



2060 KNOLL DRIVE, SUITE 200, VENTURA, CALIFORNIA 93003
(805) 644-5892 • FAX (805) 654-0720

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December 19, 1994

Ms. Jennifer Eberle, Haz. Mat. Specialist
Alameda County Health Care Service
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

RE: **Quarterly Report of November 20, 1994 Groundwater Sampling & Monitoring**
2844 Mountain Blvd., Oakland, California 94602
StID 851

Dear Ms. Eberle:

Enclosed is the most recent Groundwater Monitoring Report for the real property located at 2844 Mountain Blvd. in Oakland, California.

Please call Mr. Rick Pilat at RSI if you have any questions regarding this report.

Sincerely,

Heather Davis
Remediation Service, Int'l.

cc: John Rutherford
Desert Petroleum

enclosure




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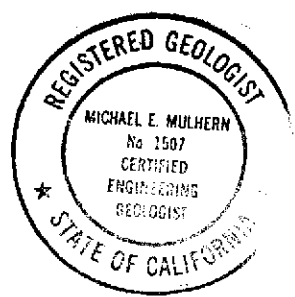
QUARTERLY REPORT
of
NOVEMBER 20, 1994
GROUNDWATER SAMPLING AND
WATER QUALITY MONITORING

2844 Mountain Boulevard
Oakland, CA

Prepared for:
DESERT PETROLEUM
P.O. Box 1601
Oxnard, CA 93032

Prepared by:
RSI - REMEDIATION SERVICE, INT'L
2060 Knoll Drive
Ventura, CA 93003


Michael E. Mulhern
E.G. #1507
Exp. 10/31/96



December 16, 1994

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FIGURES

1. Location Map
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- A. Groundwater Sample Logs
- B. Laboratory Reports and Chain of Custody Documents

1.0 INTRODUCTION

This report presents the results of groundwater monitoring and gives an update of remedial activity for the real property located at the intersection of Mountain Boulevard and Werner Court at 2844 Mountain Boulevard in Oakland, Alameda County, California 94602 (Figure 1). The property is currently occupied by a retail gasoline station operating under the ARCO trade name. Site improvements include three underground storage tanks, two pump islands and an office/garage building. The tanks contain various grades of unleaded gasoline and diesel and have individual storage capacities of 3,000, 4,000, and 10,000 gallons.

Elevated concentrations of gasoline have been identified in both the soil and shallow groundwater at this site.

2.0 BACKGROUND

Soil contamination was originally identified during replacement of the product lines in March, 1989. Analytical results of soil samples collected from beneath the lines near the pump islands reported total petroleum hydrocarbons as gasoline (TPH) concentrations of less than 100 parts per million (ppm). Another sample from the southern edge of the premium unleaded tank contained a TPH concentration of 8,400 ppm. In July, 1989, On-Site Technologies excavated and disposed of contaminated soil from the southern end of the premium unleaded tank (On-Site Technologies technical report dated 8/31/89).

In May, 1990 RSI conducted further assessment of the site (RSI technical report dated July 25, 1990). Four groundwater monitoring wells (RS-1 through RS-4, Figure 2) were installed and sampled. Analysis of soil samples collected above the water table reported TPH concentrations ranging from 1 to 240 mg/Kg (ppm). TPH concentrations were detected in the groundwater samples collected from all the wells; the highest concentration was found in monitoring well RS-2 (Table 2).

Active remediation of soil contamination began at the site in June, 1991 using an RSI S.A.V.E.TM System to vacuum extract gasoline hydrocarbons from the soil. Groundwater remediation began in October, 1991. Active remediation was suspended between February, 1992 and February, 1994; the S.A.V.E.TM System is currently in operation ten hours a day at the site.

3.0 GROUNDWATER MONITORING

3.1 Groundwater Monitoring Procedures

On November 20 1994, groundwater monitoring wells RS-1, RS-2, RS-3 and RS-4, were measured for potentiometric groundwater depth and checked for the presence of free product (Table 1). The wells were measured to an accuracy of 0.01 feet and the measuring point for each well was the top of the sleeve of the well casing from a notched point on the north side. No free product was found. After measuring, the wells were purged with a Grundfos Rediflo-2 electric pump and sampled. The pump and hoses were decontaminated between wells using a standard 3-bucket wash method with TSP. The wells were purged until dry or three well volumes had been removed. The purged water was monitored for temperature, conductivity and pH. These measurements along with all other pertinent data were recorded on Water Sample Logs (Appendix A).

When the parameters had stabilized and/or the water levels had recharged to 80 percent, the wells were sampled with disposable polyethylene bailers. The samples were sealed, labeled and placed on blue ice for transportation to Atkins Environmental Laboratory, a state certified laboratory in Ventura, California. All samples were analyzed for TPH as gasoline and for benzene, toluene, ethyl-benzene and xylenes (BTEX) using standard EPA approved methods. Wells RS-1 and RS-4 were also sampled for TPH as motor oil using standard EPA approved methods. The laboratory reports are contained in Appendix B.

3.2 Groundwater Monitoring Results

As reported on Table 1, depth to groundwater on the site ranged between 5.08 and 9.82 feet below ground surface (bgs). Groundwater gradient was calculated to be approximately 0.170 across the site with groundwater flow in a generally westerly direction. The steep gradient suggests influence by the S.A.V.E.™ System pumping from extraction wells RS-1 and RS-2, and/or local off-site pumping operations. A contour map of groundwater elevations is included as Figure 3.

Analytical results for groundwater samples collected on November 20, 1994 are summarized in Table 2 and the complete laboratory report is contained in Appendix B. A site map showing groundwater analytical results is included as Figures 4. As reported on Table 2, hydrocarbon concentrations have increased slightly in wells RS-1, RS-2 and RS-3, and decreased slightly in well RS-4 since the previous quarterly sampling in August, 1994. TPH as motor oil was not detected in the the samples from wells RS-1 and RS-4.

4.0 REMEDIATION UPDATE

Vapor extraction and treatment began in June, 1991 with the installation of RSI's S.A.V.E.TM System. Groundwater extraction and treatment began in October, 1991. Groundwater was pumped from wells RS-1 and RS-2 and treated with the S.A.V.E.TM equipment. Due to noise complaints from neighboring residents, the system was operated only sporadically. Remedial operations were suspended on February 10, 1992, due to Desert Petroleum's filing bankruptcy. Up to that date, the system had removed a calculated 170.5 gallons of hydrocarbons by both vapor and groundwater extraction.

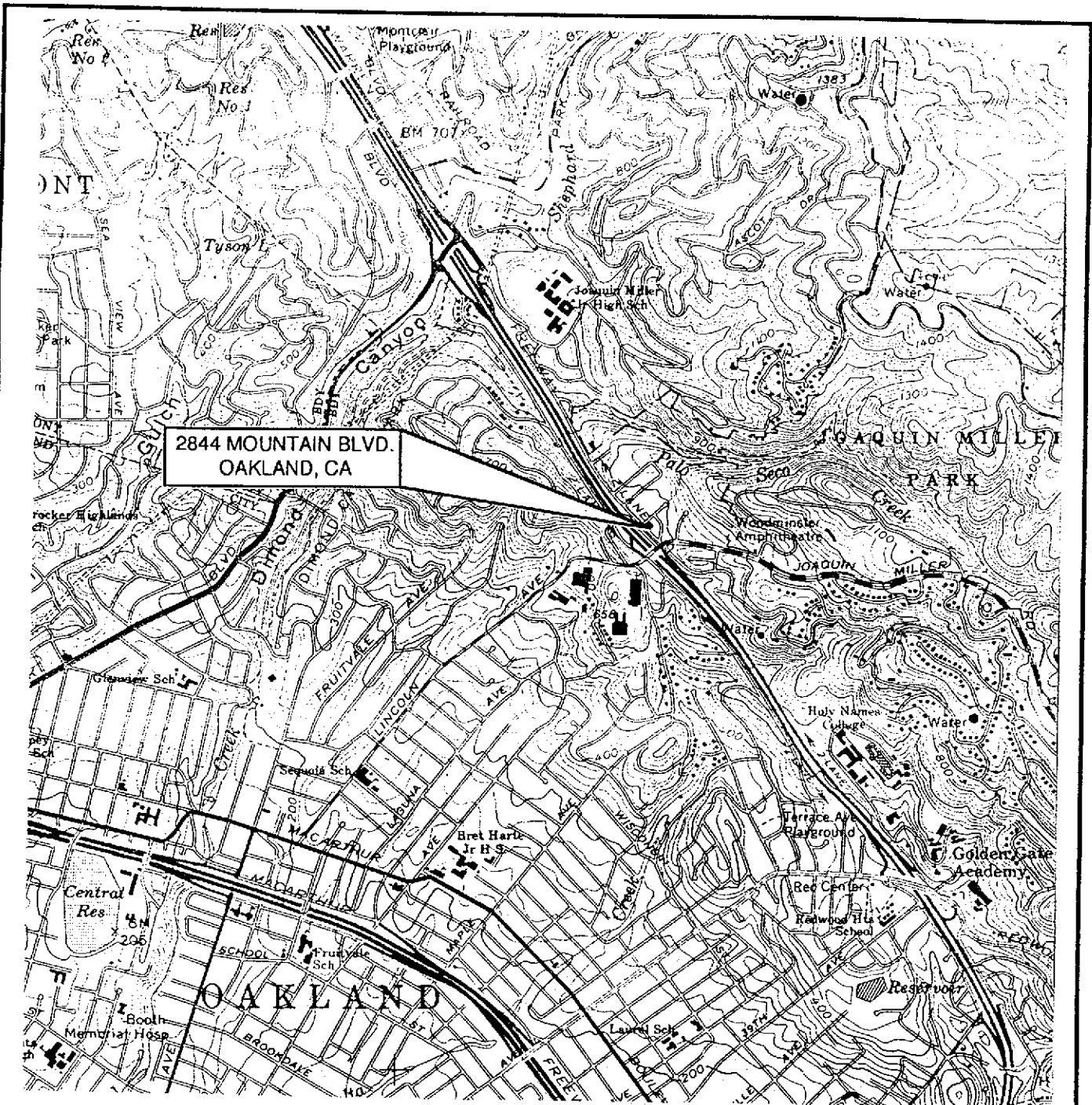
The S.A.V.E.TM System was restarted the February, 1994 for vapor extraction. Groundwater extraction resumed in May, 1994. The system operates only during daytime hours to comply with residential noise constraints and is maintained and monitored on a weekly basis. As of November, 1994, the system has removed approximately 43 gallons of hydrocarbons from subsurface soil and groundwater this year. The most recent vapor inlet sample from December 1, 1994 revealed a TPH concentration of 620 ppmv. An operation summary with TPH vapor concentrations for 1994 is included as Table 3. The location of the remediation equipment is included as Figure 5.

5.0 LIMITATIONS

The discussion, conclusion and any recommendations presented in this report are based on the professional performance of the personnel who conducted the investigations, the observations of the field personnel, the results of laboratory analyses performed by a state certified laboratory, any referenced documents and our understanding of the regulations of the State of California; also, if applicable, other local regulations.

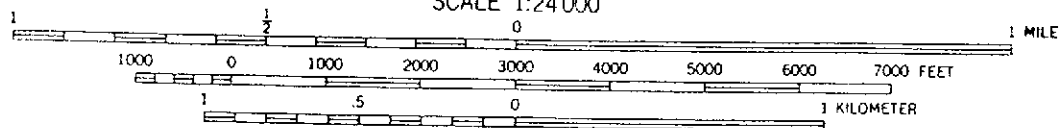
Variations in the soil and groundwater conditions may exist beyond the points explored in this investigation.

The services performed by Remediation Service, Int'l. 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. No other warranty, expressed or implied, is made.



2844 MOUNTAIN BLVD.
OAKLAND, CA

SCALE 1:24 000



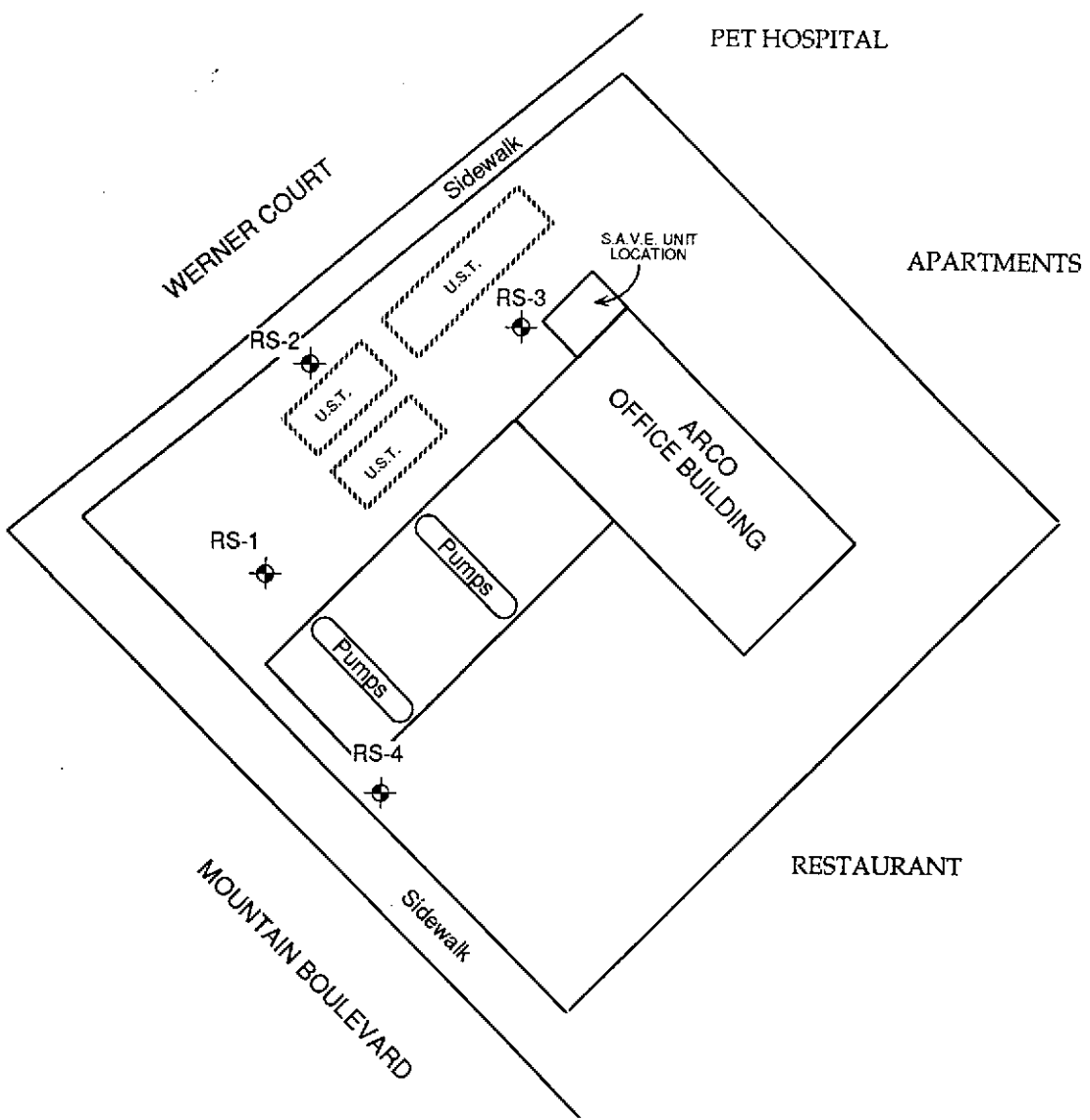
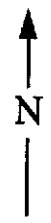
FROM U.S.G.S. 7.5' TOPOGRAPHIC
QUADRANGLE "OAKLAND EAST,
CALIFORNIA," 1959, PHOTOREVISED
1980



2844 MOUNTAIN BLVD.
OAKLAND, CA

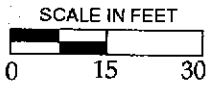
FIGURE 1: LOCATION MAP

RSI - REMEDIATION SERVICE, INT'L




LEGEND

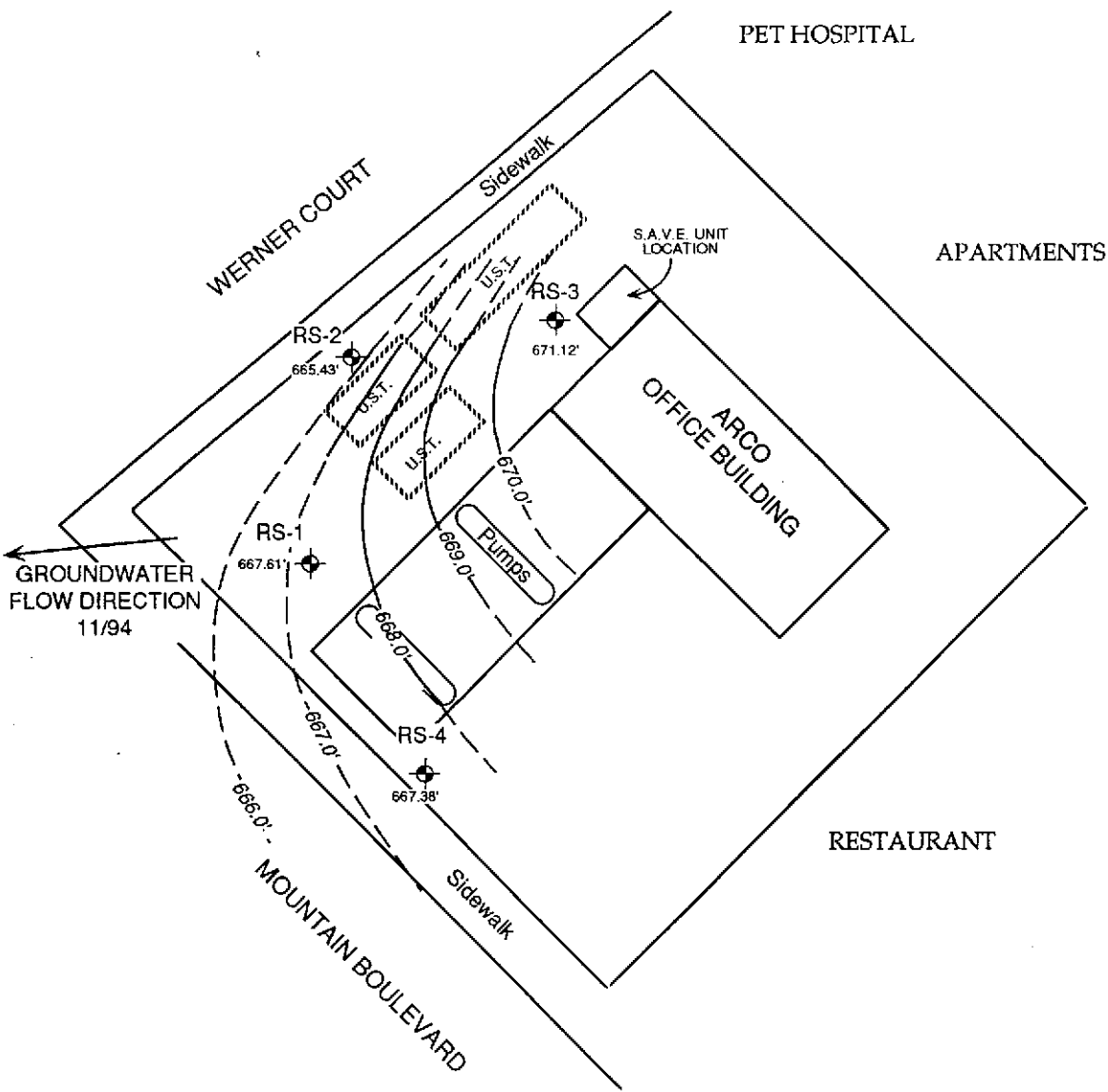
 MONITORING WELL LOCATION



2844 MOUNTAIN BLVD.
OAKLAND, CALIFORNIA

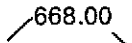

FIGURE 2: SITE MAP

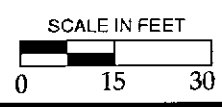




GROUNDWATER
FLOW DIRECTION
11/94


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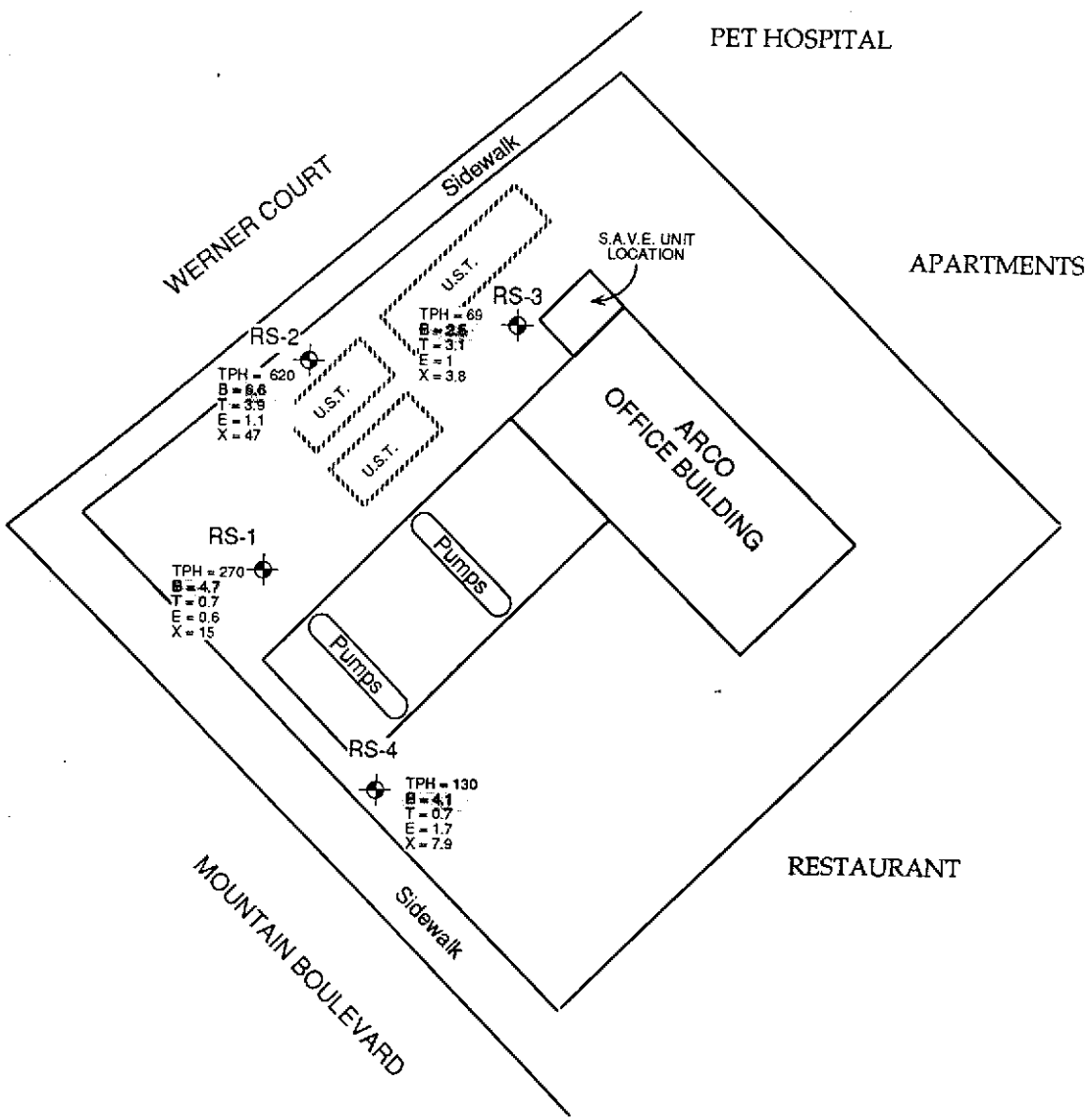
-  668.00 GROUNDWATER CONTOUR LINE
-  RS-4 669.42' MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL.



2844 MOUNTAIN BLVD.
OAKLAND, CALIFORNIA

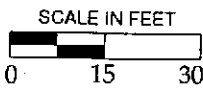
FIGURE 3: GROUNDWATER ELEVATION MAP
NOVEMBER 20, 1994





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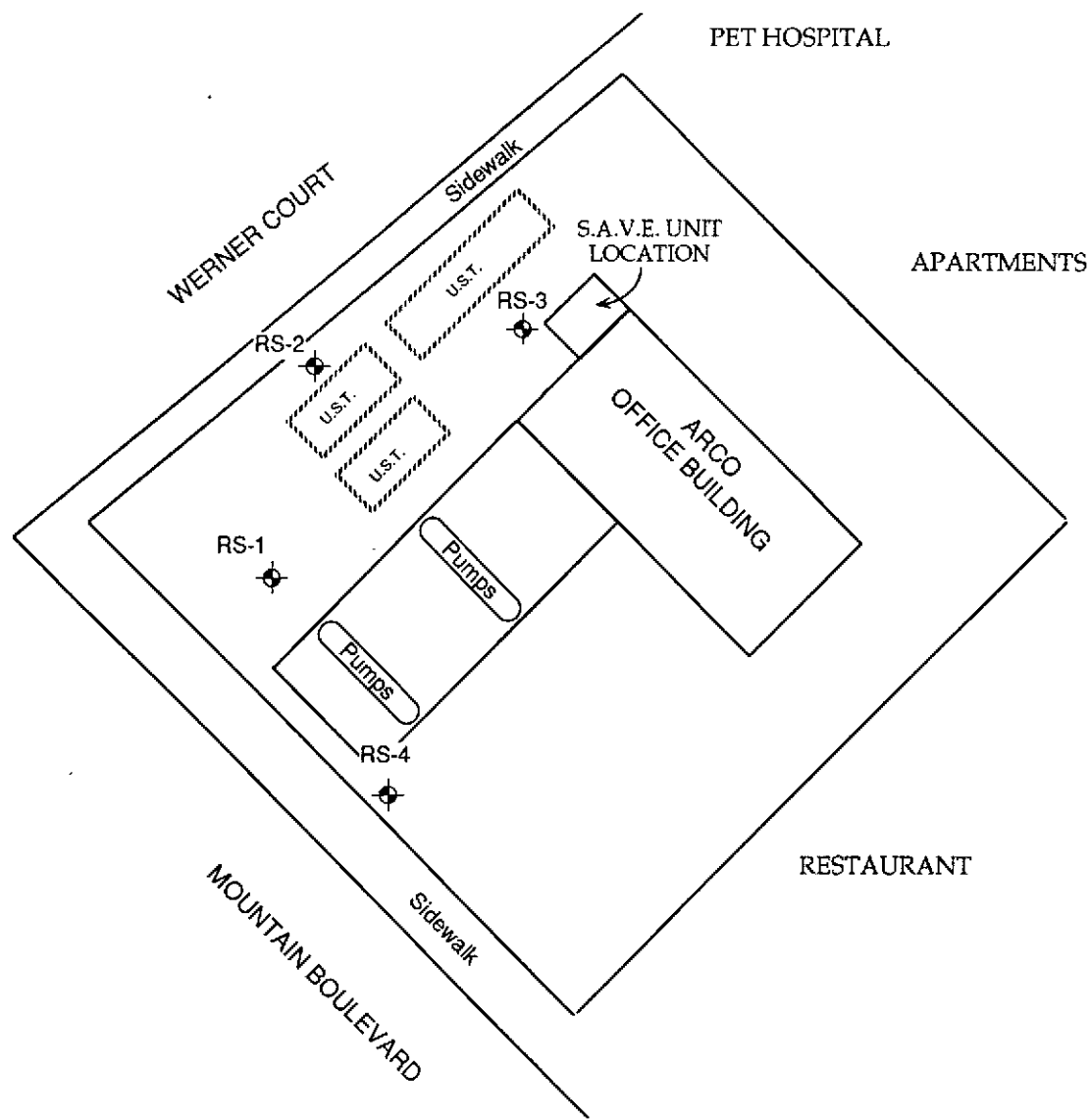
 GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ANALYTICAL RESULTS IN µg/L.




2844 MOUNTAIN BLVD.
OAKLAND, CALIFORNIA

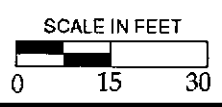
FIGURE 4: SITE MAP WITH GROUNDWATER ANALYTICAL RESULTS NOVEMBER 20, 1994

RSI REMEDIATION SERVICE, INT'L



LEGEND

 MONITORING WELL LOCATION



2844 MOUNTAIN BLVD.
OAKLAND, CALIFORNIA

FIGURE 5: REMEDIATION EQUIPMENT
LOCATION MAP



**TABLE 1
GROUNDWATER ELEVATION DATA**

**2844 MOUNTAIN BLVD.
OAKLAND, CA**

Measurements are in feet.

Well	Date Measured	Depth to Water*	Well Head Elevation**	Water Table Elevation**	Change in Elevation
RS-1	5/90	7.20	689.25	682.05	
	5/91	8.35		680.90	-1.15
	10/91	10.22	689.17	678.95	—
	1/92	8.06		681.11	2.16
	1/93	5.30		683.87	2.76
	8/93	8.56		680.61	-3.26
	11/93	8.44		680.73	0.12
	1/94	6.88		682.29	1.56
	5/94	7.87	675.63	667.76	—
	8/94	16.28		659.35	-8.41
	11/94	8.02		667.61	8.26
RS-2	5/90	7.06	689.00	681.94	
	5/91	7.14		681.86	-0.08
	10/91	8.84	688.89	680.05	—
	1/92	7.34		681.55	1.50
	1/93	4.10		684.79	3.24
	8/93	7.32		681.57	-3.22
	11/93	7.34		681.55	-0.02
	1/94	5.52		683.37	1.82
	5/94	6.40	675.25	668.85	—
	8/94	22.11		653.14	-15.71
	11/94	9.82		665.43	12.29
RS-3	5/90	6.00	690.00	684.00	
	5/91	6.76		683.24	-0.76
	10/91	8.98		681.02	-2.22
	1/92	6.81		683.19	2.17
	1/93	4.05		685.95	2.76
	8/93	7.19		682.81	-3.14
	11/93	7.12		682.88	0.07
	1/94	5.42		684.58	1.70
	5/94	5.78	676.20	670.42	—
	8/94	5.86		670.34	-0.08
	11/94	5.08		671.12	0.78
RS-4	5/90	8.34	689.06	680.72	
	5/91	9.50		679.56	-1.16
	10/91	10.82	689.10	678.28	—
	1/92	9.31		679.79	1.51
	1/93	6.89		682.21	2.42
	8/93	9.68		679.42	-2.79
	11/93	9.83		679.27	-0.15
	1/94	8.17		680.93	1.66
	5/94	8.69	675.38	666.69	—
	8/94	9.04		666.34	-0.35
	11/94	8.00		667.38	1.04

*Depth of water measured from top of well cover.

**Elevations are in feet above mean sea level.

Well Head Elevations surveyed 5/94 to City of Oakland Bench Mark #2804, Bench Mark elevation = 676.08', based on USGS Sea Level Datum 1929.

**TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**

**2844 MOUNTAIN BLVD.
OAKLAND, CA**

Results are in µg/L (parts per billion).

WELL #	DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
RS-1	5/90	2,700	370	420	40	320
	5/91	1,300	580	130	62	240
	10/91	1,100	140	100	45	210
	1/92	1,700	9.9	31	9.7	170
	1/93	3,700	650	9.2	51	170
	8/93	900	14	0.6	2.1	7.8
	11/93	1,400	9.6	ND	0.9	4.9
	1/94	4,200	95	3.1	58	130
	5/94	7,500	270	11	37	96
	8/94	130	12	0.5	2.6	4.7
	11/94	270	4.7	0.7	0.6	15
	RS-2	5/90	23,000	7,200	4,800	300
5/91		26,000	14,000	1,800	750	2,900
10/91		13,000	4,300	910	300	2,300
1/92		8,300	1,800	920	140	1,700
1/93		41,000	7,000	210	1,200	4,200
8/93		19,000	5,300	62	810	1,600
11/93		9,300	2,400	3.9	46	800
1/94		30,000	4,900	ND	880	2,600
5/94		120,000	3,300	330	ND	2,200
8/94		510	7.3	3.8	3.5	32
11/94		620	6.6	3.9	1.1	47
RS-3		5/90	330	2	1	1
	5/91	ND	0.4	ND	0.8	8.2
	10/91	ND	ND	ND	ND	ND
	1/92	ND	2.2	7.2	0.6	3.6
	1/93	ND	ND	ND	ND	ND
	8/93	ND	30	6	2.4	5
	11/93	ND	4.8	0.4	0.6	1.9
	1/94	330	25	3.2	3.9	12
	5/94	670	34	4	28	70
	8/94	ND	ND	ND	ND	ND
	11/94	69	2.5	3.1	1	3.8
	RS-4	5/90	440	9	11	9
5/91		ND	8	4	3	5
10/91		830	280	120	24	170
1/92		620	34	8.3	2.1	21
1/93		150	32	1.7	5.8	13
8/93		ND	0.9	0.7	ND	0.3
11/93		ND	ND	ND	ND	ND
1/94		ND	1.7	ND	0.81	2.2
5/94		ND	ND	ND	ND	0.7
8/94		420	6.5	4.1	1.9	40
11/94		130	4.1	0.7	1.7	7.9
Title 22 CCR MCL		—	1	150	700	1,750

TPH = Total petroleum hydrocarbons (gasoline)

ND = Not detected above minimum detection levels.

TABLE 3

REMEDIAL SYSTEM PERFORMANCE DATA FOR 1994

2844 MOUNTAIN BLVD.
OAKLAND, CA

SUMMARY OF OPERATIONS FOR	Feb-94	Mar-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Sep-94	Oct-94	Nov-94	YTD-Sum
Period Beginning	2/8	2/23	3/31	4/28	5/24	6/29	7/28	8/31	9/28	10/26	2/8/94
Period Ending	2/23	3/31	4/28	5/24	6/29	7/28	8/31	9/28	10/26	12/1	12/1/94
Days in Period	15	36	28	26	36	30	33	28	28	36	296
Hour meter - begin	775.8	891.2	1217.4	1333	1397.2	1668.8	1973.0	2241.2	2493.3	2738.3	—
Hour meter - end	891.2	1217.4	1333	1397.2	1668.8	1973.0	2241.2	2493.3	2738.3	2973.0	—
Hours of Operation	115.4	326.2	115.6	64.2	271.6	304.2	268.2	252.1	245	234.7	2197.2
Percent Run Time	76.9%	90.6%	41.3%	24.7%	75.4%	100.0%	80.4%	88.7%	88.8%	65.8%	74.2%
Total Pounds of HC's Removed	2.6	6.2	3.9	2.3	57.3	53.3	14.1	28.0	63.0	7.9	238.6
Total Gallons of HC's Removed	0.5	1.1	0.7	0.4	10.4	9.7	2.6	5.1	11.4	1.4	43.3
TPH Concentration of Vapors (ppm-v)	190	330	290	290	1800	1400	430	430	520	82	—
Average Vapor Flowrate from wells (cfm)	9.2	4.5	10	10	10	10	10	21	40	34	16
Average Vacuum on wells ("H2O)	24	24	50	50	48	48	40	32	44	50	41
Average Ambient Temperature (°F)	60	60	70	75	76	69	64	70	51	57	65
Total Pounds of HC's Removed from vapor	2.6	6.2	3.9	2.2	57.0	50.3	14.1	28.0	63.0	7.9	235.3
Total Gallons of HC's Removed from vapor	0.5	1.1	0.7	0.4	10.4	9.1	2.6	5.1	11.4	1.4	42.7
Water Flow Meter - begin	7909.4	7909.4	7909.4	7909.4	8000	8244	11227	13366	13800	14187	—
Water Flow Meter - end	7909.4	7909.4	7909.4	8000	8244	11227	13366	13800	14187	17265	—
Gallons of Water Treated	0	0	0	90.6	244	2983	2139	434	387	3078	9355.6
TPH Concentration of Water (ppm)	30	30	30	120	120	120	0.51	0.51	0.51	0.62	—
Pounds of HC's Removed from Water	0.0000	0.0000	0.0000	0.0907	0.2443	2.9870	0.0091	0.0018	0.0016	0.0159	3.3505
Gallons of HC's Removed from Water	0.0000	0.0000	0.0000	0.0165	0.0444	0.5424	0.0017	0.0003	0.0003	0.0029	0.6084

NOTE: Percent run time based operation of only 10 hours/day

No water sample collected in 2/94, 3/94 & 4/94, 6/94, 7/94, 9/94 & 10/94. TPH concentration used in calculation from earliest prior sampling.

No vapor inlet sample collected in 5/94 & 9/94. TPH concentration used in calculation from earliest prior sampling.

Average Vapor Flowrate on wells 5/94, 7/94 & 8/94 from earliest prior reading.

Average Vacuum on wells 3/94 from earliest prior reading.

Average Ambient Temp. 2/94 & 3/94 from earliest prior reading.

ND = Not detected above minimum detection levels.

WATER SAMPLE LOG

DATE: 11/20/94

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: RS-1

WEATHER CONDITIONS: Cloudy, cool

FIELD OBSERVATIONS: Well box in good condition.

Purged well until dry.

TOTAL DEPTH OF WELL: 31.50 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE ONE WELL VOLUME = 28.7 gallons

DEPTH TO WATER: 8.02 feet PURGING METHOD: Rediflo pump

DEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (μ hos/cm)	Comments
12:44	2	7.44	69.8	1.29	Grey, strong product odor
12:47	5	7.11	72.4	1.29	Cloudy, mod. product odor
12:49	7.5	6.99	72.6	1.29	Cloudy, slt. product odor
12:51	10	6.92	72.7	1.30	Cloudy, slt. product odor
12:54	15	6.86	72.4	1.29	Cloudy, slt. product odor
12:57	20	6.85	73.1	1.29	Cloudy, slt. product odor
1:00	25	6.84	72.9	1.29	Well dry

TOTAL DISCHARGE: 25 gallons WELL VOLUMES REMOVED: 0.9

TIME SAMPLE COLLECTED: 2:54 PM

DEPTH TO WATER AT TIME OF SAMPLE: 9.72 feet PERCENT RECHARGE: 93

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Clear, no odor.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L. Amber bottle

SAMPLE TRANSPORTED TO: Atkins Environmental Laboratory

SAMPLED BY: J. Jensen

RSI
REMEDIATION SERVICE, INT'L.

2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0720

WATER SAMPLE LOG

DATE: 11/20/94LOCATION: 2844 Mountain Blvd., Oakland, CAWELL NUMBER: RS-2WEATHER CONDITIONS: Cloudy, coolFIELD OBSERVATIONS: Well box in good condition.Purged well until dry.TOTAL DEPTH OF WELL: 24.50 feet CASING DIAMETER: 4 inchesDEPTH TO FREE PRODUCT: NONE ONE WELL VOLUME = 18.0 gallonsDEPTH TO WATER: 9.82 feet PURGING METHOD: Rediflo pumpDEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (μ mhos/cm)	Comments
11:25	0.5	7.16	59.4	1.28	Grey, mod. product odor
11:28	2.5	7.08	59.6	1.29	Cloudy, mod. product odor
11:32	5	7.02	60.0	1.29	Cloudy, mod. product odor
11:37	7.5	6.99	59.7	1.28	Cloudy, mod. product odor
11:41	10	6.94	59.0	1.28	Cloudy, mod. product odor
11:46	12.5	6.86	58.3	1.28	Cloudy, mod. product odor
11:49	15	6.81	58.1	1.29	Cloudy, mod. product odor
11:55	20	6.67	59.2	1.29	Clear, slt. product odor
11:58	26	6.72	59.3	1.29	Well dry

TOTAL DISCHARGE: 26 gallons WELL VOLUMES REMOVED: 1.4TIME SAMPLE COLLECTED: 2:42 PMDEPTH TO WATER AT TIME OF SAMPLE: 19.68 feet PERCENT RECHARGE: 33METHOD OF SAMPLE COLLECTION: Disposable BailerAPPEARANCE OF SAMPLE: Clear, no odor.AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L. Amber bottleSAMPLE TRANSPORTED TO: Atkins Environmental LaboratorySAMPLED BY: J. Jensen**RCL**
REMEDIAL SERVICE, INT'L2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0720

WATER SAMPLE LOG

DATE: 11/20/94

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: RS-3

WEATHER CONDITIONS: Cloudy, cool

FIELD OBSERVATIONS: Well box in good condition.
Purged well until dry.

TOTAL DEPTH OF WELL: 24.40 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE ONE WELL VOLUME = 23.6 gallons

DEPTH TO WATER: 5.08 feet PURGING METHOD: Rediflo pump

DEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (μ mhos/cm)	Comments
10:35	2	7.60	63.8	1.28	Cloudy, no odor
10:42	11.5	7.12	62.5	1.29	Clear, no odor
10:45	15.5	7.22	61.3	1.29	Clear, no odor
10:49	21	7.25	62.6	1.29	Clear, no odor
11:00	35.5	7.24	61.8	1.29	Clear, no odor
11:07	45	7.28	59.8	1.28	Clear, no odor
11:13	52	7.18	58.3	1.29	Clear, no odor
11:15	60.5	7.22	58.4	1.29	Well dry

TOTAL DISCHARGE: 60.5 gallons WELL VOLUMES REMOVED: 2.6

TIME SAMPLE COLLECTED: 2:31 PM

DEPTH TO WATER AT TIME OF SAMPLE: 5.56 feet PERCENT RECHARGE: 98

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Clear, no odor.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L. Amber bottle

SAMPLE TRANSPORTED TO: Atkins Environmental Laboratory

SAMPLED BY: J. Jensen

RSI
REMEDATION SERVICE. INT'L.

2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0720

WATER SAMPLE LOG

DATE: 11/20/94

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: RS-4

WEATHER CONDITIONS: Cloudy, cool

FIELD OBSERVATIONS: Well box in good condition.

Purged well until dry.

TOTAL DEPTH OF WELL: 25.96 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE ONE WELL VOLUME = 22.0 gallons

DEPTH TO WATER: 8.00 feet PURGING METHOD: Rediflo pump

DEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (μ mhos/cm)	Comments
1:18	2	7.24	66.0	1.37	Clear, moderate product odor
1:22	10	7.23	66.3	1.31	Clear, mod. product odor
1:24	15	7.22	67.5	1.29	Clear, mod. product odor
1:26	20	7.07	67.7	1.29	Clear, slt. product odor
1:32	30	7.12	67.2	1.29	Clear, slt. product odor
1:33	32	7.10	66.8	1.29	Clear, slt. product odor
					Well dry

TOTAL DISCHARGE: 32 gallons WELL VOLUMES REMOVED: 1.5

TIME SAMPLE COLLECTED: 3:10 PM

DEPTH TO WATER AT TIME OF SAMPLE: 18.32 feet PERCENT RECHARGE: 43

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Clear, no odor.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L. Amber bottle

SAMPLE TRANSPORTED TO: Atkins Environmental Laboratory

SAMPLED BY: J. Jensen

RSI
REMEDATION SERVICE, INT'L.

2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0720

APPENDIX B
LABORATORY REPORTS
AND
CHAIN OF CUSTODY

HELP LABS JOB #:

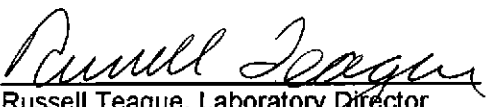
Client Name: RSI

Sample Matrix: WATER
Sample I.D.: SEE UNDER SAMPLE I. D. COLUMN
Lab Number: 002099-002102

Client Reference: DP 796/ OAKLAND, CA
Date Sampled: 11/20/94
Date Extracted: NA
Date Analyzed: 11/29/94

VOLATILE ORGANIC COMPOUNDS E.P.A. METHOD 8260 TPH GASOLINE BY MS DETECTOR

WATER *MDL SAMPLE I. D.	DF	0.3 BENZENE	0.3 TOLUENE	0.3 E. BENZENE	0.6 T. XYLENE	40 T. P. H. G.	ug/L UNITS
RS-1	1	4.7	0.7	0.6	15	270	ug/L
RS-2	1	6.6	3.9	1.1	47	620	ug/L
RS-3	1	2.5	3.1	1.0	3.8	69	ug/L
RS-4	1	4.1	0.7	1.7	7.9	130	ug/L


Russell Teague, Laboratory Director
Certificate Number: E.L.A.P. #1966

THE TEST RESULTS REPORTED REPRESENT ONLY THE ITEMS BEING TESTED AND MAY NOT REPRESENT THE ENTIRE MATERIAL FROM WHICH THE SAMPLE WAS TAKEN

DF = Dilution Factor
ND = Not Detected
*MDL (METHOD DETECTION LIMIT) = MDL X DF

BQL = Below Practical Quantitation Limit
PQL = Practical Quantitation Limit

HELP LABS

2889 Bunsen Ave, Suite A Ventura, CA 93003

805-644-1044 Fax 805-644-0236

Chain of Custody Record Analytical Services Request

CLIENT NAME KSI		ADDRESS 2060 Kusch Dr #1200 Ventura, CA 93003			TELEPHONE/FAX NUMBER (805) 644-5892			METHOD OF SHIPMENT/SHIPPING DOCUMENT #															
PROJECT NAME/LOCATION DP 796 Oakland, CA		CLIENT PROJECT NO.			REQUESTED TURNAROUND TIME 24 HOURS: _____ 10 DAY: _____ 5 DAY: _____			HELP LABS QUOTE # _____		HELP LABS PROJECT # _____													
PROJECT MANAGER K. Pilat		SAMPLER(S) RP/JF		P.O. NO.																			
SAMPLE IDENTIFICATION NO.	LAB NUMBER	DATE SAMPLED	TIME SAMPLED	CONTAINER #/TYPE	ANALYSIS										REMARKS								
					GRA B	COM POS I T E	S O I L	H 2 O	O T H E R	5 2 4 • 2	6 2 4	8 2 6 0	T P H g / M S										
RS-1		11-20-94	2:54	4-VOAS											X								
RS-2		↓	2:42	↓											X	Y							
RS-3		↓	2:31	↓											X	Y							
RS-4		↓	3:10	↓											X	Y							
CONDITION OF SAMPLE:		RELINQUISHED BY: (Signature) John Jensen			RECEIVED BY: (Signature) Rindahl et al			DATE 11/28/94		TIME 11:06 AM													
TEMPERATURE UPON RECEIPT:		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME													
SEALS INTACT: YES / NO		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME													
SAMPLE DISPOSAL:		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME													
SEND INVOICE TO:					PAGE <u>1</u> OF <u>1</u>																		

Total Petroleum Hydrocarbons

ATKINS ENV. HELP. LAB 202
2889 BUNSEN AVE STE A
VENTURA, CA 93003
Attn.: RUSSELL TEAGUE 905-644-1044

Date of
Report: 12/07/94
Lab #: 94-13148-1

Sample Description: RSI-DP 796 OAKLAND, CA. : RS-1 SAMPLED ON 11-20-94 @ 2:54 BY J.J

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015

Sample Matrix: Water

Date Sample
Collected:
11/20/94

Date Sample
Received @ Lab:
11/29/94

Date Analysis
Completed:
12/02/94

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Total Petroleum Hydrocarbons (Motor Oil)	None Detected	µg/L	1000

California D.O.H.S. Cert. #1186


Department Supervisor

Total Petroleum Hydrocarbons

ATKINS ENV. HELP. LAB 202
2889 BUNSEN AVE STE A
VENTURA, CA 93003
Attn.: RUSSELL TEAGUE 805-644-1044

Date of
Report: 12/07/94
Lab #: 94-13148-2

Sample Description: RSI-DP 796 OAKLAND, CA. ; RS-4 SAMPLED ON 11-20-94 @ 3:10 BY J.J

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015

Sample Matrix: Water

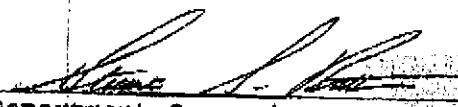
Date Sample
Collected:
11/20/94

Date Sample
Received @ Lab:
11/29/94

Date Analysis
Completed:
12/02/94

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Practical Quantitation Limit</u>
Total Petroleum Hydrocarbons (Motor Oil)	None Detected	µg/L	1000

California D.O.H.S. Cert. #1186


Department Supervisor

HELP LABS

2889 Bunsen Ave, Suite A Ventura, CA 93003

805-644-1044 Fax 805-644-0236

Chain of Custody Record Analytical Services Request

CLIENT NAME RSI		ADDRESS 2060 Knoll Hill St. 200 Ventura, CA 93003			TELEPHONE/FAX NUMBER (805) 644-5892			METHOD OF SHIPMENT/SHIPPING DOCUMENT #								
PROJECT NAME/LOCATION DP 796 Oakland CA				CLIENT PROJECT NO.		REQUESTED TURNAROUND TIME 24 HOURS: _____ 10 DAY: _____ 5 DAY: _____			HELP LABS QUOTE # _____	HELP LABS PROJECT # _____						
PROJECT MANAGER R. PILAT		SAMPLER (S) JT		P.O. NO.												
SAMPLE IDENTIFICATION NO.	LAB NUMBER	DATE SAMPLED	TIME SAMPLED	CONTAINER #/TYPE	GRA B	COM POS I T E	S O I L	H 2 O	O T H E R	5 2 4 • 2	6 2 4	8 2 6 0	T P H g / M S	M.O. (3570)		REMARKS
RS-1		11-20-94	2:54	1-litel									X	X	X	
RS-2		↓	2:42	↓									X	X		
RS-3		↓	2:31	↓									X	X		
RS-4		↓	3:10	↓									X	X	X	
CONDITION OF SAMPLE:		RELINQUISHED BY: (Signature) John Jensen			RECEIVED BY: (Signature) Kandak			DATE 11/28/94		TIME 11:50 AM						
TEMPERATURE UPON RECEIPT:		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME						
SEALS INTACT: YES / NO		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME						
SAMPLE DISPOSAL:		RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)			DATE		TIME						
SEND INVOICE TO:					PAGE <u>1</u> OF <u>1</u>											