REMEDIATION SERVICE, INT'L.
2060 KNOLL DRIVE, SUITE 200, VENTURA, CALIFORNIA 93003
(805) 644-5892 • FAX (805) 654-0720

SOIL & GROUNDWATER INVESTIGATION REPORT

2008 First Street
Livermore, California

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

Prepared by:
RSI - REMEDIATION SERVICE, INT'L.
2060 Knoll Drive
Suite #200
Ventura, California 93003

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

Richard W. Pilat
RSI Program Director

March 31, 1995

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1.0 INTRODUCTION

This report presents the results of off-site soil and groundwater investigation for the real property located at 2008 First Street, Livermore, Alameda County, California (Figure 1). Remediation Service, Int'l. (RSI) is under contract to Desert Petroleum, Inc. to provide Phase II Assessment of the subject property.

The site is currently occupied by a retail gasoline station operating under the British Petroleum trade name. A site assessment conducted in February, 1988 indicated that both soil and groundwater contained elevated concentrations of petroleum hydrocarbons. One groundwater monitoring well was installed in September, 1988 and three additional wells were installed in June, 1994.

RSI submitted a workplan to the Alameda County Department of Environmental Health (ACEMD) in September, 1994. The plan was approved by Ms. Eva Chu of ACEMD in a letter dated October 24, 1994. The soil and groundwater investigation work was subsequently performed and the procedures and results are detailed in this report.

2.0 SITE DESCRIPTION

The site is an operating retail gasoline service station located within a commercial/residential area at the corner of First street and South "L" street in Livermore (Figures 2 and 3). The station is currently owned and operated by Mr. B.J. Angle. A storage/garage building, three underground storage tanks, two pump islands and four groundwater monitoring wells are present on-site. The three underground storage tanks have holding capacities of 10,000 gallons (Tanks 1 & 2) and 8,000 gallons (Tank 3) and are used for the storage of various grades of unleaded gasoline (Figure 4).

The site is flat, level and paved with asphalt.

3.0 BACKGROUND

The following is a summary of the previous work conducted at the site. The analytical results of soil and groundwater samples collected at the site are reported in Tables 1 and 2 and soil sample locations are shown on Figure 4.

On February 23, 1988, Geonomics Inc., installed four vapor monitoring probes around the tank area. On-site field screening with a Gastechtor organic vapor meter indicated elevated TPH concentrations as vapor in wells DPL-1 and DPL-2. Analysis

of a soil sample collected from DPL-1 at 14.5 feet below ground surface (bgs) reported a TPH as gasoline concentration of 400 mg/Kg. Hydrocarbons were not detected in soil samples from DPL-3 and DPL-4 (Geonomics Inc. Vapor Monitoring Probe Report, March 10, 1988).

On September 22, 1988, On-Site Technologies Inc. conducted further subsurface investigation with two soil borings and the completion of one monitoring well (GX-136, later renamed MW-1, Figure 4). Depth to groundwater was measured at 55.8 feet bgs. Analytical results of soil collected from the three borings reported no detectable TPH concentrations above 26 feet bgs and concentrations ranging from 0.8 mg/Kg (DPL-5 at 41 feet) to 1,600 mg/Kg (DPL-6 at 36 feet) below 26 feet bgs (Table 1). Groundwater was analyzed for TPH as gasoline and BTEX; no hydrocarbon compounds were detected in the groundwater at that time (Table 2, On-Site Technologies, Inc. Report of Hydrogeologic Site Investigation, October 26, 1988).

On August 2, 1990, groundwater in monitoring well GX-136 was sampled for TPH as gasoline and BTEX. Analytical results reported a TPH concentration of 24 mg/L (parts per million) and a benzene concentration of 1,300 µg/L (parts per billion, Table 2).

On June 16-18, 1994, RSI conducted a Soil and Groundwater Investigation with the installation of groundwater monitoring wells MW-2, MW-3 & MW-4. Analytical results of soil collected from the three well installations reported hydrocarbons predominantly in well MW-3 with a TPH concentration of 390 mg/Kg (MW-3 @ 10' and 15'). Hydrocarbons were also detected in well MW-2 with a TPH concentration of 77 mg/Kg (MW-2 @ 40'). TPH was not detected in the sample from MW-4; benzene however was detected at a low concentration of 0.009 mg/Kg (Table 1). Analysis of groundwater samples from the three wells reported TPH concentrations ranging between 0.81 mg/L (MW-4) and 290 mg/L (MW-2). Benzene was detected in all three wells at concentrations between 12 µg/L (MW-4) and 18,000 µg/L (MW-2, Table 2).

On August 26, 1994 a 0.66 foot immiscible layer of degraded gasoline was measured in well MW-2. This layer was bailed immediately and a free product bailing schedule for free product removal and measurement of all other wells on-site was initiated. Since August, 1994, approximately 225 gallons of groundwater and free product have been bailed from well MW-2. Free product has not been detected in any other well. Free product removal logs for well MW-2 are included in Appendix C.

Groundwater has been monitored on a regular basis since 1990. Tables 2 and 4 summarizes historic groundwater analytical results and elevation at the site.

4.0 SOIL & GROUNDWATER INVESTIGATION

The purpose of this investigation was to delimit soil and groundwater conditions off-site. The investigation was initiated by drilling and sampling five soil bore holes and collecting hydropunch groundwater samples where the suspected limits exist. The soil borings were advanced at the approximate locations shown on Figure 3.

4.1 Soil Borings/Hydropunch Procedures

Prior to beginning work at the site, a drilling permit was obtained from ACEMD (Appendix A). Underground Service Alert was notified in advance to mark all underground utilities.

On March 8, 1995, five bore holes were drilled at the locations shown on Figure 3. The borings were drilled using a hollow-stem auger rig supplied and operated by West Hazmat of Newark, California (License #C57-554979). Drilling and soil sampling was supervised by an RSI representative working under the supervision of Michael Mulhern, California Certified Engineering Geologist #1507. A properly calibrated photoionization detector (PID) was used to field screen vapor concentrations and a log of the boring was maintained. Diagrammatic boring logs with soil descriptions and field screened PID readings are included in Appendix B. Soil descriptions are based on the United Soil Classification System (USCS).

During drilling operations, soil samples were collected at minimum five foot intervals from the surface to the top of the water table, at changes in soil lithology and at depths of field screen detected contamination. Soil samples were collected from each boring by driving a split spoon sampler containing standard brass tubes into undisturbed soil beneath the augers. All sampling equipment was decontaminated between sample collection and bore holes by steam cleaning and/or standard three bucket wash method with TSP. The samples were then sealed, labeled, placed on ice and transported under standard chain of custody to Onsite Environmental, a state certified laboratory in Fremont, California. The samples from near the first encountered water and below the water table were analyzed for TPH and BTEX using standard EPA approved methods. Soil sample analyses are included in the Laboratory Report presented in Appendix D.

The borings were abandoned by filling with neat cement. The abandoned borings on South "L" street were sealed to the surface with a minimum of ten feet of control density fill (CDF).

All soil cuttings and decontamination water is contained on-site in covered 55-gallon (17H) DOT approved drums which are sealed and labeled as pending lab analysis. The soil will be disposed of in an appropriate manner based on analytical results.

4.2 Hydropunch Groundwater Sampling Procedures

During the drilling process on March 8, 1995, groundwater samples were collected from the borehole H-4 and H-5. Because the boundaries of the contamination plume had clearly not been reached to the west of the site, the collection of hydropunch samples in boreholes H-1, H-2 and H-3 was not considered to be cost effective in this area. Groundwater samples were collected in H-4 and H-5 by driving a hydropunch sampling probe below the static, water level at 30 feet bgs. The hydropunch tool was then withdrawn approximately and H 18 inches to allow the screened sampling chamber to fill. After the chamber was full, the hydropunch was withdrawn. The water collected was transferred into appropriate containers, sealed, labeled, placed on ice and transported under standard chain of custody procedures to Onsite Environmental, a state certified laboratory in Fremont, California. Groundwater samples were tested for the same constituents listed in the soil sampling protocol. Laboratory Reports for Water Sample Analyses are included in Appendix D.

4.3 Free Product Investigation

On March 9, 1995, a representative of RSI and Mr. B.J. Angle, the current owner and operator of the property, checked groundwater monitoring well MW-2 for the presence of free product. The measuring point for the well was the survey point at the top of the well casing on the north side. 0.82 feet of free product was measured in the well. On March 13, 1995, a 0.41 foot thick immiscible layer was measured in the well.

4.4 Soil & Groundwater Investigation Results

4.4.1 Geology & Hydrology

The site is located on the floor of the Livermore Valley at an elevation of approximately 480 feet above mean sea level (MSL) with a slight regional gradient towards the west. The subject property lies approximately one mile south of the Arroyo Las Positas Creek and one half mile north of the Arroyo Mocho Creek.

The groundwater elevation on March 13, 1995 ranged between 455.19 and 457.04 feet above MSL (Table 4). The groundwater gradient was calculated to be approximately 0.013 ft/ft with groundwater flow in a northwesterly direction (Figure 5).

As reported on the boring logs in Appendix B, soils beneath the site consist of predominantly sandy gravel, sandy clay and course sand to approximately 15 feet bgs and clay with sand to total boring depths (30-35 feet bgs).

4.4.2 Soil Sampling Results

A strong petroleum odor was noted in drill cuttings from 30 feet bgs in the three borings on South "L" street (borings H-1, H-2 and H-3). The highest TPH concentrations were detected in soil samples from 30 feet bgs with concentrations ranging between ND (H-4) and 6,100 mg/Kg (H-2).

Because the boundaries of the contamination plume had clearly not been reached to the west of the site, the collection of hydropunch samples in boreholes H-1, H-2 and H-3 was not considered to be cost effective in this area.

Area maps with TPH and benzene contours in soil are included as Figures 6 and 7. Cross sections showing the approximate vertical extent of soil impacted by hydrocarbons are included as Figures 9 through 10. Figure 8 is an area map with cross section locations.

4.4.3 Groundwater Sampling Results

Analytical results for hydropunch groundwater samples collected from H-4 and H-5 during soil boring are summarized in Table 3 and the current results are shown on Figure 11 along with March 13, 1995 groundwater monitoring results. The laboratory report and Chain-of-Custody documents are included in Appendix D. Because the boundaries of the contamination plume had clearly not been reached to the west of the site, the collection of hydropunch samples in boreholes H-1, H-2 and H-3 was not considered to be cost effective in this area.

As reported in Table 3, hydrocarbons were found in groundwater samples from borings H-4 and H-5 with TPH concentrations of 1,500 and 620 µg/L, respectively. Benzene was reported at concentrations of 57 µg/L (H-4) and 22 µg/L (H-5).

5.0 REMEDIAL ACTION

Interim corrective action, as required by Section 2655 of Article 5, Title 23 of the California Code of Regulations, has been performed at this site since August, 1994. A graph of measured free product thickness is included as Graph 1.

Free product was not detected in groundwater monitoring wells MW-2, MW-3 and MW-4 when they were installed in June, 1994; free product has never been detected in well MW-1. On August 26, 1994 a 0.66 foot immiscible layer of degraded gasoline was measured in well MW-2. This layer was bailed immediately and a free product bailing schedule for weekly free product removal and measurement of all other wells on-site was initiated. Over the past two quarters, approximately 225 gallons of groundwater and free product have been bailed from well MW-2. Free product removal logs are included in Appendix C. Free product has not been detected in any other well.

As shown on Graph 1, during the period of weekly free product removal from October, 1994 through February, 1995, free product thickness decreased. On March 1, 1995, 3 inches of gasoline was measured in well MW-2. Although the free product was bailed on March 1, 1995 and March 6, 1995, the volume of free product had increased to 0.82 feet by March 9, 1995, and may indicate that a possible secondary release of free product into the subsurface has taken place.

Graph 2 and 3, which chart the concentrations of TPH & Benzene in well MW-1, indicate an increase in groundwater contamination since the sale of station in December, 1994.

6.0 CONCLUSIONS & RECOMMENDATIONS

This investigation found that the soil and groundwater beneath the site and west of the property beneath South "L" street has been impacted by hydrocarbons near the capillary fringe. The highest concentration of hydrocarbons (TPH, 6,100 mg/Kg) was reported in soil samples from boring H-2 which is located on the west side of South "L" street.

Based on the results of this investigation, and in compliance with the request made by Ms. Eva Chu of ACEMD in a letter dated October 24, 1994, a workplan for further groundwater investigation should be prepared to define optimum well placement.

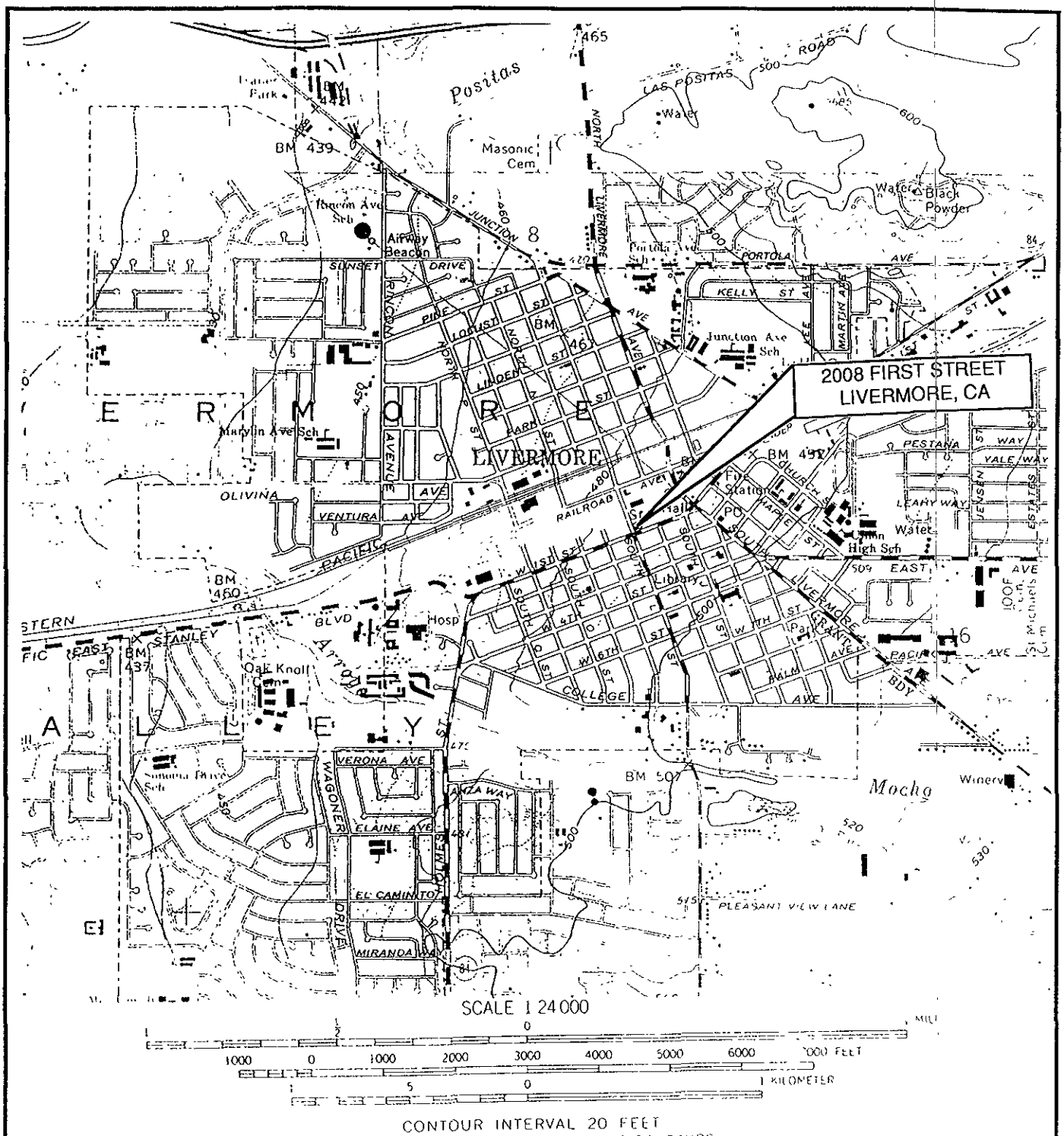
7.0 LIMITATIONS

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 and any other applicable local regulations. Variations in the soil and groundwater conditions may exist beyond the points explored in this and previous investigations.

The services performed by Remediation Service, Int'l. has 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.

Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner.

FIGURES

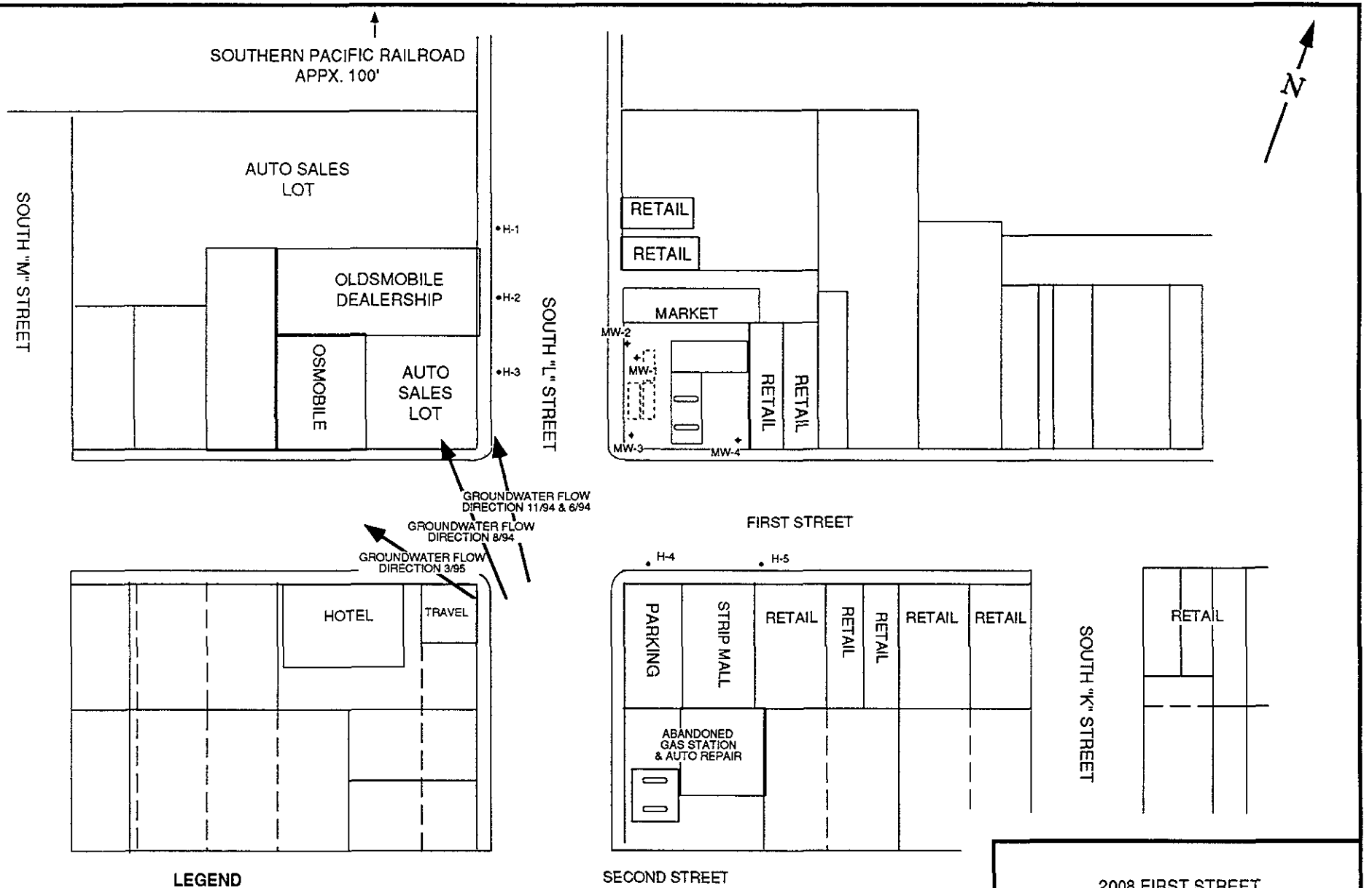


FROM U S G S. 7 5' TOPOGRAPHIC QUADRANGLE "LIVERMORE, CALIFORNIA, " 1961, PHOTOREVISED 1980

2008 FIRST STREET, LIVERMORE, CA

FIGURE 1 LOCATION MAP

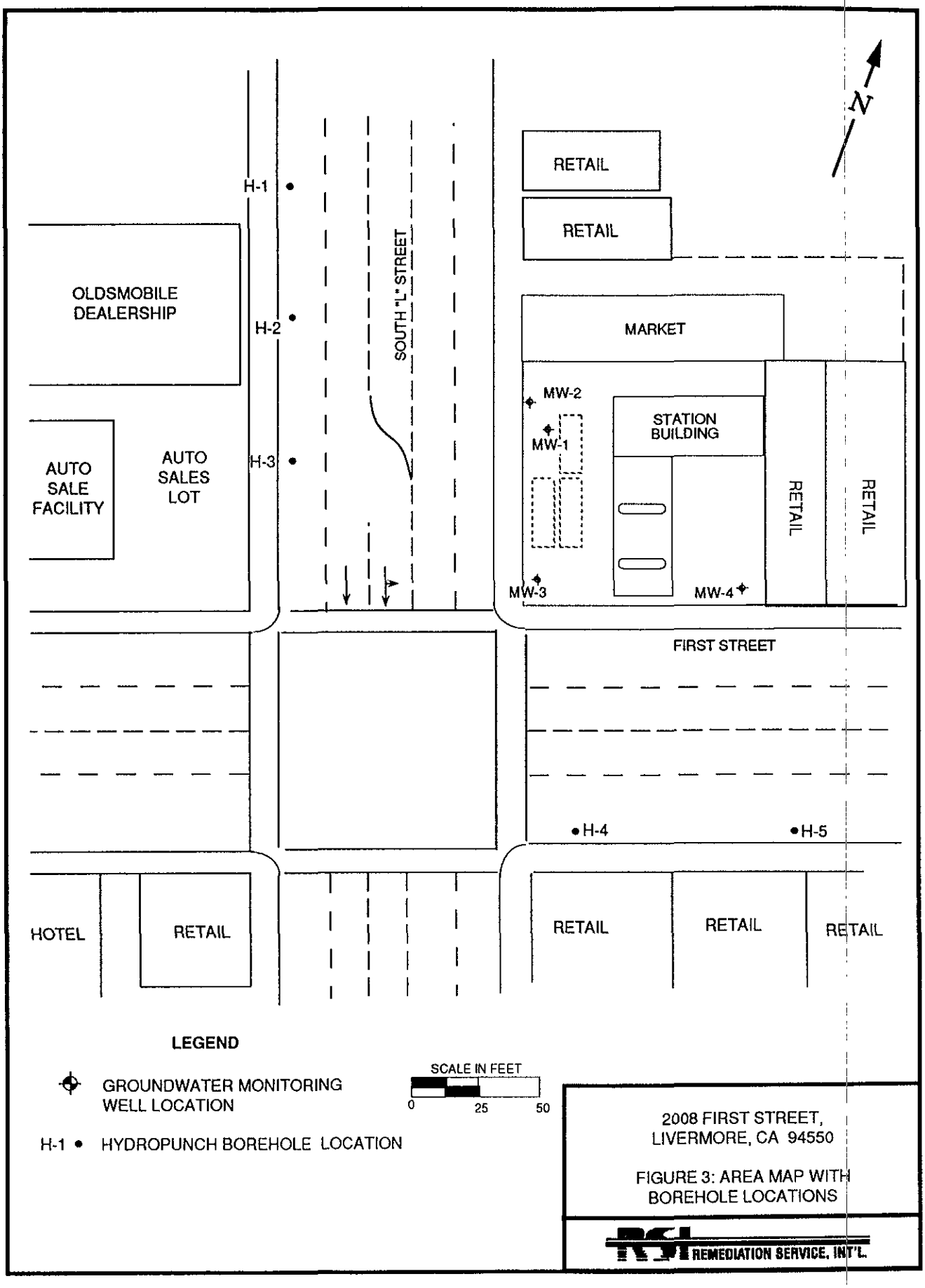
RSI - REMEDIATION SERVICE, INT'L

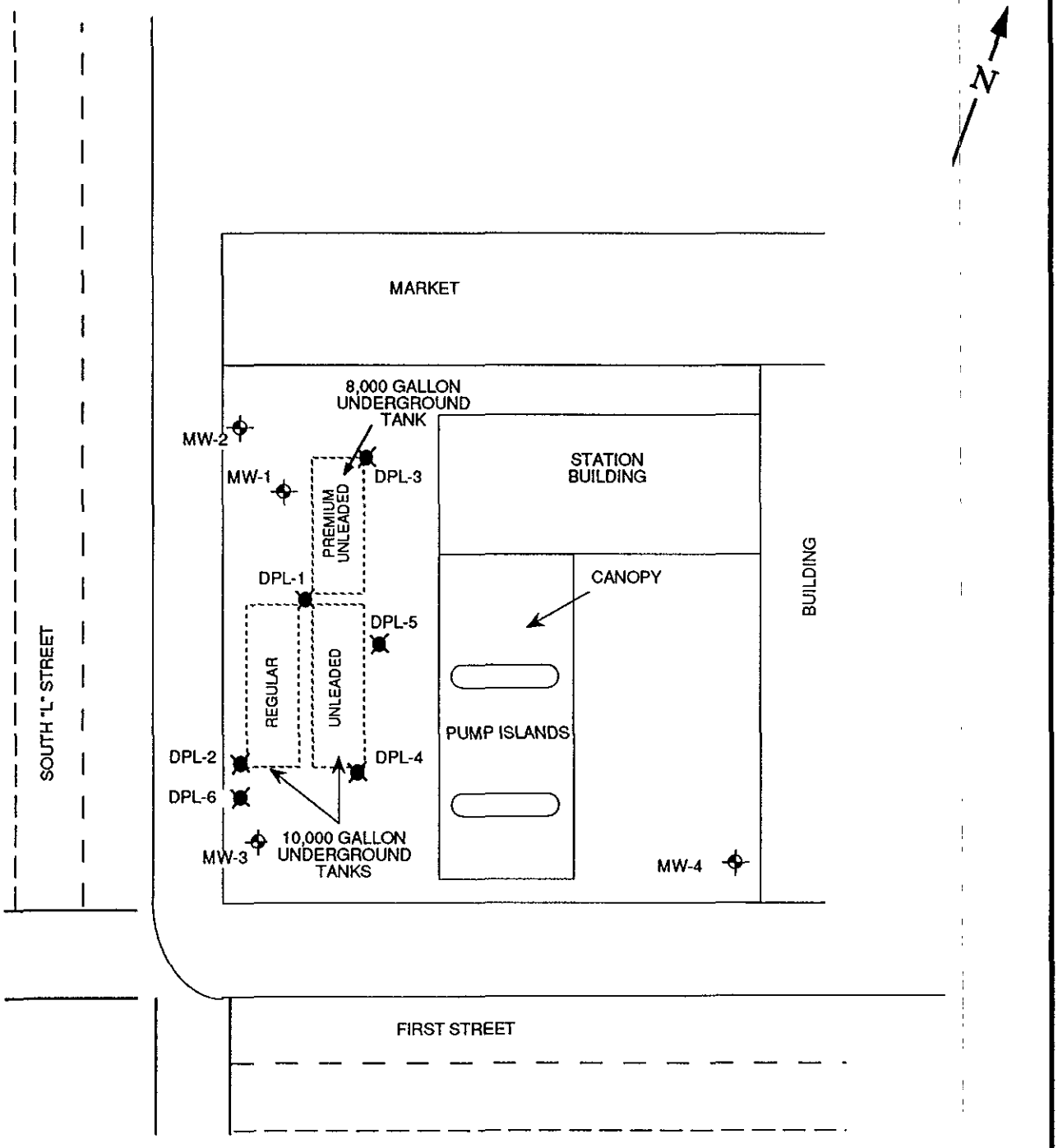


2008 FIRST STREET,
~~LIVERMORE, CA 94550~~

FIGURE 2: VICINITY MAP

REMEDIATION SERVICE, INT'L.


N
RETAIL
RETAIL
H-1
SOUTH "L" STREET
OLDSMOBILE DEALERSHIP
H-2
MARKET
MW-2
STATION BUILDING
MW-1
AUTO SALE FACILITY
AUTO SALES LOT
H-3
RETAIL
RETAIL
MW-3
MW-4
FIRST STREET
H-4
H-5
HOTEL
RETAIL
RETAIL
RETAIL
RETAIL
LEGEND
GROUNDWATER MONITORING WELL LOCATION
H-1 • HYDROPUNCH BOREHOLE LOCATION
SCALE IN FEET
0
25
50
2008 FIRST STREET, LIVERMORE, CA 94550
FIGURE 3: AREA MAP WITH BOREHOLE LOCATIONS
REMEDIATION SERVICE, INT'L.



MAP NOT TO SCALE.
SURVEYED DISTANCE BETWEEN WELLS, 1" = 25'.

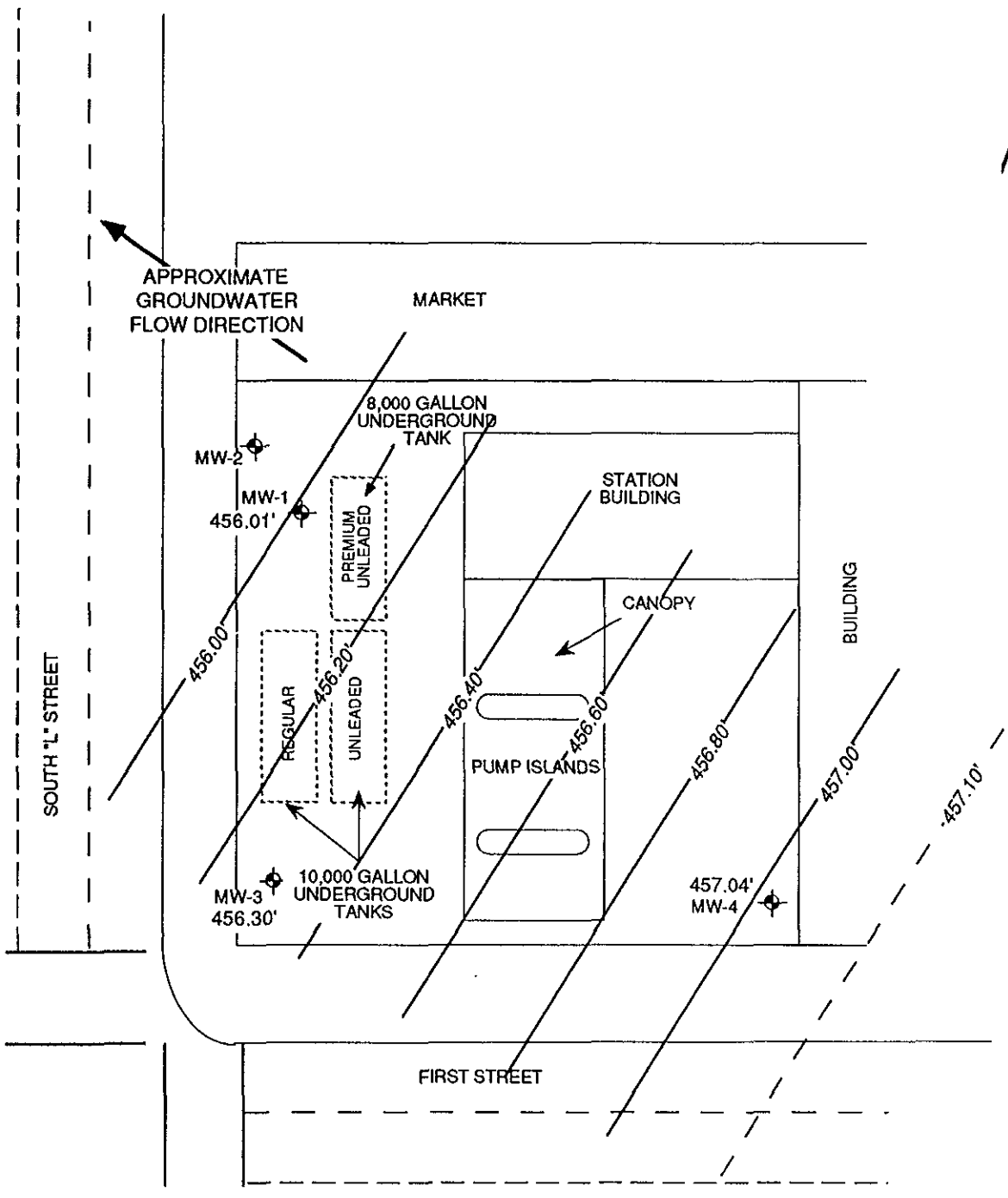
LEGEND

- GROUNDWATER MONITORING WELL LOCATION
- GEONOMICS AND ON-SITE TECHNOLOGIES BOREHOLE LOCATIONS

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 4: PLOT PLAN WITH HISTORIC BOREHOLE LOCATIONS

REMEDIATION SERVICE, INT'L.



MAP NOT TO SCALE.
SURVEYED DISTANCE BETWEEN WELLS, 1" = 25'.

LEGEND

445.71'
MW-2 — GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL.

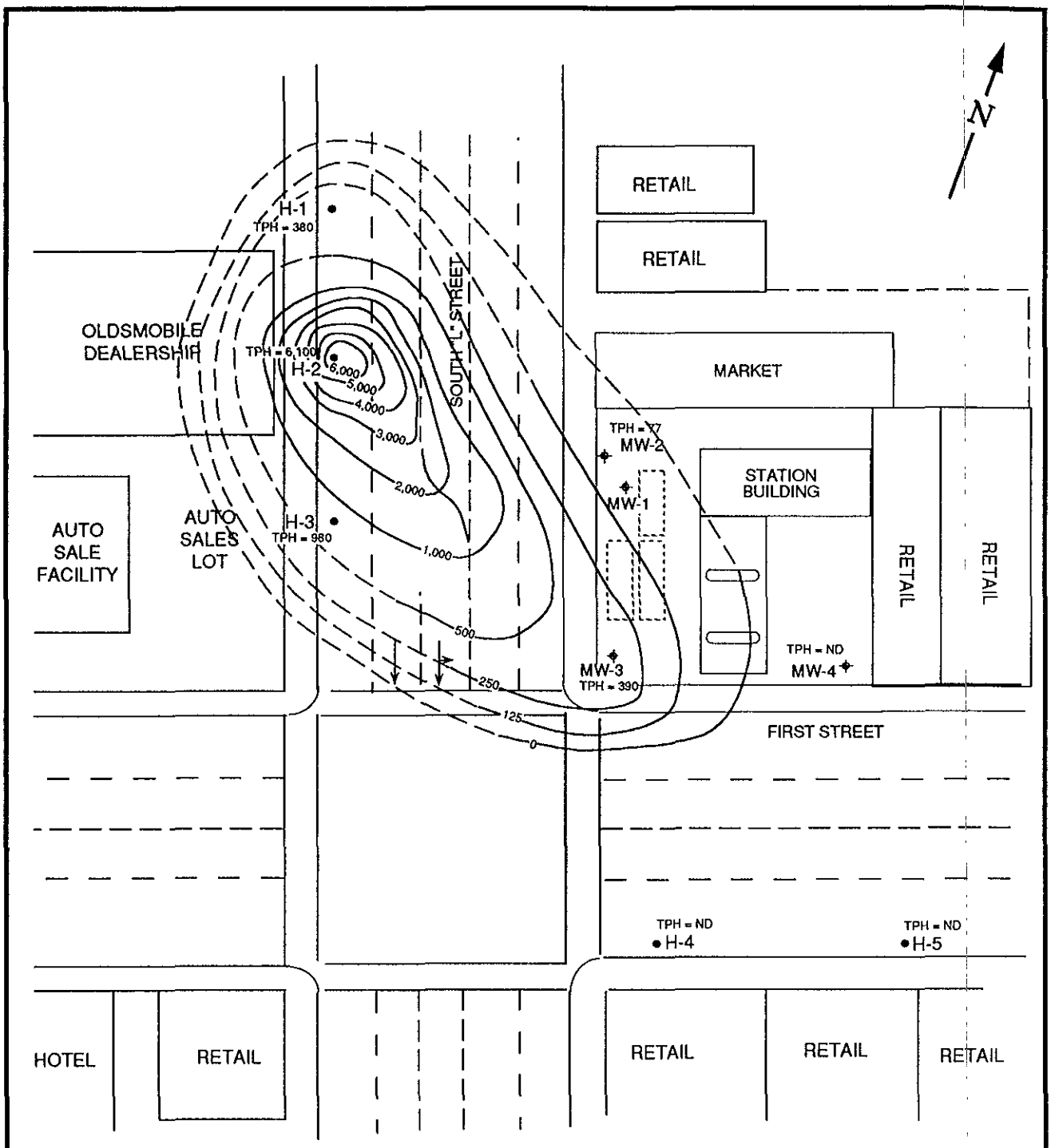
446.0' — GROUNDWATER ELEVATION CONTOUR LINE

NOTE: GROUNDWATER ELEVATION FOR MW-2 NOT USED IN GRADIENT DUE TO FREE PRODUCT

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 5: PLOT PLAN WITH GROUNDWATER ELEVATION CONTOURS
MARCH 13, 1995

RSI REMEDIATION SERVICE, INT'L.



LEGEND

GROUNDWATER MONITORING WELL LOCATION

H-1 • HYDROPUNCH BOREHOLE LOCATION

SOIL CONTAMINATION CONTOUR WITH MAXIMUM TPH CONCENTRATION IN mg/Kg

SCALE IN FEET

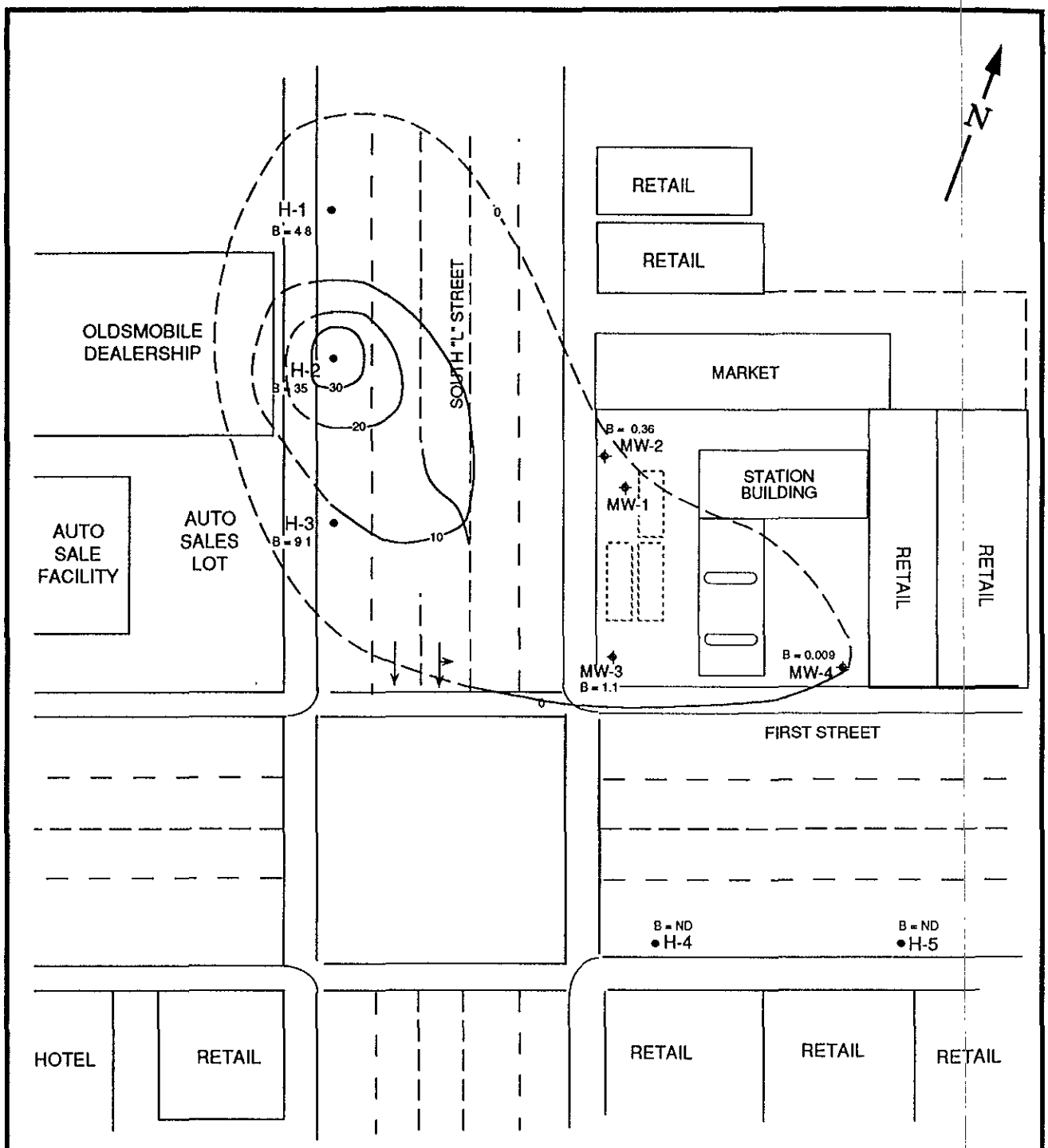
0 25 50

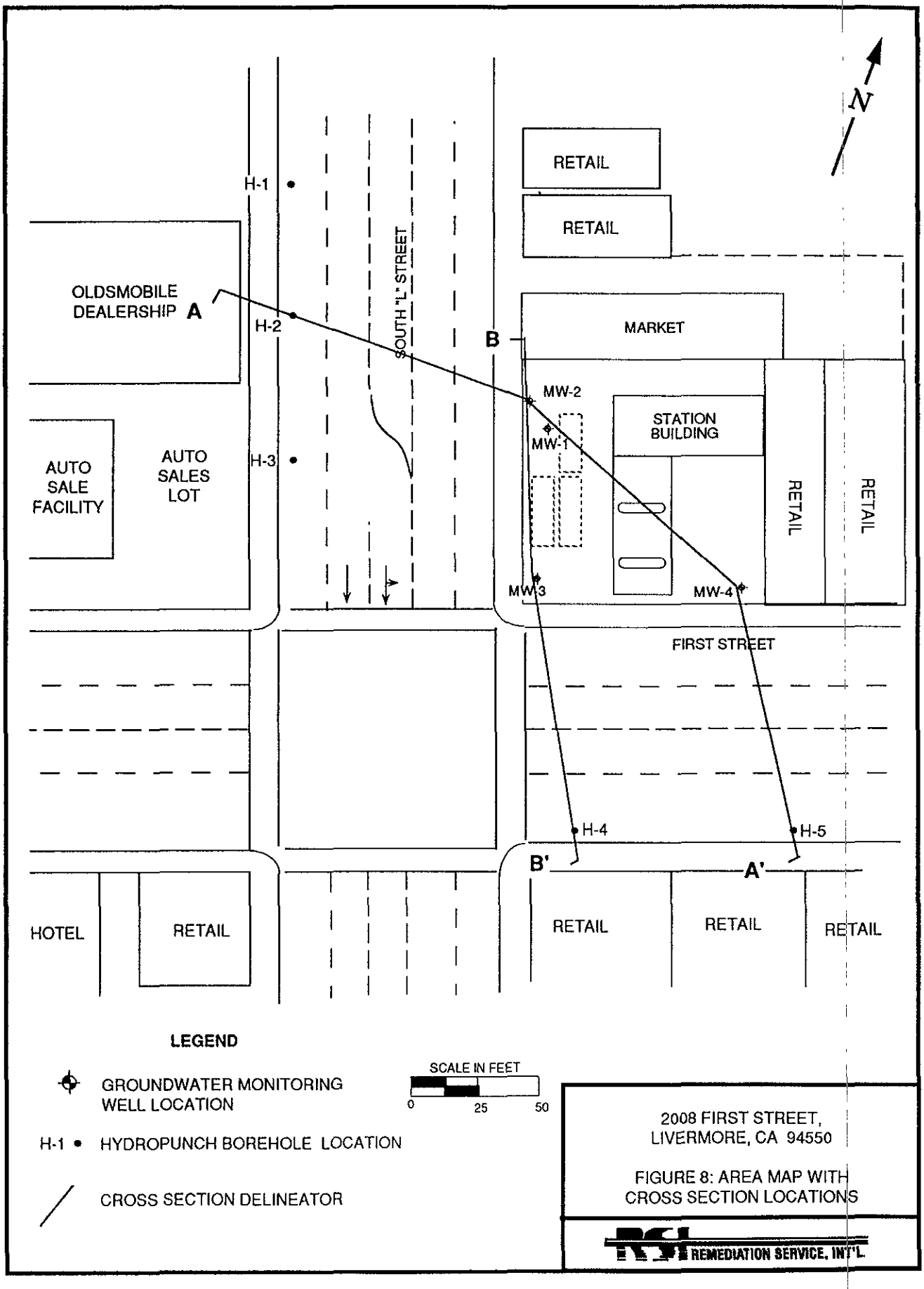
2008 FIRST STREET, LIVERMORE, CA 94550

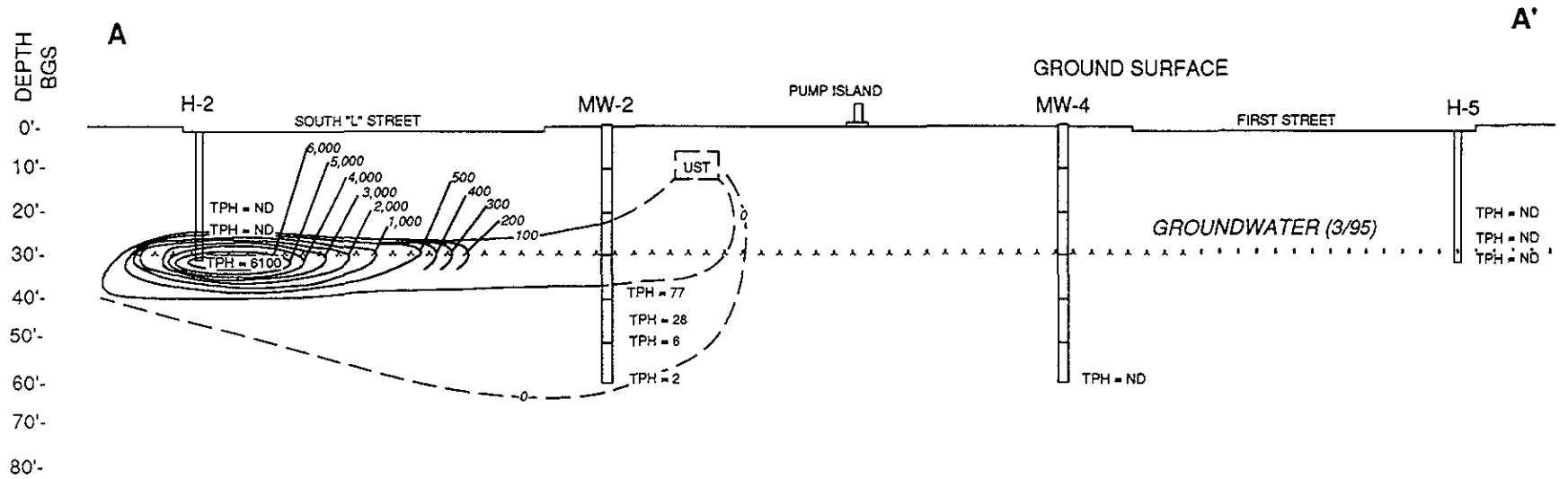
FIGURE 6: AREA MAP WITH HORIZONTAL EXTENT OF TPH IMPACTED SOIL

REMEDIATION SERVICE, INT'L.

MW-2, MW-3 & MW-4 SAMPLES COLLECTED BY RSI 6/94
H-1 - H-5 SAMPLES COLLECTED BY RSI 3/95


N
RETAIL
RETAIL
H-1
B = 4.8
OLDSMOBILE DEALERSHIP
H-2
B = 35
30
20
SOUTH "L" STREET
MARKET
B = 0.36
MW-2
MW-1
STATION BUILDING
AUTO SALE FACILITY
AUTO SALES LOT
H-3
B = 9.1
10
RETAIL
RETAIL
MW-3
B = 1.1
B = 0.009
MW-4
0
FIRST STREET
B = ND
H-4
B = ND
H-5
HOTEL
RETAIL
RETAIL
RETAIL
RETAIL
LEGEND
GROUNDWATER MONITORING WELL LOCATION
H-1 • HYDROPUNCH BOREHOLE LOCATION
SOIL CONTAMINATION CONTOUR WITH MAXIMUM BENZENE CONCENTRATION IN mg/Kg
SCALE IN FEET
0
25
50
2008 FIRST STREET, LIVERMORE, CA 94550
FIGURE 7: AREA MAP WITH HORIZONTAL EXTENT OF BENZENE IMPACTED SOIL
REMEDIATION SERVICE, INT'L.
MW-2, MW-3 & MW-4 SAMPLES COLLECTED BY RSI 6/94
H-1 - H-5 SAMPLES COLLECTED BY RSI 3/95


N
RETAIL
RETAIL
H-1
SOUTH "L" STREET
OLDSMOBILE DEALERSHIP
A
H-2
B
MARKET
MW-2
STATION BUILDING
MW-1
AUTO SALE FACILITY
AUTO SALES LOT
H-3
RETAIL
RETAIL
MW-3
MW-4
FIRST STREET
H-4
H-5
B'
A'
HOTEL
RETAIL
RETAIL
RETAIL
RETAIL
LEGEND
GROUNDWATER MONITORING WELL LOCATION
H-1 HYDROPUNCH BOREHOLE LOCATION
CROSS SECTION DELINEATOR
SCALE IN FEET
0
25
50
2008 FIRST STREET, LIVERMORE, CA 94550
FIGURE 8: AREA MAP WITH CROSS SECTION LOCATIONS
REMEDIATION SERVICE, INT'L



LEGEND

DP-1 BORING #

TPH BTEX
Laboratory Analysis
in mg/kg

TPH = TOTAL PETROLEUM HYDROCARBONS

ND = NOT DETECTED AT OR ABOVE PRACTICAL QUANTITATION LIMIT

SOIL CONTAMINATION CONTOUR WITH TPH CONCENTRATION IN MG/KG

0 40'

40'

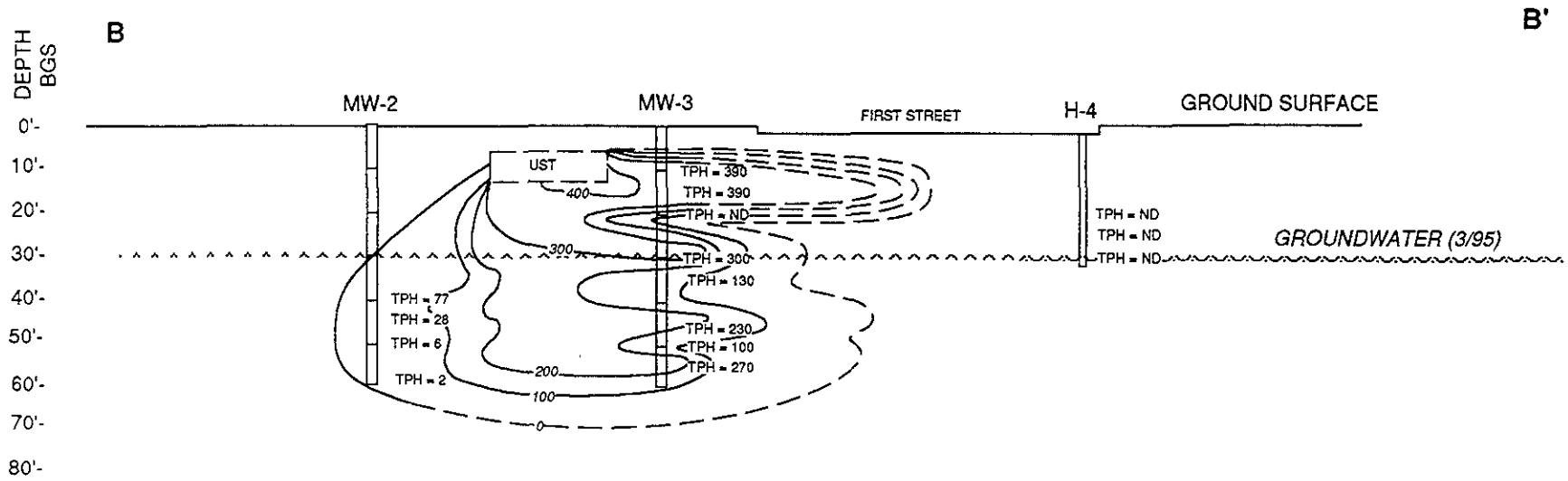
SCALE IN FEET

MW-2 & MW-3 SAMPLES COLLECTED BY RSI 6/94
H-2 & H-5 SAMPLES COLLECTED BY RSI 3/95

2008 FIRST STREET
LIVERMORE, CA

FIGURE 9: CROSS SECTION A-A' WITH VERTICAL EXTENT OF TPH IMPACTED SOIL

REMEDIATION SERVICE, INT'L.



LEGEND

DP-1 BORING #

TPH BTEX
Laboratory Analysis
in mg/kg

TPH = TOTAL PETROLEUM HYDROCARBONS

ND = NOT DETECTED AT OR ABOVE PRACTICAL QUANTITATION LIMIT.

SOIL CONTAMINATION CONTOUR WITH TPH CONCENTRATION IN MG/KG

0 40'

40'

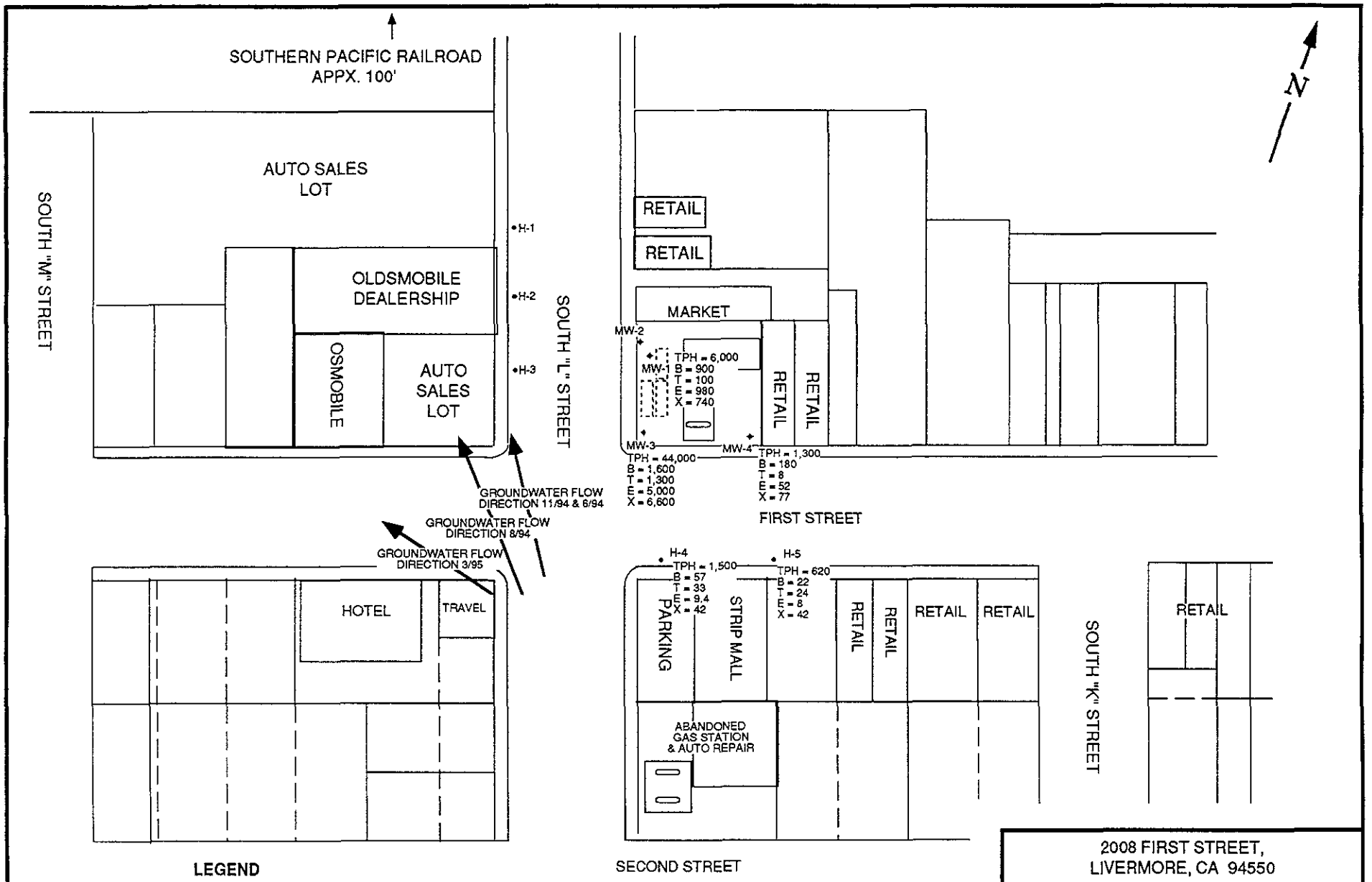
SCALE IN FEET

MW-2 & MW-3 SAMPLES COLLECTED BY RSI 6/94
H-4 SAMPLE COLLECTED 3/95

2008 FIRST STREET
LIVERMORE, CA

FIGURE 10: CROSS SECTION B-B'
WITH VERTICAL EXTENT OF TPH
IMPACTED SOIL

REMEDIATION SERVICE, INT'L.



2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 11: VICINITY MAP WITH HYDROCARBON CONCENTRATIONS IN GROUNDWATER

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TABLES

TABLE 1

HISTORIC SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

2008 FIRST STREET
LIVERMORE, CA

TPH & BTEX Concentrations are in mg/Kg

SAMPLE DATE	SAMPLE ID	SAMPLE LOCATION	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL LEAD
2/24/88	DPL288-1	DPL-1 @ 14.5'	400	7.5	9.5	NA	27	NA
2/24/88	DPL288-3	DPL-3 @ 15'	ND	ND	ND	NA	ND	NA
2/24/88	DPL288-4	DPL -4 @ 16.5'	ND	ND	ND	NA	ND	NA
9/22/88	GX136-1	MW-1 @ 16'	ND	ND	ND	ND	ND	NA
9/22/88	GX136-2A	MW-1 @ 23.5'	ND	ND	ND	ND	ND	NA
9/22/88	GX136-3	MW-1 @ 28.5'	ND	ND	ND	ND	ND	NA
9/22/88	GX136-4	MW-1 @ 33.5'	31	0.14	0.87	0.74	4.7	NA
9/22/88	GX136-5	MW-1 @ 38.5'	72	ND	ND	ND	4	NA
9/22/88	GX136-6	MW-1 @ 43.5'	10	0.14	0.13	0.18	0.72	NA
9/22/88	GX136-7	MW-1 @ 48.5'	0.51	ND	ND	ND	ND	NA
9/22/88	GX136-8	MW-1 @ 53.5'	1.7	0.12	0.11	0.049	0.29	NA
9/22/88	GX136-9	MW-1 @ 58.5	54	ND	ND	ND	4.4	NA
9/23/88	DPL5-1	DPL-5 @ 16'	ND	ND	ND	ND	ND	NA
9/23/88	DPL5-2	DPL-5 @ 21'	ND	ND	ND	ND	ND	NA
9/23/88	DPL5-3	DPL-5 @ 26'	ND	ND	ND	ND	ND	NA
9/23/88	DPL5-4	DPL-5 @ 31'	33	0.71	1.7	0.77	6.2	NA
9/23/88	DPL5-5	DPL-5 @ 36'	8.5	0.054	1.1	0.23	2	NA
9/23/88	DPL5-6	DPL-5 @ 41'	0.8	0.097	0.1	ND	0.13	NA
9/23/88	DPL5-7	DPL-5 @ 46'	ND	ND	ND	ND	ND	NA
9/23/88	DPL6-1A	DPL-6 @ 17.5'	ND	ND	ND	ND	ND	NA
9/23/88	DPL6-2	DPL-6 @ 21'	ND	ND	ND	ND	ND	NA
9/23/88	DPL6-3	DPL-6 @ 26'	2.5	ND	ND	ND	ND	NA
9/23/88	DPL6-4	DPL-6 @ 31'	12	0.14	0.083	0.31	1.4	NA
9/23/88	DPL6-5	DPL-6 @ 36'	1,600	ND	3.7	5.3	32	NA
9/23/88	DPL6-6	DPL-6 @ 41'	11	0.035	ND	ND	ND	NA
9/23/88	DPL6-7	DPL-6 @ 46'	100	ND	ND	ND	4.8	NA
6/16/94	MW-4 @ 40'	MW-4 @ 40'	ND	0.009	17	0.006	0.02	12
6/17/94	MW-3 @ 10'	MW-3 @ 10'	390	0.4	2.2	2.2	11	150
6/17/94	MW-3 @ 15'	MW-3 @ 15'	390	0.3	1.9	2.2	11	190
6/17/94	MW-3 @ 20'	MW-3 @ 20'	ND	0.17	0.012	0.006	0.081	12
6/17/94	MW-3 @ 30'	MW-3 @ 30'	300	ND	1.6	1.7	8.3	14
6/17/94	MW-3 @ 35'	MW-3 @ 35'	130	1.1	3.6	1.1	4.9	12
6/17/94	MW-3 @ 45'	MW-3 @ 45'	230	0.62	3.8	2.5	10	28
6/17/94	MW-3 @ 50'	MW-3 @ 50'	100	0.35	0.82	0.56	2	7
6/17/94	MW-3 @ 55'	MW-3 @ 55'	270	0.47	3	1.9	6.7	24
6/17/94	MW-2 @ 40'	MW-2 @ 40'	77	0.36	2.5	1.1	7	10
6/18/94	MW-2 @ 45'	MW-2 @ 45'	28	0.3	0.16	0.4	0.97	8
6/18/94	MW-2 @ 50'	MW-2 @ 50'	6	0.04	0.08	0.07	0.3	9
6/18/94	MW-2 @ 60'	MW-2 @ 60'	2	0.045	0.18	0.041	0.23	14

2/88 Sampling results from Geonomics Inc. report
9/88 Sampling results from On-Site Technologies Inc. report
6/94 Sampling results from RSI report
TPH = Total petroleum hydrocarbons as gasoline
NA = Not analyzed for this constituent

REMEDIATION SERVICE, INT'L.

TABLE 2
SUMMARY OF LABORATORY ANALYSIS OF GROUNDWATER

2008 FIRST STREET
LIVERMORE, CA

TPH & Total Lead Concentrations are in mg/L (parts per million)
BTEX Concentrations are in µg/L (parts per billion)

WELL #	DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL LEAD	SOLUBLE LEAD
MW-1	8/2/90	24	1,300	1,300	400	2,700	NA	NA
	10/10/91	2.2	430	170	100	290	NA	NA
	1/8/92	1.2	200	120	30	150	NA	NA
	5/11/93	0.96	66	8	41	90	NA	NA
	9/21/93	1.9	311	118	33.8	112	NA	NA
	5/22/94	10	690	1100	340	1200	NA	NA
	8/26/94	13	290	690	120	670	NA	ND
	11/22/94	19	400	770	230	1300	NA	NA
	3/13/95	6	900	100	980	740	NA	NA
MW-2	6/19/94	290	18,000	36,000	4,600	26,000	0.016	0.016
	8/26/94	NS*	NS*	NS*	NS*	NS*	NA	NA
	11/22/94	NS*	NS*	NS*	NS*	NS*	NA	NA
	3/13/95	NS*	NS*	NS*	NS*	NS*	NA	NA
MW-3	6/19/94	11	640	580	270	790	ND	ND
	8/26/94	41	1,600	2,300	330	1,800	NA	ND
	11/22/94	18	8,000	10,000	900	5,000	NA	NA
	3/13/95	44	1,600	1,300	5,000	6,600	NA	NA
MW-4	6/19/94	0.81	12	25	ND	22	0.007	0.007
	8/26/94	0.85	37	51	9.5	35	NA	ND
	11/22/94	1.7	110	110	5.8	58	NA	NA
	3/13/95	1.3	180	8	52	77	NA	NA
Title 22 CCR MCL			1	150	700	1,750	—	—

TPH = Total petroleum hydrocarbons (gasoline)
NA = Not analyzed for this constituent.
ND = Not detected at or above minimum detection limit.
NS* = Not sampled due to the presence of free product.

TABLE 3

HYDROPUNCH SOIL & GROUNDWATER ANALYTICAL RESULTS

2008 FIRST STREET LIVERMORE, CA

Soil sample analytical results are in mg/Kg
Groundwater sample analytical results are in ug/L

SOIL ppm

SAMPLE DATE	SAMPLE DESCRIPTION	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
3/8/95	H-1 @ 20'	ND	0.019	0.043	0.014	0.061
3/8/95	H-1 @ 25'	ND	ND	ND	ND	ND
3/8/95	H-1 @ 30'	380	4.8	16	7.4	34
3/8/95	H-2 @ 20'	ND	ND	ND	ND	ND
3/8/95	H-2 @ 25'	ND	0.024	0.008	0.013	0.04
3/8/95	H-2 @ 30'	6,100	35	180	120	540
3/8/95	H-3 @ 20'	ND	ND	ND	ND	ND
3/8/95	H-3 @ 25'	ND	ND	ND	ND	ND
3/8/95	H-3 @ 30'	980	9.1	45	20	98
3/8/95	H-4 @ 20'	ND	ND	ND	ND	ND
3/8/95	H-4 @ 25'	ND	ND	ND	ND	ND
3/8/95	H-4 @ 30'	ND	ND	ND	ND	ND
3/8/95	H-4 @ 20'	ND	ND	ND	ND	ND
3/8/95	H-4 @ 25'	ND	ND	ND	ND	ND
3/8/95	H-4 @ 30'	ND	ND	ND	ND	ND

GROUNDWATER ppb

SAMPLE DATE	SAMPLE DESCRIPTION	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
3/8/95	H-4	1,500	57	33	9.4	42
3/8/95	H-5	620	22	24	8	42

TPH = Total petroleum hydrocarbons as gasoline
NA = Not analyzed for this constituent

TABLE 4
GROUNDWATER ELEVATION DATA

2008 FIRST STREET
LIVERMORE, CA

Measurements are in feet.

Well	Date Measured	Depth to Free Product	Depth to Water*	Free Product Thickness	Corrected Depth to Water Table **	Well Head Elevation*	Water Table Elevation*	Change in Elevation
MW-1	9/22/88	—	60.50	—	—	487.00	426.50	
	8/2/90	—	43.10	—	—		443.90	17.40
	10/10/91	—	66.39	—	—		420.61	-23.29
	1/8/92	—	68.72	—	—		418.28	-2.33
	5/11/93	—	34.76	—	—		452.24	33.96
	9/21/93	—	38.70	—	—		448.30	-3.94
	5/22/94	—	33.57	—	—		453.43	5.13
	6/19/94	—	37.51	—	—	484.07	446.56	—
	8/25/94	—	43.27	—	—		440.80	-5.76
	11/22/94	—	40.58	—	—		443.49	2.69
	3/13/95	—	28.06	—	—		456.01	12.52
MW-2	6/19/94	—	38.15	—	—	483.86	445.71	—
	8/25/94	43.47	44.13	0.66	43.63		440.23	-5.48
	11/22/94	40.92	40.96	0.04	40.93		442.93	2.70
	3/13/95	28.47	29.28	0.81	28.67		455.19	12.26
MW-3	6/19/94	—	37.15	—	—	484.24	447.09	—
	8/25/94	—	42.31	—	—		441.93	-5.16
	11/22/94	—	40.07	—	—		444.17	2.24
	3/13/95	—	27.94	—	—		456.30	12.13
MW-4	6/19/94	—	37.49	—	—	485.04	447.55	—
	8/25/94	—	42.25	—	—		442.79	-4.76
	11/22/94	—	40.59	—	—		444.45	1.66
	3/13/95	—	28.00	—	—		457.04	12.59

*Elevations are in feet above mean sea level.
Well Head Elevations to top of casing surveyed 6/94 to City of Livermore Bench Mark: street monument located at the intersection of 1st. street and S. L street.
Bench Mark elevation = 483.82', based on USGS Sea Level Datum 1929.
**Corrected depth = Depth to water - (Free product thickness x Specific gravity of product).

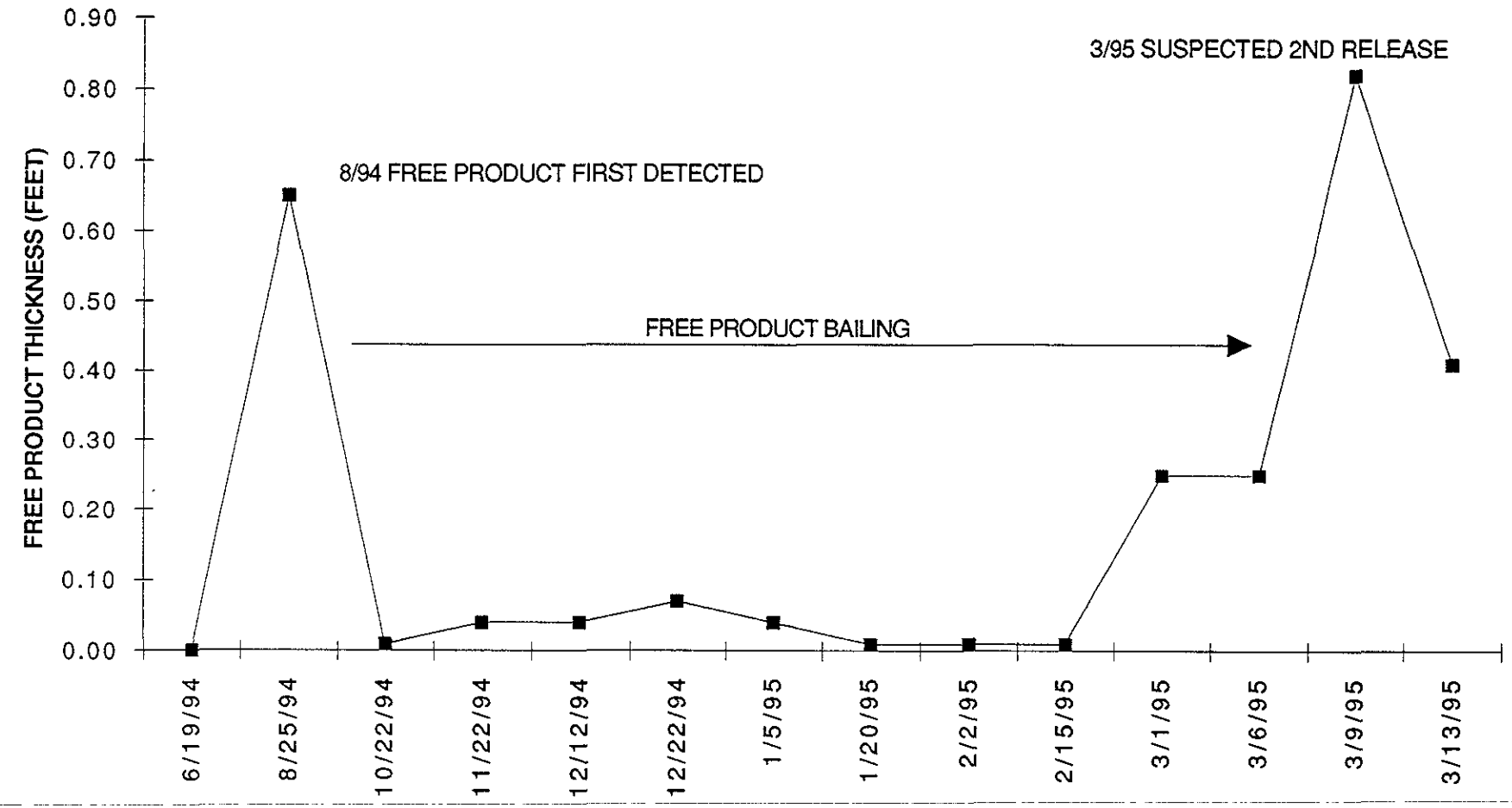
REMEDIATION SERVICE, INT'L.

GRAPHS

GRAPH 1

DP 795, LIVERMORE, CA

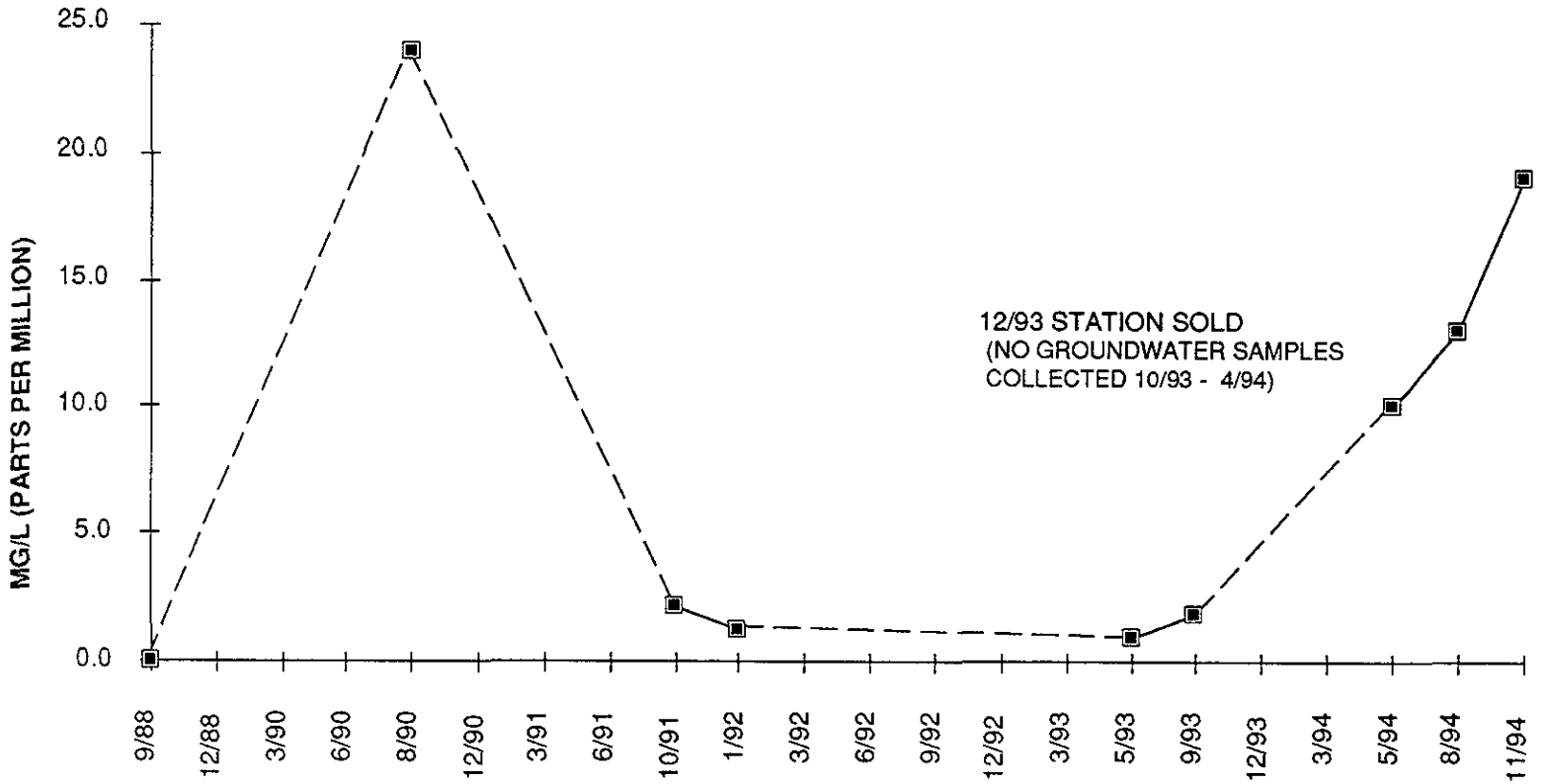
FREE PRODUCT THICKNESS, WELL MW-2



GRAPH 2

DP 795, LIVERMORE, CA

MW-1 TPH CONCENTRATIONS

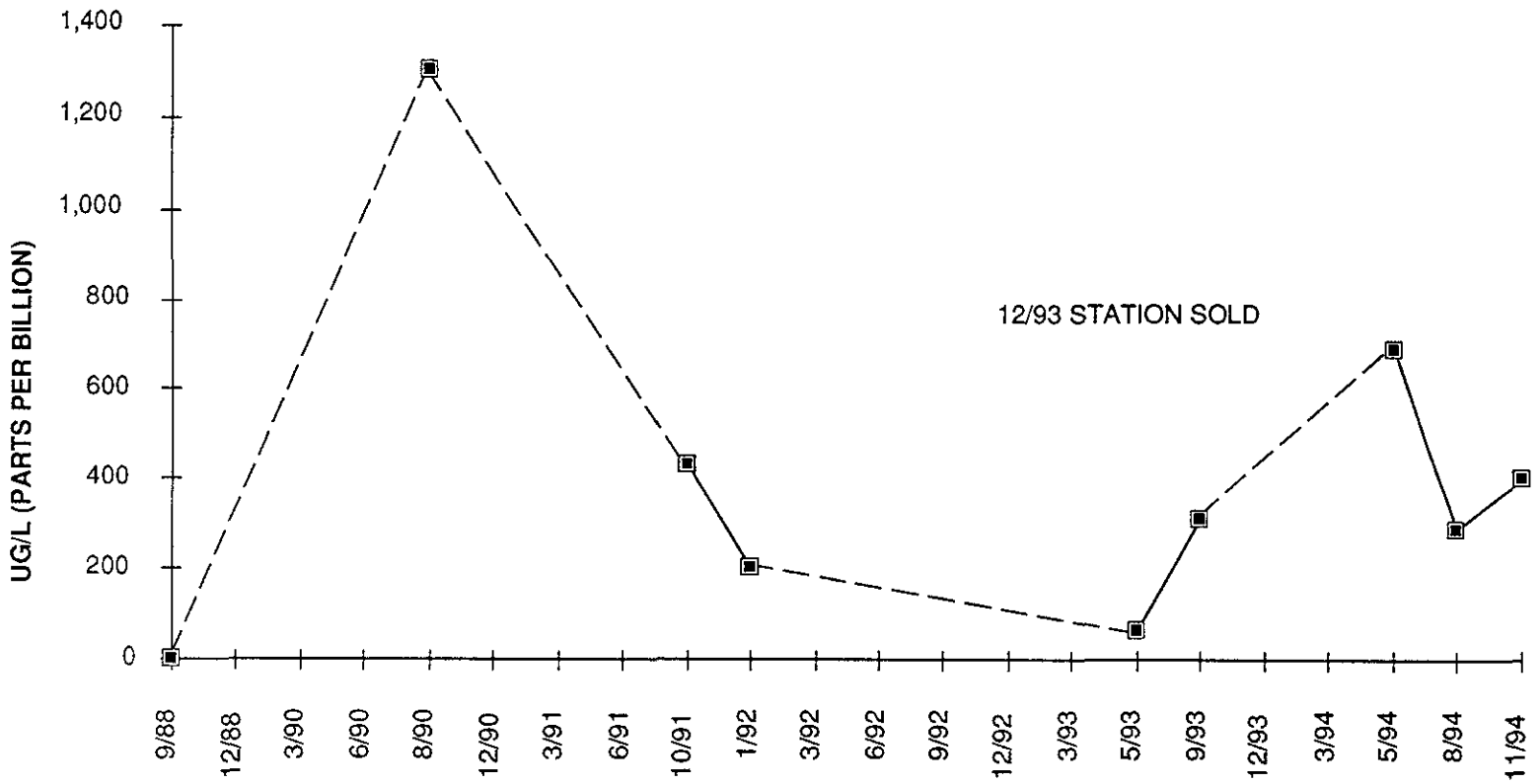


REMEDIATION SERVICE, INT'L.

GRAPH 3

DP 795, LIVERMORE, CA

MW-1 BENZENE CONCENTRATIONS



REMEDIATION SERVICE, INT'L.

APPENDICES

APPENDIX A

PERMITS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120

Permit No.	0494-6SV2523
Dist/Co/Rte/PM	04-Ala-84 27.30
Date	January 17, 1995
Fee Paid	$ 280.00
Deposit	$ --
Performance Bond Amount (1)	$ --
Payment Bond Amount (2)	$ --
Bond Company	
Bond Number (1)	
Bond Number (2)	

In compliance with (*Check one*):

☒ Your application of November 17, 1994

☐ Utility Notice No. _____ of _____

☐ Agreement No. _____ of _____

☐ R/W Contract No. _____ of _____

TO:

Remediation Service, Int'l.
Attention Mr. Michael Orman
2060 Knoll Drive , Suite 200
Ventura, CA 93003

, PERMITTEE

and subject to the following, **PERMISSION IS HEREBY GRANTED** to:

drill two test borings for soil investigation on State Highway 04-Ala-84, Post Mile 27.30, at 2008 First Street in Livermore.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative B. Zarechian/T. Franklin, 2616 North Main Street, Walnut Creek, 94596, 510-926-6120.

Immediately following completion of the work permitted herein, the permittee shall fill out and mail the Notice of Completion attached to this permit.

Certain details of work authorized hereby are shown on sketch submitted with request for permit.

The following attachments are also included as part of this permit (*Check applicable*):

☒ Yes	- - - - -	General Provisions
☐ Yes	☒ No	Utility Maintenance Provisions
☐ Yes	☒ No	Special Provisions
☐ Yes	☒ No	A Cal-OSHA permit required prior to beginning work: # _____

In addition to fee, the permittee will be billed actual costs for:

☐ Yes	☒ No	Review
☐ Yes	☒ No	Inspection
☒ Yes	- - - - -	Field Work

(If any Caltrans effort expended)

☐ Yes ☒ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before June 30, 1995

This permit is to be strictly constructed and no other work other than specifically mentioned is hereby authorized.

No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

JOE BROWNE, District Director

BY: _____

G. J. BATTAGLINI, District Permit Engineer

Remediation Service, Int'l.
0494-6SV2523
January 17, 1995

In addition to the attached General Provisions, Form TR-0045 (Rev. 5/94), the following special provisions are also applicable:

All boring operations shall be conducted off the traveled way and the location of proposed borings shall be reviewed and approved by State representative.

When boring operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "Manual of Traffic Controls for Construction and Maintenance Work Zones".

Attached "T-10" traffic control plan sheet is for shoulder closure detail only.

All personnel shall wear hard hats and orange vests, shirts or jackets as appropriate.

Any painted markings shall be made with water soluble paint.

Copy of data collected shall be sent to District Permit Engineer, Department of Transportation, P. O. Box 23660, Oakland, CA 94623-0660.

Boring holes shall be backfilled as directed by State representative.

CALTRANS

CUSTOMER SERVICE QUESTIONNAIRE

Dear Customer, PERMIT NO. 0494-6SV2523

Our goal is to provide the best service possible to our customers. Please take a few minutes to complete this questionnaire. Your comments will enable us to see how we are doing overall and any areas which may need improvement.

PLEASE TELL US HOW WE'RE DOING

INSIDE THE OFFICE	EXCELLENT	VERY GOOD	GOOD	POOR
Staff courteous and helpful	☐	☐	☐	☐
Staff quick and efficient	☐	☐	☐	☐
Explanations and instructions clear	☐	☐	☐	☐
TELEPHONE ANSWERING				
Timely response	☐	☐	☐	☐
Receiving information or answers	☐	☐	☐	☐
INSPECTION				
Inspector courteous and helpful	☐	☐	☐	☐
Pre-construction meeting set and held in a timely manner	☐	☐	☐	☐
Inspector at job site frequently	☐	☐	☐	☐
Inspector able to answer questions and deal with problems	☐	☐	☐	☐

WHAT WOULD YOU SAY IS OUR OVERALL PERFORMANCE ? _____

IS THERE A STAFF PERSON YOU WOULD LIKE TO COMMEND ? _____ (NAME)

Please provide your comments: _____

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT GENERAL PROVISIONS

TR-0045 (REV. 5/94)

1 **AUTHORITY:** Encroachment permits are issued under the authority given the Department, Div 1, Chpt 1, Art 3 in accordance with Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

2 **REVOCATION:** Encroachment permits are revocable on five days' notice, unless otherwise stated on the permit, and except as provided by law for public corporations, franchise holders, and utilities These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights, or any other agreements for operating purposes in State highway rights of way are an exception to this revocation.

3 **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.

4. **ASSIGNMENT:** No party other than the Permittee or permittees' authorized agent is allowed to work under this permit

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to acceptance of the provisions and all attachments to this permit, for any work to be performed under this permit.

6. **BEGINNING OF WORK:** It is the responsibility of the Permittee to notify the Departments' Representative, two (2) days in advance of the intent to begin work under this permit. Permittee shall notify the Departments' Representative if the work is to be interrupted for a period of five (5) days or more, unless a prearranged continuance of work agreement had been made. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit

7. **STANDARDS OF CONSTRUCTION:** All work performed within highway rights of way shall conform to recognized construction standards and current Department Standard Specifications, High and Low Risk Facility Specifications, and Utility Special Provisions Where reference is made to "Contractor and Engineer", these are amended to be read as "Permittee and Department Representative".

8. **INSPECTION AND APPROVAL:** All work shall be subject to monitoring, and inspection. Upon completion of work permittee shall request a final inspection for acceptance and approval by the Department

9. **PERMIT AT WORKSITE:** The Permit Package or a copy of, shall be kept at the work site and must be shown upon request to any Department Representative or Law Enforcement Officer It is a violation of permit conditions and work shall be suspended if the Permit Package is not kept and available at the work site

10. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing prior authorized work adjacent to or within the limits of the project site When existing encroachments conflict with new work, the Permittee is solely responsible for any and all cost for rearrangements necessary (relocation, alteration or removal of)

11 **PERMITS FROM OTHER AGENCIES:** This permit shall be invalidated if the Permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California

12. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 1 21 meter (4') shall be maintained through the work area, where pedestrian or bicycle facilities are existing. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street

13. **PUBLIC TRAFFIC CONTROL:** Required by law, the Permittee is to provide traffic control protection of warning signs, lights, safety devices and other measures for the safety of the traveling public. Day and Nighttime lane closures shall be in compliance with the Manual of Traffic Controls, Standard Plans and Standard Specifications for traffic control systems It is not intended, as to third parties, to impose on the permittee any duty or standard of care, greater than or different from as required by law.

14. **MINIMUM INTERFERENCE WITH TRAFFIC:** Work shall be planned and conducted so as to create the least possible inconvenience to the traveling public, traffic shall not be unreasonably delayed On conventional highways, Permittee is authorized to place properly attired flagger(s) to stop or warn the traveling public. All flagging procedures shall be in compliance with the Manual of Traffic Controls and Instructions to Flaggers pamphlet.

15. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and Material storage in State rights of way shall be in compliance Standard Specifications, Standard Plans and Special Provisions. Where any Permittee obstacle is placed within twelve (12) feet of a lane carrying public traffic, the Permittee shall install temporary railing (Type K).

16. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's Representative

17. **RESTORATION AND REPAIRS IN RIGHTS OF WAY:** Permittee is responsible for restoration and repair of State Highway rights of way resulting from permitted work, per State Highway Code, Sections 670 et. seq.

18. **RIGHTS OF WAY CLEAN UP:** Upon completion of work Permittee shall remove entirely and dispose of all scraps, brush, timber, materials, etc., off the rights of way. The aesthetics of the highway shall be as it was before work started.

19. **COST OF WORK:** Unless stated in the permit, or separate written agreement, all costs incurred for work within the State rights of way pursuant to this encroachment permit shall be borne entirely by the Permittee Permittee hereby waives all claims for indemnification or contribution from the State for any such work.

20. **ACTUAL COST BILLING:** When Permittee is to be billed actual costs, (as indicated on the face of the permit), such costs will be at the currently set hourly rate for encroachment permits

21. **AS-BUILT PLANS:** When required, Permittee shall submit one (1) set of as-built plans in compliance with Department requirements Plans shall be submitted within thirty (30) days after completion and approval of work

22. **PERMITS FOR RECORD PURPOSES ONLY:** When work in rights of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), an Exempt Permit will be issued to the Permittee for the purpose of providing a notice and record of work All prior rights of the permittee shall be preserved, no new or different rights or obligations are intended to be created. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

23. **BONDING:** Permittee shall file the necessary bond(s) in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in suspension of all work and permit(s) Bonds are not required of public corporations or privately owned utilities, unless said Permittee failed to comply with the provisions and conditions under a prior permit. Your surety company will be responsible for any latent defects until such time as is provided for in California Code of Civil Procedures, Section 337.15.

24. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees that upon request of the Department, whenever State construction, reconstruction or maintenance work on the highway requires a permitted installation to be rearranged, the Permittee at his sole expense, unless under a prior agreement JUA/CCUA, shall comply with said request.

25. **ARCHAEOLOGICAL:** Should any archaeological resources be revealed in the work vicinity, the Permittee is responsible for; notifying the Department's Representative immediately, retainment of a qualified archaeologist who shall evaluate the archaeological site and make recommendations to the Department Representative regarding the continuance of work

26. **PREVAILING WAGES:** Work performed by or under a permit may require Permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements should be directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102

27. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity , or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit

The permittee shall indemnify and save harmless the State of California, all officers, employees, and state contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute. The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and state contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and state contractors, from any and all claims, suits or actions as set forth above regardless of the existence of degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

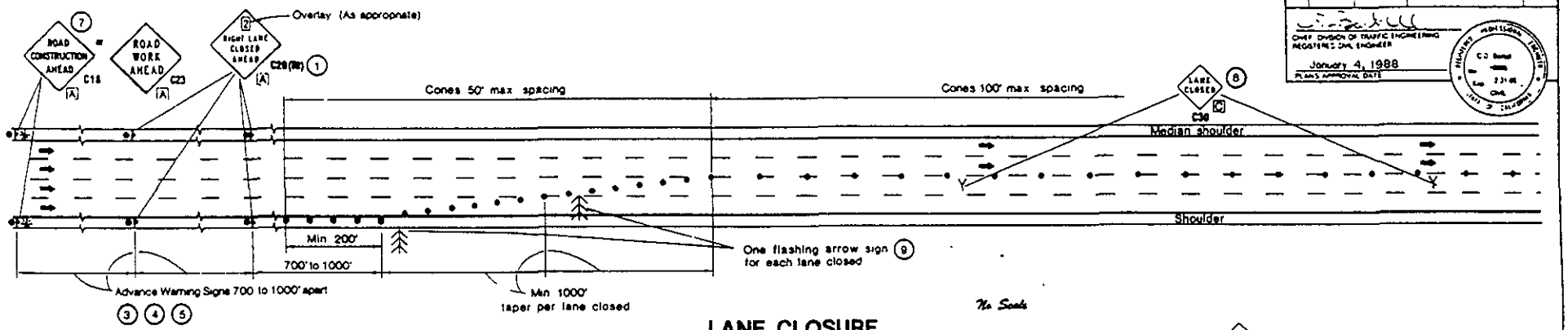
For purposes of this section, "state contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

28. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent

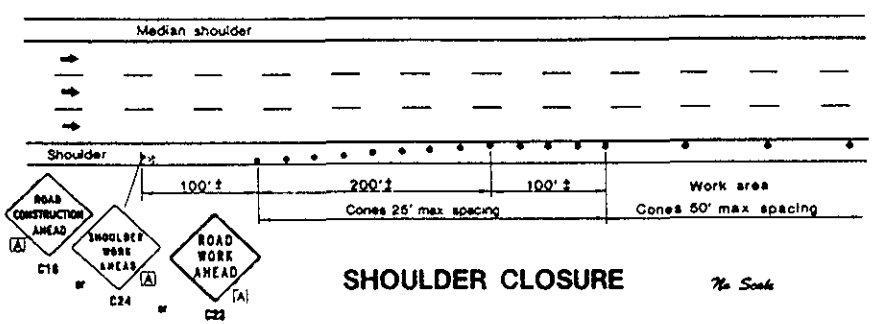
29. **FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION : A.** The permittee, for himself, his personal representatives, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that: 1) no person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, 2) that in connection with the construction of any improvements on said lands and the furnishing of services thereon, no discrimination shall be practiced in the selection of employees and contractors, by contractors in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors, 3.) that such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for public accommodations (such as eating, sleeping, rest, recreation), and operated on, over, or under the space of the right of way, 4.) that the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A. Office of the Secretary of Commerce, part 8 (15 C.F.R. Part 8) and as said Regulations may be amended **B.** That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the facilities thereon, and hold the same as if said permit had never been made or issued.

30. **MAINTENANCE OF HIGHWAYS :** The permittee agrees, by acceptance of a permit, to properly maintain any encroachment This will require inspection and repair of any damage to State facilities resulting from the encroachment

FREEWAY TCS

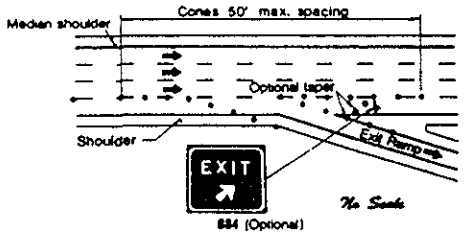


LANE CLOSURE

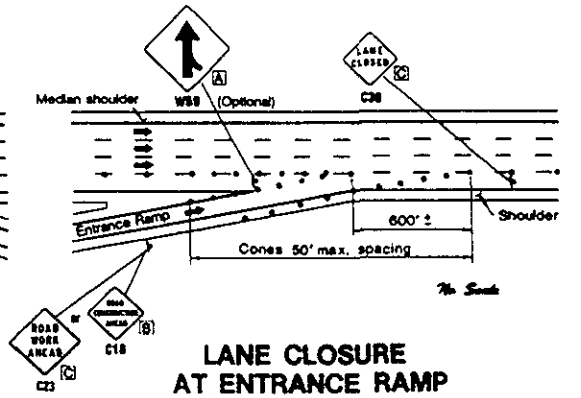


SHOULDER CLOSURE

No Scale



LANE CLOSURE AT EXIT RAMP



LANE CLOSURE AT ENTRANCE RAMP

NOTES:

1. Median lane closures shall conform to the details for outside lane closures except that C20 (LI) signs shall be used.
2. Not less than one person shall be assigned to full time maintenance of traffic control devices on all night lane closures, or daytime closures exceeding one mile in length, including taper.
3. Duplicate sign installations on opposite shoulders are not required for daytime operations if at least one-half of the available lanes remain open to traffic.
4. All warning signs for night lane closures shall be illuminated or reflectorized as specified in the specifications.
5. All advance warning sign installations shall be equipped with flags for daytime closures. Flashing beacons shall be placed at the locations indicated during night lane closures.
6. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project limits.
7. If the C18 (or C23) sign would follow within 2,000 feet of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C20 sign for the first advance warning sign.
8. Place a C30 sign on flag tree every 2,000 feet throughout length of lane closure.
9. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
10. A minimum 1,500 feet of sight distance shall be provided, where possible, for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
11. All cones used for night lane closures shall be illuminated traffic cones or fitted with 13" reflective sleeves as specified in the specifications.
12. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.

SIGN PANEL SIZE (Min.)

[A]	48" x 48"
[B]	36" x 36"
[C]	30" x 30"

LEGEND

- Traffic Cone
- Portable Sign
- Flag Tree
- Flashing Arrow Sign
- Portable Flashing Beacon
- Direction of Travel

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

MISCELLANEOUS DETAILS

T-10

T-10

CITY OF LIVERMORE
Public Works Department

STREET ENCROACHMENT PERMIT APPLICATION

PERMIT TO DO WORK IN ACCORDANCE WITH CHAPTER 12.08 OF THE LIVERMORE MUNICIPAL CODE AND SPECIFICATIONS AS ADOPTED BY THE CITY OF LIVERMORE AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Applicant/Permittee:

Name: R.S.I

Address: 2060 KNOLL DR. STE 200
VENTURA, CA 93003

Phone: 805-644-5892

Permit No.: 5147

Receipt No.: 007162

Fee: $ 60.00 + $60.00 = $120.00

Bond: $ 500.00

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR INSPECTION PHONE 373-5240 AT LEAST 24 HOURS BEFORE YOU START WORK.

JOB LOCATION N WEST SIDE OF SOUTH L ST. /INT W/ FIRST STREET

DESCRIPTION OF WORK: (9) 8 INCH DIA. SOIL BORINGS IN SOUTH "L" ST FOR SOIL SAMPLING PER ALAMEDA HEALTH CARE AGENCY DIRECTIVE.

ENCLOSURES 1) HEALTH DEPT. CORRESPONDENCE
2) LOCATION MAP
3) CALTRANS PERMIT FOR WORK ON FIRST

Length of Excavation _____ l.f. Width 8 DIA l.f. Depth 45 ft.

ATTENTION IS DIRECTED TO THE GENERAL PROVISIONS PRINTED ON THE REVERSE SIDE OF THIS PERMIT AND TO THE FOLLOWING SPECIAL REQUIREMENTS (to be filled in by Engineering Division):

1. CAL TRANS PERMIT REQUIRED FOR ALL WORK AND LANE CLOSURES ON FIRST STREET (HWY 84).
2. PROVIDE ADEQUATE TRAFFIC CONTROL.
3. ALL BORINGS ON SO. L STREET TO BE WITHIN 12" OF LIP OF GUTTER.
4. NOTE CONDITION #5 (REVERSE).
5. APPLICANT SHALL POST $500.00 BOND FOR FINAL STREET REPAIR. BOND TO BE RELEASED UPON COMPLETION OF FINAL STREET REPAIR EITHER BY APPLICANT OR BY OTHER PERMIT HOLDERS.

Prosecution of Work: All work authorized by the permit shall be performed in a workmanlike, diligent, and expeditious manner, and must be completed to the satisfaction of the Director of Public Works.

Liability and Damages: The permittee shall be responsible for all liability imposed by law for personal injury or property damage which may arise out of the work permitted and done by permittee under this permit, or which may arise out of the failure on the part of the permittee to perform his obligations under said permit in respect to maintenance and encroachment. The permittee shall protect and indemnify the City of Livermore, its officers and employees, and save them harmless in every way from all action at law for damage or injury to persons or property that may arise out of or be occasioned in any way because of his operations as provided in this permit.

Signature of Permittee

By: R. PICAT

Date: 1/28/95

City Engineer

By: M. Dittmann

Date of Issue: 2/27/95

Work Completed: _____

Inspector: _____

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
2008 First Street
Livermore, CA

CLIENT
Name Desert Petroleum, Inc.
Address P.O. Box 1601 Voice
City Oxnard Zip 93032

APPLICANT
Name RSI
Fax 805-654-0720
Address 2060 Knoll Dr #200 Voice 644-5892
City Ventura Ca Zip 93003

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	X
Water Supply	___	Contamination	___
Monitoring	___	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger HSA
Cable ___ Other ___

DRILLER'S LICENSE NO. ___

WELL PROJECTS

Drill Hole Diameter	___	in.	Maximum		
Casing Diameter	___	in.	Depth	___	ft.
Surface Seal Depth	___	ft.	Number	___	

GEOTECHNICAL PROJECTS

Number of Borings	6		Maximum		
Hole Diameter	8	in.	Depth	45	ft.

ESTIMATED STARTING DATE 12/9/94
ESTIMATED COMPLETION DATE 12/9/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 11/18/94

FOR OFFICE USE

PERMIT NUMBER 94761
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved [signature] Date 2 Dec 94
Wyman Hong

91992

APPENDIX B

SOIL BORING LOG

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	BOREHOLE COMPL	LITHOLOGY	USCS	DESCRIPTION
0							6" asphalt surface
5			0			GC	GRAVEL WITH SAND, some clay, dense, dry, grey brown, no product odor.
10			0			GC	GRAVEL WITH SAND, some clay, dense, dry, med. brown no product odor.
15			0			SP	MED. TO COARSE GRAINED SAND, with some gravel, dense, dry, med. brown, strong organic odor.
20	X	50/50	0			CL	CLAY WITH COARSE SAND, some gravel, v. stiff, dry, grey, slt. odor.
25	X	26/50 - 5"				CL	CLAY WITH COARSE SAND, some gravel, v. stiff, low plasticity, slt. moist, brown, no odor
30	X	3/4/07					Free Product in Sand & Clay, strong product odor CLAY WITH COARSE SAND, some gravel, soft, wet
35							

Control Density Fill
Neat Cement

Drilled By:	West Hazmat, #C57-554979
Logged By:	R. Pilat
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	8"
Total Depth:	30'
Sampling Method:	Split Spoon Sampler
Borehole location:	South "L" Street,135' W & 122' N of SW Corner of Property

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: H-1

DATE: 3/8/95

PAGE 1 OF 1

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

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	USCS	DESCRIPTION
0					6" asphalt surface
				GC	GRAVEL WITH SAND, some clay, dense, dry, grey brown, no product odor.
5				SM	SILTY SAND, with some gravel, dense, dry, grey brown, no product odor.
10		50/3"	0	GC	GRAVEL WITH SAND, some clay, v. dense, dry, med. brown no product odor.
15			0	SP	MED. TO COARSE GRAINED SAND, with some gravel, dense, dry, med. brown, strong organic odor.
20	X	26/50-3"	0	CL	CLAY WITH COARSE SAND, some gravel, v. stiff, dry, med. brown, no odor.
25	X	30/35/60		CL	CLAY WITH COARSE SAND, some gravel, v. stiff, low plasticity, slt. moist, grey, slt. odor
30	X	2/4/09			Free Product in Sand & Clay, strong product odor
35					

Control Density Fill
Neat Cement

Drilled By:	West Hazmat, #C57-554979
Logged By:	R. Pilat
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	8"
Total Depth:	30'
Sampling Method:	Split Spoon Sampler
Borehole location:	South "L" Street,117' W & 76' N of SW Corner of Property

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: H-2

DATE: 3/8/95

PAGE 1 OF 1

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

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	BOREHOLE COMPL	LITHOLOGY	USCS	DESCRIPTION
0							6" asphalt surface
						GC	SANDY GRAVEL, with clasts to 3", loose, slt. moist, lt. brown, no product odor.
5			0			CL	SANDY CLAY, with some gravel, med. plasticity, soft, slt. moist, d. brown, no odor.
10			0			GP	GRAVEL, with some sand and clasts to 2", dense, dry, d. brown, no odor.
15		6/12/15	0			CL	SANDY CLAY, with trace gravel, med. platicity, med. stiff, slt. moist, d. brown, no odor.
20	X	6/12/16	0			CH	SILTY CLAY, with trace sand, high plasticity, med. stiff, slt. moist, brown, no odor.
25	X	12/12/20	0			CL	SANDY CLAY, with some gravel, low plasticity, med. stiff, slt. moist, brown, no odor.
30	X	5/6/11					SANDY CLAY, with some gravel, low plasticity, soft- med. stiff, slt. moist, brown, product odor.
35							Control Density Fill Neat Cement

Drilled By:	West Hazmat, #C57-554979
Logged By:	R. Pilat
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	8"
Total Depth:	30'
Sampling Method:	Split Spoon Sampler
Borehole location:	South "L" Street,95' W & 27' N of SW Corner of Property

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: H-3

DATE: 3/8/95

PAGE 1 OF 1

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

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	BOREHOLE COMPL	LITHOLOGY	USCS	DESCRIPTION
0							6" asphalt surface
						GC	CLAYEY GRAVEL, with clasts to 1", loose, slt. moist, d. brown, no product odor.
5			0			CL	CLAY, with some sand & gravel, low plasticity, med. stiff, slt. moist, d. brown, no product odor.
10			0			GC	SANDY GRAVEL, with clasts to 1", med. dense, dry, lt. brown, no product odor.
15		6/8/10	0				
20		6/8/10	0			CL	CLAY, with some sand & gravel, low plasticity, soft-med. stiff, slt. moist, d. brown, no product odor.
25			0			CL	CLAY, with some sand & trace gravel, moderate plasticity, med. stiff, moist, d. brown, no product odor.
30			0			SM	SILTY SAND, med. dense, wet, lt. brown, no product odor.
35		9/15/26				CL	CLAY, with some sand & trace gravel, moderate plasticity, med. stiff, saturated, d. brown, no product odor.

Drilled By:	West Hazmat, #C57-554979
Logged By:	R. Pilat
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	8"
Total Depth:	35'
Sampling Method:	Split Spoon Sampler
Borehole location:	First Street, 54' E & 56' S of SW Corner of Property

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: H-4

DATE: 3/8/95

PAGE 1 OF 1

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

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	USCS	DESCRIPTION
0					6" asphalt surface
				GC	CLAYEY GRAVEL, with clasts to 1", loose, slt. moist, d. brown, no product odor.
5			0	CL	CLAY, with some sand & gravel, low plasticity, soft, slt. moist, d. brown, no product odor.
10			0	GC	SANDY GRAVEL, with clasts to 1", med. dense, dry, lt. brown, no product odor.
15		6/8/10	0		
20	X	6/8/09	0	CL	CLAY, with some sand & gravel, low plasticity, soft-med. stiff slt. moist, d. brown, no product odor.
25	X		0	CL	CLAY, with some sand & trace gravel, moderate plasticity, med. stiff, moist, d. brown, no product odor.
30	X		0	SM	SILTY SAND, med. dense, wet, lt. brown, no product odor.
35				CL	CLAY, with some sand & trace gravel, moderate plasticity, med. stiff, saturated, d. brown, no product odor.

BOREHOLE COMPL

LITHOLOGY

Drilled By:	West Hazmat, #C57-554979
Logged By:	R. Pilat
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	8"
Total Depth:	35'
Sampling Method:	Split Spoon Sampler
Borehole location:	First Street,130' E & 25' S of SW Corner of Property

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: H-5

DATE: 3/8/95

PAGE 1 OF 1

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

APPENDIX C

FREE PRODUCT REMOVAL LOGS

FREE PRODUCT REMOVAL LOG

DATE: 10/22/94

PROJECT: 2008 FIRST STREET, LIVERMORE, CA TIME: 2:30 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Clear, sunny, warm

FIELD OBSERVATIONS: Wells in good condition.

TOTAL DEPTH OF WELL:	57.40 feet	CASING DIAMETER:	4 inches
DEPTH TO FREE PRODUCT:	43.37	FREE PRODUCT THICKNESS:	0.01 feet
DEPTH TO WATER:	43.38 feet	PURGING METHOD:	Bail
DEPTHS MEASURED FROM:	Top of well casing, north side.		

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [X] SHEEN
- [X] THIN
- [ ] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 25.0 gallons

DEPTH TO WATER, OTHER WELLS:

MW-1 42.98'
MW-3 41.98'
MW-4 43.10'

FREE PRODUCT REMOVED BY: D. Wilson

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

FREE PRODUCT REMOVAL LOG

DATE: 11/22/94

PROJECT: 2008 FIRST STREET, LIVERMORE, CA

TIME: 8:50 AM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Sunny, cool

FIELD OBSERVATIONS: Well in good condition.

TOTAL DEPTH OF WELL:	57.40	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	40.92		FREE PRODUCT THICKNESS:	0.04	feet
DEPTH TO WATER:	40.96	feet	PURGING METHOD:	Bail	
DEPTHS MEASURED FROM:	Top of well casing, north side.				

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [ ] AMBER
- [ ] BROWN
- [X] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [X] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 17.0 gallons

Approx. % Free Product 0.3

Approx. % Water 99.7

Estimated Total Free Product Removed 0.05 gallons

FREE PRODUCT REMOVED BY: J. Jensen

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

FREE PRODUCT REMOVAL LOG

DATE: 12/12/94

PROJECT: 2008 First St., Livermore, CA

TIME: 5:30 PM

WELL NUMBER: **MW-2**

WEATHER CONDITIONS: Cool, cloudy

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57.00 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: 39.58

FREE PRODUCT THICKNESS: 0.04 feet

DEPTH TO WATER: 39.62 feet

PURGING METHOD: Vacuum

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

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [ ] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: W. Lubcke

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 12/22/94

PROJECT: 2008 First St., Livermore, CA

TIME: 3:30 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Sunny, cool

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	57.00	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	38.95		FREE PRODUCT THICKNESS:	0.07	feet
DEPTH TO WATER:	39.02	feet	PURGING METHOD:	Bail	

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

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [ ] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 5 gallons

FREE PRODUCT REMOVED BY: W. Lubcke

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 1/5/95

PROJECT: 2008 First St., Livermore, CA

TIME: 3:00 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Cloudy, cool, rain

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	NM	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	38.09		FREE PRODUCT THICKNESS:	0.04	feet
DEPTH TO WATER:	38.13	feet	PURGING METHOD:	Vacuum	
DEPTHS MEASURED FROM:	Top of well casing, north side.				

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [ ] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: P. Schulz, AES

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 1/20/95

PROJECT: 2008 First St., Livermore, CA

TIME: 3:00 PM

WELL NUMBER: **MW-2**

WEATHER CONDITIONS: Cloudy, cool, rain

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	NM	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	32.92		FREE PRODUCT THICKNESS:	0.01	feet
DEPTH TO WATER:	32.93	feet	PURGING METHOD:	Vacuum	
DEPTHS MEASURED FROM:	Top of well casing, north side.				

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [ ] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [ ] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [X] SHEEN
- [ ] THIN
- [ ] THICK

ODOR:

- [ ] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: W. Lubcke, AES

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 2/2/95

PROJECT: 2008 First St., Livermore, CA

TIME: 2:00 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Clear, warm

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	57.00	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	31.02		FREE PRODUCT THICKNESS:	0.00	feet
DEPTH TO WATER:	31.02	feet	PURGING METHOD:	Vacuum	
DEPTHS MEASURED FROM:	Top of well casing, north side.				

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [ ] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [ ] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [x] SHEEN
- [ ] THIN
- [ ] THICK

ODOR:

- [ ] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: P. Schulz, AES

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 2/15/95

PROJECT: 2008 First St., Livermore, CA

TIME: 4:00 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Clear, warm

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: NM feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: 32.26

FREE PRODUCT THICKNESS: 0.00 *feet*

DEPTH TO WATER: 32.26 feet

PURGING METHOD: Vacuum

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

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [ ] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [ ] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [x] SHEEN
- [X] THIN
- [ ] THICK

ODOR:

- [ ] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 10 gallons

FREE PRODUCT REMOVED BY: P. Schulz, AES

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 3/6/95

PROJECT: 2008 First St., Livermore, CA

TIME: 1:45 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Sunny, 70° F

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	NM	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	29.7		FREE PRODUCT THICKNESS:	0.67	feet
DEPTH TO WATER:	30.37	feet	PURGING METHOD:	Vacuum	
DEPTHS MEASURED FROM:	Top of well casing, north side.				

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [X] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: P. Schulz, AES

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 3/13/95

PROJECT: 2008 First St., Livermore, CA

TIME: 2:00 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Rainy, overcast

FIELD OBSERVATIONS: Water present in well box.

TOTAL DEPTH OF WELL: 57.00 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: 28.29

FREE PRODUCT THICKNESS: 0.42 feet

DEPTH TO WATER: 28.71 feet

PURGING METHOD: Vacuum

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

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [ ] CLEAR
- [X] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [ ] SHEEN
- [ ] THIN
- [X] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 20 gallons

DEPTH TO WATER, OTHER WELLS:

MW-1 28.06'

MW-3 27.94'

MW-4 28.00'

FREE PRODUCT REMOVED BY: R. Pilat

NM = No measurements taken.

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

FREE PRODUCT REMOVAL LOG

DATE: 3/21/95

PROJECT: 2008 First St., Livermore, CA

TIME: 1:15 PM

WELL NUMBER: MW-2

WEATHER CONDITIONS: Cloudy, Rainy

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL:	57.00	feet	CASING DIAMETER:	4	inches
DEPTH TO FREE PRODUCT:	27.11		FREE PRODUCT THICKNESS:	0.00	feet
DEPTH TO WATER:	27.11	feet	PURGING METHOD:	Vacuum	

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

WELL PURGING DATA

ESTIMATED CONSTITUENT:

- [X] FRESH GASOLINE
- [ ] FRESH DIESEL
- [ ] FRESH OIL
- [ ] DEGRADED GASOLINE
- [ ] DEGRADED DIESEL
- [ ] DEGRADED OIL

APPEARANCE:

- [X] CLEAR
- [ ] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK

- [X] SHEEN
- [X] THIN
- [ ] THICK

ODOR:

- [X] GASOLINE ODOR
- [ ] DIESEL ODOR
- [ ] CHLORINATED SOLVENT ODOR
- [ ] OTHER:

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 10 gallons

FREE PRODUCT REMOVED BY: P. Schulz, AES

NM = No measurements taken.

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

APPENDIX D

LABORATORY REPORT
AND
CHAIN OF CUSTODY
FOR
HYDROPUNCH SAMPLES

ONSITE
ENVIRONMENTAL
LABORATORIES, INC.

Analytical Laboratory Report
EPA Methods 8015 Modified / 8020

Date Sampled: 8-Mar-95
Date Received: 10-Mar-95
Date Analyzed: 20-Mar-95
Date Reported: 20-Mar-95
Report Number: 1B060.RPT
Lab Number: 1B060

Proj Mg Rick Pilat
Client: RSI
Project: Deser Pet., DP 795
Project# -
Matrix: Soil
Unit: ug/kg
COC #: -

Lab ID No.	Field ID No.	Benzene	Toluene	Ethyl-benzene	Xylene total	TPH-Gasoline	Surrogate %	DLX
01	H-1 (20)	0.019	0.043	0.014	0.061	ND	89	1
02	H-1 (30)	4.8	16	7.4	34	380	132	50
03	H-2 (20)	ND	ND	ND	ND	ND	79	1
04	H-2 (25)	0.024	0.008	0.013	0.040	ND	90	1
05	H-2 (30)	35	180	120	540	6100	98	1000
06	H-1 (25)	ND	ND	ND	ND	ND	80	1
07	H-3 (20)	ND	ND	ND	ND	ND	84	1
08	H-3 (25)	ND	ND	ND	ND	ND	82	1
09	H-3 (30)	9.1	45	20	98	980	108	200
10	H-4 (20)	ND	ND	ND	ND	ND	85	1
11	H-4 (25)	ND	ND	ND	ND	ND	82	1
12	H-4 (30)	ND	ND	ND	ND	ND	81	1
14	H-5 (20)	ND	ND	ND	ND	ND	71	1
15	H-5 (25)	ND	ND	ND	ND	ND	74	1
16	H-5 (30)	ND	ND	ND	ND	ND	68	1
Detection Limits (PQL)		0.005	0.005	0.005	0.005	1		

NOTES:
NR - Not requested
COC - Chain of custody
ND - Analytes not detected at, or above the stated detection limit.
TPHg - Total petroleum hydrocarbons as gasoline.
ug/kg - Micrograms per kilogrmas (PPM).
DLX - Dilution factor.
PQL - Practical Quantitation Limit
NC - Not calculated

PROCEDURES:
BTEX - This analysis was performed using EPA Method 8020, and EPA Method 5030 .
TPHg - This analysis was performed using EPA Method 8015 Mod. and EPA method 5030.

CERTIFICATION:
California Department of Health Services ELAP Certificate #2010
Onsite Environmental Laboratories, 5500 Boscell Common, Fremont, CA 94538 (510) 490-8571

James Porter
Laboratory Director

3/24/95
Date

ONSITE
ENVIRONMENTAL
LABORATORIES, INC.

Analytical Laboratory Report
EPA Methods 8015 Modified / 8020

Date Sampled: 8-Mar-95
Date Received: 10-Mar-95
Date Analyzed: 20-Mar-95
Date Reported: 20-Mar-95
Report Number: 1B060A.RPT
Lab Number: 1B060A

Proj Mg Rick Pilat
Client: RSI
Project: Deser Pet., DP 795
Project# -
Matrix: Water
Unit: ug/l
COC #: -

Lab ID No.	Field ID No.	Benzene	Toluene	Ethyl-benzene	Xylene total	TPH-Gasoline	Surrogate %
01	H-4	57	33	9.4	42	1500	NC
02	H-5	22	24	8	42	620	NC
Detection Limits (PQL)		0.5	0.5	0.5	0.5	50	

NOTES:
NR - Not requested
COC - Chain of custody
ND - Analytes not detected at, or above the stated detection limit.
TPHg - Total petroleum hydrocarbons as gasoline.
ug/l - Micrograms per liter (PPB)
PQL - Practical Quantitation Limit
NC - Not calculated

PROCEDURES:
BTEX - This analysis was performed using EPA Method 8020, and EPA Method 5030
TPHg - This analysis was performed using EPA Method 8015 Mod and EPA method 5030.

CERTIFICATION:
California Department of Health Services ELAP Certificate #2010
Onsite Environmental Laboratories, 5500 Boscell Common, Fremont, CA 94538 (510) 490-8571

James Parker
Laboratory Director

3/24/95
Date