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

March 8, 1999

99 APR 13 PM 3:00  
CALIFORNIA  
PROTECTION

RE: February 1999 Quarterly Groundwater Sampling Report with revised Subsurface Conduit Study for Former Desert Petroleum Station #796, 2844 Mountain Boulevard, Oakland, California.

Dear Mr. Rutherford:

As you requested Western Geo-Engineers (WEGE) has performed the quarterly monitoring/sampling of this site. The following report represents WEGE's February 1999 Quarterly Groundwater. Also included is the Subsurface Conduit Study, requested by Mr. Scott Seary of Alameda County Health during the meeting held on October 20, 1998. The conduit study has been revised since first presented in the December 1998 Quarterly report. To verify the elevations of the groundwater compared to the underground utilities, WEGE had the top of well casings resurveyed by a licensed surveyor along with the storm drain catch basins near the site. The survey datum used is the same used by the City of Oakland in plotting the underground utilities, City of Oakland benchmark #2804, elevation 676.08 feet.

**INTRODUCTION**

A WEGE geologist visited the site on November 9, 1998 to verify the presence of underground utilities and of any surface evidence of movement along the Hayward Fault near the site, as part of the underground conduit study. A WEGE sample technician monitored and sampled the four existing groundwater monitoring wells on February 23, 1999.

**LOCATION**

The site is an operating "Compare Price Gas Station" that retails regular unleaded, super-unleaded gasoline and diesel. The site is located East of Highway 13 at 2844 Mountain Blvd., Oakland, California, west of Joaquin Miller Park, see Figures 1 and 2. Top of casing elevations, top of traffic box rim elevations, top of rim of catch basins and storm drain flow line elevations were measured to the nearest 0.01 foot by Mr. Wade Hammond, Licensed Land Survey No. 6163 on March 4, 1999.

**GROUNDWATER SAMPLING**

Table 1 is a summary of groundwater monitoring of this site since May 1990. The most recent sampling/monitoring, February 23, 1999 found a thin film of free product at RS-1 (0.05 feet thick). RS-2 continues to contain high levels of Methyl tertiary Butyl Ether (MTBE), 450 mg/L, which was confirmed using EPA Method 8260. All well samples were analyzed for dissolved gasoline

0.6"

450,000 ug/L

range hydrocarbons, see Appendix B for Laboratory report and Table 1 with Charts showing historic TPHg and MTBE levels for the wells

All wells contained MTBE, see Table 1 and Appendix B for Laboratory Report

### **GROUNDWATER GRADIENT "FLOW DIRECTION"**

Figure 4 depicts groundwater elevations as measured on February 23, 1999. This figure shows a gradient flow predominantly to the southwest.

To evaluate the lateral extent of free product beneath the site, a workplan was developed and approved (December 10, 1996) to perform a soil probe survey (SPS). The SPS was conducted on January 17, 1997 with findings submitted February 27, 1997 as part of the Interim Remedial Workplan. To further this investigation, Mr. Scott Seary of Alameda County Health requested a subsurface conduit study, due to the shallow groundwater found beneath the site. This study is presented in this report.

### **MTBE**

The charts presented with Table 1 show that MTBE was present in the groundwater since June 1995. The ratio as compared to gasoline concentrations in groundwater indicates that a leak was occurring at that time with substantial increases in September 1996, May and November 1997, May 1998 and February 1999. Concern of the increasing MTBE prompted a site visit on August 6, 1997. A WEGE geologist interviewed the site owner, Mr. Sharahn Shenazi, concerning what may be the cause of elevated MTBE found during quarterly sampling. Mr. Shenazi felt that the MTBE was introduced to the groundwater during washing down of the station. The wash water would drain to the water meter box which is depressed in the station asphalt down slope of the pump islands, see Figure 3. Mr. Shenazi stated that he has had no inventory losses and that the product lines are double contained and the leak detectors indicate everything is fine. The three existing tanks are two 6,000-gallon previously lined single walled steel tanks and a 10,000-gallon single wall fiberglass tank. During testing of the tanks prior to lining one tank (diesel tank) showed a pressure increase but then tested fine, see September 1997 Quarterly Report.

The water meter box was inspected. The bottom of the box was not sealed and open to the subsurface, no odors were present and field screening with a MiniRae PID showed only 0.5 ppmv existed in the soils beneath the water meter. A soil sample was obtained at approximately one foot beneath the station surface and approximately six inches below the water meter and chain of custody delivered to North State Environmental Analytical Laboratory (NSE). NSE analyzed the soil sample for Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) and MTBE. The laboratory results showed 1.9 mg/Kg of TPHg, trace amounts of BTEX, with MTBE below laboratory lower detection limits.

Mr. Scott Seary of Alameda County Health requested Mr. John Rutherford of Desert Petroleum, Mr. Shenazi, current owner of the property and Mr. George Converse of Western Geo- Engineers to meet with him at his office on October 20, 1998. Discussions involved the June 7, 1998 removal of

the 6000 gallon single wall steel tank closest to the pump islands, see Figure 3, and the evidence supporting the ongoing release of gasoline range hydrocarbons at the site since February 1995. As of this meeting Mr. Shenazi is delinquent in providing the required UST removal report and will be named as a responsible party for the release at the site. Mr. Scott Seary also directed Desert Petroleum to conduct a subsurface conduit study involving the underground utilities and the Hayward Fault situated near the site. This study is presented below.

## SUBSURFACE CONDUIT STUDY

The October 20, 1998 meeting was attended by Mr. Scott Seary (Alameda County Health), Mr. John Rutherford (Desert Petroleum, Inc.), Mr. George Converse (Western Geo-Engineers) and Mr. Sharahn Shenazi (owner of property located at 2844 Mountain Blvd., Oakland, CA.). At that meeting, Mr. Seary requested Desert Petroleum Inc. to conduct a subsurface conduit study.

Western Geo-Engineers conducted the subsurface conduit study of the area at and near the property 2844 Mountain Blvd., Oakland, CA. To optimize the search a library and Internet search was conducted. **Internet search and review of studies conducted concerning the Hayward Fault did not locate exploratory boring and trenches near the site.** Such borings and trenches are used to show offsets created by faulting and can indicate lithologic and structural conduits that may increase the degree of groundwater transport of contamination in the subsurface. On November 9, 1998, a WEGE geologist conducted a reconnaissance of the site and area immediately adjacent to the site. **No surface features were found that indicate the presence of the Hayward fault.** Utility maps were obtained from the City of Oakland (sewer, and storm water utilities), from the East Bay Municipal Water District (water utility) and from Pacific Gas and Electric (natural gas utility). The electrical utility is above ground. The routes of the underground utilities were placed onto a figure and then field checked for accuracy by a WEGE geologist on November 9, 1998, see Figure 3. According to the utility maps and material supplied by the City of Oakland the following burial depths (elevations) are associated with the base of the underground utilities trenches. Groundwater monitoring wells (RS-1, RS-2, RS-3, and RS-4) and the storm drain catch basins near the site were surveyed by a license surveyor, using City of Oakland Benchmark #2804 as the datum, on March 3, 1999. The elevation of the storm drain utility cover rim in Mountain Boulevard, west of the site, was used as the surface elevation to project the burial depths of the other utilities found beneath Mountain Boulevard so a comparison to the groundwater elevation found beneath the site could be made.

UTILITY	UTILITY TRENCH DEPTH BELOW SURFACE	
		Elevation of base of trenches
WATER	3 FEET	671.74
SEWER	9 FEET	665.74
STORM WATER	4.3 FEET	670.4(from surveyor)
NATURAL GAS	3 FEET (APPROXIMATE)	671.74
ELECTRIC	ABOVE GROUND	
PHONE LINES		
CABLE TV		

Comparison of base of utility trenches to groundwater elevations at RS-1 and RS-4 indicate that only the sewer utility could act as a conduit for lateral movement of the contaminated groundwater, see Charts - Appendix C. Soil samples obtained during the Soil Probe Survey (SPS<sup>tm</sup>) from the ten-foot depth (665 feet above mean sea level) were of dry silty clay. Groundwater entered the SPS test holes from below the ten-foot depth and above the twelve-foot depth. This suggests that only a minor amount of, if any, gasoline tainted groundwater may have entered the backfill of the sewer trench allowing the trench to act as a conduit for migration.

Borehole logs prepared by RSI (Remediation Systems International) during the drilling and installation of monitor wells RS1, RS2, RS3 and RS4 on May 29 and 30, 1990 were reviewed. ~~The borehole logs indicate silty clay overlays the clayey sand aquifer with is found at 12 feet bgs~~ (below ground surface) at RS-1 (663.6 feet amsl), 7 feet bgs at RS-2 (668.3 feet amsl), and 8 feet bgs at RS-3 (668.2 feet amsl). At RS-4 clayey sand is at the surface (675.4 feet amsl) to approximately 9 feet bgs (666.4 feet amsl). ~~These elevations are generally lower than the top of groundwater indicating that the groundwater is found in semi-confined aquifer that would retard the down gradient migration of the gasoline range hydrocarbons.~~

The Soil Probe Survey conducted on site on January 17, 1997 investigated subsurface conditions to the fifteen-foot depth below ground surface. ~~No groundwater entered the test holes prior to the ten-foot depth (665 feet amsl).~~ Soil plugs indicated that the surface to approximately ten feet bgs is comprised of silty clay. Groundwater was encountered from a silty formation below ten feet bgs (665 feet amsl) and above twelve feet bgs (663 feet amsl).

During the November 9, 1998 site visit the WEGE geologist walked the area around the property to survey for any surface evidence of movement and/or conduits created by the Hayward Fault. None were found, see Figures 1 and 2 for Hayward Fault Zone. At that time a water sample was obtained from a retaining wall drain north west of the property. This sample contained trace amounts of Xylenes (3.1 ug/L) and was below laboratory lower detection limits for Benzene, Toluene, Ethylbenzene and MTBE, see Figure 3 for sample location.

## DISCUSSION

Free phase floating product exists at or near RS-1 and on August 6, 1997 at Soil Probe Hole M7. There was a dramatic increase in MTBE concentration at RS-2 in September 1996, which coincides with the first measurable presence of free phase floating product in RS-1. Even though the stations washing practice drains the wash water to the water meter box, the soil sample obtained beneath the water meter box was below laboratory lower detection limits for MTBE. This strongly suggests that the MTBE influence was not caused by the "wash down" procedures. A meeting at the Alameda County Health Office on October 20, 1998 revealed that one of the 6,000 gallon UST's had been removed and the inspection revealed holes in the tank (the required UST decommission/sampling report has not been submitted to Alameda County Health as of 10/20/98).

Based on the laboratory analysis and stated observations by Alameda County Health during tank removal Western Geo-Engineers feels that a new release has occurred or is occurring at this site and is the source for gasoline with MTBE being introduced into the shallow groundwater.

Figure 5 represents the present lateral extent of the dissolved gasoline plume.

Figure 6 represents the present lateral extent of the MTBE plume.

A water sample obtained from one of the drains in the retaining wall at the on ramp to Highway 13 northwest of the site contained only trace amounts of Xylenes, see Figure 3. The absence of MTBE and Benzene, the more mobile of the gasoline additives, indicate that the downgradient extent of the gasoline plume is limited and probably has not intercepted the underground utility trenches.

## RECOMMENDATIONS

1. All tank and line tightness tests should be review from early 1995 to the present.
2. Review of tanks lining test procedures and comments.
3. Conduct a line tightness test.
4. Check continuity and integrity of vapor return lines and system.
5. Check integrity of overspill system.
6. Review inventory records from January 1995 to the present.
7. **Relieve Desert Petroleum Inc. of involvement as a responsible party based on the following:**
  - Desert Petroleum Inc. does not own or operate the site and has no control on how the site is operated and managed
  - Desert Petroleum Inc. has actively investigated and remediated this site since May 1990, with reasonable contaminant decline until mid 1994, see Tables 1 with associated graphs. This decline, projected, would have allowed site closure by mid 1996.
  - Desert Petroleum Inc. has performed source removal on four different occasions:
    - a. July 1989 excavated and removed gasoline-tainted soils from west and southwest of the UST's.
    - b. April 1994 removed the waste oil UST and limited over-excavation and removal of oil and gasoline tainted soils.
    - c. Performed vapor extraction and groundwater treatment using the RSI S.A.V.E.
    - d. October – December 1996 interim free product removal at RS-1 removing 30.4 gallons of gasoline and 1077 gallons of gasoline tainted groundwater.
8. Desert Petroleum Inc. should be relieved of the mandatory 1/4ly groundwater sampling of this site and the current groundwater monitoring wells should be assigned to the current owner Mr. Sharahn Shenazi.

## HEALTH AND SAFETY

This site is being treated as a class D site, normal common sense is to be used.

## **SAMPLE METHODS**

A WEGE technician working directly under California Registered Geologist #3037 using approved methods gauged, purged and sampled the monitor, see Appendix D for procedures and field notes.

### ***SAMPLE PRESERVATION.***

Each sample was placed into two, certified clean, glass, 40 ml VOAs with laboratory installed HCl preservative. The samples were then labeled and placed on ice and Chain of Custody delivered to North State Environmental laboratories.

### ***ANALYTICAL METHODS AND DHS LABORATORY SELECTED.***

WEGE contracted North State Environmental (NSE), (ELAP Certificate No. 1753), P.O. Box 5624, South San Francisco, CA. 94083 (415) 588-2838, to perform the analysis of the groundwater samples.

NSE analyzed the samples for Total Petroleum Hydrocarbons as gasoline (TPHg) w/ BTEX distinction utilizing EPA Methods 8020 (GCFID) with 3050 extraction method as described on page 17, Table 2 of the TRI-REGIONAL BOARD STAFF RECOMMENDATIONS FOR PRELIMINARY EVALUATION AND INVESTIGATION OF UNDERGROUND TANK SITES, 10 AUGUST 1990.

NSE noted that Methyl tertiary-Butyl Ether (MTBE) was evident in all samples. During this sampling MTBE was confirmed for sample RS-2 by EPA method 8260, see Table 1 and Appendix B. The detection limits in water are: TPH-G, 50 ug/L; Benzene, Toluene, Ethylbenzene and MTBE, 0.5 ug/L; Xylenes, 2 ug/L.

### **RINSEATES AND PURGED GROUNDWATER STORAGE/TREATMENT.**

All rinseates and purged water produced from the groundwater sampling and weekly purging of the wells is transferred into 55 gallon DOT H17 drums for later removal, by Evergreen Services to be recycled.

## LIMITATIONS

The information presented in this report is based on the following:

1. The observations and data collected by field personnel.
2. The results of laboratory analyses performed by a state certified analytical laboratory.
3. Our understanding of the regulations of Alameda County, the City of Oakland and the State of California.
4. References reviewed for this report.

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.

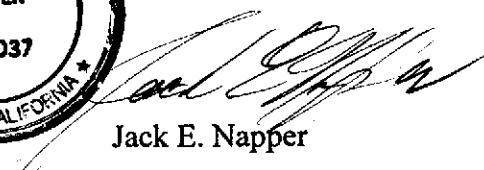
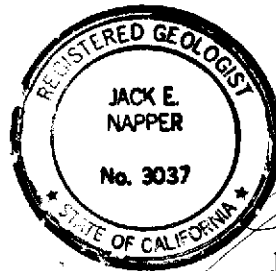
State Certified Laboratory analytical results are included in this report. This laboratory follows EPA and State of California approved procedures; however, WEGE is not responsible for errors in these laboratory results.

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, the City of Oakland and Alameda County. Our work and/or supervision of remediation and/or abatement operations, active or preliminary at this site is no way meant to imply that we are owners or operators of this site. Please note that the 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 yours,



George L. Converse  
Project Manager/Geologist-WEGE



Jack E. Napper  
Calif. Reg. Geologist #3037

cc: Mr. Scott Seary, Alameda County Health (510) 567-6774  
Mr. Leroy Griffin, City of Oakland

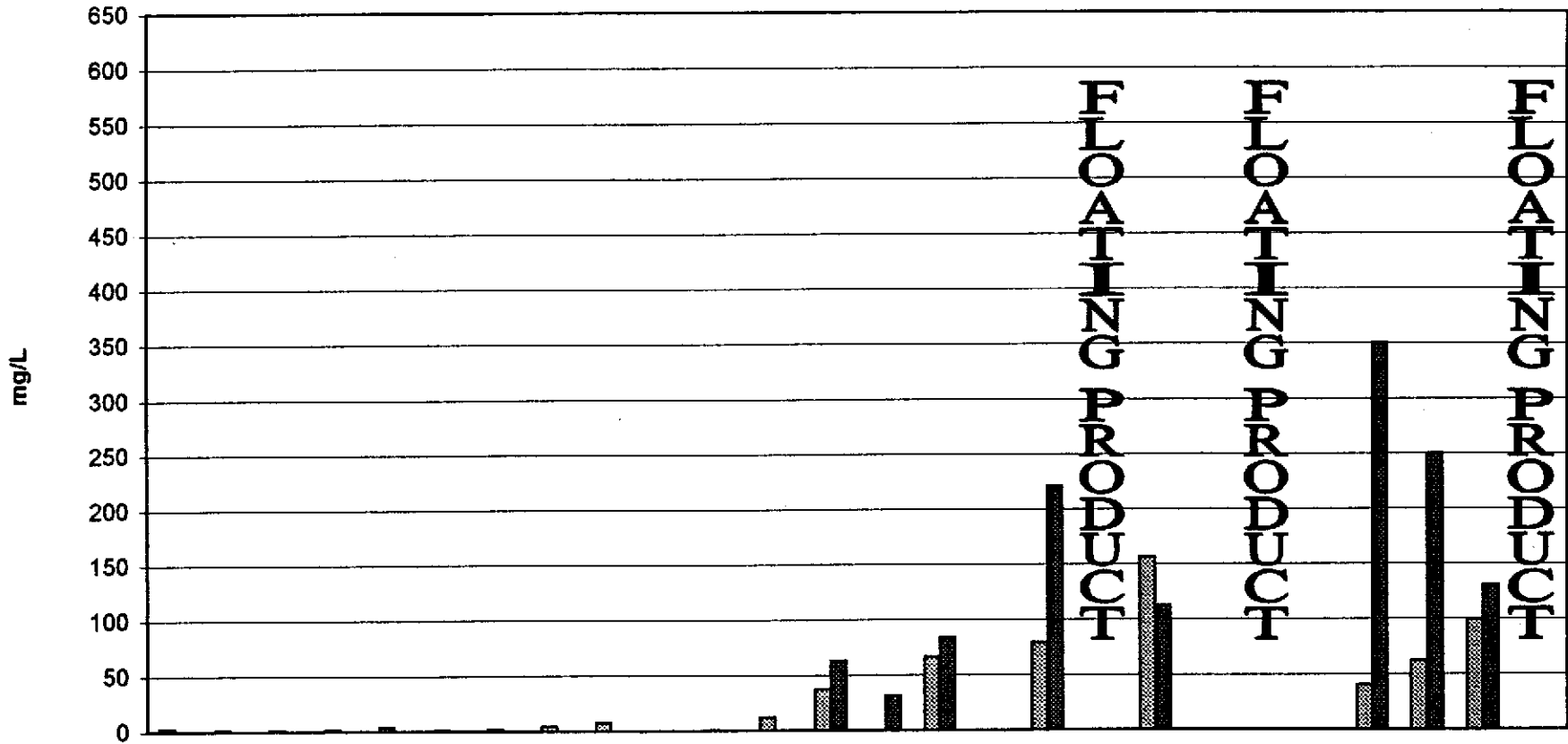
TABLE 1  
SUMMARY OF GROUNDWATER MONITORING  
DP796  
2844 MOUNTAIN BOULEVARD, OAKLAND, CALIFORNIA 94602

WELL	DATE	CASING ELEVATION	DEPTH TO TOP FLUID	DEPTH TO TOP WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH GASOLINE mg/L	BENZENE ug/L	TOLUENE ug/L	ETHYL-BENZENE ug/L	XYLENES ug/L	MTBE ug/L	SAMPLED BY
RS-1	MAY-90	689.25	7.2	7.2	0.00	682.05	2.7	370	420	40	320		RSI
	MAY-91	689.25	8.35	8.35	0.00	680.9	1.3	580	130	62	240		RSI
	OCT.-91	689.17	10.22	10.22	0.00	678.95	1.1	140	100	45	210		RSI
	JAN.-92	689.17	8.06	8.06	0.00	681.11	1.7	9.9	31	9.7	170		RSI
	JAN.-93	689.17	5.3	5.3	0.00	683.87	3.7	650	9.2	51	170		RSI
	AUG.-93	689.17	8.56	8.56	0.00	680.61	0.9	14	0.6	2.1	8		RSI
	NOV.-93	689.17	8.44	8.44	0.00	680.73	1.4	9.6	ND	0.9	5		RSI
	Jan-94	689.17	6.88	6.88	0.00	682.29	4.2	95	3.1	58	130		RSI
	May-94	675.63	7.87	7.87	0.00	667.76	7.5	270	11	37	96		RSI
	Aug-94	675.63	16.28	16.28	0.00	659.35	0.13	12	0.5	2.6	5		RSI
	Nov-94	675.63	8.02	8.02	0.00	667.61	0.27	4.7	0.7	0.6	15		RSI
	Feb-95	675.63	6.51	6.51	0.00	669.12	12	81	2.3	1	12		RSI
	Jun-95	675.63	7.34	7.34	0.00	668.29	37	460	ND	ND	ND	63	RSI
	Nov-95	675.63	8.71	8.71	0.00	666.92	ND	660	16	140	330	31	RSI
	Feb-96	675.63	6.95	6.95	0.00	668.68	66	110	ND	12	21	84	RSI
	09/18/96	675.63	8.44	8.52	0.08	667.17	1 INCH FREE PRODUCT						WEGE
	12/11/96	675.63	6.42	6.62	0.20	669.17	79	4000	37000	8000	45000	220	WEGE*
	02/21/97	675.63	6.88	6.92	0.04	668.74	1/2 INCH FLOATING PRODUCT						WEGE
	05/28/97	675.63	7.88	7.96	0.08	667.73	156	9400	51000	7000	45000	112	WEGE*
	09/02/97	675.63	8.34	8.38	0.04	667.28	1/2 INCH FLOATING PRODUCT						WEGE*
	11/24/97	675.63	6.98	7	0.02	668.65	1/4 INCH FLOATING PRODUCT						WEGE*
	02/25/98	675.63	3.51	3.52	0.01	672.12	1/8 INCH FLOATING PRODUCT						WEGE*
	05/27/98	675.63	7.31	7.31	0.00	668.32	40	2200	4000	2300	19000	350	WEGE*
09/16/98	675.63	8.10	8.1	0.00	667.53	62	2400	2300	2100	14000	250	WEGE*	
11/23/98	675.63	7.10	7.1	0.00	668.53	99	2600	5800	2500	18000	130	WEGE*	
result 02/23/99	675.67	4.82	4.87	0.05	670.84	5/8 INCH FLOATING PRODUCT						WEGE	



DP796 - RS1

6



	MAY-90	MAY-91	JAN-92	JAN-93	AUG-93	Jan-94	May-94	Nov-94	Feb-95	Jun-95	Feb-96	09/18/96	12/11/96	05/28/97	09/02/97	02/25/98	05/27/98	09/16/98	02/23/99
TPHg	2.7	1.3	1.7	3.7	0.9	4.2	7.5	0.27	12	37	66	0	79	156	0	0	40	62	0
MTBE										63	84		220	112			350	250	

DATE SAMPLED

TABLE 1  
SUMMARY OF GROUNDWATER MONITORING  
DP796  
2844 MOUNTAIN BOULEVARD, OAKLAND, CALIFORNIA 94602

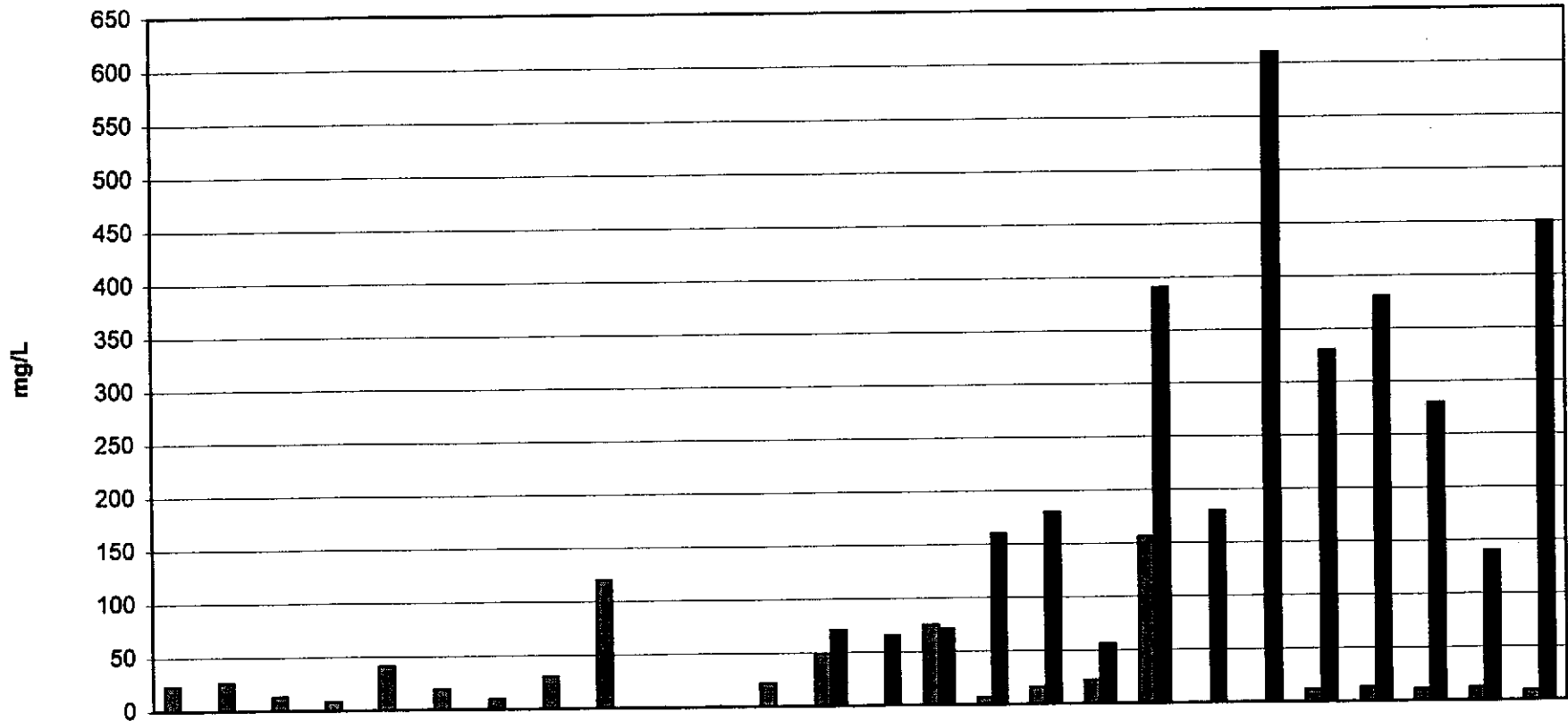
WELL	DATE	CASING ELEVATION	DEPTH TO TOP FLUID	DEPTH TO TOP WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH GASOLINE mg/L	BENZENE ug/L	TOLUENE ug/L	ETHYL-BENZENE ug/L	XYLENES ug/L	MTBE ug/L	SAMPLED BY
RS-2	MAY-90	689	7.06	7.06	0.00	681.94	23	7200	4800	300	3300		RSI
	MAY-91	689	7.14	7.14	0.00	681.86	26	14000	1800	750	2900		RSI
	OCT.-91	688.89	8.84	8.84	0.00	680.05	13	4300	910	300	2300		RSI
	JAN.-92	688.89	7.34	7.34	0.00	681.55	8.3	1800	920	140	1700		RSI
	JAN.-93	688.89	4.1	4.1	0.00	684.79	41	7000	210	1200	4200		RSI
	AUG.-93	688.89	7.32	7.32	0.00	681.57	19	5300	62	810	1600		RSI
	NOV.-93	688.89	7.34	7.34	0.00	681.55	9.3	2400	3.9	46	800		RSI
	JAN.-94	688.89	5.52	5.52	0.00	683.37	30	4900	ND	880	2600		RSI
	MAY-94	675.25	6.4	6.4	0.00	668.85	120	3300	330	ND	2200		RSI
	AUG.-94	675.25	22.11	22.11	0.00	653.14	0.51	7.3	3.8	3.5	32		RSI
	NOV.-94	675.25	9.82	9.82	0.00	665.43	0.62	6.6	3.9	1.1	47		RSI
	FEB.-95	675.25	4.81	4.81	0.00	670.44	22	228	80	2	463		RSI
	JUN.-95	675.25	5.8	5.8	0.00	669.45	49	1300	160	200	1600	71	RSI
	NOV.-95	675.25	7.64	7.64	0.00	667.61	ND	670	25	150	360	65	RSI
	FEB.-96	675.25	4.69	4.69	0.00	670.56	75	1400	170	59	460	71	RSI
	09/18/96	675.25	7.34	7.34	0.00	667.91	6.3	2000	48	350	570	160	WEGE
	12/11/96	675.25	5.08	5.08	0.00	670.17	16	2000	840	200	3200	180	WEGE
	02/21/97	675.25	5.42	5.42	0.00	669.83	22	2100	1300	600	5100	56	WEGE*
	05/28/97	675.25	6.4	6.4	0.00	668.85	156	4200	89	1000	6900	390	WEGE*
	09/02/97	675.25	6.93	6.93	0.00	668.32	<0.05	1300	25	360	1400	180	WEGE*
	11/24/97	675.25	5.93	5.93	0.00	669.32	<0.05	600	ND	ND	ND	610	WEGE*
	02/25/98	675.25	4.59	4.59	0.00	670.66	11	1100	<50	320	2400	330	WEGE*
	05/27/98	675.25	5.61	5.61	0.00	669.64	13	2000	150	600	2700	380	WEGE*
09/16/98	675.25	6.84	6.84	0.00	668.41	11	1600	20	1600	1600	280	WEGE*	
11/23/98	675.25	6.24	6.24	0.00	669.01	12	1200	84	<5	960	140	WEGE*	
resur 02/23/99	675.28	4.62	4.62	0.00	670.66	8.8	1600	650	640	1500	140	WEGE*	

150,000 ug/l

10

DP796 - RS2

11



	MAY-90	MAY-91	JAN-92	JAN-93	AUG-93	JAN-94	MAY-94	NOV-94	FEB-95	JUN-95	FEB-96	09/18/96	12/11/96	05/28/97	09/02/97	02/25/98	05/27/98	09/16/98	02/23/99
■ TPHg	23	26	8.3	41	19	30	120	0.62	22	49	75	6.3	16	156	0	11	13	11	8.8
■ MTBE										71	71	160	180	390	180	330	380	280	450

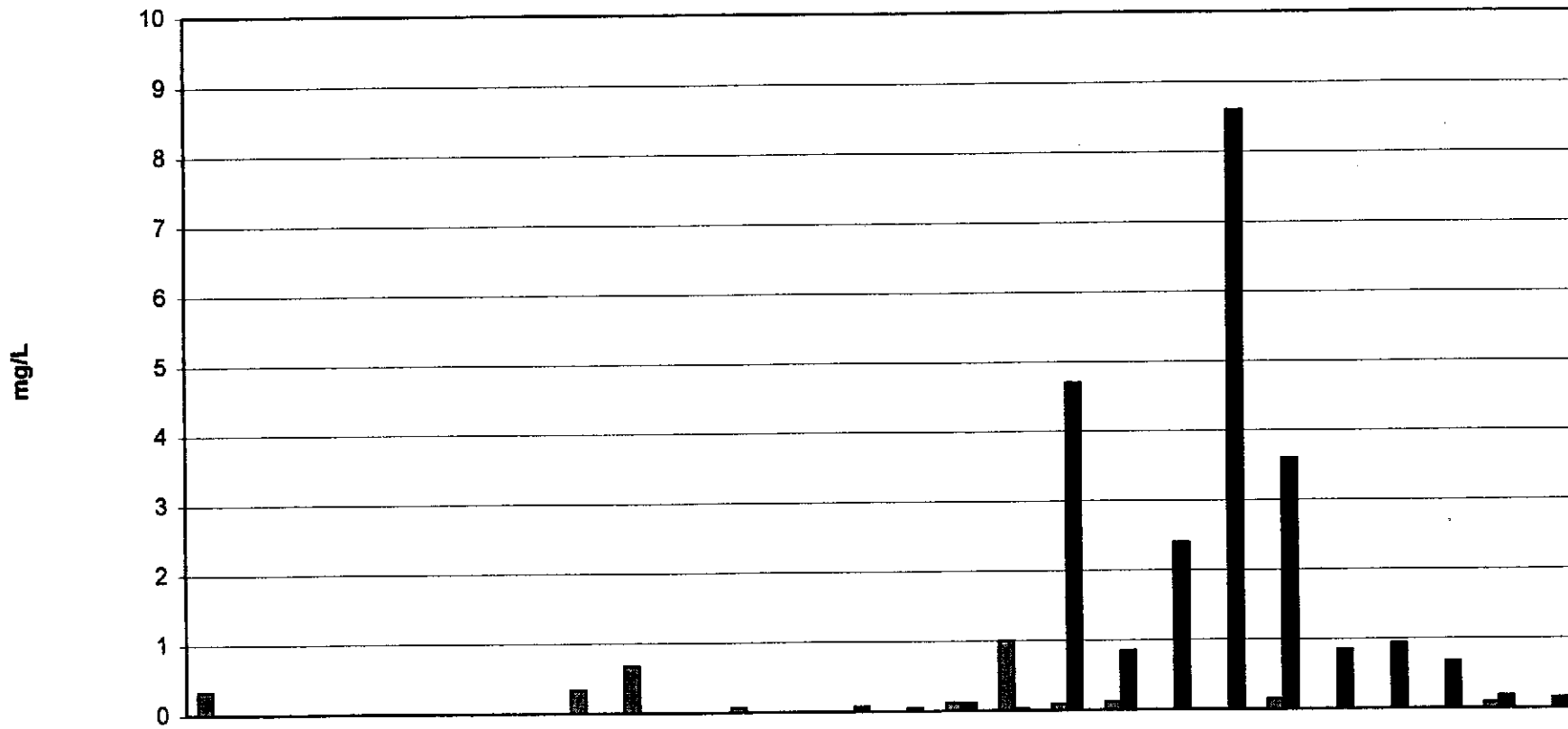
DATE SAMPLED

TABLE 1  
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WELL	DATE	CASING ELEVATION	DEPTH TO TOP FLUID	DEPTH TO TOP WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH GASOLINE mg/L	BENZENE ug/L	TOLUENE ug/L	ETHYL-BENZENE ug/L	XYLENES ug/L	MTBE ug/L	SAMPLED BY
RS-3	MAY-90	670	6	6	0.00	664.00	0.33	2	1	1	150		RSI
	MAY-91	670	6.76	6.76	0.00	663.24	ND	0.4	ND	0.8	8		RSI
	OCT.-91	670	8.98	8.98	0.00	661.02	ND	ND	ND	ND	ND		RSI
	JAN.-92	670	6.81	6.81	0.00	663.19	ND	2.2	7.2	0.6	4		RSI
	JAN.-93	670	4.05	4.05	0.00	665.95	ND	ND	ND	ND	ND		RSI
	AUG.-93	670	7.19	7.19	0.00	662.81	ND	30	6	2.4	5		RSI
	NOV.-93	670	7.12	7.12	0.00	662.88	ND	4.8	0.4	0.6	2		RSI
	JAN.-94	670	5.42	5.42	0.00	664.58	0.33	25	3.2	3.9	12		RSI
	MAY-94	676.2	5.78	5.78	0.00	670.42	0.67	34	4	28	70		RSI
	AUG.-94	676.2	5.86	5.86	0.00	670.34	ND	ND	ND	ND	ND		RSI
	NOV.-94	676.2	5.08	5.08	0.00	671.12	0.069	2.5	3.1	1	4		RSI
	FEB.-95	676.2	4.51	4.51	0.00	671.69	ND	0.3	0.4	ND	1		RSI
	JUN.-95	676.2	5.29	5.29	0.00	670.91	ND	ND	ND	ND	ND	0.066	RSI
	NOV.-95	676.2	7.1	7.1	0.00	669.10	ND	ND	ND	ND	ND	0.044	RSI
	FEB.-96	676.2	4.48	4.48	0.00	671.72	0.12	ND	ND	ND	ND	0.11	RSI
	09/18/96	676.2	6.92	6.92	0.00	669.28	1	13	8.6	10	17	0.033	WEGE
	12/11/96	676.2	4.9	4.9	0.00	671.30	0.085	20	2	<0.5	14	4.7	WEGE
	02/21/97	676.2	4.94	4.94	0.00	671.26	0.12	5	2	2	6	0.85	WEGE*
	05/28/97	676.2	7.92	7.92	0.00	668.28	<0.05	6	<0.5	<0.5	<2	2.4	WEGE
	09/02/97	676.2	6.6	6.6	0.00	669.60	<0.05	0.9	<0.5	<0.5	<2	8.6	WEGE*
	11/24/97	676.2	5.89	5.89	0.00	670.31	0.14	13	2	1	12	3.6	WEGE*
	02/25/98	676.2	4.29	4.29	0.00	671.91	<0.05	<0.5	<0.5	<0.5	4	0.85	WEGE*
	05/27/98	676.2	5.01	5.01	0.00	671.19	<0.05	7	<0.5	<0.5	11	0.94	WEGE*
09/16/98	676.2	6.21	6.21	0.00	669.99	<0.05	2	2	2	10	0.67	WEGE*	
11/24/98	676.2	5.58	5.58	0.00	670.62	0.085	9	23	<0.5	19	0.18	WEGE*	
02/24/99	676.23	4.3	4.3	0.00	671.93	<0.05	<0.5	0.9	<0.5	<1.0	0.15	WEGE	

DP796 - 753 ?

13



	MAY-90	MAY-91	JAN-92	JAN-93	AUG-93	JAN-94	MAY-94	NOV-94	FEB-95	JUN-95	FEB-96	09/18/96	12/11/96	05/28/97	09/02/97	02/25/98	05/27/98	09/16/98	02/24/99
TPHg	0.33	0	0	0	0	0.33	0.67	0.069	0	0	0.12	1	0.085	0	0	0	0	0	0
MTBE										0.066	0.11	0.033	4.7	2.4	8.6	0.85	0.94	0.67	0.15

DATE SAMPLED

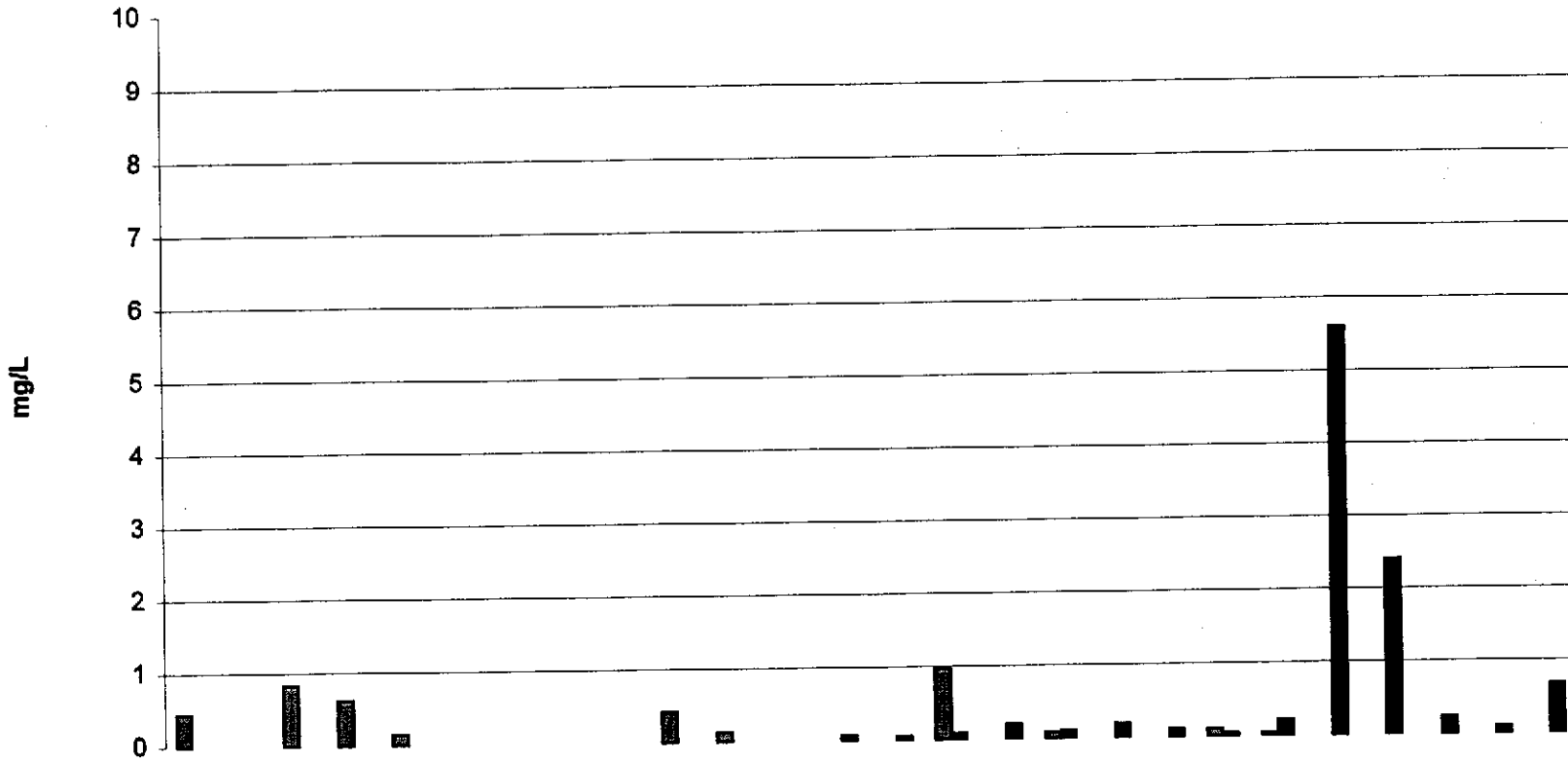
TABLE 1  
SUMMARY OF GROUNDWATER MONITORING  
DP796  
2844 MOUNTAIN BOULEVARD, OAKLAND, CALIFORNIA 94602

WELL	DATE	CASING ELEVATION	DEPTH TO TOP FLUID	DEPTH TO TOP WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH GASOLINE mg/L	BENZENE ug/L	TOLUENE ug/L	ETHYL-BENZENE ug/L	XYLENES ug/L	MTBE mg/L	SAMPLED BY
RS-4	MAY-90	689.06	8.34	8.34	0.00	680.72	0.44	9	11	9	49		RSI
	MAY-91	689.06	9.5	9.5	0.00	679.56	ND	8	4	3	5		RSI
	OCT.-91	689.1	10.82	10.82	0.00	678.28	0.83	280	120	24	170		RSI
	JAN.-92	689.1	9.31	9.31	0.00	679.79	0.62	34	8.3	2.1	21		RSI
	JAN.-93	689.1	6.89	6.89	0.00	682.21	0.15	32	1.7	5.8	13		RSI
	AUG.-93	689.1	9.68	9.68	0.00	679.42	ND	0.9	0.7	ND	0		RSI
	NOV.-93	689.1	9.83	9.83	0.00	679.27	ND	ND	ND	ND	ND		RSI
	JAN.-94	689.1	8.17	8.17	0.00	680.93	ND	1.7	ND	0.81	2		RSI
	MAY-94	675.38	8.69	8.69	0.00	666.69	ND	ND	ND	ND	1		RSI
	AUG.-94	675.38	9.04	9.04	0.00	666.34	0.42	6.5	4.1	1.9	40		RSI
	NOV.-94	675.38	8	8	0.00	667.38	0.13	4.1	0.7	1.7	8		RSI
	FEB.-95	675.38	7.93	7.93	0.00	667.45	ND	6	1.2	3.5	13		RSI
	JUN.-95	675.38	8.61	8.61	0.00	666.77	ND	ND	ND	ND	ND	0.069	RSI
	NOV.-95	675.38	10.43	10.43	0.00	664.95	ND	ND	ND	ND	ND	0.047	RSI
	FEB.-96	675.38	7.44	7.44	0.00	667.94	0.96	ND	ND	0.6	ND	0.08	RSI
	09/18/96	675.38	9.58	9.58	0.00	665.80	<0.05	<0.5	<0.5	<0.5	<2	0.2	WEGE
	12/11/96	675.38	7.5	7.5	0.00	667.88	0.075	<0.5	0.6	<0.5	<0.5	0.104	WEGE
	02/21/97	675.38	8.26	8.26	0.00	667.12	<0.05	1	1	<0.5	<2	0.19	WEGE*
	05/28/97	675.38	8.92	8.92	0.00	666.46	<0.05	6	<0.5	<0.5	<2	0.11	WEGE
	09/02/97	675.38	9.39	9.39	0.00	665.99	0.1	3	<0.5	<0.5	<2	0.039	WEGE*
11/24/97	675.38	8.22	8.22	0.00	667.16	0.041	<0.5	2	<0.5	<2	0.21	WEGE*	
02/25/98	675.38	7.19	7.19	0.00	668.19	<0.05	3	<0.5	<0.5	<1	0.4	WEGE*	
05/27/98	675.38	8.4	8.4	0.00	666.98	<0.05	<0.5	<0.5	<0.5	<1	0.23	WEGE*	
09/16/98	675.38	9.26	9.26	0.00	666.12	<0.05	<0.5	<0.5	<0.5	<1	0.1	WEGE*	
11/24/98	675.38	8.5	8.5	0.00	666.88	<0.05	2	<0.5	<0.5	<1	0.1	WEGE*	
02/24/99	675.42	7.2	7.2	0.00	668.22	<0.05	2	3	0.8	5	0.67	WEGE	
resur													
WATER METER BOX							mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
	08/06/97	SOIL AT ONE FOOT DEPTH BELOW SURFACE					1900	0.45	0.6	6.5	9.9	ND	WEGE

14

DP796 - RS4

15



	MAY-90	OCT-91	JAN-92	AUG-93	NOV-93	MAY-94	AUG-94	FEB-95	JUN-95	FEB-96	09/18/96	02/21/97	05/28/97	11/24/97	02/25/98	09/16/98	11/24/98
TPHg	0.44	0.83	0.62	0	0	0	0.42	0	0	0.96	0	0	0	0.041	0	0	0
MTSE									0.069	0.08	0.2	0.19	0.11	0.21	5.6	0.23	0.1

DATE SAMPLED

TABLE 1  
 SUMMARY OF GROUNDWATER MONITORING  
 DP796  
 2844 MOUNTAIN BOULEVARD, OAKLAND, CALIFORNIA 94602

WELL	DATE	CASING ELEVATION	DEPTH TO TOP FLUID	DEPTH TO TOP WATER	FREE PRODUCT THICKNESS	GROUND WATER ELEVATION	TPH GASOLINE mg/L	BENZENE ug/L	TOLUENE ug/L	ETHYL-BENZENE ug/L	XYLENES ug/L	MTBE mg/L	SAMPLED BY
WATER FROM													
RETAINING WALL DRAIN WEST OF STATION							mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	
	11/09/98						<0.05	<0.5	<0.5	<0.5	3.1	<1	WEGE*

MTBE Methyl t-Butyl Ether

TPH Total Petroleum Hydrocarbons

mg/L Milligrams per liter (ppm)

ND or < Below laboratory detection limits

ug/L Micrograms per liter (ppb)

\* MTBE confirmed by GC/MS 8260 method.



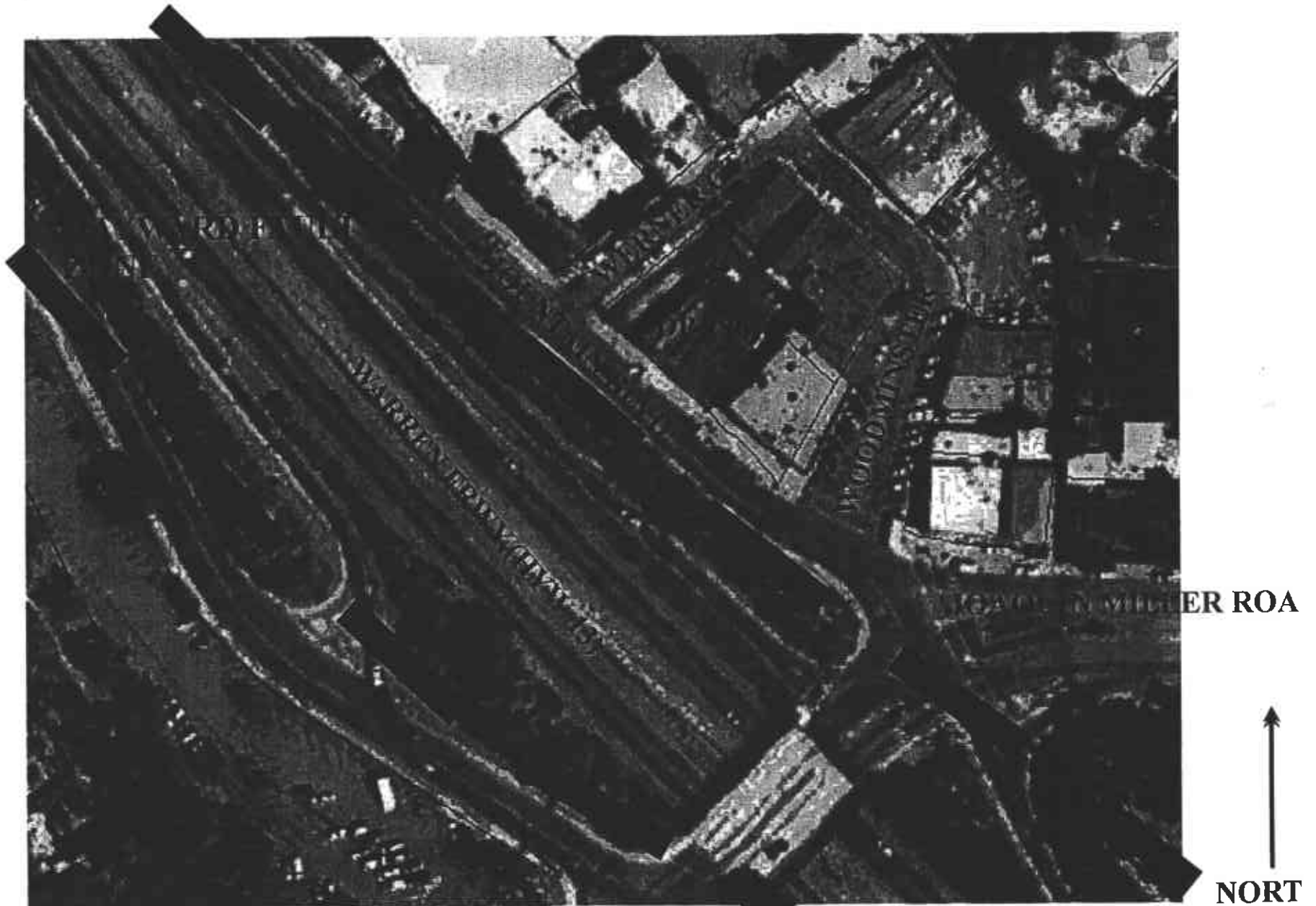
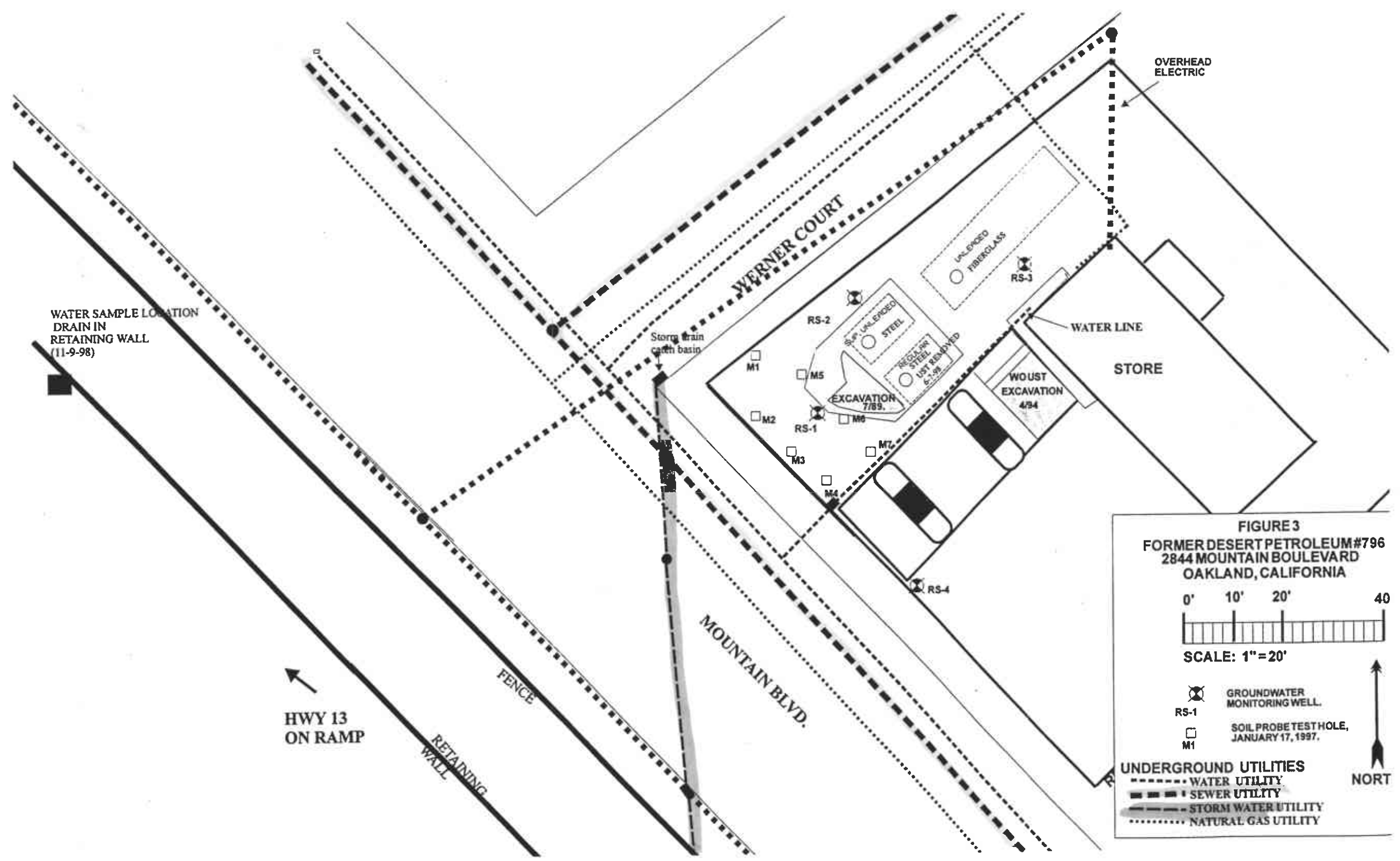


FIGURE 1 PARCEL MAP ON AERIAL PHOTO SHOWING LOCATION OF DP 796, 2844 MOUNTAIN BLVD., OAKLAND, CALIFORNIA AND HAYWARD FAULT.



FIGURE 2  
PORTION OF OAKLAND EAST 7.5 MINUTE QUADRANGLE  
WITH LOCATION OF DP 796 IN RESPECT TO HAYWARD FAULT





WATER SAMPLE LOCATION  
DRAIN IN  
RETAINING WALL  
(11-9-98)

OVERHEAD  
ELECTRIC

WERNER COURT

WATER LINE

STORE

EXCAVATION  
7/89

WOUST  
EXCAVATION  
4/94

MOUNTAIN BLYD.

HWY 13  
ON RAMP

RETAINING  
WALL

FENCE

**FIGURE 3**  
FORMER DESERT PETROLEUM #796  
2844 MOUNTAIN BOULEVARD  
OAKLAND, CALIFORNIA

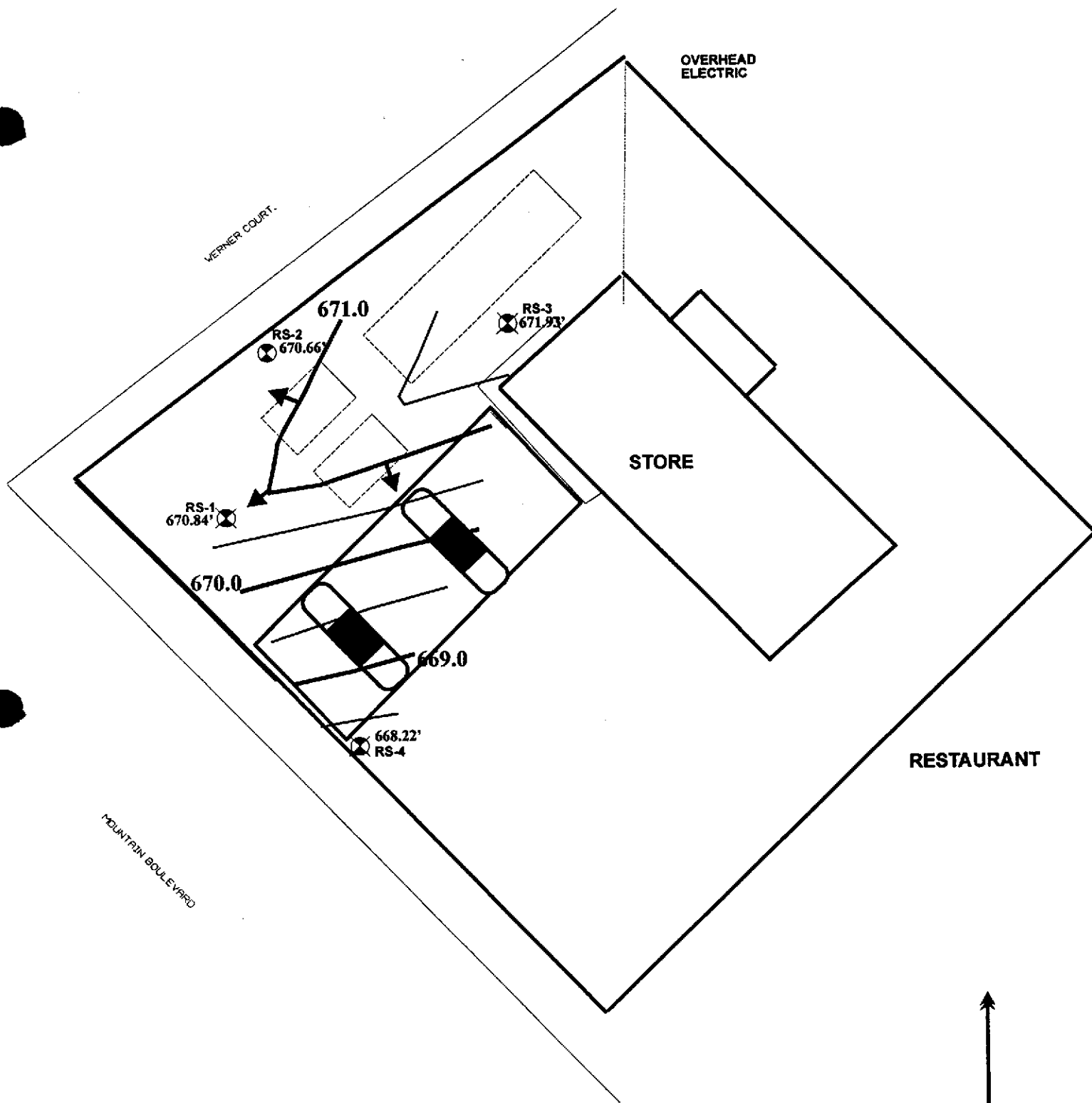
0' 10' 20' 40'

SCALE: 1" = 20'

GROUNDWATER MONITORING WELL  
 RS-1  
 SOIL PROBE TEST HOLE, JANUARY 17, 1997.  
 M1

**UNDERGROUND UTILITIES**  
 WATER UTILITY  
 SEWER UTILITY  
 STORM WATER UTILITY  
 NATURAL GAS UTILITY

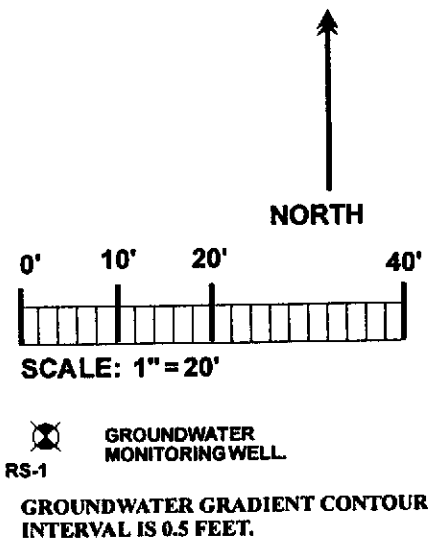
NORT

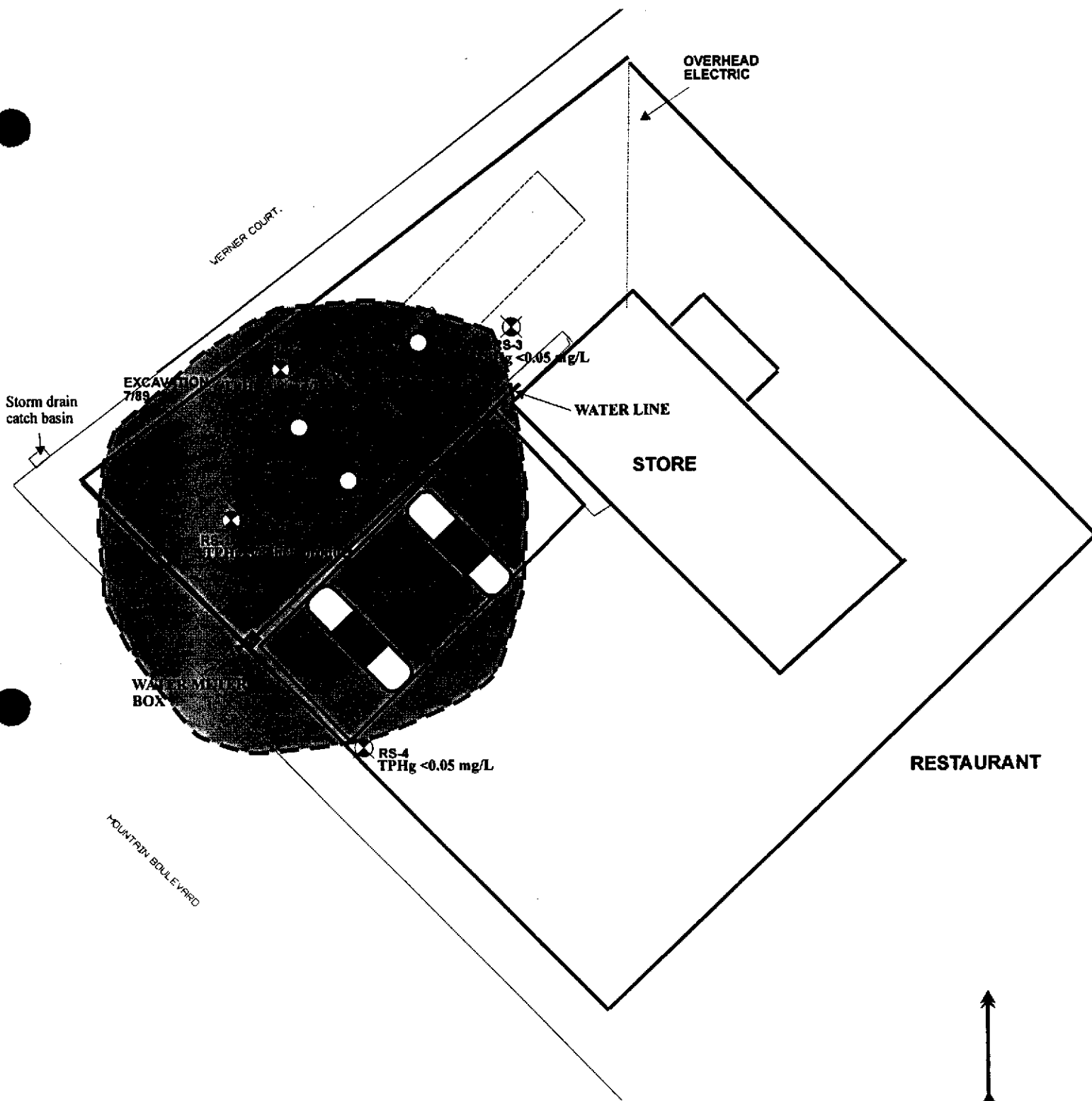


**FIGURE 4**

**FORMER DESERT PETROLEUM #796  
2844 MOUNTAIN BOULEVARD  
OAKLAND, CALIFORNIA**

**GROUNDWATER GRADIENT  
NOVEMBER 24, 1998**

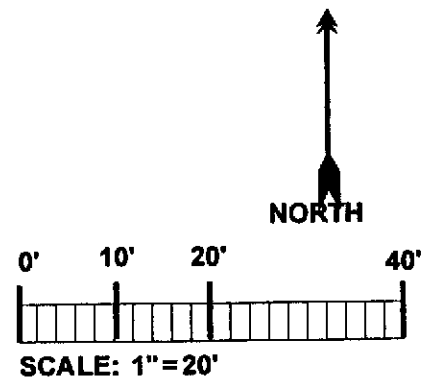




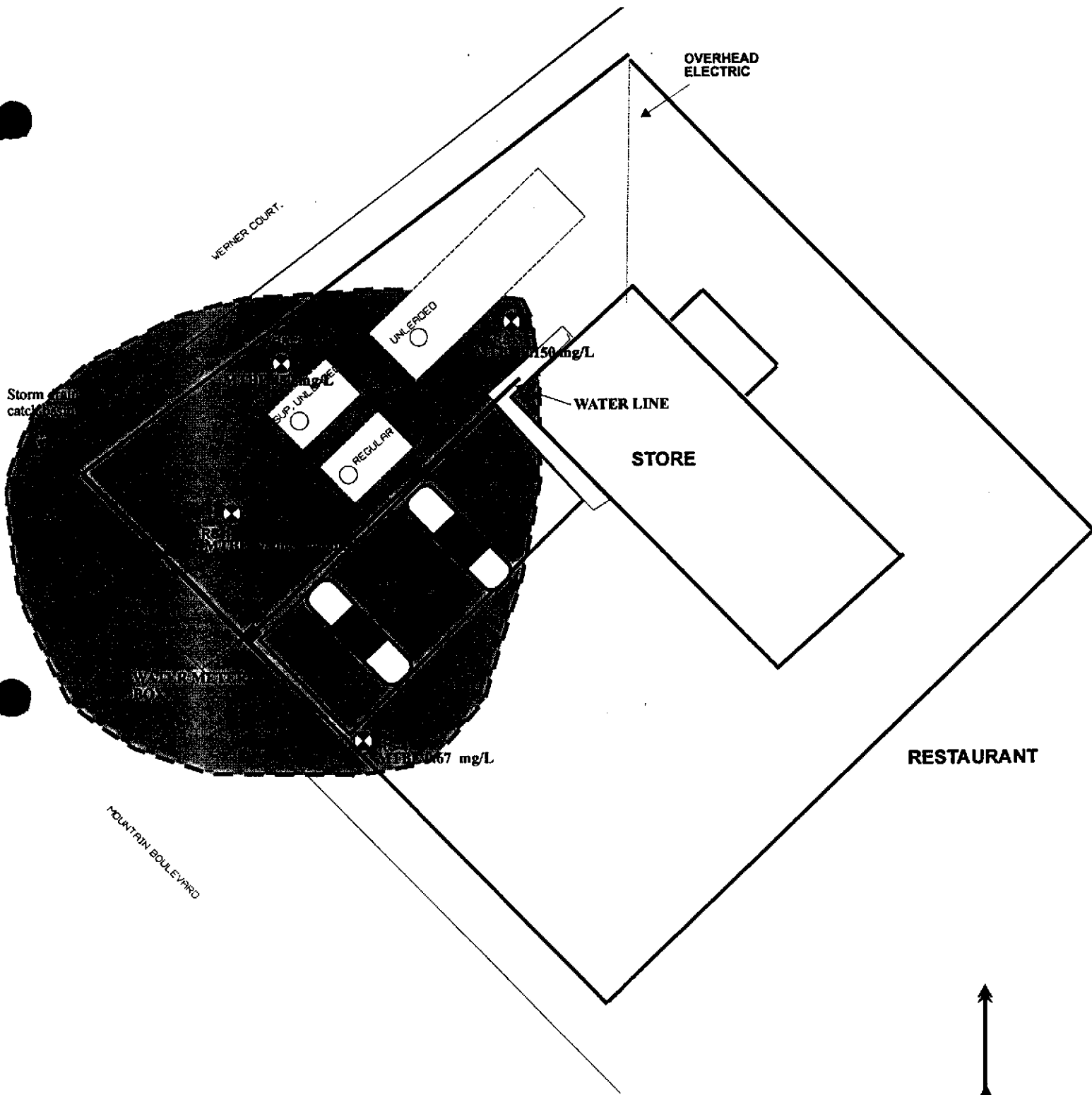
**FIGURE 5**

**FORMER DESERT PETROLEUM #796  
2844 MOUNTAIN BOULEVARD  
OAKLAND, CALIFORNIA**

**SITE CONDITIONS - Gasoline Range Hydrocarbon Plume  
February 23, 1999**



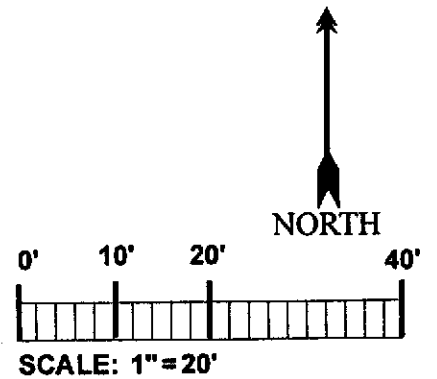
 **GROUNDWATER MONITORING WELL**  
RS-1



**FIGURE 6**

**FORMER DESERT PETROLEUM #796  
2844 MOUNTAIN BOULEVARD  
OAKLAND, CALIFORNIA**

**SITE CONDITIONS - MTBE Plume  
February 23, 1999**




**GROUNDWATER  
MONITORING WELL**  
 RS-1

Wade Hammond  
Land Surveyor  
36660 Newark Blvd. Suite D  
Newark, California 94560  
Tel: 510-739-1600 Fax: 510-739-1620

T R A N S M I T T A L

Fax: 1 of 2

03-04-99 9:20 AM

TO:

Western-Geo Engineers

1386 East Beamer St.  
Woodland, CA 95776-6003  
Tel: 530-668-5300x Fax: 530-662-0273x

Reference: 2844 Mountain Blvd. Oakland

Attached: copy of completed survey

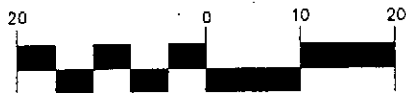
Notes: 1. SD does not connect from MH to inlet near freeway.\*  
2. This is the correct datum for the utilities.

autocad v12 .dwg sent via email wege@mother.com

2 prints - wet signed set us mail

From: Wade Hammond

GRAPHIC SCALE



( IN FEET )

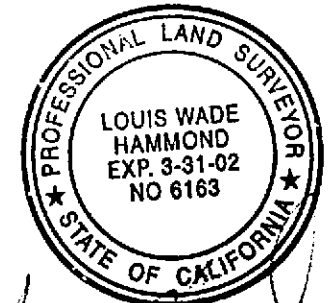
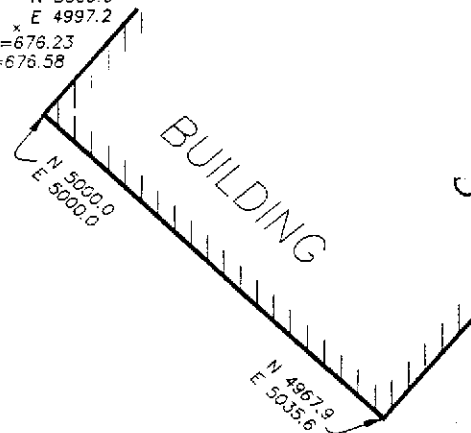
1 inch = 20 ft.

3-3-99

WERNER CT.

N 5009.0  
RS-3 x E 4997.2  
PVC=676.23  
RIM=676.58

RIM=675.78  
x PVC=675.28  
RS-2  
N 5000.2  
E 4964.7



*Louis Wade Hammond*

CURB INLET FL=672.2  
RIM=674.1  
TC=674.83

RIM=675.97  
x PVC=675.67  
RS-1  
N 4977.0  
E 4958.2

SDMH FL=670.4  
RIM=674.74

RIM=675.84  
x PVC=675.42  
RS-4  
N 4945.6  
E 4979.7

MOUNTAIN BLVD.

CITY OF OAKLAND  
EL=676.08  
x BENCHMARK #2804

INLET  
FL=667.3  
RIM=676.26

**WELL SURVEY**  
FORMER DESERT PETROLEUM #796  
2844 MOUNTAIN BLVD.  
OAKLAND, CALIFORNIA

*L. Wade Hammond*  
Licensed Land Surveyor  
No. 6163

36660 Newark Blvd. Suite D  
Newark, California  
94560

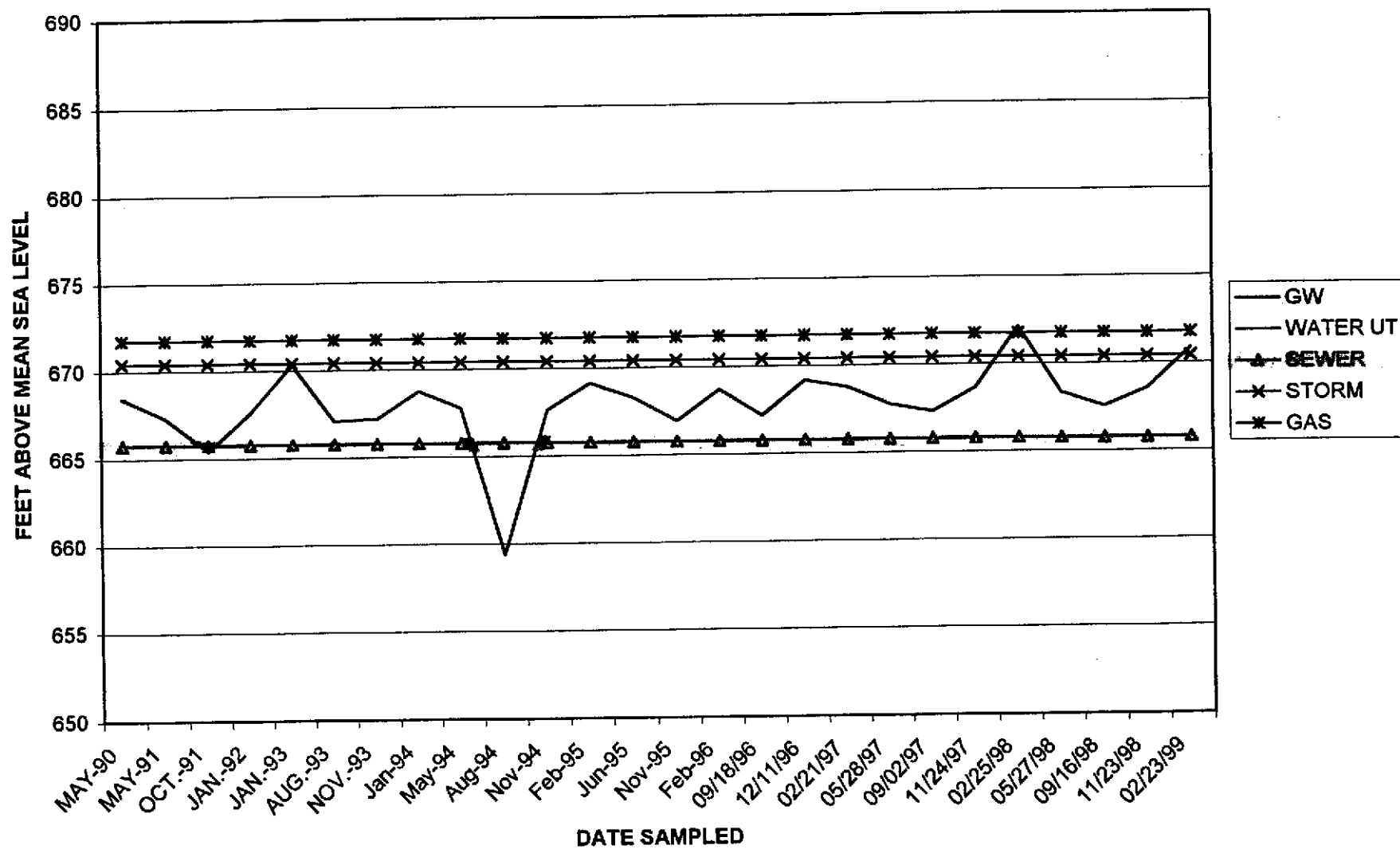
Tel: (510) 739-1600  
Fax: (510) 739-1620

Job No. 1057

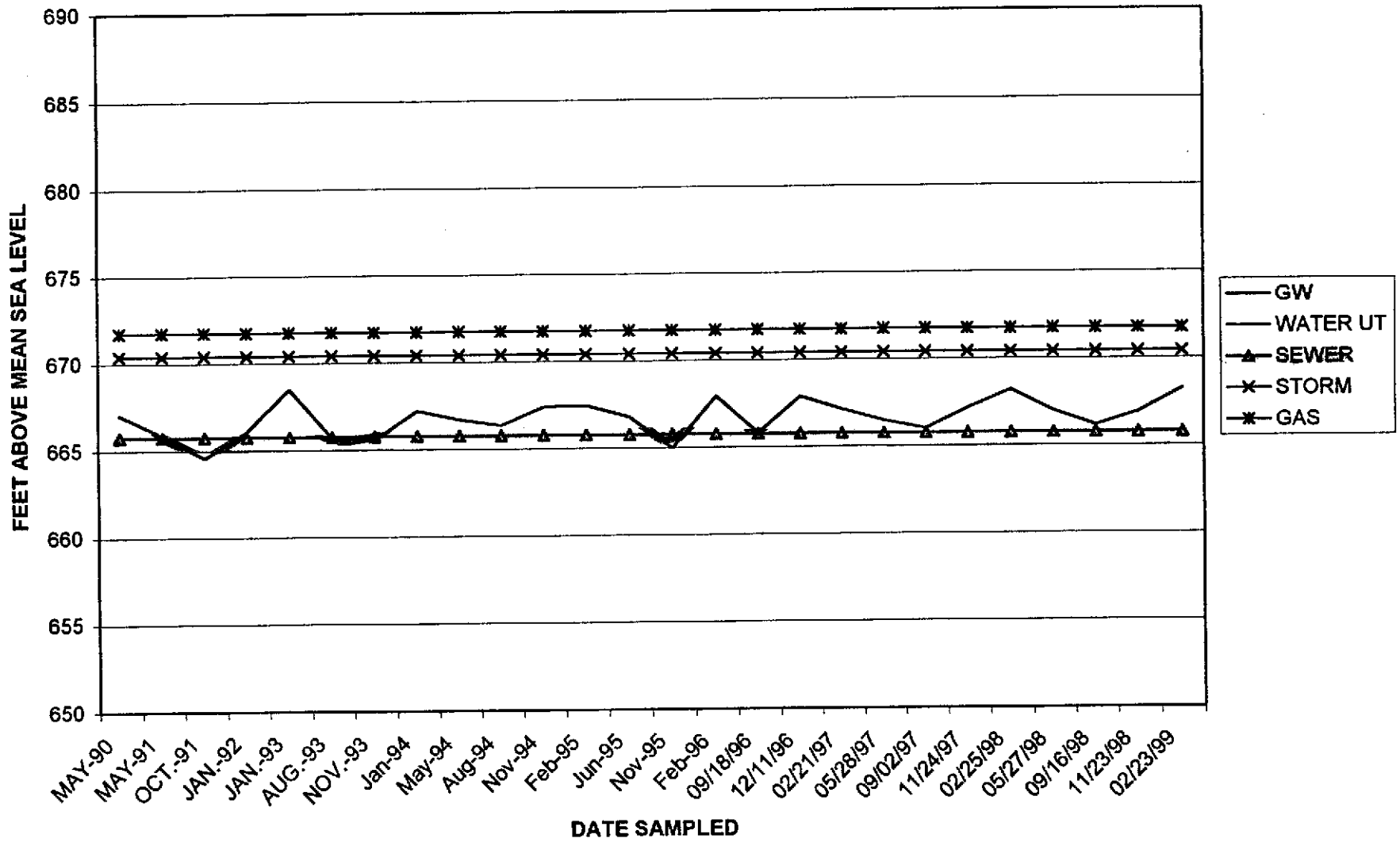
BENCHMARK: CITY OF OAKLAND DATUM AS SHOWN



### DP796 - RS1 GROUNDWATER WITH UTILITY ELEVATIONS



### DP796 - RS4 GROUNDWATER WITH UTILITY ELEVATIONS





North State Environmental  
Chemical Waste Disposal • Trucking • Consulting

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

Lab Number: 99-0276  
Client: Western Geo-Engineers  
Project: DP796 / 2844 Mountain Blvd

Date Reported: 03/09/99

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 99-0276-01 Client ID: RS-4				02/23/99	WATER
Gasoline	8015M	ND			03/04/99
Benzene	8020	2	ug/L		
Ethylbenzene	8020	0.8	ug/L		
MTBE	8020	670	ug/L		
Toluene	8020	3	ug/L		
Xylenes	8020	5	ug/L		
Sample: 99-0276-02 Client ID: RS-2				02/23/99	WATER
Gasoline	8015M	8800	ug/L		03/05/99
Benzene	8020	1500	ug/L		
Ethylbenzene	8020	640	ug/L		
MTBE	8020	*450000	ug/L		
Toluene	8020	650	ug/L		
Xylenes	8020	1500	ug/L		
Sample: 99-0276-03 Client ID: RS-3				02/23/99	WATER
Gasoline	8015M	ND			03/05/99
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	150	ug/L		
Toluene	8020	0.9	ug/L		
Xylenes	8020	ND			

\*Confirmed by GC/MS method 8260.

Page

1

P. O. Box 5624 • South San Francisco, California 94083 • 650-588-2838 FAX 588-1950



North State Environmental  
Chemical Waste Disposal · Trucking · Consulting

## CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 99-0276  
Client: Western Geo-Engineers  
Project: DP796 / 2844 Mountain Blvd

Date Reported: 03/09/99

Gasoline, BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline	8015M	50	ug/L	ND	91	0
Benzene	8020	0.5	ug/L	ND	72	4
Ethylbenzene	8020	0.5	ug/L	ND	100	1
Toluene	8020	0.5	ug/L	ND	92	0
Xylenes	8020	1.0	ug/L	ND	100	1
MTBE	8020	0.5	ug/L	ND	74	7

ELAP Certificate NO:1753

Reviewed and Approved

John A. Murphy, Laboratory Director

Page 2 of 2

P. O. Box 5624 · South San Francisco, California 94083 · 650-588-2838 FAX 588-1950



# North State Environmental Analytical Laboratory

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

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

99-0276

Chain of Custody / Request for Analysis  
Lab Job No.: \_\_\_\_\_ Page \_\_\_\_ of \_\_\_\_

Client: <b>WEGE</b>	Report to: <b>George Converse</b>	Phone: <b>530-669-5300</b>	Turnaround Time
Mailing Address: <b>Western Geo-Engineers 1386 E. Beamer St Woodland, CA 95776</b>	Billing to: <b>SAME</b>	Fax: <b>530-669-0273</b>	
		PO# / Billing Reference:	Date: <b>2-23-99</b>
			Sampler: <b>BROADWAY</b>

Project / Site Address:					Analysis Requested								Comments / Hazards	
Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH	BTEX	MTBE							
1	RS-4	H <sub>2</sub> O	2/VORS	HCL	2-23-99	1322								
2	RS-2					1248								
3	RS-3					1220								

Relinquished by: <b>Stephen Broadway</b>	Date: <b>2-25-99</b>	Time: <b>2:00</b>	Received by: <b>Alex [Signature]</b>	Lab Comments
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	

## **Appendix C**

### **Methods and Procedures**

#### **QA/QC**

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

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

Prior to sampling a well, WEGE personnel obtain three measurements:

1. the depth to groundwater (DTW);
2. the product thickness using a battery powered depth to water-product interface probe and/or by using a specially designed bailer;
3. the total depth of casing, to calculate the total water volume in the well.

The DTW-product interface probe is lowered into the well casing until the instrument signals when the top of free phase floating product (if present) and/or the top of water is reached. The distance from the top of free phase floating product and/or water to the top of casing is read from the tape that is attached to the probe. The probe is then lowered to the bottom of the well and the tape is read again. 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 and the difference between the top of groundwater and the base of the well is noted to establish water volume in the well. The probe and tape 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: BGS, Below Ground Surface; DTW, Depth to Water (from surface reference i.e. 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 by removing groundwater 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 are 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 borehole volumes, unless otherwise stated.

$$BV = (7.48/4) \times (CD^2 + P (BD^2 - CD^2)) \times (WD - GW)$$

BV borehole volume (gallons)                      BD borehole diameter (feet)  
 CD casing diameter (feet)                      WD well depth (feet)  
 GW depth to groundwater (feet)              P porosity of the gravel pack, 25%

Table of Common Boring and Casing Diameters

Boring diameter inches	Casing diameter inches	Volume gallons/ foot	3 Volumes X (WD-GW) gallons /foot
4	1	0.042	0.126
6	1	0.082	0.246
6	2	0.173	0.519
8	2	0.277	0.831
8	4	0.671	2.013
10	2	0.572	1.716
10	4	0.844	2.532

EXAMPLE: An 8 inch boring with 2 inch casing requires removal of 0.831 gallons of water per foot of water column.

The water collected during purging is either safely stored on-site in 55 gallon DOT 17H drums for later disposition, transported to an approved on-site/off-site treatment facility or to a sewer discharge system.

#### Collection of Water Sample for Analysis

The groundwater in the well is allowed to recover, to at least 80% of its volume prior to purging, if practical, before the groundwater sample is collected.

$$\text{Percent Recovery} = \left(1 - \frac{\text{Residual drawdown}}{\text{Maximum drawdown}}\right) \times 100.$$

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 are placed in ziplock bags and stored in a chest cooled to 4 °C with ice. The preserved samples are COC (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, i.e. TPH-d for diesel ranges 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.

Laboratory lower detection limits unless otherwise noted, due to matrix interference or elevated concentrations of target compounds, are as follows:

TPHg	50 ug/L	MTBE	0.5 ug/L
Benzene	0.5 ug/L	Toluene	0.5 ug/L
Ethyl Benzene	0.5 ug/L	Total Xylenes	1.0 ug/L

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) is 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 the sampling report.

# WELL SAMPLING DATA SHEET

SITE DP 796	DATE 2-23-99	TIME 12:50	
WELL RS 1	SAMPLED BY. Broadway		
WELL ELEVATION			
PRODUCT THICKNESS	5/8" Bailer		
DEPTH TO WATER	4.87 DTB 29.66		
FLUID ELEVATION	product = 670.89		
BAILER TYPE	Disposable Bailer		cont. 670.84
PUMP	LTT DAVID		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
	1st Bailer			
12:54	40 gal			

FINAL VOLUME PURGED	40 gal
TIME SAMPLED	No Sample
SAMPLE ID.	RS 1
SAMPLE CONTAINERS	140cc VORs
ANALYSIS TO BE RUN	TPH, BTEX / MTBE
LABORATORY USE	
NOTES:	1st Bailer Floating Product

# WELL SAMPLING DATA SHEET

SITE DP 796	DATE 2-23-99	TIME 10:25
WELL RS 2	SAMPLED BY. Broadway	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER 11.62	DTB 25.00	
FLUID ELEVATION	670.66	
BAILER TYPE Disposable Bailed		
PUMP LTT David		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
12:26	1st Bailer	65.5	7.34	8.86
12:38	40 gal	67.6	7.36	9.31
12:40	1	68.6	7.59	9.40
12:42	1	69.3	7.63	9.07
12:45	1	69.1	7.69	9.05

FINAL VOLUME PURGED 43 gal
TIME SAMPLED 12:48
SAMPLE ID. RS 2
SAMPLE CONTAINERS 2/40cc VORs
ANALYSIS TO BE RUN TPH <sub>9</sub> BTEX / MTBE
LABORATORY USE
NOTES: 1st Bailer Turbid

# WELL SAMPLING DATA SHEET

SITE DP 796	DATE 2-23-99	TIME 1304
WELL RS 4	SAMPLED BY. Broadway	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	7.20	DTB 25.14
FLUID ELEVATION	668.22	
BAILER TYPE Disposable Bailed		
PUMP LTT DAVID		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
1306	1st Bailer	70.5	7.48	7.38
1314	36 gal	70.8	7.73	9.30
1316	1	70.4	7.74	9.33
1318	1	70.1	7.74	9.31

FINAL VOLUME PURGED	38 gal
TIME SAMPLED	1322
SAMPLE ID.	RS 4
SAMPLE CONTAINERS	2/40cc VORs
ANALYSIS TO BE RUN	TPH, BTEX / MTBE
LABORATORY	USE
NOTES:	1st Bailer CLEAR same color

# WELL SAMPLING DATA SHEET

SITE DP 796	DATE 2-23-99	TIME 1304
WELL RS 4	SAMPLED BY. Broadway	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	7.20	DTB 25.14
FLUID ELEVATION	668.22	
BAILER TYPE Disposable Bailer		
PUMP LTT DAVID		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.
1306	1st Bailer	70.5	7.48	7.38
1314	36 gal	70.8	7.73	9.30
1316	1	70.4	7.74	9.33
1318	1	70.1	7.74	9.31

FINAL VOLUME PURGED	38 gal
TIME SAMPLED	1322
SAMPLE ID.	RS 4
SAMPLE CONTAINERS	2/40cc VORs
ANALYSIS TO BE RUN	TPH, BTEX / MTBE
LABORATORY USE	
NOTES:	1st Bailer Clear same color





# North State Environmental Analytical Laboratory

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080  
 Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis  
 Lab Job No.: \_\_\_\_\_ Page \_\_\_\_ of \_\_\_\_

Client: <i>WEGE</i>	Report to: <i>George Converse</i>	Phone: <i>530-668-5300</i>	Turnaround Time
Mailing Address: <i>Western Geo-Engineers 1386 E. Beamer St Woodland, CA 95776</i>	Billing to: <i>SAME</i>	Fax: <i>530-662-0273</i>	
		PO# / Billing Reference:	Date: <i>2-23-99</i>
			Sampler: <i>BROADWAY</i>

Project / Site Address:					Analysis Requested								Comments / Hazards
Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPH	BTEX	MTBE						
<i>DP 796</i>	<i>2844 MOUNTAIN BLVD</i>												
<i>RS-4</i>	<i>H<sub>2</sub>O</i>	<i>2 / VOAS</i>	<i>HCL</i>	<i>2-23-99 1322</i>									
<i>RS-2</i>				<i>1248</i>									
<i>RS-3</i>				<i>1220</i>									

Relinquished by: <i>Steve Broadway</i>	Date: <i>2-25-99</i>	Time: <i>2:00</i>	Received by: <i>Alex</i>	Lab Comments
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by:	

1. Generator's US EPA ID No.		2. Page 1 of 1	3. Document Number NH-NR 1398	
4. Generator's Name and Mailing Address Desert Petroleum PO Box 1601 Oxnard CA Generator's Phone 93072		EES 19		
5. Transporter Company Name EVERGREEN ENVIRONMENTAL SERVICES		6. US EPA ID Number CAD982413262		7. Transporter Phone 800-972-5284
8. Designated Facility Name and Site Address Evergreen Oil, Inc. 6880 Smith Avenue Newark, CA 94560		9. US EPA ID Number CAD980887418		10. Facility's Phone 510-795-4401
11. Waste Shipping Name and Description		12. Containers		13. Total Quantity
a. Non-Hazardous waste, liquid Water and oil		No. Type		14. Unit Wt/Vol
		001 TT		110 G
15. Special Handling Instructions and Additional Information		Handling Codes for Wastes Listed Above		
Profile # _____ Do not ingest Wear protective clothing In case of emergency call: CHEMTREC 800-424-9300 DOT ERG 171		11a. 11b.		
Invoice: 723662 Sales Order: 96384100		Job Location / 2814 Mountain Blvd. Oakland, CA		
16. Generator's Representative		Signature		
Printed/Typed Name Stephen Broadway		Signature <i>Stephen Broadway</i>		Month Day Year 1 11 99
17. Transporter's Representative		Signature		
Printed/Typed Name Tom L. Powell		Signature <i>Tom L. Powell</i>		Month Day Year 1 8 99
18. Discrepancy Indication Space				
19. Facility Representative		Signature		
Printed/Typed Name		Signature		Month Day Year