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April 3, 2000

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

Dear Mr. Rutherford:

The following report documents the First Quarter 2000 collection and certified laboratory analysis of groundwater samples from eight monitoring wells (MW1, RS2, RS5, RS6, RS7, RS8, RS9 and RS10), three water recovery/injection wells (R1, R2 and R3) and the receptor trench well (T1) associated with former Desert Petroleum Station #793.

## 1.0 SITE LOCATION AND DESCRIPTION

Former Desert Petroleum #793 is a non-active service station, located on the northwest corner of the intersection of Park Boulevard 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).

## 2.0 LOCAL GEOLOGY

### 2.1 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.

## **2.2 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 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. A fine to medium sand, clayey sand, and silty sand underlies the gravel and clay.

## **3.0 COLLECTION AND ANALYSIS OF GROUNDWATER SAMPLES,**

### **FEBRUARY 9, 2000**

The first quarter sampling occurred on February 9, 2000. Water samples were collected from wells R1, R2, R3, MW1, RS-2, RS-5, and RS-6 located on-site and RS-7, RS-8, RS-9, RS-10 and T1 located offsite in the backyards and along Brighton Avenue northeast of the site (Figure 3), see Table 1. Appendix A contains QA/QC, details, methods, procedures, abbreviations, and acronyms used in sampling and analysis.

### **3.1 Depth to Water Measurements**

Depth to water was measured at each well using a product/water interface probe. Measurements are referenced to the surveyed elevation at the top of casing at each well. Table 1 shows the elevation of groundwater with respect to mean sea level for all wells through February 9, 2000.

### **3.2 Purging of Monitor Wells**

David Pittman Well Purge (DPWP), using a truck mounted vacuum lift pump and one-inch diameter PVC tubing purged the monitor wells of three volumes of water. The specific volume of water removed from each well is recorded on the well sampling data sheets (Appendix B).

### **3.3 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 C). Presence of MTBE by Method 8020 from the November 24, 1998 sampling was verified with EPA Method 8260. This most recent sampling showed the absence of MTBE in all wells sampled

(November 10, 1999). The November 24, 1998 was the first occurrence of MTBE and was associated with the upgradient wells MW-1 and RS-2. This indicates an **upgradient source for the MTBE may exist**. Previous sample results and the February 23, 1999 sample results showed all wells below laboratory lower detection limits for MTBE using standard methods and the September 1998 samples from all wells were also analyzed for the Fuel Oxygenants using EPA Method 8260. All wells tested below laboratory lower detection limits.

Fuel Oxygenants (Method 8260)	Laboratory Lower Detection Limits
Ethanol	500 ug/L
Methyl-t-Butyl Ether (MTBE)	1 ug/L
Di Isopropyl Ether (DIPE)	5 ug/L
Tertiary Butyl Alcohol (TBA)	5 ug/L
Ethyl t Butyl Ether (ETBE)	5 ug/L
t-Amyl Methyl Ether (TAME)	1 ug/L

Appendix D contains a chart comparing the amount of MTBE found in wells MW1, RS2, RS5, RS6 and RS7 versus time. This chart indicates two major occurrences of MTBE, the winter of 1996 and the summer of 1999.

### *3.4 Disposition of Waste Water*

The wastewater generated from the purging of the monitor wells during sampling was pumped through two, in series, activated water carbon units and then to the onsite sanitary sewer (wastewater discharge permit # 5043550 1). The purge water contained on-site in a 20,000 gallon Baker Tank has also been discharge to the sewer system and the tank removed (February 9, 2000). As of February 9, 2000 18,360 gallons of treated groundwater has been discharged to East Bay Municipal Utility District sewer system, under the permit, see Table 2. Previous purged well water was removed from the site and transported to a recycling facility, by Evergreen Environmental Services.

## **4.0 RESULTS OF QUARTERLY GROUNDWATER MONITORING**

### *4.1 Groundwater Gradient and Flow Direction*

Figure 4 shows the groundwater elevation gradients and flow direction that were derived from the depth to water measurements of the monitor wells on February 9, 2000. Table 1 with charts shows the groundwater elevations for the wells during the assessment of this site.

The current flow direction is northwest to west. The hydraulic gradient averages 0.1 feet/linear foot downgradient from the overexcavated area at the site (Figure 4). The current flow direction and hydraulic gradient are consistent with previous determinations by WEGE.

#### *4.2 Results of Certified Analysis of Groundwater Samples*

The results of the certified analyses of groundwater samples collected on November 10, 1999 are shown in Table 1 and Figure 5. Copies of the laboratory reports are included as Appendix C of this report.

TPH-G concentrations in water samples from the eight monitor wells, the receptor trench well and three recovery wells ranged from maximums of 35 and 46 mg/l at receptor trench well T-1 and monitor well RS-5 respectively, to below the laboratory lower detection limits (50 ug/L) in wells MW-1, RS-2, R-1 and R-3. Benzene concentrations ranged from a maximum of 2.9 mg/L in receptor trench well T-1 to below the laboratory lower detection limits (0.5 ug/L) in wells MW-1 and RS-2.

Analysis results for Oxygenant Methyl-t-Butyl Ether (MTBE) was below the laboratory lower detection limit (0.5 ug/L) in all wells sampled. During the September 16, 1998 all Fuel Oxygenants; MTBE, Di-isopropyl Ether (DIPE), tertiary Butyl Alcohol (TBA), Ethyl-t-Butyl Ether (ETBE) and t-Amyl Methyl Ether (TAME) were confirmed with EPA Method 8260. These analytes were below laboratory lower detection limits. Figure 5 shows the areal distribution of the hydrocarbon plume in groundwater as determined from groundwater samples collected from the monitor wells and from non-certified results from the Soil Probe Surveys.

#### **5.0 LIMITATIONS**

This report is based upon the following:

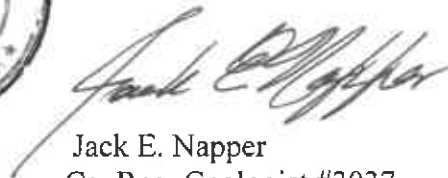
- A. The observations of field personnel.
- B. The results of laboratory analyses performed by a state certified laboratory.
- C. Referenced documents.
- D. Our understanding of the regulations of the State of California, Alameda County and the City of Oakland.
- E. Changes in groundwater conditions can occur due to variations in rainfall, temperature, local and regional water use, and local construction practices.
- F. 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. Western Geo-Engineers is a corporation under California Registered Geologist #3037 and/or Contractors License #513857. The services performed by Western Geo-Engineers 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. Known or suspected 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,



George Converse  
Geologist



Jack E. Napper  
Ca. Reg. Geologist #3037

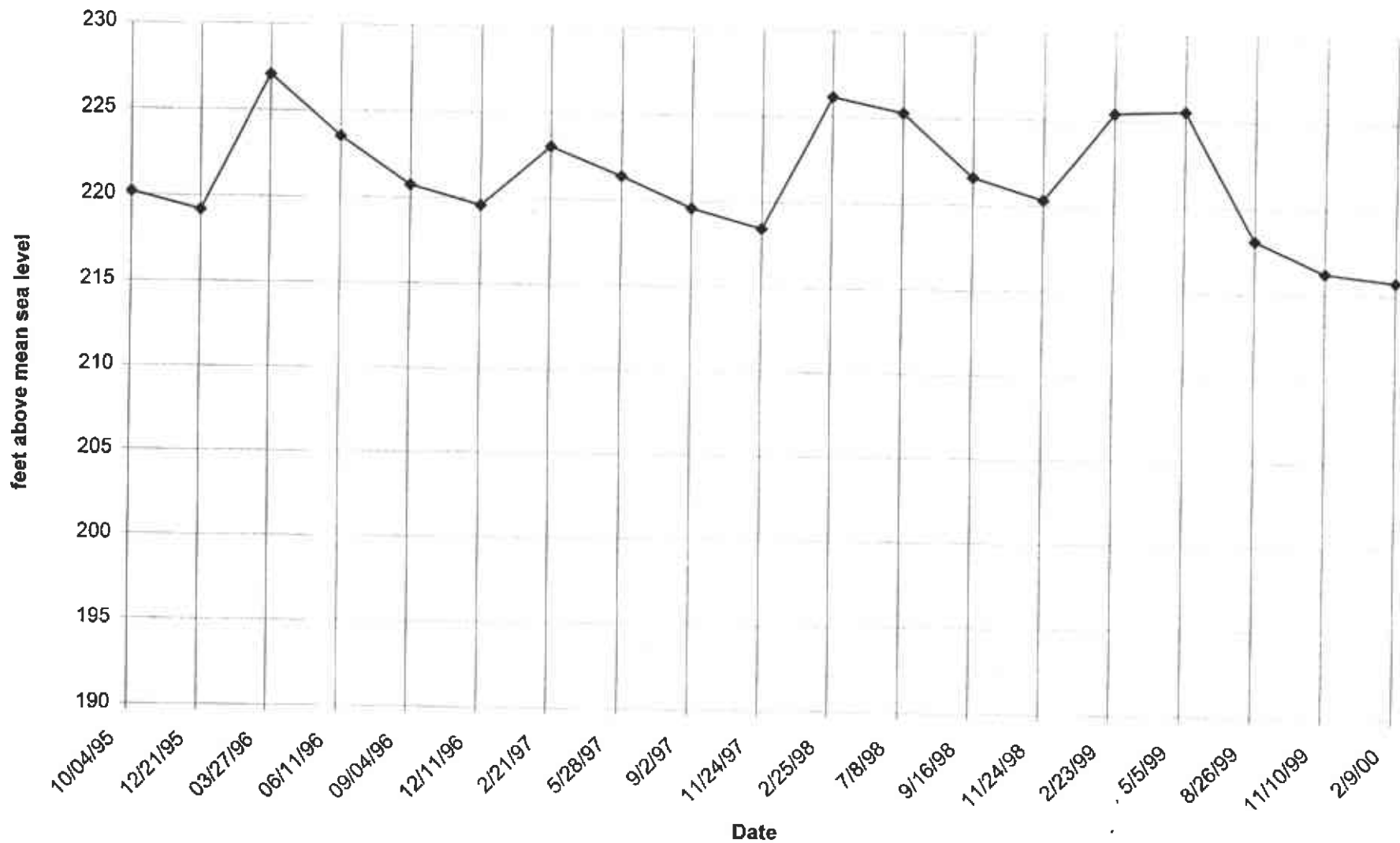
cc: Mr. Tom Peacock, Alameda County Health (510) 567-6774  
Mr. Leroy Griffin, Oakland Fire Dept.

TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion (ug/L, ppb) (AMSL = Above mean sea level))									
	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	
		DESTROYED BY OVER-EXCAVATION OF UST-DISPENSER AREAS ( 8/14/95 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	13.40	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
MW-1	2/21/97	232.57	9.50	223.07	< 50	< 0.5	0.9	< 0.5	< 1	< 0.5
MW-1	5/28/97	232.57	11.18	221.39	< 50	3	3	< 0.5	< 1	< 0.5
MW-1	9/2/97	232.57	13.00	219.57	< 50	5	< 0.5	< 0.5	< 1	< 0.5
MW-1	11/24/97	232.57	14.12	218.45	< 50	5	< 0.5	< 0.5	< 1	< 0.5
MW-1	2/25/98	232.57	6.41	226.16	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
MW-1	7/8/98	232.57	7.28	225.29	< 50	< 0.5	< 0.5	< 0.5	< 1	< 1
MW-1	9/16/98	232.57	10.96	221.61	< 50	< 0.5	< 0.5	< 0.5	< 1	< 1
MW-1	11/24/98	232.57	12.24	220.33	52	2.3	5.2	< 0.5	5.4	11
MW-1	2/23/99	232.57	7.14	225.43	< 50	< 0.5	5	< 0.5	< 1	< 0.5
MW-1	5/5/99	232.57	7.00	225.57	< 50	2	<0.5	< 0.5	< 1	8
MW-1***	8/26/99	229.5	11.41	218.09	<50	4.1	<0.5	< 0.5	< 1	<1
MW-1	11/10/99	229.5	13.27	216.23	<50	<0.5	<0.5	< 0.5	< 1	<0.5
MW-1	2/9/00	229.5	13.76	215.74	<50	<0.5	<0.5	0.5	< 1	0.5

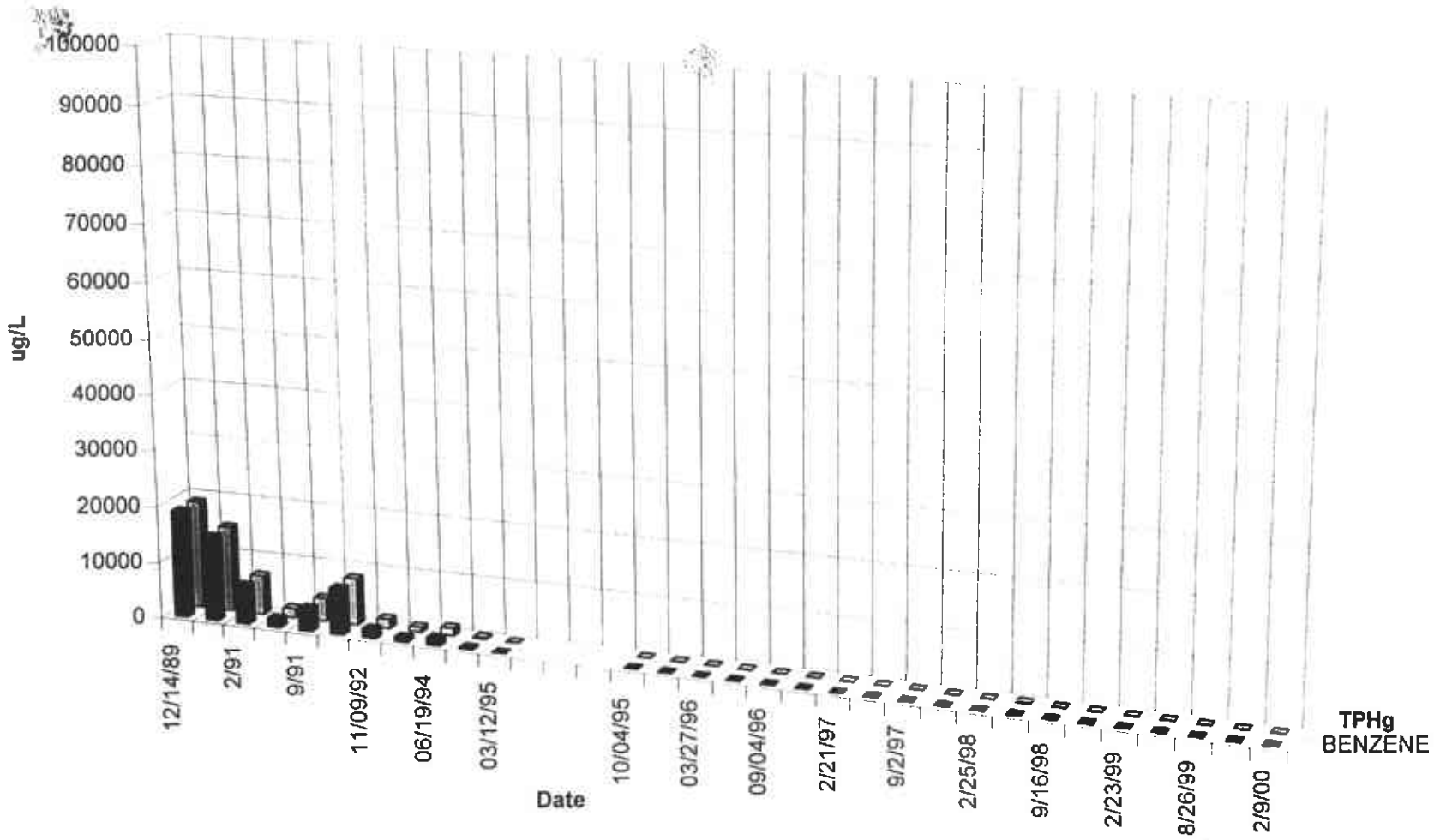
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### MW-1 Groundwater Elevation



L

RS-1/MW-1 TPHg



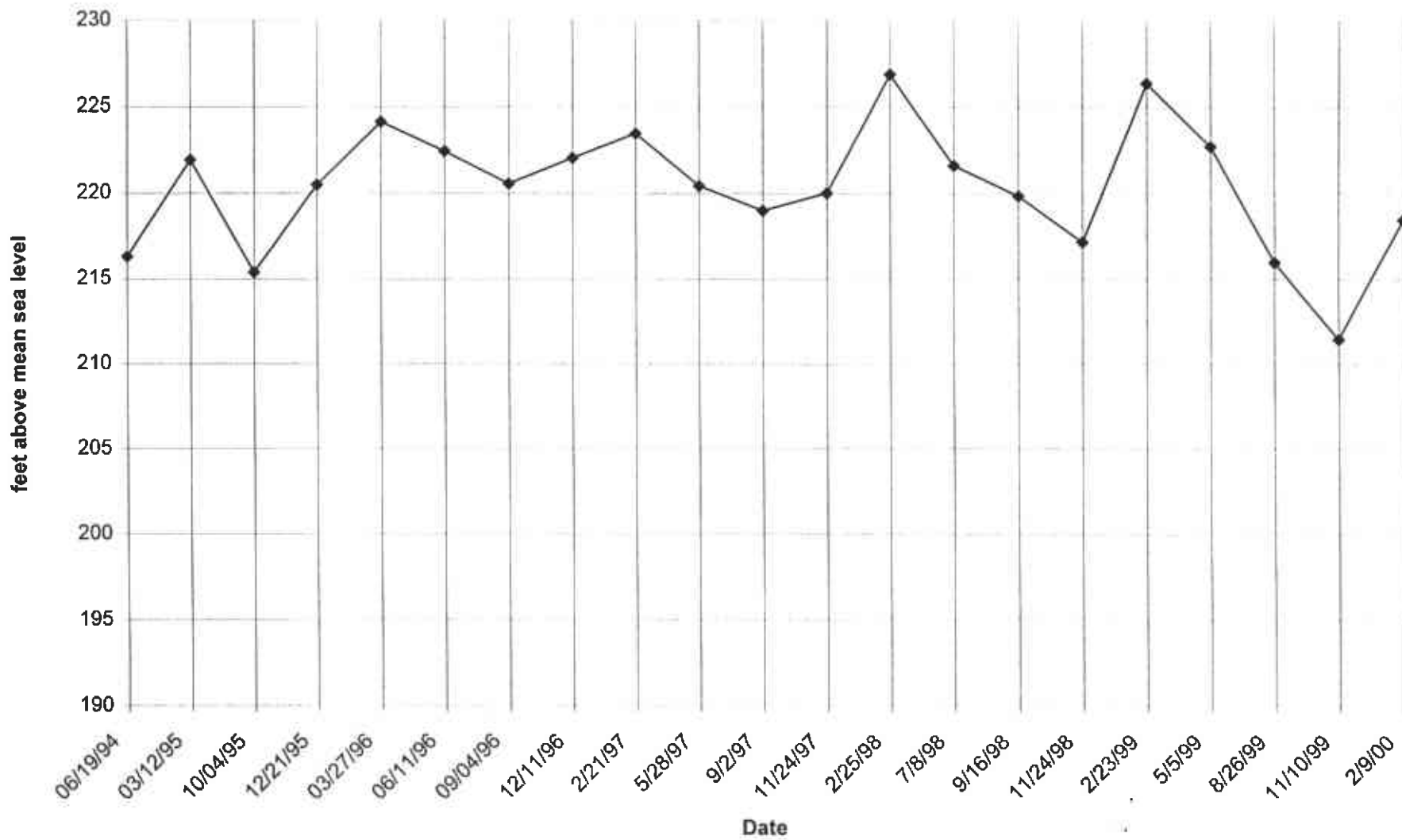
TPHg  
BENZENE



TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion [ug/L, ppb]) (AMSL = Above mean sea level)									
	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-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	12/11/96	230.43	8.38	222.05	< 50	< 0.5	< 0.5	< 0.5	< 1	6
RS-2	2/21/97	230.43	6.96	223.47	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
RS-2	5/28/97	230.43	10.02	220.41	< 50	3	3	< 0.5	< 1	< 0.5
RS-2	9/2/97	230.43	11.46	218.97	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
RS-2	11/24/97	230.43	10.43	220	< 50	< 0.5	1	< 0.5	3	< 0.5
RS-2	2/25/98	230.43	3.57	226.86	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
RS-2	7/8/98	230.43	8.83	221.6	< 50	< 0.5	< 0.5	< 0.5	< 1	< 1
RS-2	9/16/98	230.43	10.60	219.83	< 50	< 0.5	< 0.5	< 0.5	< 1	< 1
RS-2	11/24/98	230.43	13.27	217.16	140	2.8	19	2.6	3.3	15
RS-2	2/23/99	230.43	4.06	226.37	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
RS-2	5/5/99	230.43	7.70	222.73	< 50	0.7	< 0.5	< 0.5	< 1	6
RS-2***	8/26/99	227.39	11.42	215.97	200	15	23	1.7	23	9
RS-2	11/10/99	227.39	15.94	211.45	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5
RS-2	2/9/00	227.39	8.91	218.48	< 50	< 0.5	< 0.5	< 0.5	< 1	< 0.5

### RS-2 Groundwater Elevation



# RS-2 TPHg

II

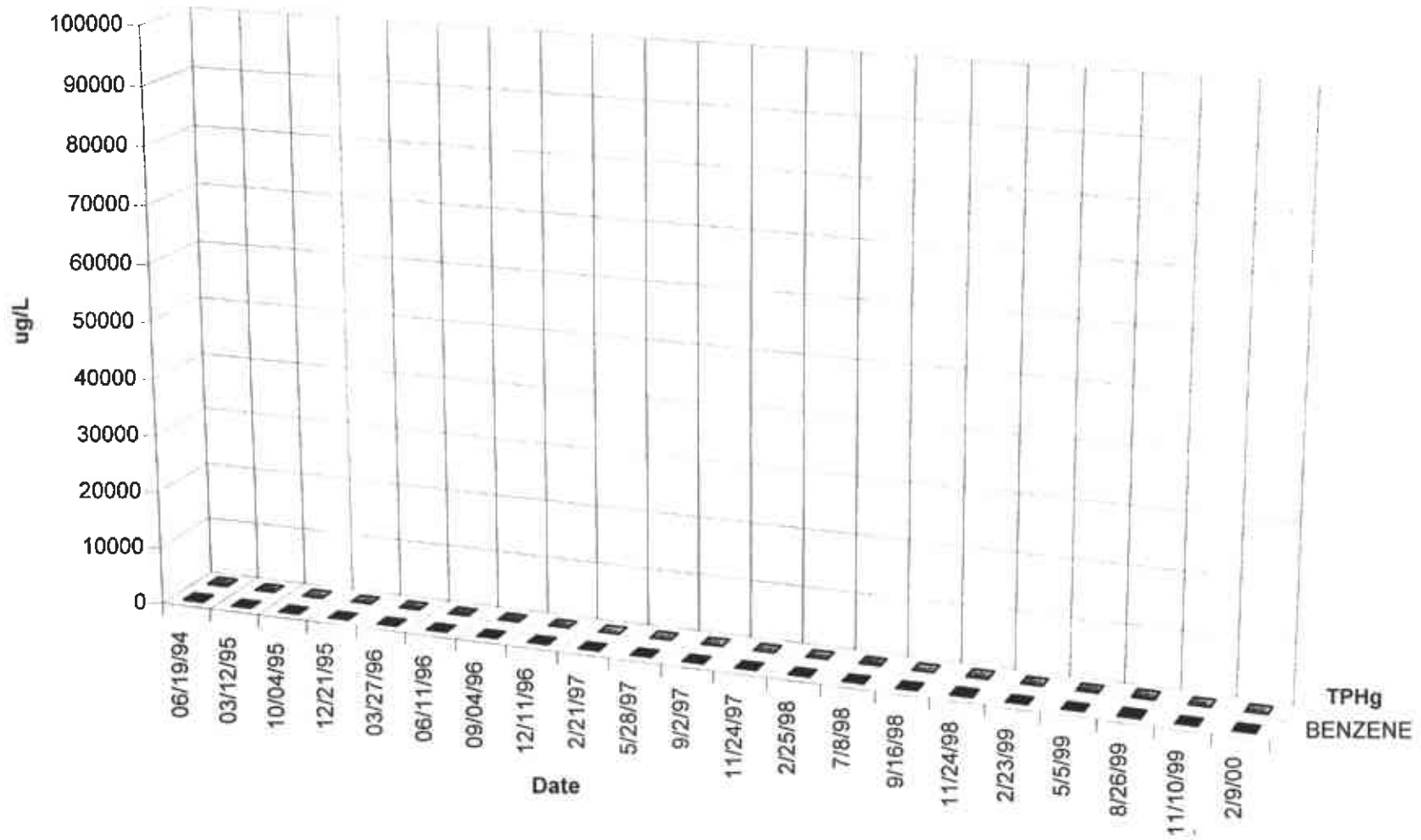


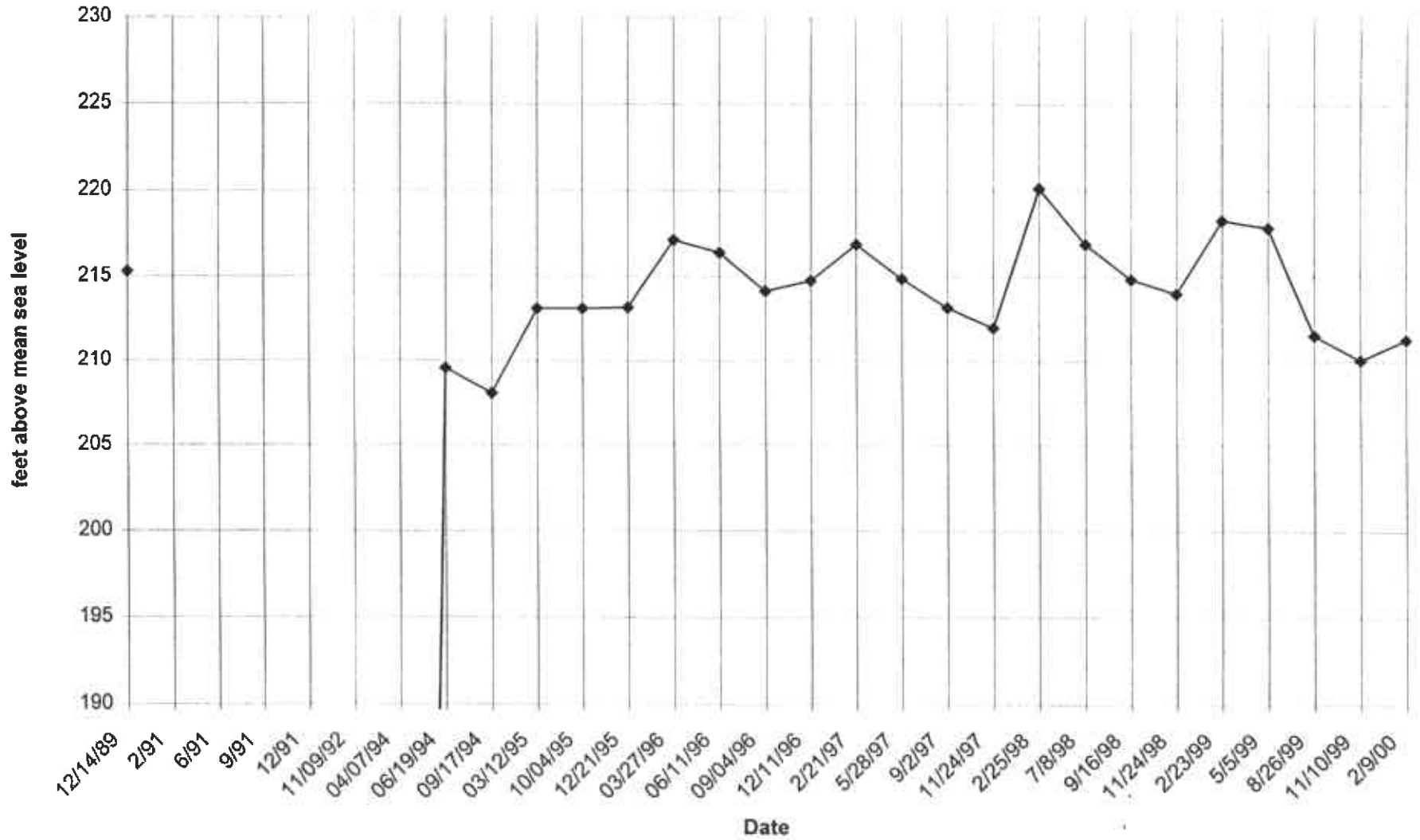
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	DATE SAMPLED	WELL CASING ELEVATION (FEET AMSL)	DEPTH TO GROUND WATER (FEET)	GROUND WATER ELEVATION (FEET AMSL)	TPH-G (UG/L)	BENZENE (UG/L)	TOLUENE (UG/L)	ETHYL-BENZENE (UG/L)	XYLENES (UG/L)	MTBE (UG/L)
RS-5	12/14/89	241.26	25.97	215.29	57000	3100	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
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	8900	570
RS-5	2/21/97	230.64	13.76	216.88 sh	100000	5000	22000	1700	7300	<0.5 *
RS-5	5/28/97	230.64	15.77	214.87	52000	4500	19000	2100	10000	<0.5 *
RS-5	9/2/97	230.64	17.47	213.17	38000	2200	9400	1300	5800	<0.5 *
RS-5	11/24/97	230.64	18.67	211.97	45000	4000	16000	1900	9700	<0.5 *
RS-5	2/25/98	230.64	10.53	220.11	160000	2700	31000	5300	28000	<0.5 *
RS-5	7/8/98	230.64	13.75	216.89	45000	2800	12000	2000	8500	<10 *
RS-5	9/16/98	230.64	15.80	214.84	49000	1400	7500	1700	8600	<5 *
RS-5	11/24/98	230.64	16.64	214	89000	5300	15000	2800	13000	<10 *
RS-5	2/23/99	230.64	12.36	218.28	19000	1900	11000	2500	4800	<25 *
RS-5	5/5/99	230.64	12.78	217.86	78000	2000	10000	3000	15000	540 *
RS-5***	8/26/99	227.61	16.06	211.55	35000	870	4000	1900	8300	<1 *
RS-5	11/10/99	227.61	17.54	210.07	40000	1000	5600	1800	8100	<0.5 *
RS-5	2/9/00	227.61	16.31	211.3	46000	1400	6900	2700	11000	<0.5 *

12

### RS-5 Groundwater Elevation

13



RS-5

14

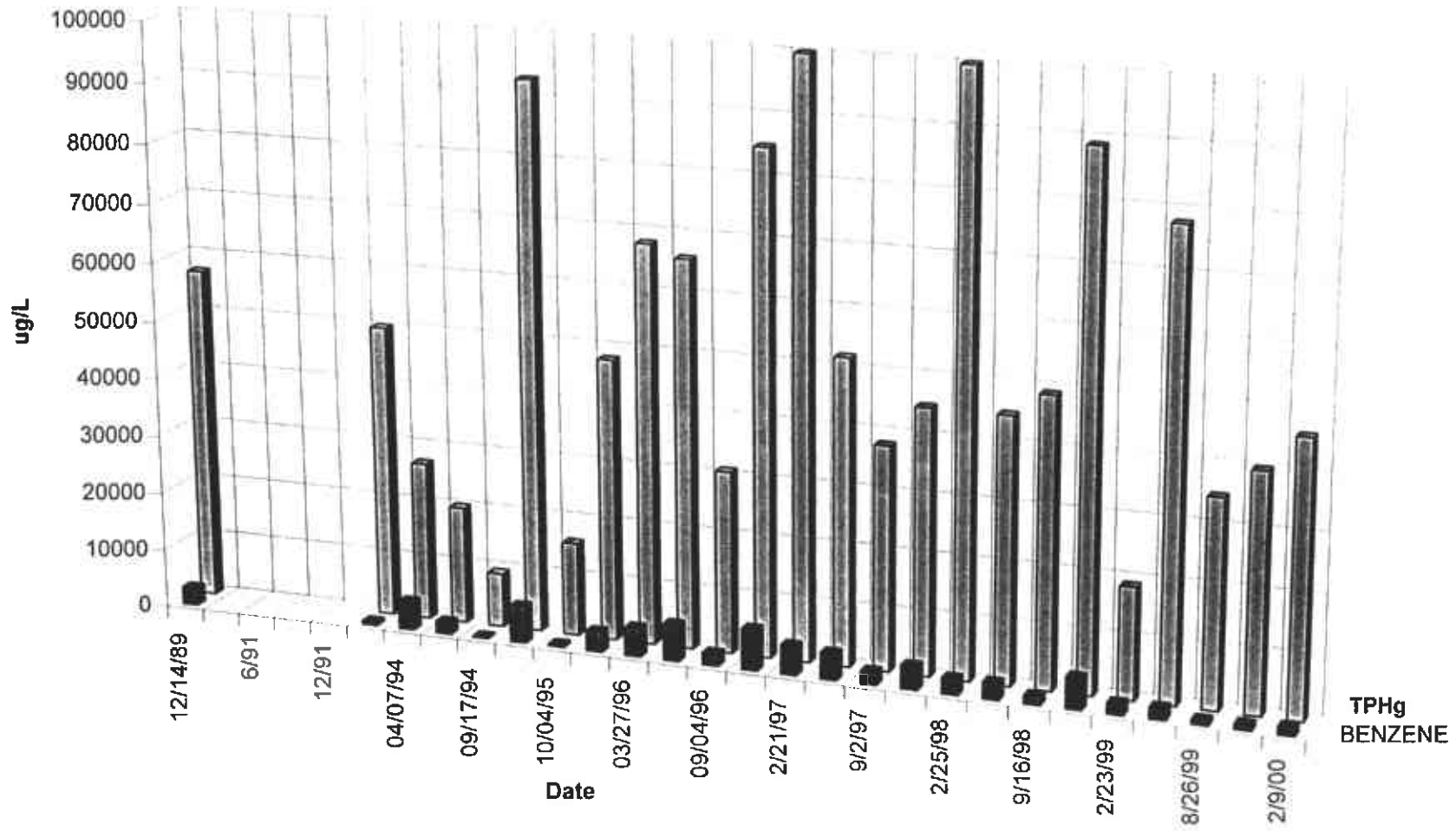
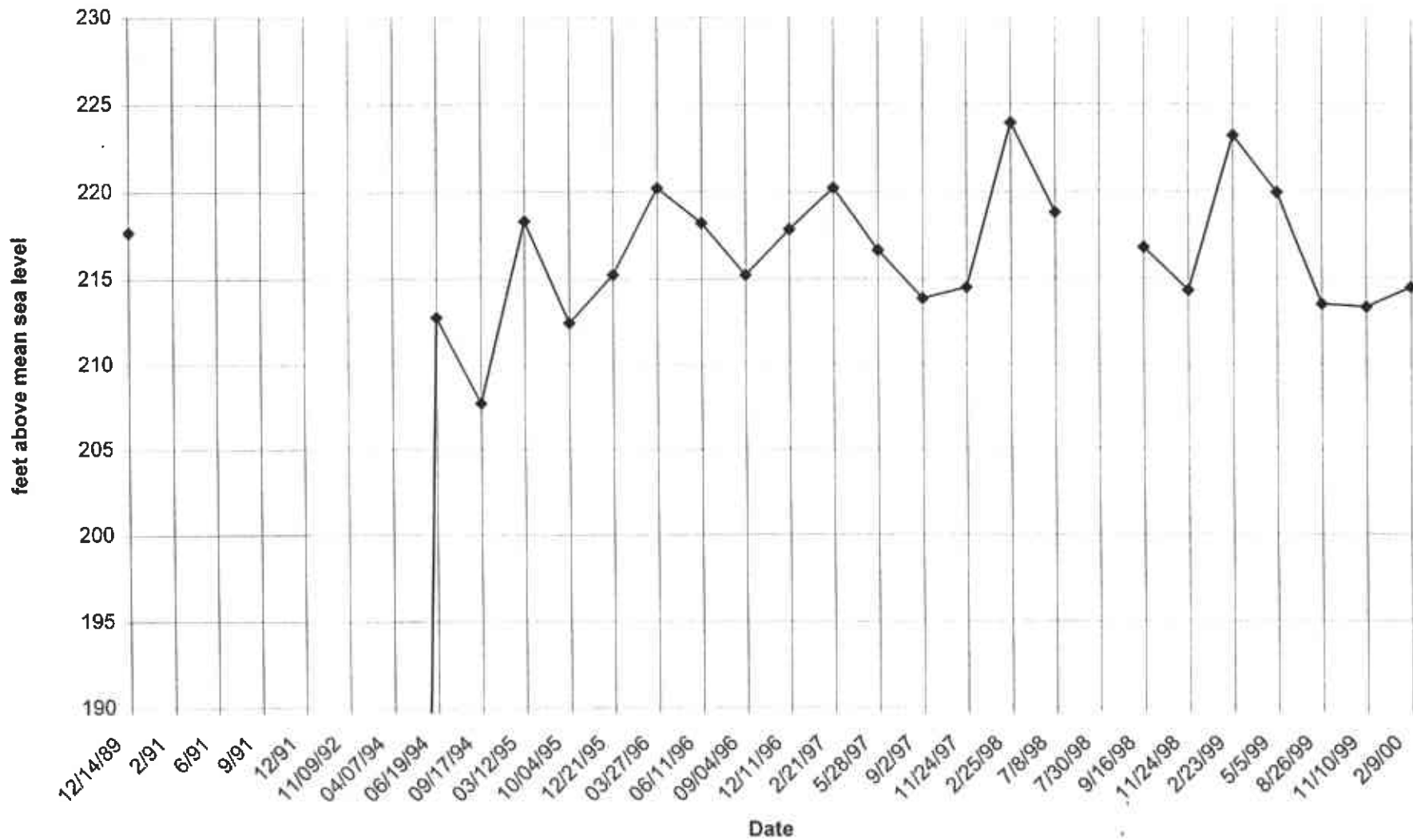


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DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion (ug/L, ppb)) (AMSL = Above mean sea level)									
	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-6	12/14/89	240.23	22.52	217.71	11000	1400	1700	160	860	
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	8.90	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	1800	39	16	10	18	< 0.5
RS-6	2/21/97	230.22	10.00	220.22	2100	71	85	25	40	< 0.5
RS-6	5/28/97	230.22	13.56	216.66	1700	34	12	11	16	< 0.5
RS-6	9/2/97	230.22	16.35	213.87	940	34	71	9	55	< 0.5
RS-6	11/24/97	230.22	15.72	214.5	490	9	6	1	7	< 0.5
RS-6	2/25/98	230.22	6.26	223.96	1400	22	47	5	52	< 0.5
RS-6**	7/8/98	230.22	11.41	218.81	1500	83	9	84	2	<10
RS-6	7/30/98	230.22			<50	<0.5	<0.5	<0.5	<1	
RS-6	9/16/98	230.22	13.42	216.8	990	23	<0.5	<0.5	<1	<1
RS-6	11/24/98	230.22	15.91	214.31	3400	5.3	<0.5	<0.5	14	<0.5
RS-6	2/23/99	230.22	7.00	223.22	1000	3.4	3.2	1.6	7.3	<0.5
RS-6	5/5/99	230.22	10.29	219.93	1100	50	10	80	15	2
RS-6***	8/26/99	227.22	13.72	213.5	690	44	2.5	30	31	<5
RS-6	11/10/99	227.22	13.90	213.32	1800	2	2	0.9	16	< 0.5
RS-6	2/9/00	227.22	12.77	214.45	410	3	3	4	7	< 0.5

15

### RS-6 Groundwater Elevation





RS-6

LI

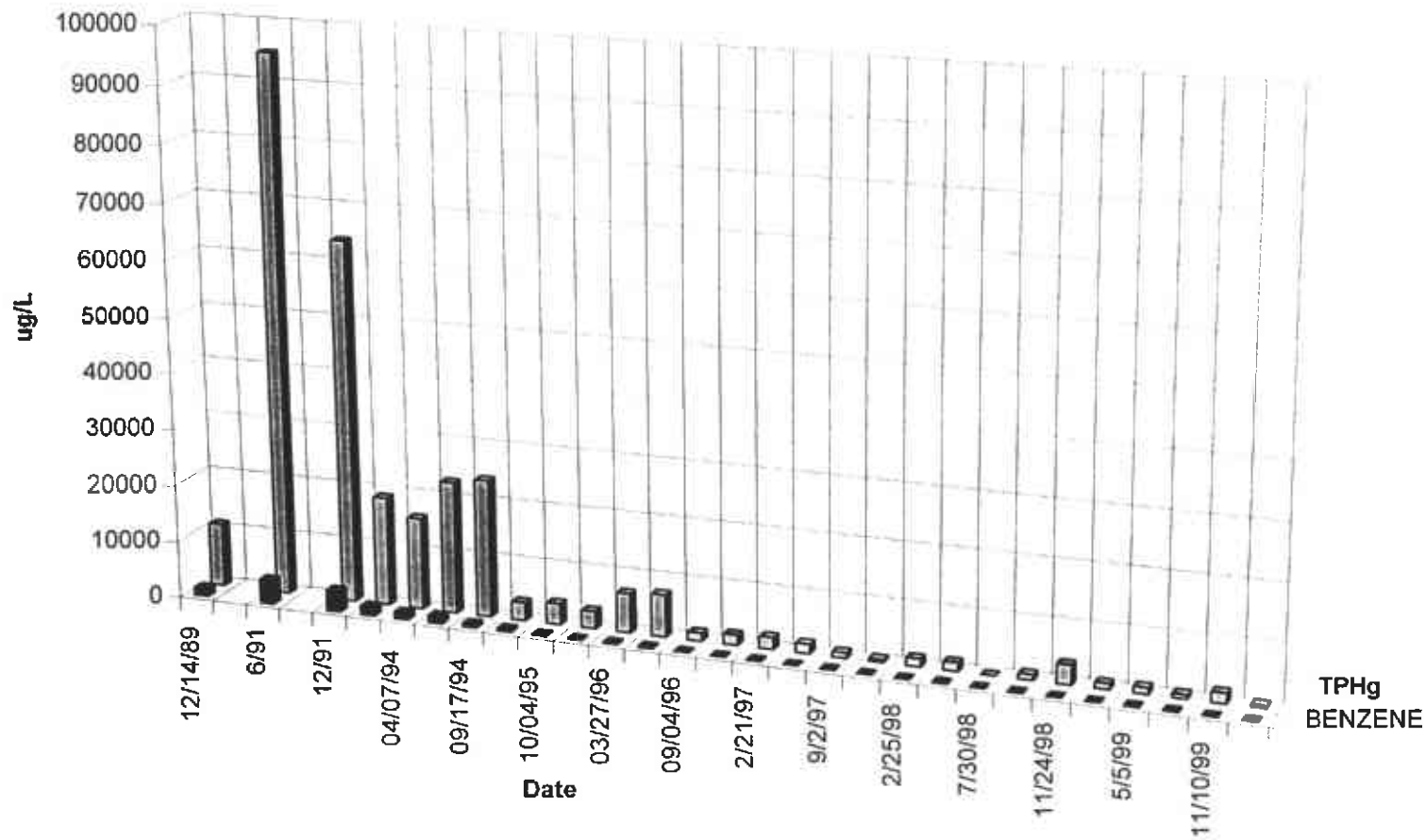
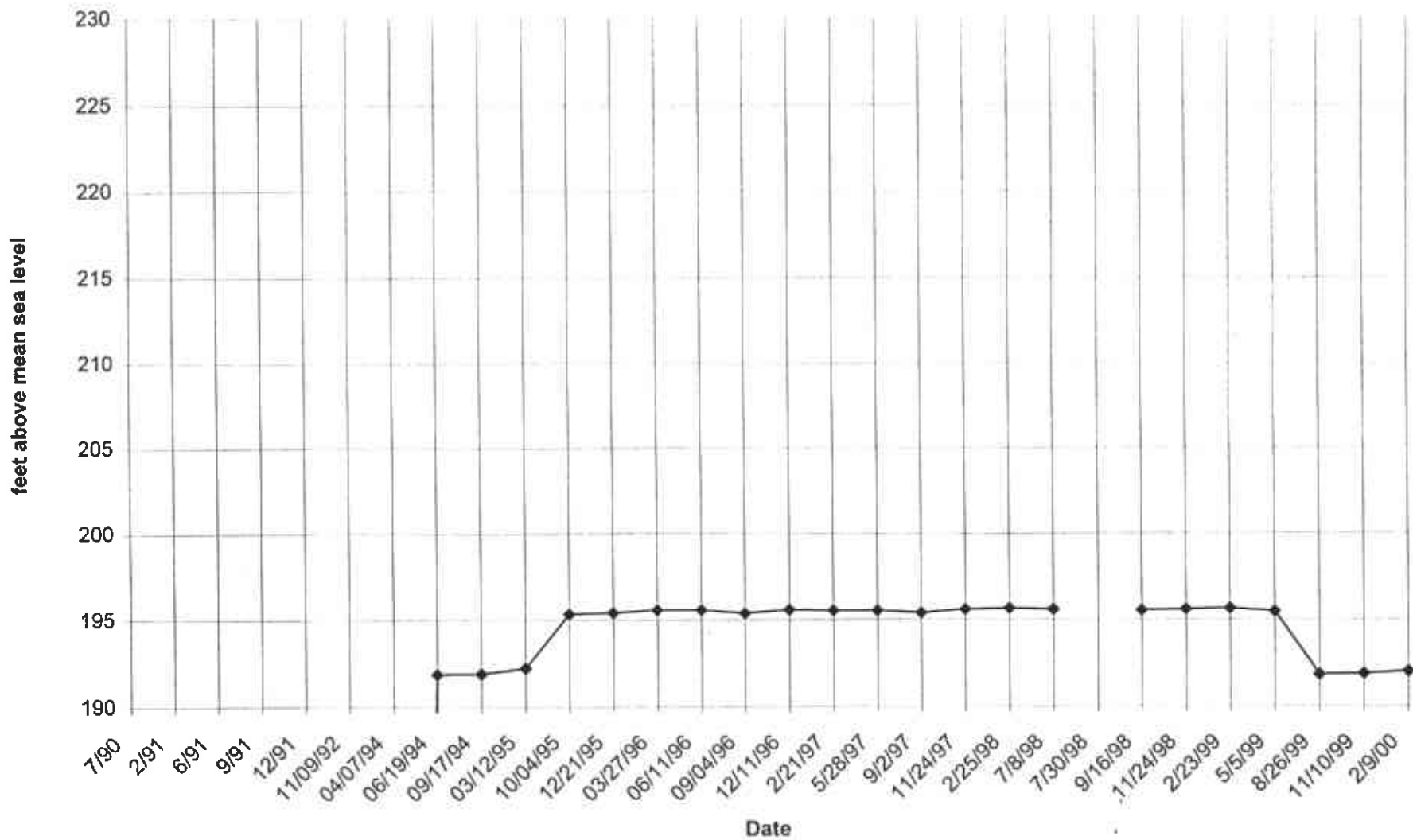


TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion [ug/L, ppb]) (AMSL = Above mean sea level)									
	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-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
RS-7	2/21/97	199.35	3.82	195.53	93000	31000	47000	3800	23000	<0.5 *
RS-7	5/28/97	199.35	3.82	195.53	52000	12000	8200	2000	11000	<0.5 *
RS-7	9/2/97	199.35	3.96	195.39	28000	6100	2800	950	3800	<50
RS-7	11/24/97	199.35	3.76	195.59	18000	4300	5900	600	2900	<0.5 *
RS-7	2/25/98	199.35	3.70	195.65	13000	4300	7100	1100	5800	<0.5 *
RS-7**	7/8/98	199.35	3.76	195.59	45000	10000	3400	2000	8000	<10 *
RS-7	7/30/98	199.35			72000	12000	2100	2000	9100	
RS-7	9/16/98	199.35	3.83	195.52	5000	6500	160	<2.5	500	<5 *
RS-7	11/24/98	199.35	3.77	195.58	19000	2100	1100	500	2100	<0.5
RS-7	2/23/99	199.35	3.70	195.65	83000	6500	9900	1200	7000	<10
RS-7	5/5/99	199.35	3.88	195.47	47000	7400	4800	1300	7400	540
RS-7***	8/26/99	195.99	4.16	191.83	15000	3400	91	950	970	<5
RS-7	11/10/99	195.99	4.12	191.87	10000	2900	170	630	1200	<0.5
RS-7	2/9/00	195.99	3.98	192.01	9400	1400	120	480	600	<0.5

### RS-7 Groundwater Elevation

6 I



RS-7

20

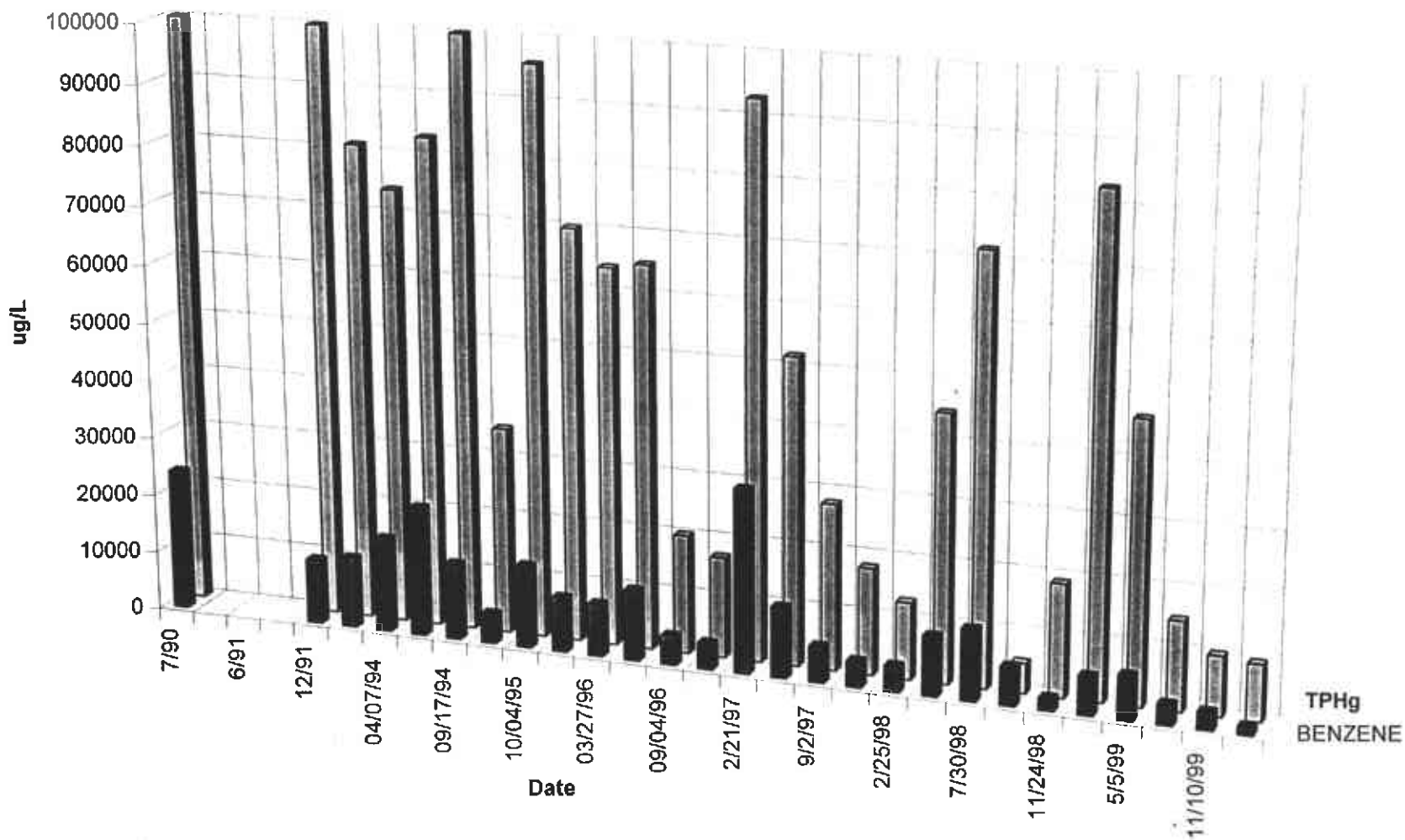


TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAOY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

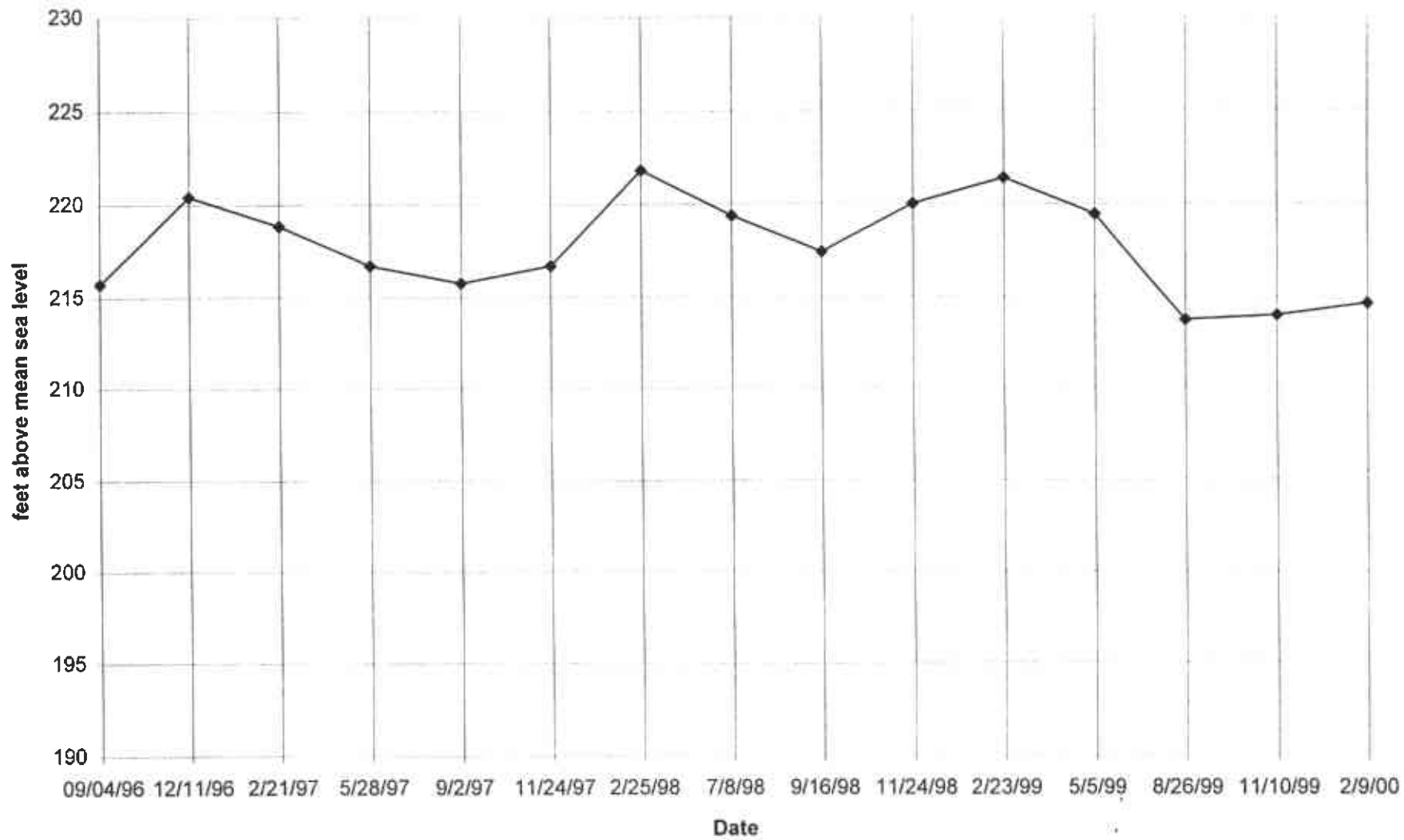
ID#	(All concentrations in parts per billion (ug/L, ppb)) (AMSL = Above mean sea level)									
	DATE SAMPLED	WELL CASING ELEVATION (FEET AMSL)	DEPTH TO GROUND WATER (FEET)	GROUND WATER ELEVATION (FEET AMSL)	TPH-G  (UG/L)	BENZENE  (UG/L)	TOLUENE  (UG/L)	ETHYL- BENZENE  (UG/L)	XYLENES  (UG/L)	MTBE  (UG/L)
RS-8***	8/26/99	214.67	7.25	207.42	160000	24000	35000	4200	24000	<5
RS-8	11/10/99	214.67	8.69	205.98	150000	21000	29000	3000	14000	<0.5
RS-8	2/9/00	214.67	7.23	207.44	14000	1900	3200	270	2300	<0.5
RS-9***	8/26/99	195.63	7.46	188.17	17000	3500	1200	360	1600	180 *
RS-9	11/10/99	195.63	7.91	187.72	2800	520	62	46	130	<0.5
RS-9	2/9/00	195.63	6.09	189.54	3400	650	74	64	130	<0.5
RS-10***	8/26/99	208.46	3.76	204.7	5100	160	340	190	1000	32 *
RS-10	11/10/99	208.46	3.83	204.63	500	7	2	2	4	<0.5
RS-10	2/9/00	208.46	0.31	208.15	100	4	3	1	6	<0.5

TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion [ug/L, ppb]) (AMSL = Above mean sea level)									
	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)	KYLENES (UG/L)	MTBE (UG/L)
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 1	2/21/97	230.73	11.88	218.85	2500	670	9	3	13	<0.5 *
RECOVERY 1	5/28/97	230.73	14.03	216.7	24000	4300	36	2000	370	<0.5 *
RECOVERY 1	9/2/97	230.73	14.98	215.75	4400	320	6	340	72	20
RECOVERY 1	11/24/97	230.73	14.06	216.67	100	39	1	18	10	<0.5
RECOVERY 1	2/25/98	230.73	8.93	221.8	1200	400	8	13	150	<0.5
RECOVERY 1	7/8/98	230.73	11.36	219.37	68	14	< 0.5	< 0.5	< 1	<1 *
RECOVERY 1	9/16/98	230.73	13.30	217.43	16000	3400	92	< 0.5	410	<1 *
RECOVERY 1	11/24/98	230.73	10.72	220.01	340	19	1.6	35	9.7	<0.5
RECOVERY 1	2/23/99	230.73	9.34	221.39	60	16	0.6	5.6	1.2	<0.5
RECOVERY 1	5/5/99	230.73	11.30	219.43	1300	290	3	150	1	15
RECOVERY 1***	8/26/99	227.69	13.97	213.72	6500	630	<0.5	1300	<1	<1
RECOVERY 1	11/10/99	227.69	13.73	213.96	480	12	4	22	9	<0.5
RECOVERY 1	2/9/00	227.69	13.10	214.59	<50	8	<0.5	1	<1	<0.5
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	488	300	1	< 0.5	30	16
RECOVERY 2	2/21/97	230.68	10.50	220.18	5700	2100	5	2	10	3 *
RECOVERY 2	5/28/97	230.68	13.10	217.58	36000	14000	63	260	220	<0.5 *
RECOVERY 2	9/2/97	230.68	14.16	216.52	30000	12000	330	1000	790	47
RECOVERY 2	11/24/97	230.68	14.71	215.97	41000	15000	830	1500	4200	<0.5 *
RECOVERY 2	2/25/98	230.68	7.39	223.29	800	400	<0.5	<0.5	15	<0.5 *
RECOVERY 2	7/8/98	230.68	11.27	219.41	290	31	< 0.5	1	< 1	2 *
RECOVERY 2	9/16/98	230.68	13.73	216.95	6600	11000	24	<0.5	35	<1 *
RECOVERY 2	11/24/98	230.68	11.67	219.01	6100	<0.5	36	<0.5	21	<0.5
RECOVERY 2	2/23/99	230.68	7.55	223.13	1100	310	3	2	26	<0.5
RECOVERY 2	5/5/99	230.68	10.89	219.79	11000	5300	7	36	7	8
RECOVERY 2***	8/26/99	227.28	13.14	214.14	6700	940	33	190	240	<1 *
RECOVERY 2	11/10/99	227.28	14.42	212.86	5100	2600	160	1800	8100	<0.5 *
RECOVERY 2	2/9/00	227.28	12.45	214.83	4700	1400	110	130	340	<0.5

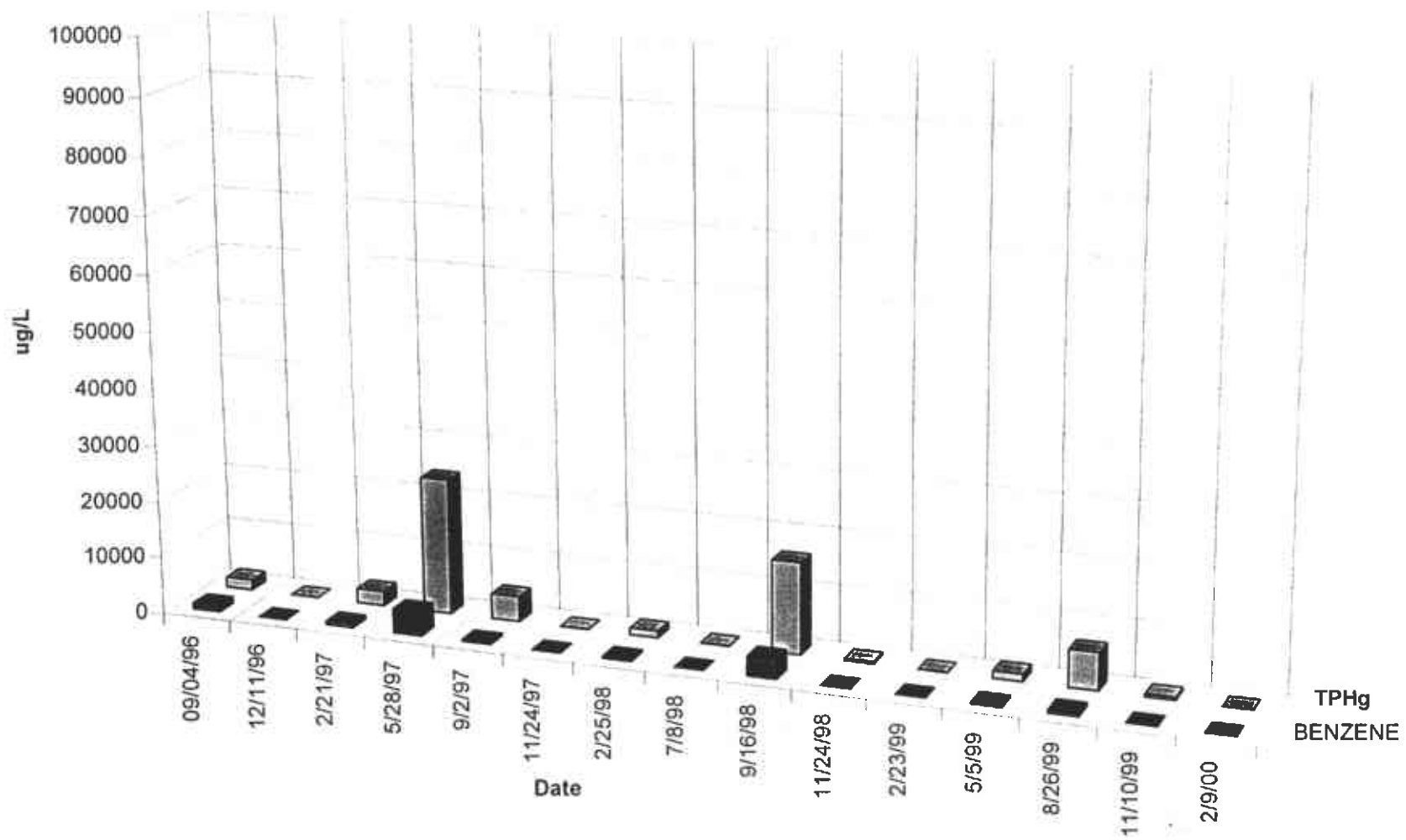
22

### R-1 Groundwater Elevation



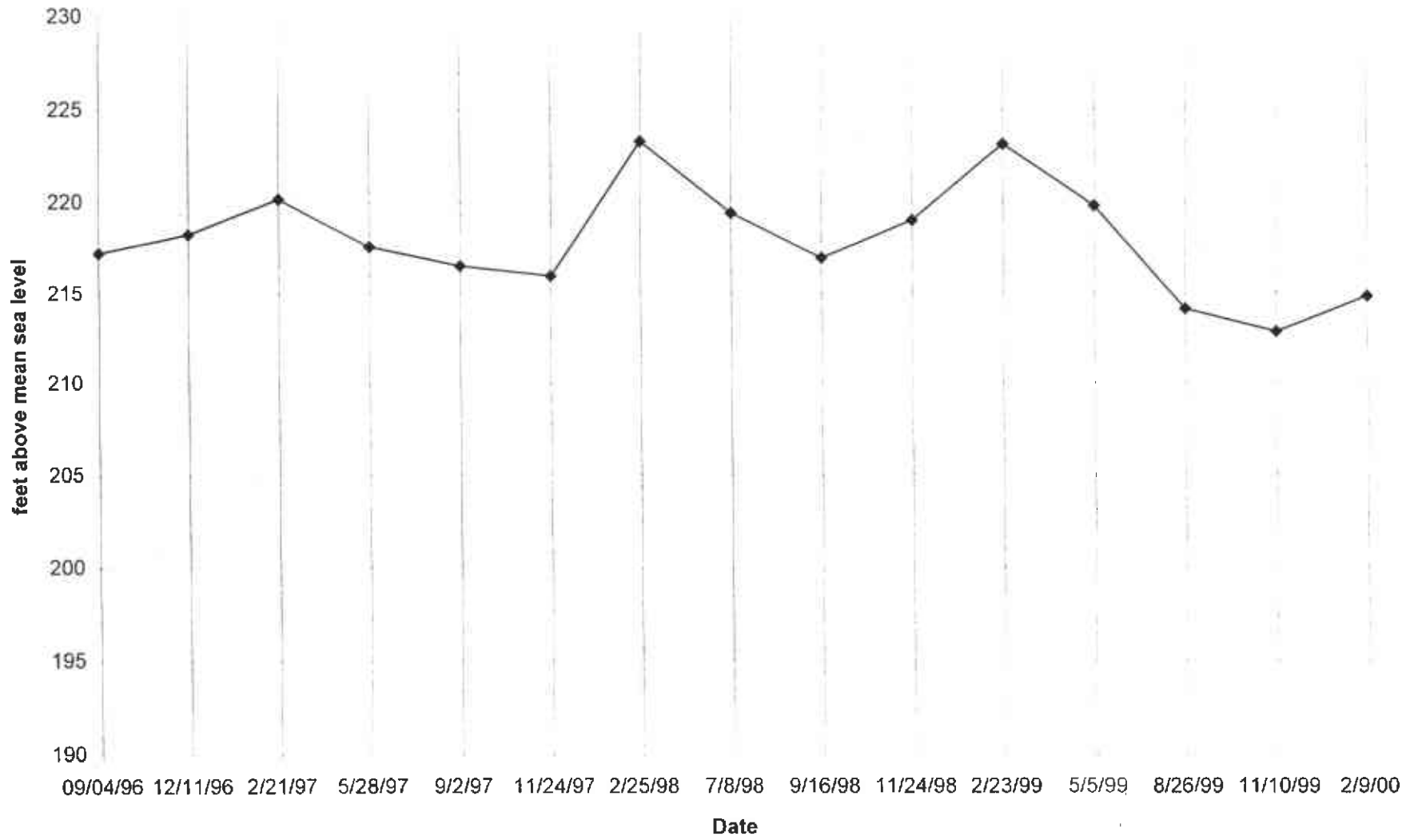
R-1

21





### R-2 Groundwater Elevation



25

R-2

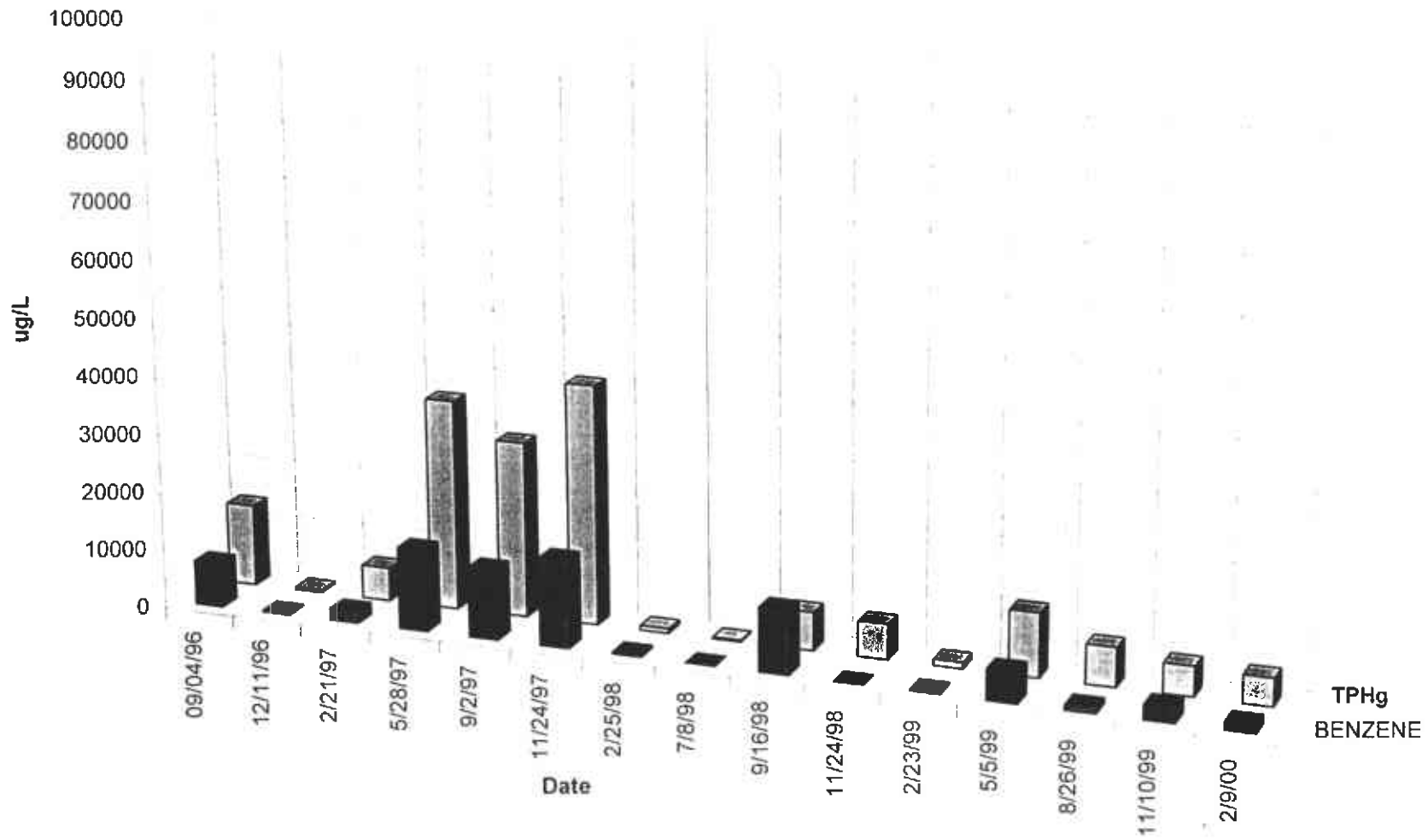
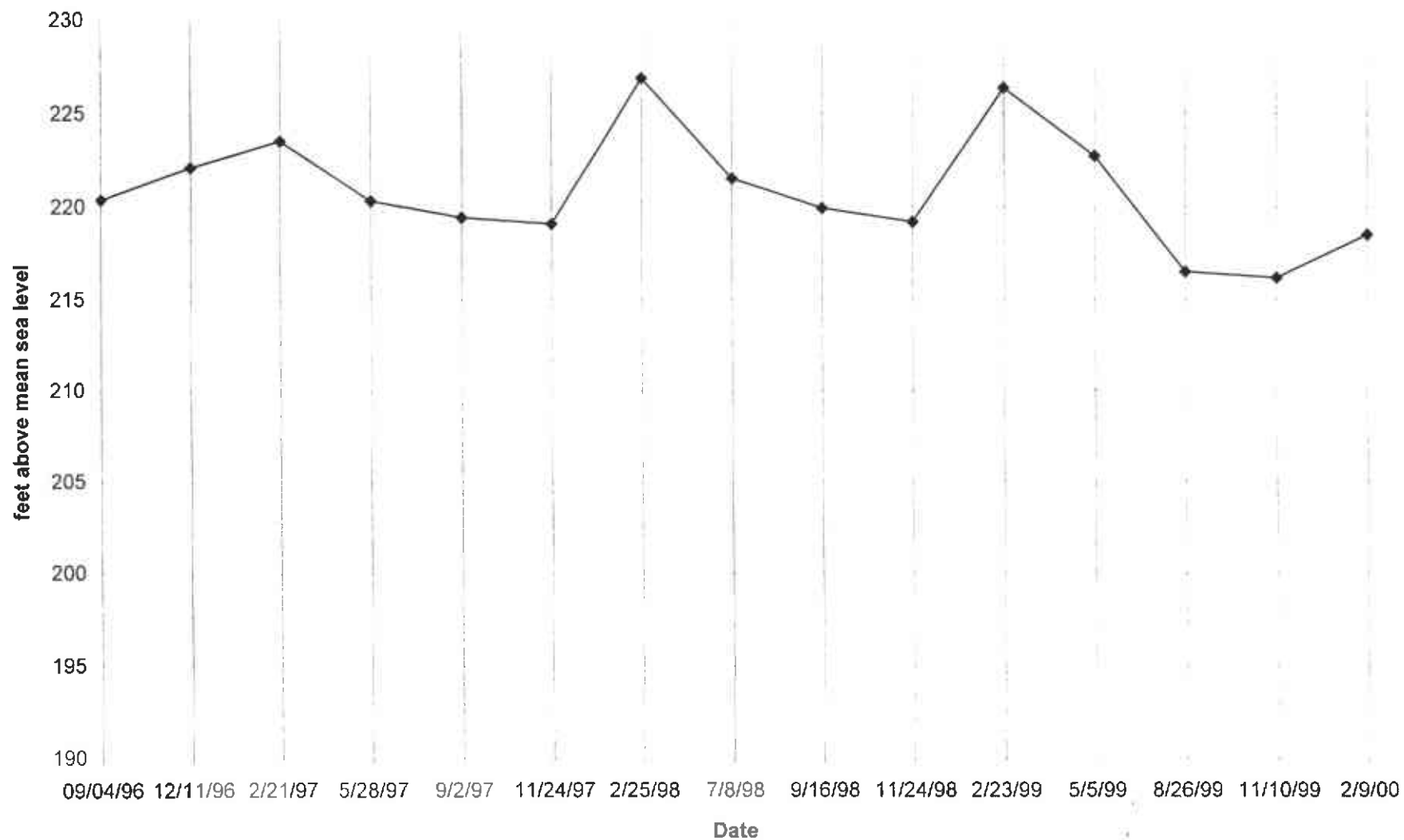


TABLE 1  
GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABAORATAORY RESULTS FROM WATER SAMPLES  
DESERT PETROLEUM, INC. SITE #793  
4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion [ug/L, ppb]) (AMSL = Above mean sea level)										
	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	12/11/96	230.32	8.18	222.14	<50	<0.5	<0.5	<0.5	<1	5	
RECOVERY 3	2/21/97	230.32	6.76	223.56	340	35	59	8	54	<0.5 *	
RECOVERY 3	5/28/97	230.32	9.98	220.34	<50	<0.5	<0.5	<0.5	<1	<0.5 *	
RECOVERY 3	9/2/97	230.32	10.86	219.46	<50	4	<0.5	<0.5	<1	<0.5 *	
RECOVERY 3	11/24/97	230.32	11.20	219.12	not enough water to sample. No sample						
RECOVERY 3	2/25/98	230.32	3.42	226.9	<50	<0.5	<0.5	<0.5	<1	<0.5 *	
RECOVERY 3	7/8/98	230.32	8.78	221.54	140	<0.5	<0.5	4	24	<1 *	
RECOVERY 3	9/16/98	230.32	10.38	219.94	<50	<0.5	<0.5	<0.5	<1	<1 *	
RECOVERY 3	11/24/98	230.32	11.12	219.2	not enough water to sample. No sample						
RECOVERY 3	2/23/99	230.32	3.95	226.37	<50	<0.5	<0.5	<0.5	<1	<0.5 *	
RECOVERY 3	5/5/99	230.32	7.58	222.74	80	9	<0.5	<0.5	<1	6	
RECOVERY 3***	8/26/99	227.25	10.76	216.49	<50	2	<0.5	<0.5	<1	1 *	
RECOVERY 3	11/10/99	227.25	11.09	216.16	140	3	4	1	11	<0.5	
RECOVERY 3	2/9/00	227.25	8.76	218.49	<50	2	<0.5	<0.5	<1	<0.5	

### R-3 Groundwater Elevation



62

R-3

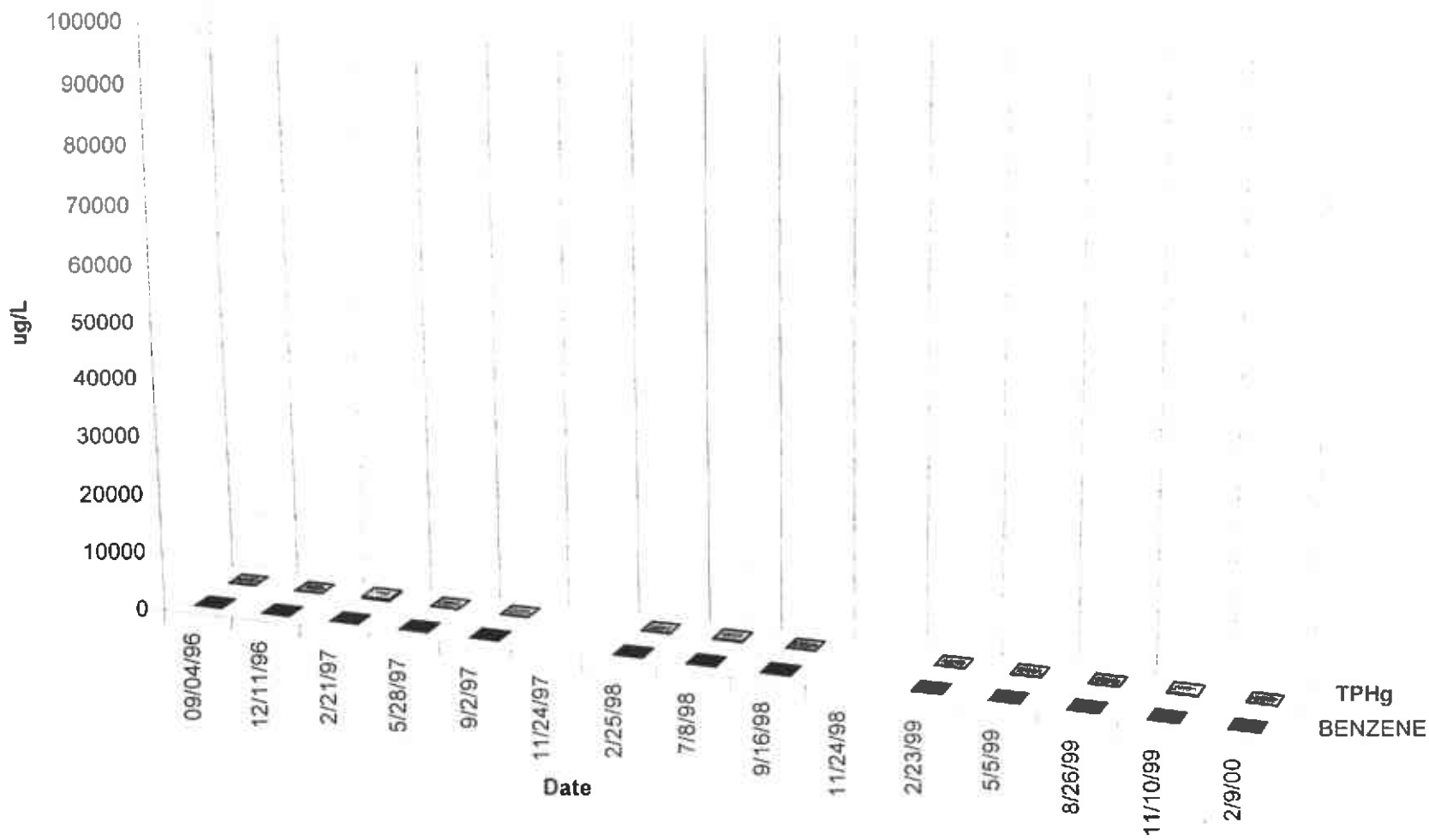


TABLE 1  
 GROUNDWATER ELEVATIONS AND CERTIFIED ANALYTICAL LABORATORY RESULTS FROM WATER SAMPLES  
 DESERT PETROLEUM, INC. SITE #793  
 4035 PARK BOULEVARD, OAKLAND, CALIFORNIA

ID#	(All concentrations in parts per billion [ug/L, ppb]) (AMSL = Above mean sea level)									
	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)
T 1***	8/26/99	195.11	2.44	192.67	40000	7200	5000	950	8100	53*
T 1	11/10/99	195.11	2.23	192.88	46000	5600	3600	910	6500	<0.5
T 1	2/9/00	195.11	2.22	192.89	35000	2900	5700	720	6600	<0.5
T 2***	8/26/99	195.3	CAR							
T 2	11/10/99	195.3	CAR							
T 2	2/9/00	195.3	CAR							
T 3***	8/26/99	202.38	CAR							
T 3	11/10/99	202.38	CAR							
T 3	2/9/00	202.38	CAR							
T 4***	8/26/99	197.48	CAR							
T 4	11/10/99	197.48	CAR							
T 4	2/9/00	197.48	CAR							
LF-1***	8/26/99	226.59	CAR							
LF-1	11/10/99	226.59	CAR							
LF-1	2/9/00	226.59	CAR							

ND BELOW LABORATORY DETECTION LIMITS  
 TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
 \* MTBE results confirmed by EPA Method 8260 (GC/MS)  
 \*\* LAB REPORT HAD RS-6 AND RS-7 MISLABELED, RESAMPLE ON 7/30/98 CONFIRMED.  
 \*\*\* WELL CASING ELEVATION SURVEY 8-27-99, WADE HAMMOND No.6163, BENCH MARK CITY OF OAKLAND #2814

30

*-WEGE-*

DESERT STATION #793  
4035 Park Blvd.  
Oakland, California

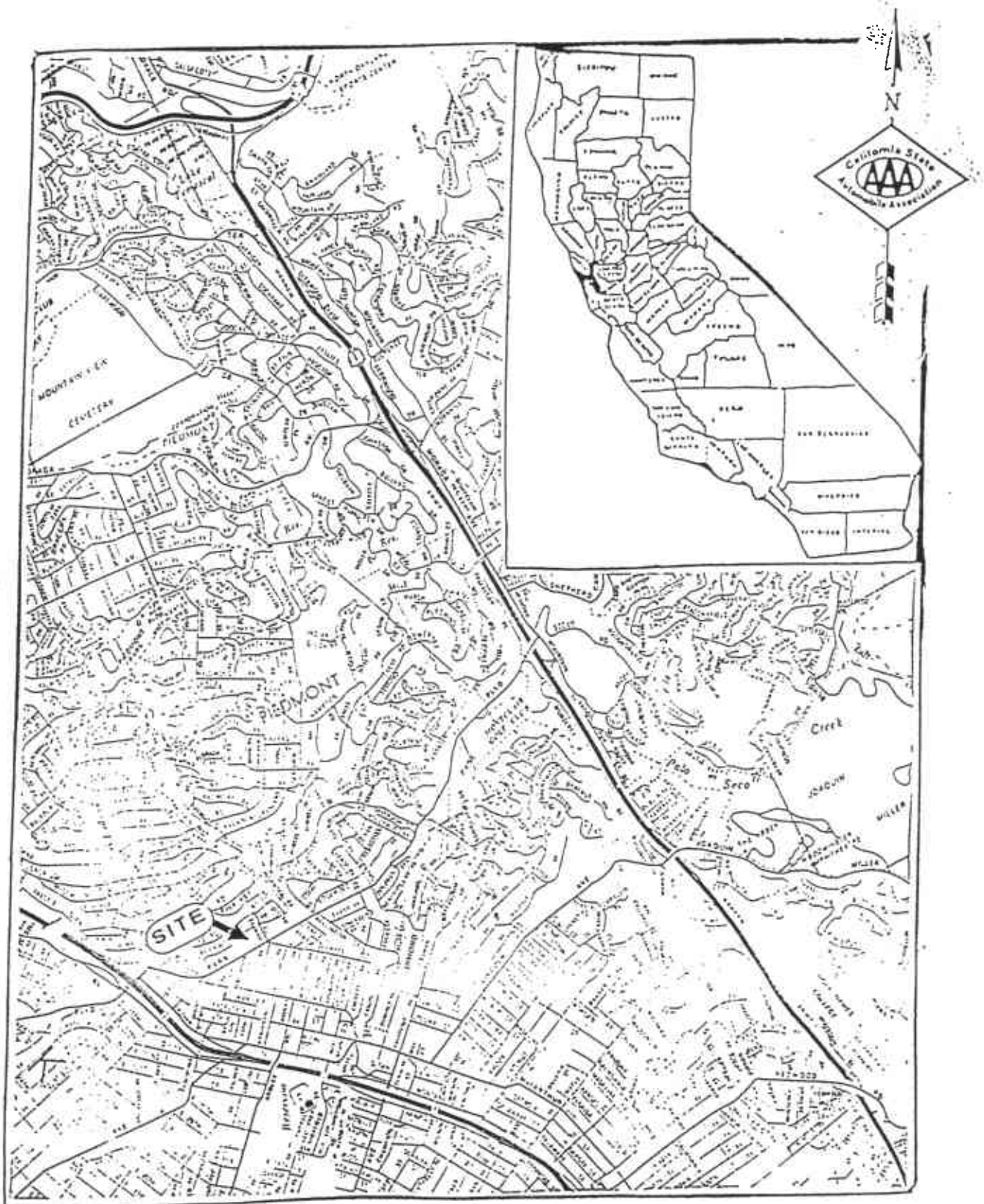


FIGURE 1

Location (AAA Map)



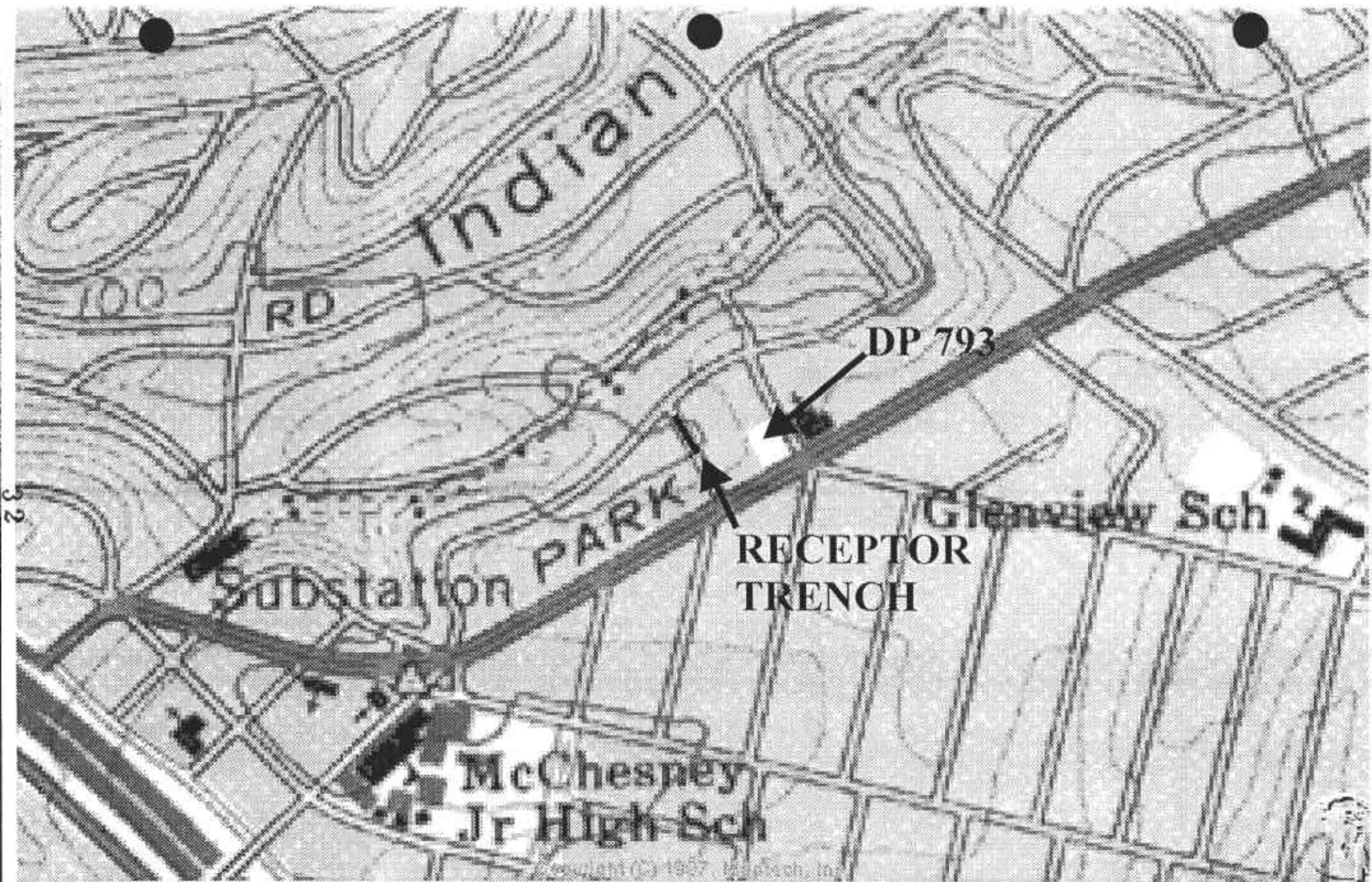
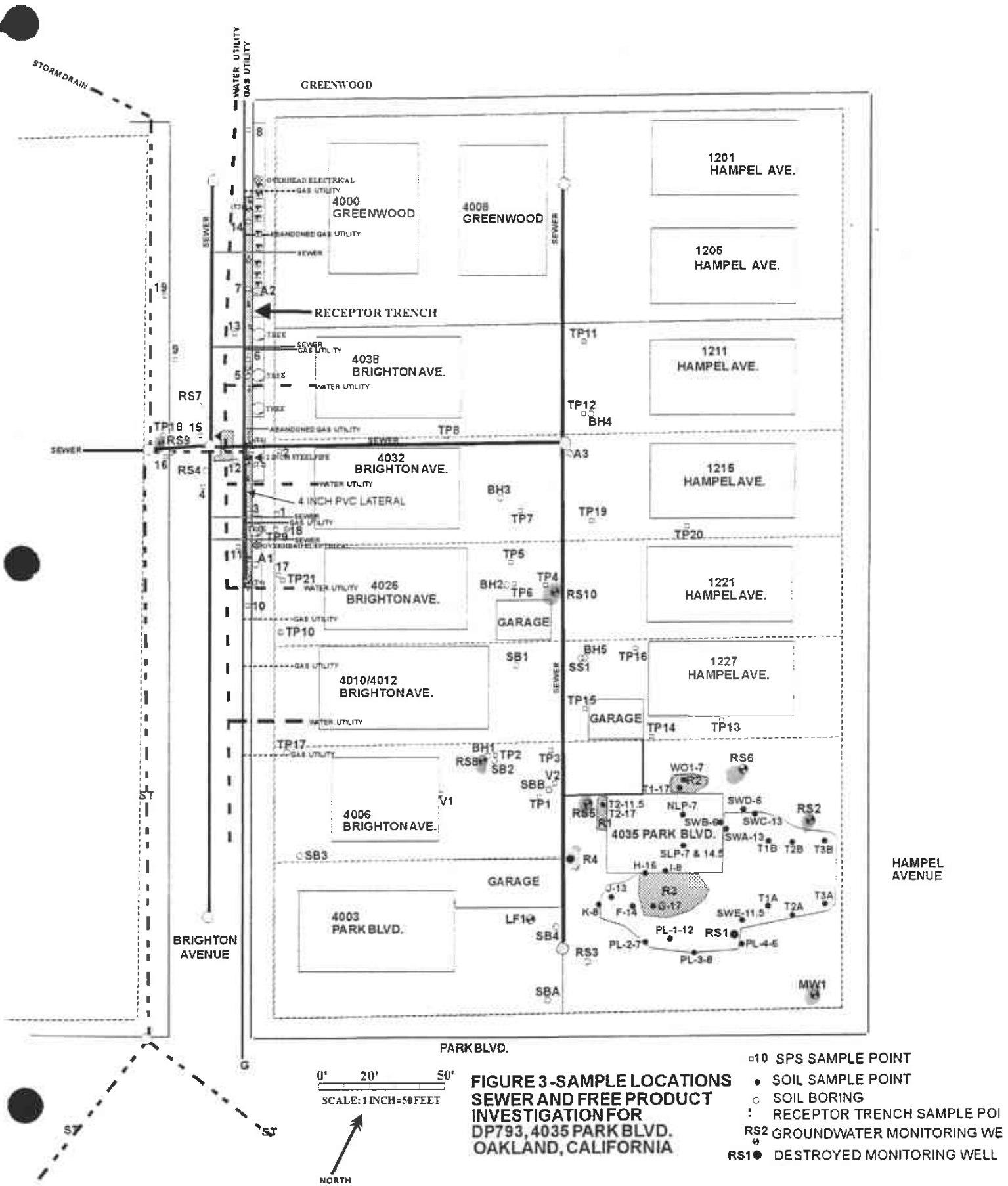


FIGURE 2  
PORTION OF OAKLAND EAST 7.5 MINUTE USGS TOPOGRAPHIC MAP

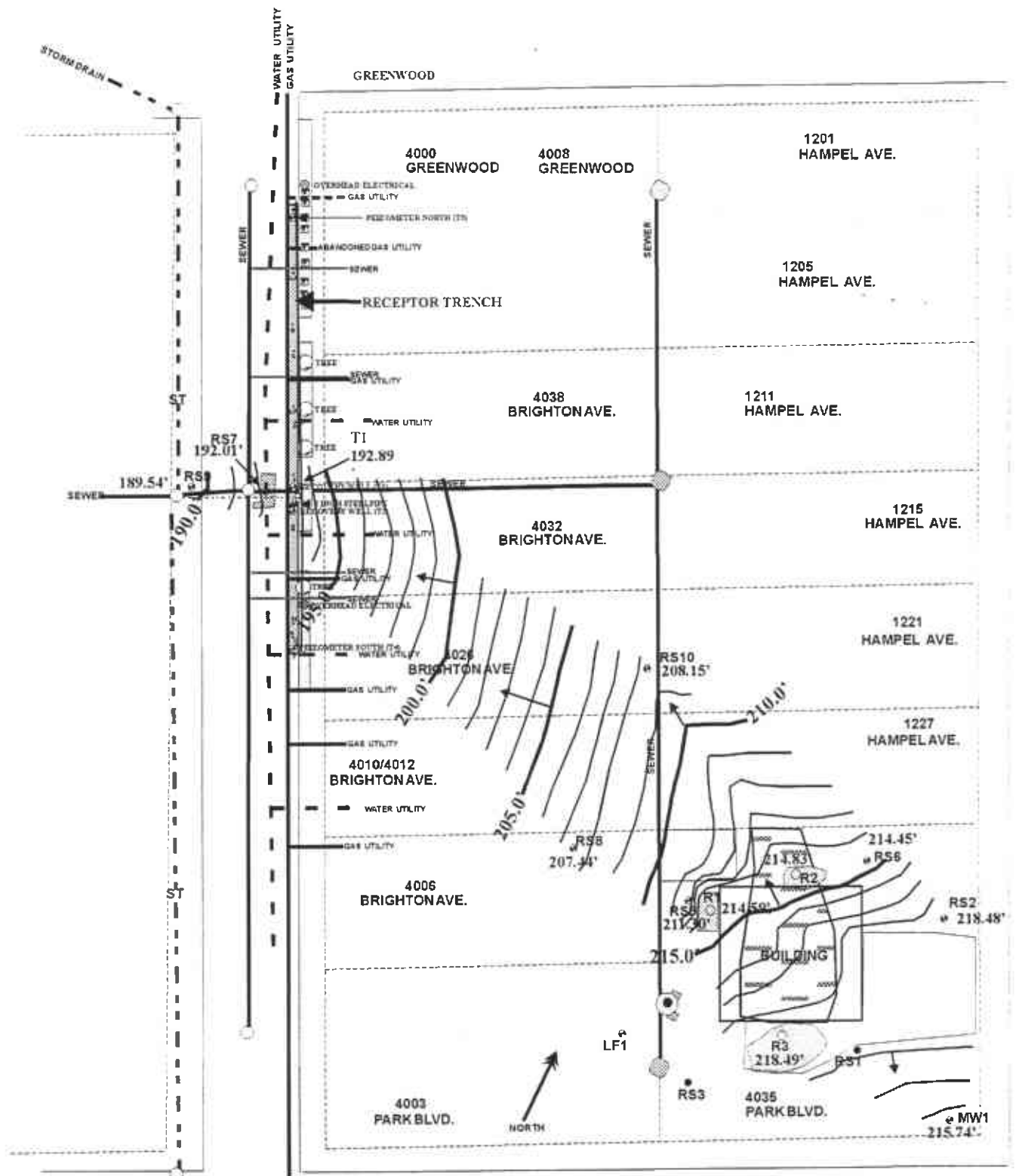






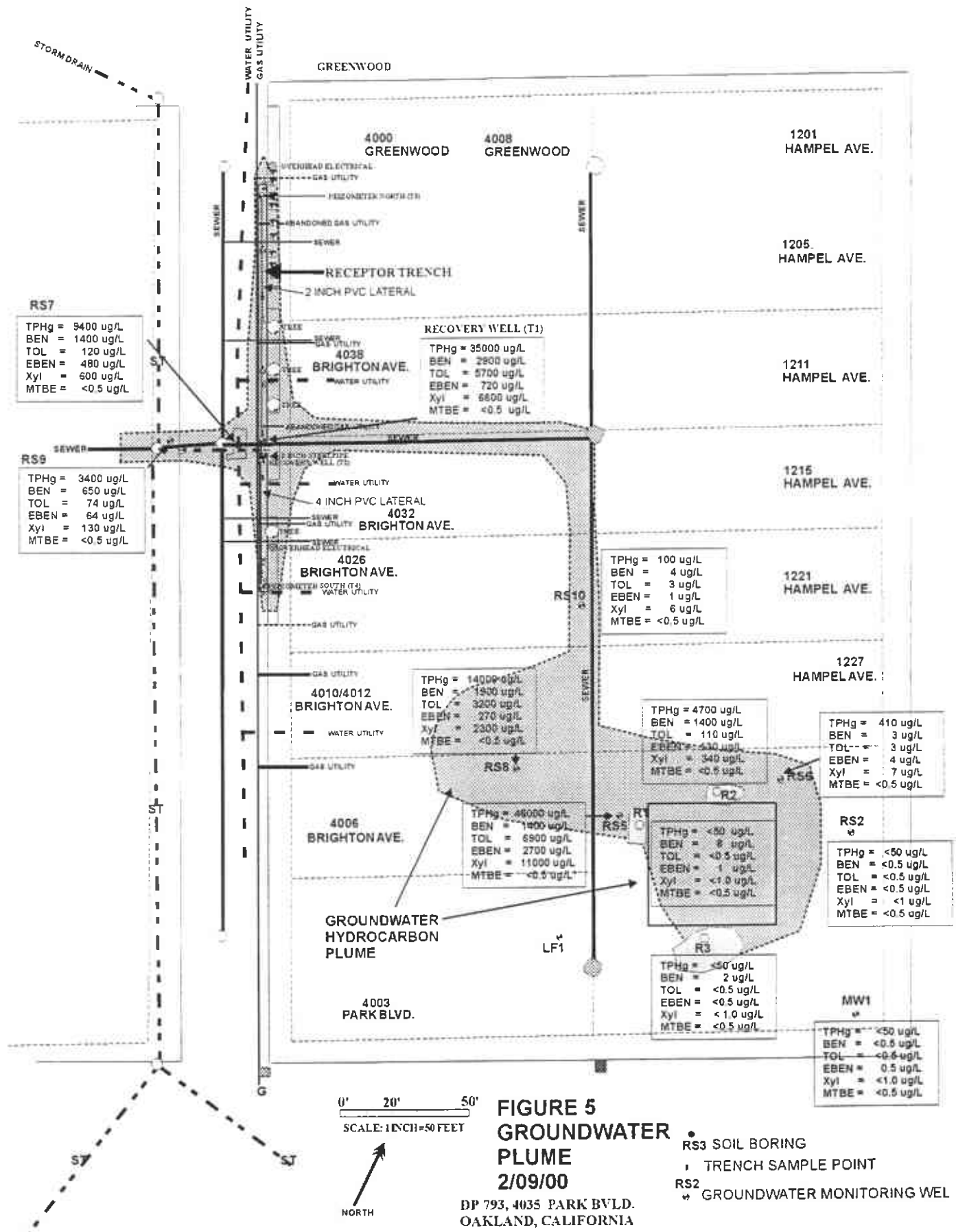
**FIGURE 3 - SAMPLE LOCATIONS  
SEWER AND FREE PRODUCT  
INVESTIGATION FOR  
DP793, 4035 PARK BLVD.  
OAKLAND, CALIFORNIA**

- 10 SPS SAMPLE POINT
- SOIL SAMPLE POINT
- SOIL BORING
- RECEPTOR TRENCH SAMPLE POI
- RS2 ● GROUNDWATER MONITORING WE
- RS1 ● DESTROYED MONITORING WELL



**FIGURE 4**  
 DP 793, 4035 PARK BLVD.  
 OAKLAND, CALIFORNIA  
 GROUNDWATER ELEVATION  
 02/09/00.

CONTOURS ARE  
 FEET ABOVE SEA  
 LEVEL



# APPENDIX A

QA/QC  
METHODS  
&  
PROCEDURES

## APPENDIX A

### METHODS AND PROCEDURES, QA/QC

This Appendix documents the specific methods, procedures, and materials used to collect and analyze ground water samples.

#### **Gauging and Measuring Monitor Wells.**

Prior to sampling a well, WEGE personnel obtain two measurements: the depth to ground water and the product thickness using a battery powered depth to water-product interface probe and or by using a specially designed bailer. The 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 calibrated in 0.01 foot intervals for accuracy to 0.01 foot, that is attached to the probe. The measured distance is subtracted from the established elevation at the top of casing to determine the elevation of ground water with respect to mean sea level.

The probe is washed with TSP 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.

#### **Purging Standing Water from Monitor Wells**

If no product is present, WEGE personnel purge the well. This is accomplished by removing ground water from the well until the water quality parameters (temperature, pH, and conductivity) stabilize, or until the well is emptied of water. Periodic measurements of ground water temperature, pH, and conductivity were taken with a Hydac Monitor or other meter and recorded along with the volume of ground water 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 ground water 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 ground water 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" indicates gasoline, diesel, kerosene, or oil, respectively, ie. TPH-d for diesel range TPH.

BTEX or MTBE are acronyms or abbreviations used for Benzene, Toluene, Ethylbenzene and all of the Xylenes (BTEX) and Methyl Tertiary Butyl Ether (MTBE), respectively.

MBTEX is the designation for the combination of the above five compounds.

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 C of this report.

# APPENDIX B

WELL SAMPLING  
DATA SHEETS

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-28-00</i>	TIME <i>8:28</i>
WELL <i>MW-1</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>13.76</i>	DTB <i>18.32</i>
FLUID ELEVATION		
BAILER TYPE <i>Disposable Bailer</i>		
PUMP <i>David Pittman</i>		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>8:30</i>	<i>1 Bailer</i>	<i>68.8</i>	<i>7.48</i>	<i>1.05</i>
<i>8:34</i>	<i>3 gal</i>	<i>67.2</i>	<i>7.72</i>	<i>.67</i>
<i>8:36</i>	<i>1</i>	<i>67.5</i>	<i>7.70</i>	<i>.50</i>
<i>8:38</i>	<i>1</i>	<i>68.1</i>	<i>7.58</i>	<i>.44</i>
<i>8:41</i>	<i>1</i>	<i>68.7</i>	<i>7.30</i>	<i>.42</i>
<i>8:43</i>	<i>1</i>	<i>68.7</i>	<i>7.30</i>	<i>.41</i>

FINAL VOLUME PURGED	<i>7 gal</i>
TIME SAMPLED	<i>8:45</i>
SAMPLE ID.	<i>MW-1</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX/MTBE</i>
LABORATORY	<i>NSF</i>
NOTES:	<i>1st Bailer Clear                      No Odor</i>



# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-9-00</i>	TIME <i>8:56</i>
WELL <i>RS-2</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>8.91</i>	DTB <i>18.40</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>8:58</i>	<i>1 Bailer</i>	<i>63.3</i>	<i>7.01</i>	<i>.68</i>
<i>9:01</i>	<i>10 gal</i>	<i>65.1</i>	<i>6.91</i>	<i>.92</i>
<i>9:02</i>	<i>1</i>	<i>66.8</i>	<i>7.03</i>	<i>.91</i>
<i>9:04</i>	<i>1</i>	<i>67.1</i>	<i>7.08</i>	<i>.91</i>
<i>9:06</i>	<i>1</i>	<i>67.8</i>	<i>7.06</i>	<i>.88</i>
<i>9:07</i>	<i>1</i>	<i>68.0</i>	<i>7.07</i>	<i>.88</i>

FINAL VOLUME PURGED	<i>14 gal</i>
TIME SAMPLED	<i>9:08</i>
SAMPLE ID.	<i>RS-2</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX/MTBE</i>
LABORATORY	<i>NSE</i>
NOTES:	<i>1st Bailer clear No odor</i>

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-9<del>X</del>-00</i>	TIME <i>1146</i>
WELL <i>RS5</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>16.31</i>	DTB <i>39.20</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>1148</i>	<i>1 Bailer</i>	<i>63.8</i>	<i>6.83</i>	<i>.42</i>
<i>1159</i>	<i>48 gal</i>	<i>64.0</i>	<i>7.05</i>	<i>.46</i>
<i>1200</i>	<i>1</i>	<i>65.0</i>	<i>6.87</i>	<i>.46</i>
<i>1201</i>	<i>1</i>	<i>65.7</i>	<i>6.79</i>	<i>.47</i>
<i>1201</i>	<i>—</i>	<i>66.1</i>	<i>6.81</i>	<i>.47</i>
<i>1202</i>	<i>1</i>	<i>66.2</i>	<i>6.81</i>	<i>.47</i>

FINAL VOLUME PURGED	<i>51 gal</i>
TIME SAMPLED	<i>1202</i>
SAMPLE ID.	<i>RS-5</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX /MTRF</i>
LABORATORY	<i>USE</i>
NOTES:	<i>1<sup>st</sup> Bailer CLEAR                      STRONG Odor</i>

# WELL SAMPLING DATA SHEET

SITE DP 793	DATE 2-28-00	TIME 9:09
WELL RS-6	SAMPLED BY. BROADWAY	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	12.77	DTB 34.02
FLUID ELEVATION		
BAILER TYPE	Disposable Bailer	
PUMP	David Pittman	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
9:10	1 Bailer	64.6	7.19	.174
9:20	2.5 gal	64.5	6.81	.92
9:44	1	65.8	6.89	.91
9:48	1	65.8	6.90	.91

FINAL VOLUME PURGED	27 gal
TIME SAMPLED	9:50
SAMPLE ID.	RS-6
SAMPLE CONTAINERS	140cc VOA's
ANALYSIS TO BE RUN	TPHg BTEX/MTBE
LABORATORY	NSE
NOTES:	1st Bailer CLEAR Some Odor

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-28-00</i>	TIME <i>1250</i>
WELL <i>RS-7</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>398</i>	DTB <i>7.0</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>1251</i>	<i>1 Bailer</i>	<i>63.4</i>	<i>6.89</i>	<i>.56</i>
<i>1256</i>	<i>6 gal</i>	<i>62.8</i>	<i>6.68</i>	<i>.48</i>
<i>1258</i>	<i>1</i>	<i>62.2</i>	<i>6.68</i>	<i>.48</i>

FINAL VOLUME PURGED	<i>7 gal</i>
TIME SAMPLED	<i>1259</i>
SAMPLE ID.	<i>RS-7</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX/MTBE</i>
LABORATORY	<i>USE</i>
NOTES:	<i>1st Bailer BLACK PARTICULATE STRONG CHOR</i>

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-9-00</i>	TIME <i>1326</i>
WELL <i>RS-8</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>7.23</i>	DTB <i>15.0</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>DAVID PITTMAN</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>1327</i>	<i>1 Bailer</i>	<i>61.7</i>	<i>7.21</i>	<i>.56</i>
<i>1329</i>	<i>2 gal</i>	<i>61.8</i>	<i>6.98</i>	<i>.55</i>
<i>1331</i>	<i>2</i>	<i>61.9</i>	<i>6.90</i>	<i>.56</i>
<i>1333</i>	<i>1</i>	<i>61.9</i>	<i>6.90</i>	<i>.56</i>

FINAL VOLUME PURGED	<i>5 gal</i>
TIME SAMPLED	<i>1335</i>
SAMPLE ID.	<i>RS-8</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TP11g BTEX/MTBE</i>
LABORATORY	<i>NSE</i>
NOTES:	<i>1st Bailer Clear No odor</i>

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-10-80</i>	TIME <i>12:22</i>
WELL <i>RS-9</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>6.09</i>	<i>DTB 15</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>12:33</i>	<i>1 Bailer</i>	<i>64.7</i>	<i>6.98</i>	<i>.48</i>
<i>12:37</i>	<i>5 gal</i>	<i>65.8</i>	<i>6.74</i>	<i>.45</i>
<i>12:40</i>	<i>1</i>	<i>66.0</i>	<i>6.81</i>	<i>.45</i>
<i>12:42</i>	<i>1</i>	<i>66.0</i>	<i>6.80</i>	<i>.45</i>

FINAL VOLUME PURGED	<i>7 gal</i>
TIME SAMPLED	<i>12:43</i>
SAMPLE ID.	<i>RS-9</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPH, BTEX, MTBE</i>
LABORATORY	<i>NSE</i>
NOTES:	<i>1st Bailer silty</i> <span style="float: right;"><i>strong odor</i></span>

# WELL SAMPLING DATA SHEET

SITE DP 793	DATE 2-10-80	TIME 13:15
WELL RS10	SAMPLED BY. BROADWAY	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	.31	DTB 9.0
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David Pittman		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
1315	1 Bailer	62.4	6.84	.28
1318	2 gal	62.3	6.76	.28
1320	2	62.3	6.76	.25
1322	1	62.4	6.76	.25

FINAL VOLUME PURGED	5 gal
TIME SAMPLED	1323
SAMPLE ID.	RS10
SAMPLE CONTAINERS	2/40cc VOA's
ANALYSIS TO BE RUN	TP11g BTEX/MTBE
LABORATORY	NSF
NOTES:	1 <sup>st</sup> Bailer Yellow URINE Odor

# WELL SAMPLING DATA SHEET

SITE <i>DD 793</i>	DATE <i>2-10-99</i>	TIME <i>1021</i>
WELL <i>R-1</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>13.1</i>	DTB <i>16.92</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>10:22</i>	<i>1 Bailer</i>	<i>63.5</i>	<i>7.54</i>	
<i>10:30</i>	<i>18 gal</i>	<i>63.9</i>	<i>7.47</i>	<i>.19</i>
<i>11:28</i>	<i>1</i>	<i>64.8</i>	<i>7.40</i>	<i>.17</i>
<i>11:37</i>	<i>1</i>	<i>65.0</i>	<i>7.35</i>	<i>.17</i>
<i>11:39</i>	<i>1</i>	<i>65.0</i>	<i>7.35</i>	<i>.17</i>

FINAL VOLUME PURGED	<i>21 gal</i>
TIME SAMPLED	<i>1140</i>
SAMPLE ID.	<i>R-1</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX/MTBE</i>
LABORATORY	<i>NSF</i>
NOTES:	<i>1st Bailer CLEAR Same Odor</i>



# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-10-00</i>	TIME <i>9:40</i>
WELL <i>R-2</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>12.45</i>	DTB <i>16.8</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>9:41</i>	<i>1 Bailer</i>	<i>63.7</i>	<i>6.87</i>	<i>.62</i>
<i>9:48</i>	<i>18 gal</i>	<i>63.7</i>	<i>6.87</i>	<i>.67</i>
<i>9:49</i>	<i>1</i>	<i>64.5</i>	<i>6.87</i>	<i>.67</i>
<i>9:51</i>	<i>1</i>	<i>64.6</i>	<i>6.87</i>	<i>.67</i>

FINAL VOLUME PURGED	<i>20 gal</i>
TIME SAMPLED	<i>9:52</i>
SAMPLE ID.	<i>R2</i>
SAMPLE CONTAINERS	<i>2/40cc VOA's</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX/MTBE</i>
LABORATORY	<i>USE</i>
NOTES:	<i>1st Bailer CLEAR                      No Odor</i>

# WELL SAMPLING DATA SHEET

SITE <i>DP 793</i>	DATE <i>2-9-00</i>	TIME <i>12 14</i>
WELL <i>R3</i>	SAMPLED BY. <i>BROADWAY</i>	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	<i>8.76</i>	DTB <i>11.74</i>
FLUID ELEVATION		
BAILER TYPE	<i>Disposable Bailer</i>	
PUMP	<i>David Pittman</i>	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
<i>1216</i>	<i>1 Bailer</i>	<i>64.4</i>	<i>7.31</i>	<i>.57</i>
<i>1220</i>	<i>9 gal</i>	<i>65.4</i>	<i>7.02</i>	<i>.75</i>
<i>1223</i>	<i>1</i>	<i>65.7</i>	<i>6.92</i>	<i>.80</i>
<i>1225</i>	<i>1</i>	<i>66.3</i>	<i>6.92</i>	<i>.78</i>
<i>1227</i>	<i>1</i>	<i>66.4</i>	<i>6.93</i>	<i>.76</i>

FINAL VOLUME PURGED	<i>12 gal</i>
TIME SAMPLED	<i>1228</i>
SAMPLE ID.	<i>R3</i>
SAMPLE CONTAINERS	<i>2/40cc VORs</i>
ANALYSIS TO BE RUN	<i>TPHg BTEX /MTBE</i>
LABORATORY	<i>NSC</i>
NOTES:	<i>1st Bailer Clear ? odor</i>

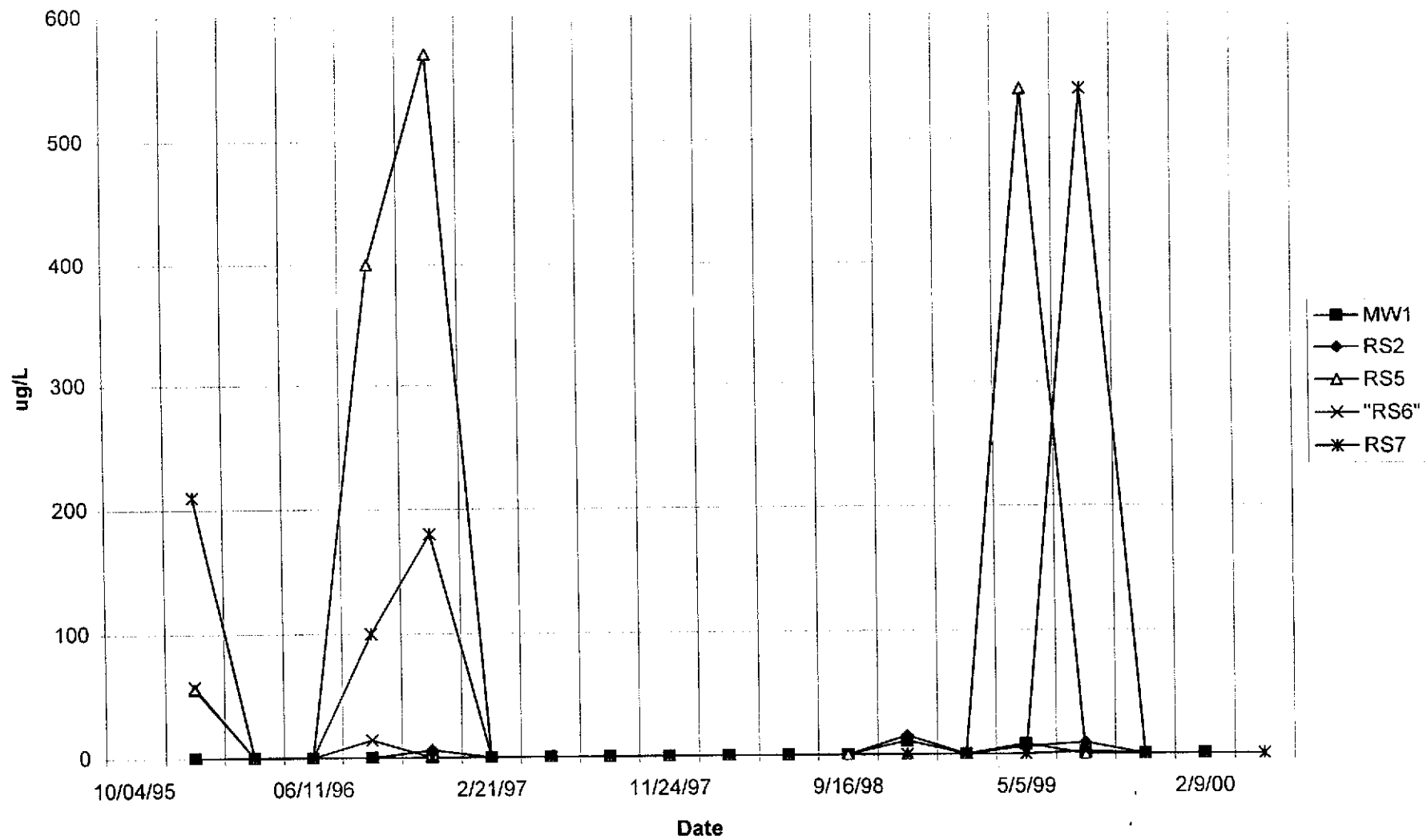
# WELL SAMPLING DATA SHEET

SITE DP 793	DATE 2-9-00	TIME 1300
WELL T1	SAMPLED BY. BROADWAY	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	2.22	DTB 14.38
FLUID ELEVATION		
BAILER TYPE	Disposable Bailer	
PUMP	David Pittman	

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP. F°	pH	COND. X1000
1300	1 Bailer	63.9	6.97	1.47
1302	30 gal	64.0	6.98	1.47

FINAL VOLUME PURGED	30 gal
TIME SAMPLED	1302
SAMPLE ID.	T1
SAMPLE CONTAINERS	2/40cc VOA's
ANALYSIS TO BE RUN	TP11g BTEX/MTBE
LABORATORY	NSF
NOTES:	1st Bailer Clear No Odor

# MTBE IN WELLS



# APPENDIX C

LABORATORY  
RESULTS



C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-0185
Client: Western Geo-Engineers
Project:

Date Reported: 02/18/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. It contains three sample entries (00-0185-01, 00-0185-02, 00-0185-03) with their respective analyte results and units.

\*Confirmed by GC/MS method 8260.



C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-0185
Client: Western Geo-Engineers
Project:

Date Reported: 02/18/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. Contains three sample entries (00-0185-04, 00-0185-05, 00-0185-06) with various analyte results.

\*Confirmed by GC/MS method 8260.



C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-0185
Client: Western Geo-Engineers
Project:

Date Reported: 02/18/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. It contains three sections of data for samples 00-0185-07, 00-0185-08, and 00-0185-09, each listing concentrations for Gasoline, Benzene, Ethylbenzene, MTBE, Toluene, and Xylenes.

\*Confirmed by GC/MS method 8260.





North State Environmental Laboratory

CA ELAP# 1753

90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-0185
Client: Western Geo-Engineers
Project:

Date Reported: 02/18/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. Contains three sample entries (00-0185-10, 00-0185-11, 00-0185-12) with their respective analyte results.

\*Confirmed by GC/MS method 8260.



# North State Environmental Laboratory

CA ELAP#1753

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## C E R T I F I C A T E O F A N A L Y S I S

### Quality Control/Quality Assurance

Lab Number: 00-0185  
Client: Western Geo-Engineers  
Project:

Date Reported: 02/18/2000

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Gasoline	8015M	50	ug/L	ND	120	5
Benzene	8020	0.5	ug/L	ND	112	3
Ethylbenzene	8020	0.5	ug/L	ND	122	5
Toluene	8020	0.5	ug/L	ND	122	1
Xylenes	8020	1.0	ug/L	ND	124	4
MTBE	8020	0.5	ug/L	ND	115	4

ELAP Certificate NO:1753

Reviewed and Approved

John A. Murphy, Laboratory Director



# North State Environmental Analytical Laboratory

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080

Phone: (650) 266-4563 Fax: (650) 266-4560

00-018

Chain of Custody / Request for Analysis

Lab Job No.: \_\_\_\_\_ Page \_\_\_ of \_\_\_

Client: <b>WEGE</b>	Report to: <b>George Converse</b>	Phone: <b>530-668-5300</b>	Turnaround Time
Mailing Address: <b>Westex Geo Engineers 1386 E. BEAMER ST. Woodland, CA 95776</b>	Billing to: <b>WEGE</b>	Fax: <b>530-662-0273</b>	
		PO# / Billing Reference:	Date: <b>2-9-00</b>
			Sampler: <b>BROADWAY</b>

Project / Site Address: <b>DP-793</b>					Analysis Requested								Comments / Hazards
Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH BTEX MTBE								
1 MW1	H <sub>2</sub> O	2 VOA <sub>s</sub>	HCl	2/9/00 845									
2 RS2				908									
3 R2				952									
4 R3				1228									
5 RS5				1202									
6 RS6				950									
7 RS7				1259									
8 RS8				1335									
9 RS9				1243									
10 RS10				1323									
11 T1				1302									
12 R-1				1140									

Relinquished by: <b>[Signature]</b>	Date: <b>2-9-00</b>	Time: <b>2:15</b>	Received by: <b>[Signature]</b>	Lab Comments <b>NSE LABS</b>
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	