbox"/>			
Sample ID:	Sample Description	Container # / type	Sampling Time/Date	ANALYSIS REQUESTED						Remarks
				TPH-D	TPH-G	BTEX	O+G	MTBE		
	<i>R1 water</i>	<i>2 / VOA</i>	<i>11:27 / 12-11-96</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>R2</i>		<i>10:50</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>R3</i>		<i>11:49</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>RS-2</i>		<i>10:09</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>RS-5</i>		<i>11:20</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>RS-6</i>		<i>10:30</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>incl RS-7</i>		<i>9:50</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<i>RS-7</i>		<i>noon</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Relinquished by: <i>George Converse</i>		Date: <i>12/17/96</i> Time: <i>1:55</i>		Received by: <i>John H. G.</i>					Yes <input type="checkbox"/>	No <input type="checkbox"/>
Relinquished by: <i>John H. G.</i>		Date: <i>12/13/96</i> Time: <i>7:10 P</i>		Received by: <i>Edward P. Ernst</i>			Were samples Preserved ?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Relinquished by: _____		Date: _____ Time: _____		Received in lab by: _____			In good condition ?		<input checked="" type="checkbox"/>	<input type="checkbox"/>

1
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CERTIFICATE OF ANALYSIS

Lab No: 96-924 Date Sampled: 12-11-96
Client: Western Geo-Engineers Date Analyzed: 12-18-96
Project: DP-703 Date Reported: 12-23-96

MTBE, Benzene, Toluene, Ethylbenzene and Xylenes by Method 8020
Gasoline range hydrocarbons by EPA method 8015M

SAMPLE NO	CLIENT ID	ANALYTE	METHOD	RESULT
96-924-01	R1 WATER	MTBE	8020	4.0 ug/L
		Benzene	8020	ND
		Toluene	8020	ND
		Ethylbenzene	8020	ND
		Xylenes	8020	ND
		Gasoline	8015M	ND
		96-924-02	R2 WATER	MTBE
Benzene	8020			300 ug/L
Toluene	8020			1.0 ug/L
Ethylbenzene	8020			ND
Xylenes	8020			30 ug/L
Gasoline	8015M			488 ug/L
96-924-03	R3 WATER			MTBE
		Benzene	8020	ND
		Toluene	8020	ND
		Ethylbenzene	8020	ND
		Xylenes	8020	ND
		Gasoline	8015M	ND
		96-924-04	RS-2 WATER	MTBE
Benzene	8020			ND
Toluene	8020			ND
Ethylbenzene	8020			ND
Xylenes	8020			ND
Gasoline	8015M			ND



CERTIFICATE OF ANALYSIS

Lab No: 96-924 Date Sampled: 12-11-96
Client: Western Geo-Engineers Date Analyzed: 12-18-96
Project: DP-703 Date Reported: 12-23-96

MTBE, Benzene, Toluene, Ethylbenzene and Xylenes by Method 8020
Gasoline range hydrocarbons by EPA method 8015M

SAMPLE NO	CLIENT ID	ANALYTE	METHOD	RESULT
96-924-05	RS-5 WATER	MTBE	8020	570 ug/L ✓
		Benzene	8020	7000 ug/L ✓
		Toluene	8020	21000 ug/L
		Ethylbenzene	8020	1800 ug/L
		Xylenes	8020	8900 ug/L
		Gasoline	8015M	85000 ug/L ✓
96-924-06	RS-6 WATER	MTBE	8020	ND ✓
		Benzene	8020	39 ug/L ✓
		Toluene	8020	16 ug/L ✓
		Ethylbenzene	8020	10 ug/L ✓
		Xylenes	8020	18 ug/L ✓
		Gasoline	8015M	1800 ug/L ✓
96-924-07	MW-1 WATER	MTBE	8020	ND
		Benzene	8020	ND
		Toluene	8020	0.90 ug/L ✓
		Ethylbenzene	8020	ND
		Xylenes	8020	ND
		Gasoline	8015M	ND
96-924-08	RS-7 WATER	MTBE	8020	180 ug/L ✓
		Benzene	8020	4400 ug/L ✓
		Toluene	8020	7500 ug/L ✓
		Ethylbenzene	8020	570 ug/L ✓
		Xylenes	8020	4600 ug/L ✓
		Gasoline	8015M	17000 ug/L ✓



CERTIFICATE OF ANALYSIS

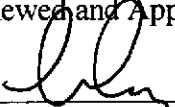
Lab No:	96-924	Date Sampled:	12-11-96
Client:	Western Geo-Engineers	Date Analyzed:	12-18-96
Project:	DP-703	Date Reported:	12-23-96

Quality Control/Quality Assurance Summary-Water

Analyte	Method	Reporting Limit	Blank	MS/MSD Recovery	RPD
MTBE	8020	0.5 ug/L	ND	73	7
Benzene	8020	0.5 ug/L	ND	54	1
Toluene	8020	0.5 ug/L	ND	70	1
Ethylbenzene	8020	0.5 ug/L	ND	75	1
Xylenes	8020	1.0 ug/L	ND	73	1
Gasoline	8015M	50 ug/L	ND	120	4

ELAP Certificate NO: 1753

Reviewed and Approved:



John A. Murphy
Laboratory Director