FINAL REPORT
LNAPL ASSESSMENT AND GROUNDWATER CHARACTERIZATION EVALUATION
(VOLUME II - Appendices)
Part 3

Mill Springs Park Apartments
1809 Railroad Avenue
Livermore, California

Submitted to:

WINGFIELD VENTURE FUND
125 North Park Avenue
Hinsdale, Illinois 60521

Prepared by:

EARTH TECH
2030 Addison Street, Suite 500
Berkeley, CA 94704

October 9, 1995
Project Nº. 687157.08

FINAL REPORT
LNAPL ASSESSMENT AND
GROUNDWATER CHARACTERIZATION EVALUATION
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Mill Springs Park Apartments
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ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

September 21, 1995

Mr. Balaji Angile
B&C Minimart
2008 First Street
Livermore, CA 94550

Subject: Acknowledgement of Underground Storage Tank Unauthorized Release (ULR) and receipt of Forms A&B for temporary closure of Plus tank

Dear Mr. Angile:

This Department is in receipt of the ULR and forms A&B related to the August 25, 1995 discovery of a release of gasoline from a breach in the fiberglass Plus tank. Enclosed please find your copies of the forms submitted.

Within 60 days of this letter please provide this Department with a closure plan for the failed tank. The tank is currently empty and inert. However, the release of a hazardous substance into the environment will require corrective action on your part to investigate the extent of possible contamination. Please contact eva chu in this office for further guidance on the investigative phase of that work.

If you have any questions on this matter please contact me or eva chu at the letterhead telephone number.

Sincerely,

Robert Weston
Sr. Hazardous Materials Specialist

enclosures

c: Bill Raynolds, East Area Manager, ACDEH
eva chu, Hazardous Materials Specialist, LOP

HAND-DELIVERED

ENVIRONMENTAL PROTECTION
95 SEP 21 PM 2:00

B+C Gas MINI-MART.
2008 FIRST STREET,
LIVERMORE CA-94550
9/20/95

ROBERT WESTON, Esq.
ALAMEDA COUNTY HMD.
ALAMEDA — CA.

DEAR ROBERT,

PER OUR DISCUSSIONS I ENCLOSE (I) FORMAL U.S.T. URL (II) ~~Form~~ A, and (III) FORM B, PERTAINING TO THE PLUS UNL. TANK WHICH HAS BEEN TAKEN OUT OF USE TEMPORARILY FOR REASONS EARLIER REPORTED.

I DO NOT KNOW WHETHER FORM A IS ALSO REQUIRED AT THIS STAGE. IF NOT PL. DISCARD.

I HAVE COMPLETED THE FORMS TO THE BEST OF MY ABILITY. PL. EXCUSE FOR ANY ERRORS.

I AM WORKING VERY HARD TO GET ADEQUATE LOAN TO REPLACE ALL THE TANKS. I DO NOT KNOW THE ULTIMATE OUTCOME. IT IS HARD BECAUSE AMOUNT INVOLVED IS TOO BIG. I HOPE GOD COMES TO MY RESQUE. IF NOT I MAY REPLACE ONLY ONE TA

I TRULY APPRECIATE YOUR HELP AND GUIDANCE.

BEST REGARDS.

Encl: as above.

Sincerely,

(D. ANGLE)

#1659

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☒ 6 TEMPORARY SITE CLOSURE ☐ 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME: B & C GAS MINI-MART	NAME OF OPERATOR: BALAJI ANGLE		
ADDRESS: 2108 FIRST STREET	NEAREST CROSS STREET: L STREET	PARCEL # (OPTIONAL): 97-1-24-1	
CITY NAME: LIVERMORE	STATE: CA	ZIP CODE: 94550	SITE PHONE # WITH AREA CODE: 510-449-2194

✓ BOX TO INDICATE: ☐ CORPORATION ☑ INDIVIDUAL ☐ PARTNERSHIP ☐ LOCAL-AGENCY ☐ COUNTY-AGENCY * ☐ STATE-AGENCY * ☐ FEDERAL-AGENCY *

* If owner of UST is a public agency, complete the following: name of Supervisor of division, section, or office which operates the UST _____

TYPE OF BUSINESS	☐ IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE	E. P. A. I. D. # (optional)
☒ 1 GAS STATION ☐ 2 DISTRIBUTOR ☐ 3 FARM ☐ 4 PROCESSOR ☐ 5 OTHER	☐	3	

EMERGENCY CONTACT PERSON (PRIMARY)		EMERGENCY CONTACT PERSON (SECONDARY) - optional	
DAYS: NAME (LAST, FIRST): ANGLE BALAJI	PHONE # WITH AREA CODE: 510-792-3151	DAYS: NAME (LAST, FIRST): SINGH REWAL	PHONE # WITH AREA CODE: 510-449-3430
NIGHTS: NAME (LAST, FIRST): ANGLE BALAJI	PHONE # WITH AREA CODE: 510-792-3151	NIGHTS: NAME (LAST, FIRST): SINGH REWAL	PHONE # WITH AREA CODE: 510-449-3430

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME: BALAJI ANGLE	CARE OF ADDRESS INFORMATION: SAME		
MAILING OR STREET ADDRESS: 25554 CONOVAN LANE	✓ box to indicate: ☒ INDIVIDUAL ☐ CORPORATION ☐ PARTNERSHIP ☐ LOCAL-AGENCY ☐ COUNTY-AGENCY ☐ STATE-AGENCY ☐ FEDERAL-AGENCY		
CITY NAME: FREMONT CA- 94536	STATE: CA	ZIP CODE: 94536	PHONE # WITH AREA CODE: 510-792-3151

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER: BALAJI ANGLE	CARE OF ADDRESS INFORMATION		
MAILING OR STREET ADDRESS: 25554 CONOVAN LANE	✓ box to indicate: ☑ INDIVIDUAL ☐ CORPORATION ☐ PARTNERSHIP ☐ LOCAL-AGENCY ☐ COUNTY-AGENCY ☐ STATE-AGENCY ☐ FEDERAL-AGENCY		
CITY NAME: FREMONT	STATE: CA	ZIP CODE: 94536	PHONE # WITH AREA CODE: 510-792-3151

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ 44-044728

i.e. 44 035728

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✓ box to indicate: ☐ 1 SELF-INSURED ☐ 2 GUARANTEE ☐ 3 INSURANCE ☐ 4 SURETY BOND ☐ 5 LETTER OF CREDIT ☐ 6 EXEMPTION ☐ 99 OTHER STATE CLEANUP FUND

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. ☐ II. ☐ III. ☐

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

OWNER'S NAME (PRINTED & SIGNED)	OWNER'S TITLE	DATE MONTH/DAY/YEAR
BALAJI ANGLE	OWNER	09/20/95

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #	
01	000	041230	9-21-95

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

FORM A (3/93)

FOR0031A-R7

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☑ 5 CHANGE OF INFORMATION ☑ 6 TEMPORARY TANK CLOSURE ☐ 7 PERMANENTLY CLOSED ON SITE ☐ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: B+C GAS MINIMART, 2008 F-ST. LIVERMORE CA 94551

I. TANK DESCRIPTION

COMPLETE ALL ITEMS – SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # PLUS UNLEADED

B. MANUFACTURED BY: OWENS CORNING

C. DATE INSTALLED (MO/DAY/YEAR) NOT KNOWN

D. TANK CAPACITY IN GALLONS: 10,000

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

PLUS

A. ☑ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☐ 4 OIL ☐ 80 EMPTY ☐ 95 UNKNOWN

B. ☐ 1 PRODUCT ☐ 2 WASTE

C. ☑ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 2 LEADED ☐ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED

C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: ☐ 1 DOUBLE WALL ☑ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SECONDARY CONTAINMENT (VAULTED TANK) ☐ 95 UNKNOWN ☐ 99 OTHER FIBERGLASS

B. TANK MATERIAL (Primary Tank): ☐ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☑ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☐ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING: ☐ 1 RUBBER LINED ☑ 5 GLASS LINING ☐ 2 ALKYD LINING ☐ 6 UNLINED ☐ 3 EPOXY LINING ☐ 95 UNKNOWN ☐ 4 PHENOLIC LINING ☐ 99 OTHER

IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☑ 5 CATHODIC PROTECTION ☐ 2 COATING ☐ 91 NONE ☐ 3 VINYL WRAP ☐ 95 UNKNOWN ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 99 OTHER

E. SPILL AND OVERFILL — SPILL CONTAINMENT INSTALLED (YEAR) ___ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) 1993 Dec.

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A U 1 SUCTION (A) U 2 PRESSURE. A U 3 GRAVITY A U 99 OTHER

B. CONSTRUCTION: (A) U 1 SINGLE WALL A U 2 DOUBLE WALL A U 3 LINED TRENCH A U 95 UNKNOWN A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A U 1 BARE STEEL A U 2 STAINLESS STEEL A U 3 POLYVINYL CHLORIDE (PVC) A U 4 FIBERGLASS PIPE; A (U) 5 ALUMINUM A U 6 CONCRETE A U 7 STEEL W/ COATING A U 8 100% METHANOL COMPATIBLE W/FRP; A (U) 9 GALVANIZED STEEL A U 10 CATHODIC PROTECTION A U 95 UNKNOWN A U 99 OTHER

D. LEAK DETECTION: ☒ 1 AUTOMATIC LINE LEAK DETECTOR ☐ 2 LINE TIGHTNESS TESTING ☐ 3 INTERSTITIAL MONITORING ☐ 99 OTHER

V. TANK LEAK DETECTION

IF NOT IN PLACE [illegible]

☐ 1 VISUAL CHECK ☒ 2 INVENTORY RECONCILIATION ☐ 3 VADOZE MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING ☒ 6 TANK TESTING ☐ 7 INTERSTITIAL MONITORING ☐ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION

1. ESTIMATED DATE LAST USED (MO/DAY/YR): 08/23/95

2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING: Nil GALLONS

3. WAS TANK FILLED WITH INERT MATERIAL? YES ☐ NO ☒

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

APPLICANT'S NAME (PRINTED & SIGNATURE): BALAJI ANGLE

DATE: 09/27/95

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.#	COUNTY #	JURISDICTION #	FACILITY #	TANK #
	01	000	094230	00002

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED.
FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

StID 1689

September 15, 1995

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, CA 93032

Mr. Balagi Angle
2008 1st Street
Livermore, CA 94550

RE: Well Replacement, Aquifer Pump Test at 2008 1st St, Livermore

Dear Messrs. Rutherford and Angle:

In a recent visit to the above referenced site, separate phase product was noted in well MW-2. Groundwater elevation is currently above the screened interval of the well. At this time, well MW-2 should be reconstructed to reflect current groundwater elevation, and to maximize free product recovery. In addition, well MW-1 may be decommissioned as it is a redundant well and does not appear to provide data which is representative of site conditions.

Also, an aquifer pump test should be performed to determine groundwater flow rate. The dissolved plume may have migrated 800' offsite. Please provide an addendum to the approved June 1995 Soil and Groundwater Investigation Workplan. Field work should commence as soon as permits are obtained.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: files

desert13

AFFILIATE PEI PETROLEUM EQUIPMENT INSTITUTE

SESSIONS TANK LINERS, Inc.

Main Office
P.O. Box 731
El Centro, CA 92244
(619) 352-4832 FAX 352-2646

Branch Office
P.O. Box 49061
Bakersfield, CA 93382
(805) 833-9501 FAX 833-0423

CA LIC. NO. 418129 A - 540757 A/HAZ
AZ LIC. NO. 099125A

September 9, 1995

Robert Weston
Alameda County Health Agency
Division of Enviromental Protection
Department of Enviromental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

RE: 2008 First Street, Livermore, CA

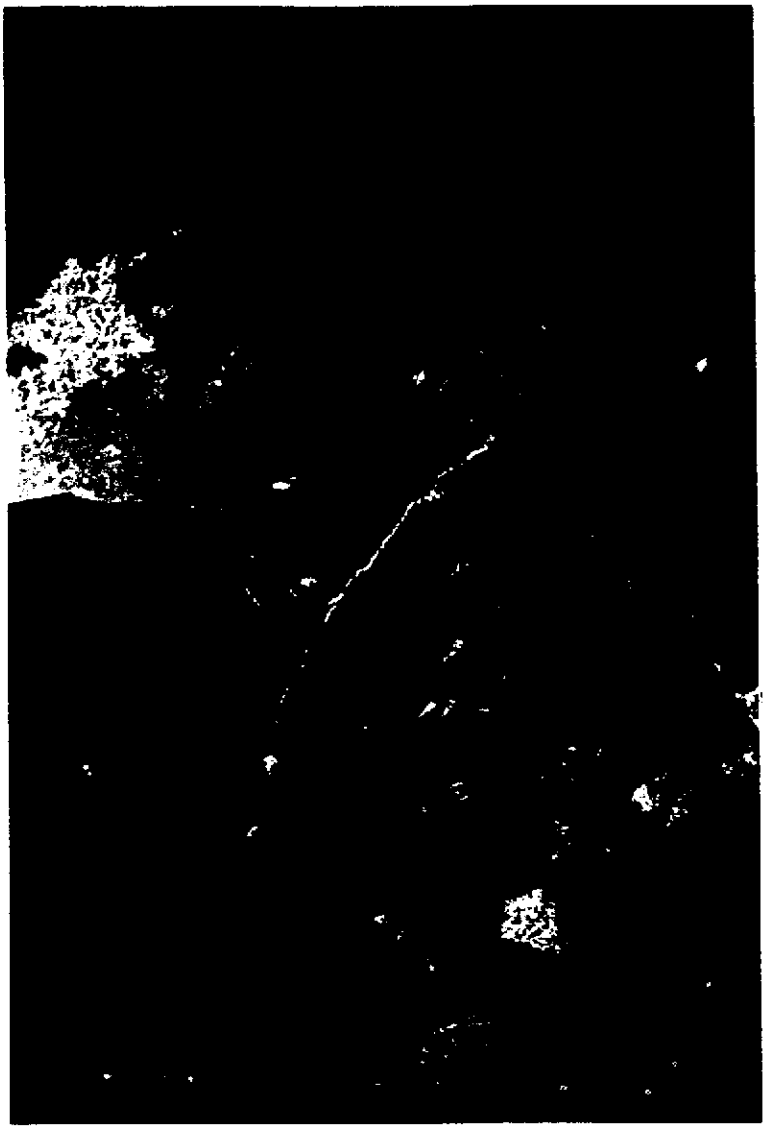
Mr. Weston:
As per our phone conversation and your approval on the phone we proceeded with the work plan we faxed you on August 28, 1995.
On September 6, 1995, Sessions Tank Liners, Inc., excavated, degassed, and cut open the (1) 10,000 gallon underground Owens-Corning fiberglass storge tank in question. The following day we cleaned out, sandblasted, and inspected the tank. During this proceedure the tank was found to be under stress and to have a stress crack. I informed Mr. Angle that we could repair the tank, but we could not repair it with a guarantee that he would not have any further problems with the tank. Mr. Angle did not feel comfortable about operating a tank that we could not insure its safety during operation. It is our opinion that the reason the tank is shifting, is the lack of proper backfill around the tank. So on Friday, September 8, 1995, the tank was sealed up and backfill was completed for safety, until Mr. Angle decides what he would like to do with the tank. The tank will not be put back into use.
As per my conversation with Don Atkinson-Adams, I will be forwarding a picture of the interior of the tank.

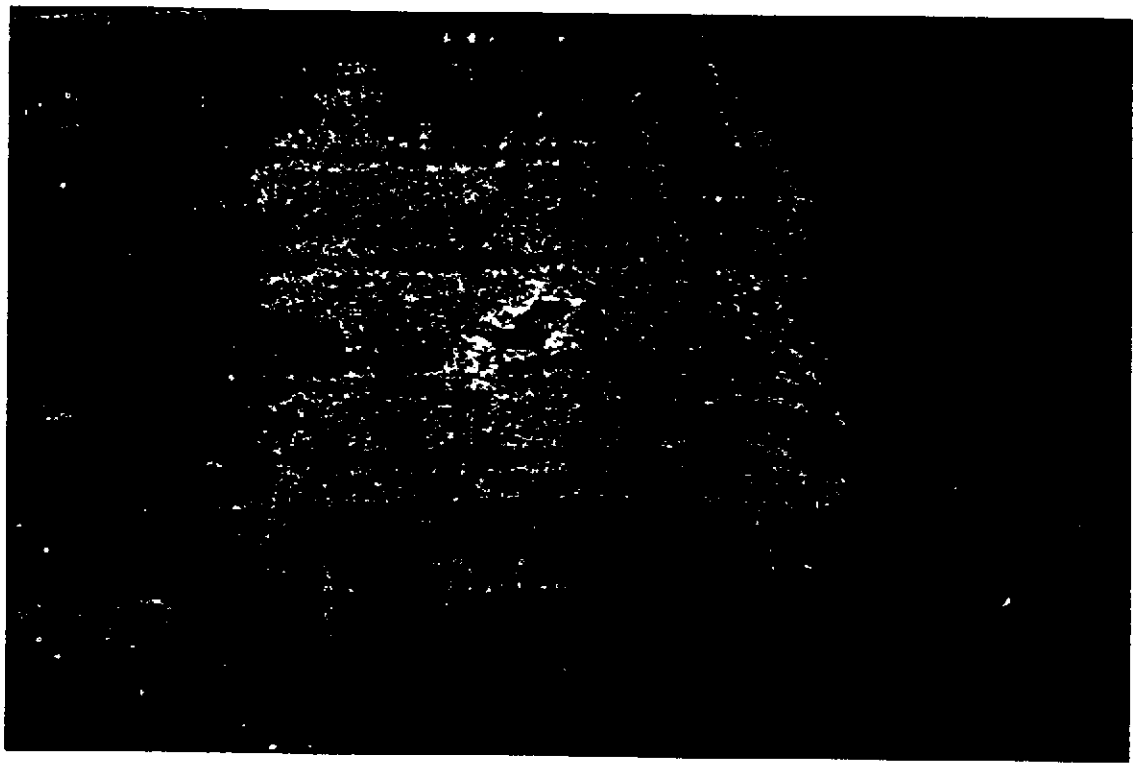
Sincerely,

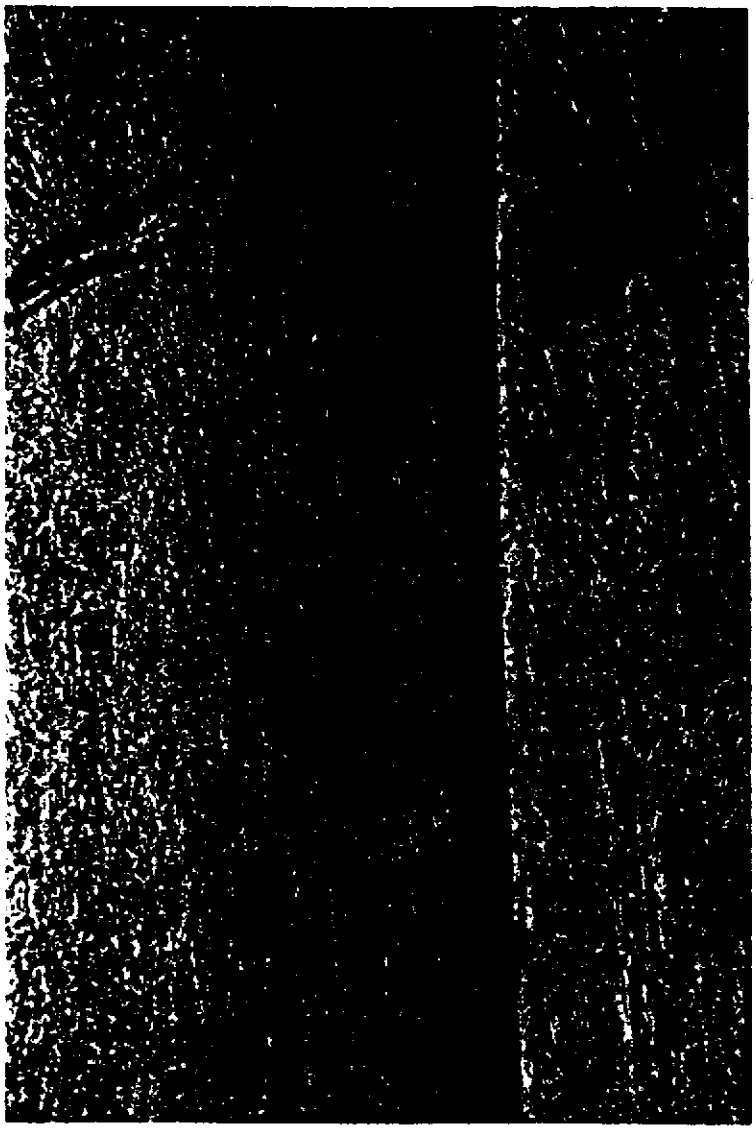
Ross Sessions

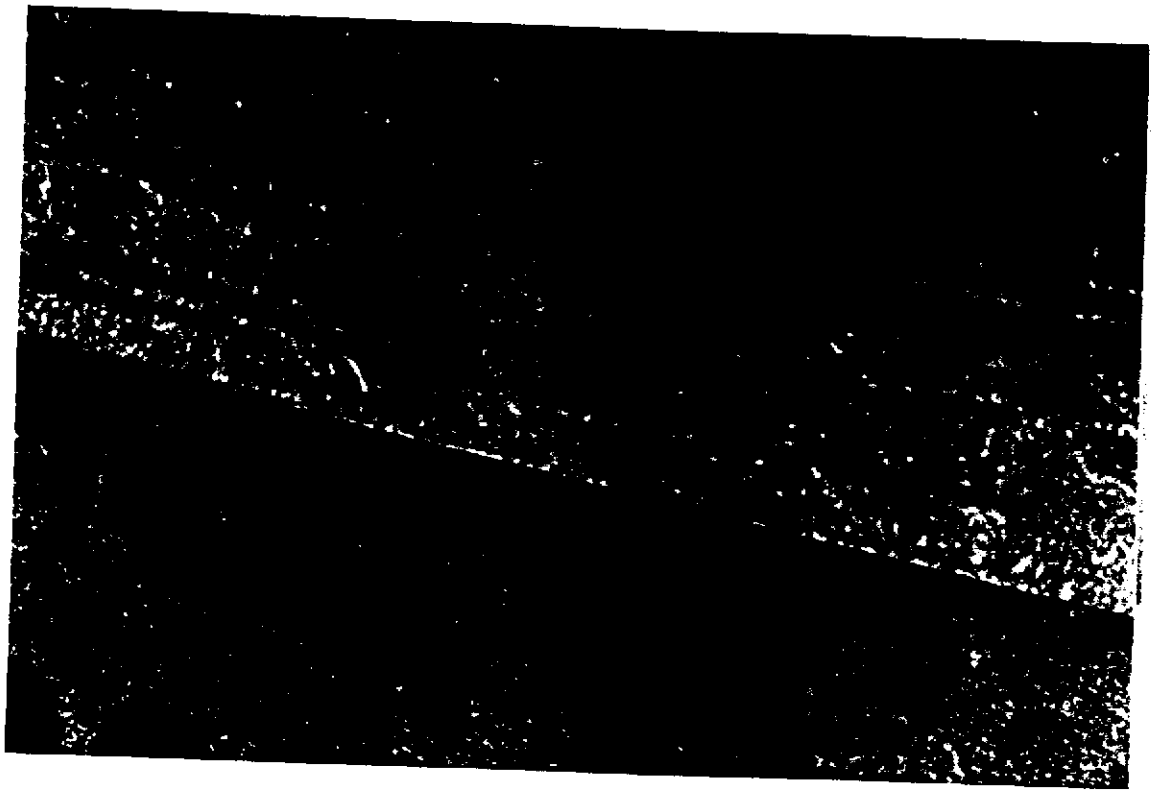
RS/mm

cc: Mr. B.S. Angle









Newlandex Corporation, dba
REMEDIATION SERVICE, INT'L.

03

ENVIRONMENTAL

95 AUG 24 PM 1:43

QUARTERLY REPORT
of
JUNE 21, 1995
GROUNDWATER SAMPLING AND WATER QUALITY MONITORING

[TPH]

2008 First Street
Livermore, CA

Prepared for:
DESERT PETROLEUM, INC.
P.O. Box 1601
Oxnard, CA 93032
(805)644-6784

Prepared by:
REMEDIAITON SERVICE INT'L - RSI
2060 Knoll Drive, Suite 200
Ventura, CA 93003
(805)644-5892

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

Richard W. Pilat
Program Director, RSI

July 31, 1995

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring for the real property located at 2008 First Street, Livermore, Alameda County, California (Figure 1). The site is currently occupied by a retail gasoline station operating under the British Petroleum trade name. Site improvements include three underground storage tanks, two pump islands and an office/garage building (Figure2).

A preliminary assessment in the former tank area 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.

Historic results of quarterly groundwater monitoring have demonstrated that hydrocarbons in the groundwater are present in all wells on site. During assessment and monitoring during March 1995 free product was discovered in well RS-2. After the discovery of the free product, interim corrective action consisting of weekly monitoring and removal was initiated. Within approximately one month levels were reduced to a sheen and the recent monitoring showed no evidence of free product.

During offsite subsurface investigation in March 1995, hydrocarbons were discovered in soil and groundwater to the west and south of the subject site.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Monitoring Procedures

On June 21, 1995, groundwater monitoring wells MW-1, MW-2, MW-3 and MW-4 were monitored for water quality. Depth to water was measured to an accuracy of 0.01 feet and all wells were checked for the presence of free product. The measuring point for each well was the survey point at the top of the well casing on the north side. Purging was accomplished with a truck mounted positive rotary blower vacuum extraction unit utilizing dedicated stingers. Any purging or sampling equipment with the potential for cross contamination was triple rinsed between wells using TSP using a standard three stage decontamination method. Purging continued until temperature, electrical conductivity and pH stabilized or approximately three well volumes had been purged. These measurements, along with all other pertinent data, were recorded on Water Sample Logs (Appendix A). The purged water was placed in 55 gallon DOT drums which were sealed, labeled as pending laboratory analysis and stored on-site.

The wells were allowed to recharge to a minimum of 80 percent, then sampled using disposable polyethylene bailers. The samples were sealed, labeled and placed on ice for transportation under standard chain-of-custody to Onsite Environmental, a state certified laboratory in Fremont, California. All samples were analyzed to minimum detection limits for TPH as gasoline, MTBE, and benzene, toluene, ethyl benzene and total xylenes (BTEX) using standard EPA approved methods.

Laboratory Reports for Water Sample Analysis are included in Appendix B.

2.2 Groundwater Monitoring Results

Groundwater elevations are included in Appendix A. The groundwater flowpath was calculated to be in a northwesterly direction (Figure 2).

Analytical results for groundwater samples collected on June 21, 1995 are summarized in Table 2 and shown on Figure 4. The complete laboratory report is contained in Appendix B. State of California (Title 22 CCR) concentrations for drinking water standards are included in Table 2. TPH was detected in groundwater monitoring wells MW-1, MW-2 and MW-3 at concentrations ranging from 24 to 25 mg/L. No TPH was detected in MW-4. Benzene was detected in all four wells at concentrations from 3.3 to 2,300 ug/L. MTBE was detected in wells MW-1, MW-2 and MW-3 in concentrations from 1300 to 16,000 ug/L. Samples from MW-4 were non-detect for MTBE.

3.0 LIMITATIONS

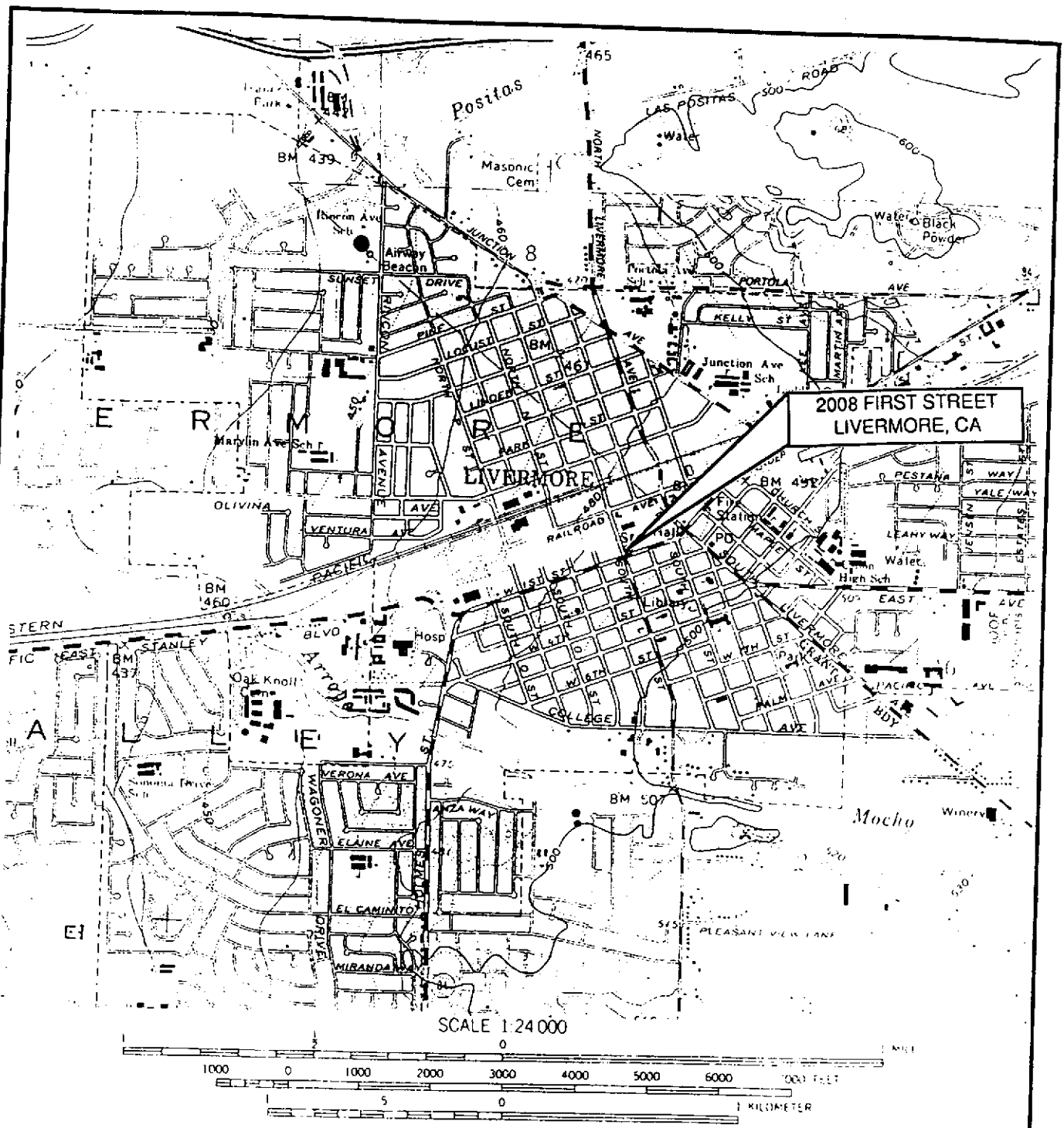
The discussion, conclusion and any recommendations presented in this report are based on the professional performance of the personnel who conducted the investigations, the observations of the field personnel, the results of laboratory analyses performed by a state certified laboratory, any referenced 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 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.

Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

FIGURES

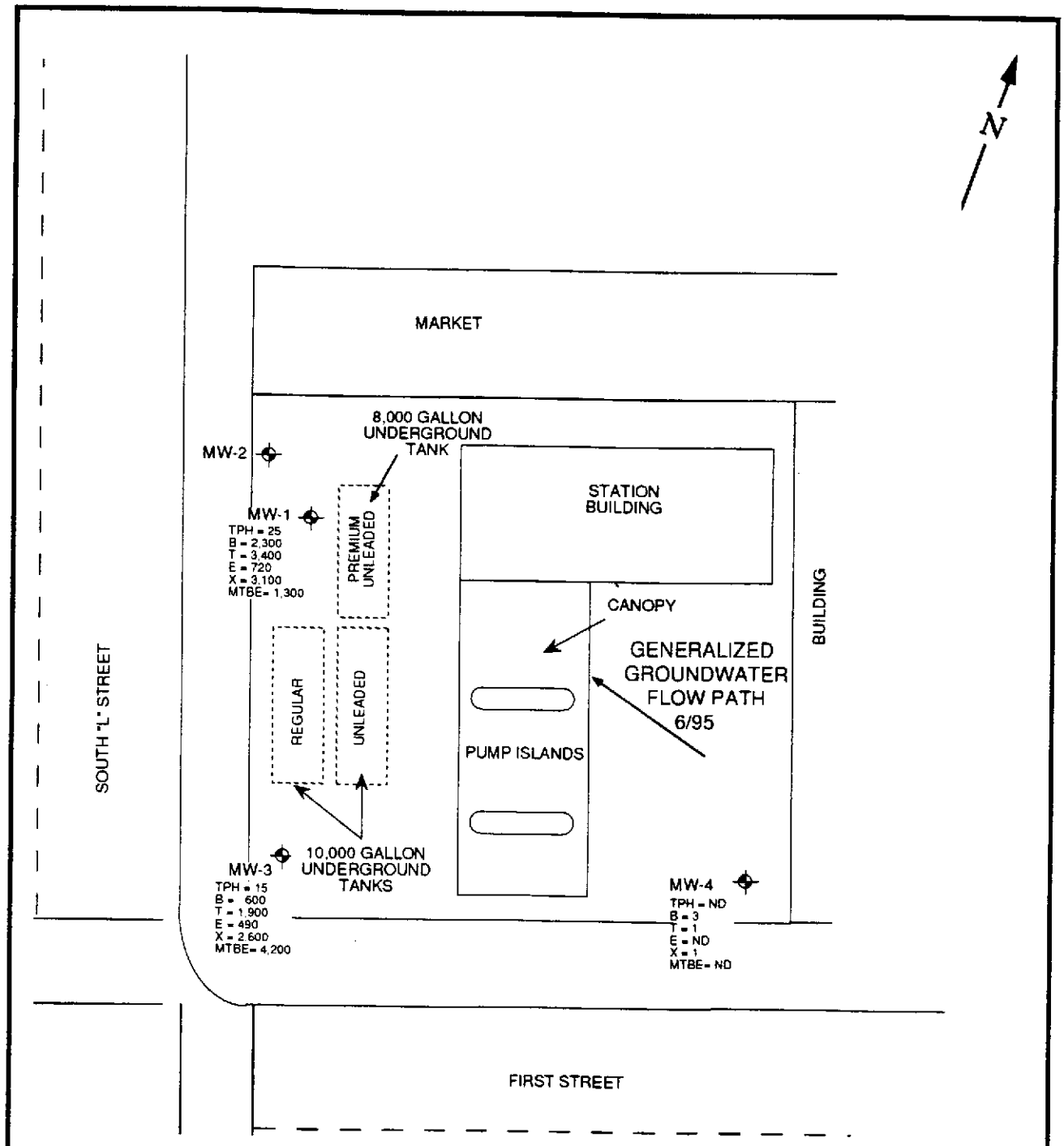


FROM U.S.G.S. 7.5' TOPOGRAPHIC QUADRANGLE "LIVERMORE, CALIFORNIA," 1961, PHOTOREVISED 1980

2008 FIRST STREET,
LIVERMORE, CA

FIGURE 1 - LOCATION MAP

RSI - REMEDIATION SERVICE, INT'L



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

LEGEND

⌖ GROUNDWATER MONITORING WELL LOCATION

NOTE : TPH CONCENTRATIONS IN mg/L and BTEX CONCENTRATIONS IN µg/L

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 2: PLOT PLAN WITH GROUNDWATER FLOWPATH AND GROUNDWATER ANALYTICAL RESULTS
JUNE 21, 1995

REMEDIATION SERVICE, INT'L

TABLES

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
	6/21/95	—	22.10	—	—	—	461.92	5.91
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
	3/9/95	28.47	29.28	0.81	28.67	—	455.19	12.26
	3/13/95	28.29	28.71	0.42	28.39	—	455.47	0.28
	6/21/95	—	22.81	—	—	—	461.05	5.58
MW-3	6/19/94	—		—	—	484.24	—	—
	8/25/94	—	42.31	—	—	—	441.93	—
	11/22/94	—	40.07	—	—	—	444.17	2.24
	3/13/95	—	27.94	—	—	—	456.30	12.13
	6/21/95	—	21.68	—	—	—	462.56	6.26
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
	6/21/95	—	21.89	—	—	—	463.15	6.11

*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)

RSI 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	MTBE
MW-1	8/2/90	24	1,300	1,300	400	2,700	NA
	10/10/91	2.2	430	170	100	290	NA
	1/8/92	1.2	200	120	30	150	NA
	5/11/93	0.96	66	8	41	90	NA
	9/21/93	1.9	311	118	33.8	112	NA
	5/22/94	10	690	1100	340	1200	NA
	8/26/94	13	290	690	120	670	NA
	11/22/94	19	400	770	230	1300	NA
	3/13/95	6	900	100	980	740	NA
	6/21/95	2.4	210	380	53	280	1300
MW-2	6/19/94	290	18,000	36,000	4,600	26,000	NA
	8/26/94	NS*	NS*	NS*	NS*	NS*	NA
	11/22/94	NS*	NS*	NS*	NS*	NS*	NA
	3/13/95	NS*	NS*	NS*	NS*	NS*	NA
	6/21/95	25	2300	3400	720	3100	16000
MW-3	6/19/94	11	640	580	270	790	NA
	8/26/94	41	1,600	2,300	330	1,800	NA
	11/22/94	18	8,000	10,000	900	5,000	NA
	3/13/95	44	1,600	1,300	5,000	6,600	NA
	6/21/95	15	600	1,900	490	2,600	4200
MW-4	6/19/94	0.81	12	25	ND	22	NA
	8/26/94	0.85	37	51	9.5	35	NA
	11/22/94	1.7	110	110	5.8	58	NA
	3/13/95	1.3	180	8	52	77	NA
	6/21/95	ND	3	1	ND	1	ND
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.

APPENDICES

APPENDIX A
WATER SAMPLE LOGS

WATER SAMPLE LOG

DATE: 6/21/95

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: MW-1

WEATHER CONDITIONS: Hot, sunny

FIELD OBSERVATIONS: Replaced rusty locks

TOTAL DEPTH OF WELL: 60.00 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE PURGING METHOD: vacuum

DEPTH TO WATER: 22.16 feet

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

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
1:10	5.0	8.01	68.8	1.09	Cloudy, grayish color
1:15	10.0	8.60	68.8	1.10	clear
1:20	20.0	8.58	68.7	1.11	slt product odor, slt brown
1:22	40.0	8.55	68.6	1.08	slight product odor
1:25	55.0	8.57	67.9	1.07	slight brown, cloudy

TOTAL DISCHARGE: 55.0 gallons

TIME SAMPLE COLLECTED: 1:20 PM

DEPTH TO WATER AT TIME OF SAMPLE: 21.90 feet

METHOD OF SAMPLE COLLECTION: Disposable bailer

APPEARANCE OF SAMPLE: Clear, strong product odor present.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ml. VOAs

SAMPLE TRANSPORTED TO: Onsite Environmental, Fremont, CA

SAMPLED BY: R. Pilat

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

WATER SAMPLE LOG

PROJECT LOCATION: 2008 First St., Livermore, CA

DATE: 6/21/95

WELL NUMBER: MW -2

WEATHER CONDITIONS: Hot, sunny

FIELD OBSERVATIONS: Pre purge, no free product, no odor, no sheen

TOTAL DEPTH OF WELL: 60.00 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE

PURGING METHOD: vacuum

DEPTH TO WATER: 22.81 feet

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

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
12:30	5.0	8.81	68.9	1.11	Slt product odor, slt grayish brown
12:34	10.0	8.64	68.9	1.07	Slt product odor, slt grayish brown
12:37	20.0	8.55	68.8	1.07	Fibrous orange material (rust)
12:40	30.0	8.51	68.9	1.05	Orange dissolved
12:43	40.0	8.54	68.9	1.06	Slt product odor, fibrous orange
12:47	50.0	8.53	68.9	1.07	material (rust)
12:50	70.0	8.60	68.9	1.08	

TOTAL DISCHARGE: 70.0 gallons

TIME SAMPLE COLLECTED: 1:50 PM

DEPTH TO WATER AT TIME OF SAMPLE: 22.99 feet

METHOD OF SAMPLE COLLECTION: disposable bailer

APPEARANCE OF SAMPLE: Clear, strong product odor present.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ml. VOAs

SAMPLE TRANSPORTED TO: Onsite Environmental, Fremont, CA

SAMPLED BY: R. Pilat

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WATER SAMPLE LOG

DATE: 6/21/95

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: MW-3

WEATHER CONDITIONS: Hot, sunny

FIELD OBSERVATIONS: Replaced rusty locks

TOTAL DEPTH OF WELL: 60.00 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE

PURGING METHOD: vacuum

DEPTH TO WATER: 21.68 feet

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

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
11:40	5.0	8.11	79.0	1.04	Clear, grayish
11:43	10.0	8.17	77.5	1.02	Slight product odor
11:47	20.0	8.29	76.2	1.08	Slight product odor,slt brown color
11:50	40.0	8.35	78.0	0.08	Slight product odor, slt brown color
11:54	50.0	8.37	81/82	0.08	Heat from the sun may cause error

TOTAL DISCHARGE: 55.0 gallons

TIME SAMPLE COLLECTED: 1:40 PM

DEPTH TO WATER AT TIME OF SAMPLE: 22.01 feet

METHOD OF SAMPLE COLLECTION: Disposable bailer

APPEARANCE OF SAMPLE: Clear, strong product odor present.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ml. VOAs

SAMPLE TRANSPORTED TO: Onsite Environmental, Fremont, CA

SAMPLED BY: R. Pilat

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WATER SAMPLE LOG

DATE: 6/21/95

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: MW-4

WEATHER CONDITIONS: Hot, Sunny

FIELD OBSERVATIONS: replaced broken locks

TOTAL DEPTH OF WELL: 60.00 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE PURGING METHOD: vacuum

DEPTH TO WATER: 21.68 feet

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

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
11:20	10.0	6.84	82.2	1.17	Cloudy, grayish color
11:25	20.0	7.31	78.8	1.09	Cloudy, grayish color
11:28	30.0	7.60	76.8	1.05	Slight brown
11:31	40.0	7.73	75.1	1.05	Slight brown
11:35	55.0	7.74	74.8	1.05	Slight brown, cloudy

TOTAL DISCHARGE: 55.0 gallons

TIME SAMPLE COLLECTED: 1:20 PM

DEPTH TO WATER AT TIME OF SAMPLE: 21.90 feet

METHOD OF SAMPLE COLLECTION: Disposable bailer

APPEARANCE OF SAMPLE: Clear, strong product odor present.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ml. VOAs

SAMPLE TRANSPORTED TO: Onsite Environmental, Fremont, CA

SAMPLED BY: R. Pilat

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APPENDIX B

LABORATORY REPORT
AND
CHAIN OF CUSTODY

ONSITE
ENVIRONMENTAL
LABORATORIES, INC.

Analytical Laboratory Report

EPA Methods 8015 Modified / 8020

Date Sampled:	21-Jun-95	**Proj Mgr:**	Rick Pilat
Date Received:	22-Jun-95	**Client:**	DP
Date Analyzed:	22-Jun-95	**Project:**	2008 1st ST
Date Reported:	23-Jun-95	**Matrix:**	Water
Report Number:	3B218a.rpt	**Units:**	ug/L
Lab Number:	3B218	**COC #:**	

Lab ID No.	Field ID No.	Benzene	Toluene	Ethyl-benzene	Xylenes total	TPH-Gasoline	MTBE	BTEX Surrogate %	DL factor
01	MW-4	3.3	0.7	ND	1.0	ND	ND	99	1
02	MW-3	600	1900	490	2600	15000	4200	98	50
03	MW-2	2300	3400	720	3100	25000	16000	91	100
04	MW-1	210	380	53	280	2400 J	1300	82	50
Detection Limits WATER (PQL) ug/L		0.5	0.5	0.5	0.5	50	0.5		

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
J - Below reporting limit, above MDL, estimated value etc.

PROCEDURES:
BTEX - This analysis was performed using EPA Method 8020, 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

Laboratory Director

6/27/95
Date

COAST · TO · COAST ANALYTICAL SERVICES

4765 Calle Quetzal • Camarillo, CA 93012 • (805) 389-1353 FAX (805) 389-1438
7726 Moller Rd. • Indianapolis, IN 46268 • (317) 875-5894 FAX (317) 872-6189
2059 Junction Ave. • San Jose, CA 95131 • (408) 955-9077 FAX (408) 955-9078
141 Suburban Road • San Luis Obispo, CA 93401 • (805) 547-3888 FAX (805) 543-2685
2400 Cumberland Dr. • Valparaiso, IN 46383 • (219) 464-2389 FAX (219) 462-2953
340 County Road No. 5 • Westbrook, ME 04092 • (207) 874-2400 FAX (207) 775-4029

Chain of Custody

• PLEASE PRINT IN PEN

Client: DP	Contact:	Phone #: ( )	FAX #: ( )
Address: 2008 1ST ST	City: LIVERMORE	State:	Zip:
Project Name/Number: 795		Project MGR: PILAT	
Bill (if different than above):	Address:		
Sampler (Print and sign): PILAT	Due Date:	Circle for RUSH*:	Copies To: / Auth. Init.:

* Subject to Availability

Sample Description	Date/Time Coll'd	*Matrix	# of Containers	Pres.	Filt. y/n	Analysis	Remarks	Lab ID #
MW 4 1:30P	6/21/95	GW	3X	VOA		TPH GAS BTEX MTBE	COOLER	BLU ICE
MW 3 1:40P	"		"	"		" " " "		
MW 2 1:50P	"		"	"		" " " "		
MW 1 2:00P	"		"	"		" " " "		
							REFRESHED W/ WET ICE 9:00 AM	
							6/21	
							"	"
							6/22 9:00A	

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
RWO	6/22/95 2:00P				

FOR LAB USE ONLY

Shipping Method	Shipping #	Received By	Date/Time	Condition (See Remarks) Cold	Sealed	Intact

REMARKS

* **Matrix:**
DW - Drinking Water
WW - Wastewater
GW - Groundwater
SW - Surface Water
IM - Impinger
FI - Filter
FP - Free Product
A/G - Air/Gas
SL - Sludge/Soil/Solid
OT - Other

[redacted] O[redacted]NAL [redacted]

FREE PRODUCT REMOVAL LOG

PROJECT: LIVERMORE D.P.W. 795

DATE: 1-5-95

TIME: 1500

WELL NUMBER: MW-2

WEATHER CONDITIONS: RAIN

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: _____ feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: 38.09

FREE PRODUCT THICKNESS: ~~SHEEN~~ .04 feet

DEPTH TO WATER: 38.13 feet

PURGING METHOD: VACCUM ~~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: 15 gallons

FREE PRODUCT REMOVED BY: A.E.S.

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FREE PRODUCT REMOVAL LOG

PROJECT: Livermore - DATE: 1-20-95
TIME: 17:20

WELL NUMBER: [illegible] 2

WEATHER CONDITIONS: RAIN
FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: [illegible] feet CASING DIAMETER: [illegible] inches
DEPTH TO FREE PRODUCT: [illegible] FREE PRODUCT THICKNESS: — feet
DEPTH TO WATER: 32.93 feet PURGING METHOD: Bail [illegible]
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

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

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

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: [illegible] gallons

FREE PRODUCT REMOVED BY:

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FREE PRODUCT REMOVAL LOG

PROJECT: D.P. [illegible] — DATE: 2-2-95
BP LIVERMORE, CA. — TIME: 1400

WELL NUMBER:

WEATHER CONDITIONS: CLEAR WARM

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 50.0 feet — CASING DIAMETER: 4" inches
DEPTH TO FREE PRODUCT: 31.02 — FREE PRODUCT THICKNESS: feet
DEPTH TO WATER: 31.03 feet — PURGING METHOD: Vaccume Bail
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 very thin
- [ ] THICK

ODOR:

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

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: [signature]

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FREE PRODUCT REMOVAL LOG

PROJECT: D.P. 795
2008 1st ST.
LIVERMORE

DATE: 2-15-95
TIME: 1600

WELL NUMBER:

WEATHER CONDITIONS: CLEAR & WARM
FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: _____ feet
DEPTH TO FREE PRODUCT: 30.24 feet
DEPTH TO WATER: 30.26 feet
DEPTHS MEASURED FROM: Top of well casing, north side.

CASING DIAMETER: 4 inches
FREE PRODUCT THICKNESS: _____ feet
PURGING METHOD: Vacuum + Bail

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: VAC

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FREE PRODUCT REMOVAL LOG

PROJECT: Desert Petro
2088 1st St.
Livermore

DATE:
TIME:

WELL NUMBER: #2

WEATHER CONDITIONS: Cloudy - RAIN
FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57 feet
DEPTH TO FREE PRODUCT: 57.11
DEPTH TO WATER: 57.11 feet
DEPTHS MEASURED FROM: Top of well casing, north side.

CASING DIAMETER: 4 Inches
FREE PRODUCT THICKNESS: feet
PURGING METHOD: [illegible] Bail

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:

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To Rick [illegible]	From [illegible]
Co.	Co.
Dept.	Phone # 209. 524-6564
Fax # 805-654 0720	Fax #

FREE PRODUCT REMOVAL LOG

PROJECT: [illegible] DATE: [illegible]

TIME: [illegible]

WELL NUMBER: #10

WEATHER CONDITIONS: [illegible]

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57' feet CASING DIAMETER: [illegible] inches

DEPTH TO FREE PRODUCT: [illegible] FREE PRODUCT THICKNESS: feet

DEPTH TO WATER: [illegible] feet PURGING METHOD: [illegible] Bail

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:

- [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: 12 gallons

FREE PRODUCT REMOVED BY: [signature]

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FREE PRODUCT REMOVAL LOG

PROJECT: D.P. # 795 2008 FIRST ST, Livermore, CA,

DATE: 4-5-95

TIME: 1345

WELL NUMBER: 2

WEATHER CONDITIONS: WARM - SUNNY

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57 feet

CASING DIAMETER: 4" inches

DEPTH TO FREE PRODUCT: 23.92

FREE PRODUCT THICKNESS: SHEEN feet

DEPTH TO WATER: 23.92 feet

PURGING METHOD: Bail

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:

- [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: 15 gallons

FREE PRODUCT REMOVED BY:

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FREE PRODUCT REMOVAL LOG

PROJECT: D.P. # 795 - 2008 First St. Livermore

DATE: 4-21-95

TIME: 1315

WELL NUMBER: #2

WEATHER CONDITIONS: SUNNY - WARM !

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT:

FREE PRODUCT THICKNESS: feet

DEPTH TO WATER: feet

PURGING METHOD: Bail

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

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

ODOR:

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

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: gallons

WAS NOT ALLOWED TO DO SITE, HAD NOT CALLED PRIOR TO ARRIVAL?

FREE PRODUCT REMOVED BY:

RGI REMEDIATION SERVICE, INT'L.
2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
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FREE PRODUCT REMOVAL LOG

PROJECT: D.P. # 795 - LIVERMORE. DATE: 5-4-95
TIME: 14:00

WELL NUMBER: #2

WEATHER CONDITIONS: CLEAR COOL WINDY
FIELD OBSERVATIONS: —

TOTAL DEPTH OF WELL: 57' feet CASING DIAMETER: 4" inches
DEPTH TO FREE PRODUCT: 23.03 FREE PRODUCT THICKNESS: SHEEN feet
DEPTH TO WATER: 23.03 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
- [X] GASOLINE

APPEARANCE:
- [ ] CLEAR
- [ ] AMBER
- [ ] BROWN
- [ ] GREY
- [ ] D. BROWN
- [ ] BLACK
- [X] SHEEN
- [ ] THIN
- [ ] THICK

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

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 10 gallons

DELIVERED 1 - 55 GAL DRUM TO JOB SITE.

FREE PRODUCT REMOVED BY: PHILL

WRITTEN UP BY WALTER FROM PHILL'S FIELD NOTES.

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

FREE PRODUCT REMOVAL LOG

PROJECT: D.P. # 795 LIVERMORE

DATE: 5-19-95.

TIME: @ 14:30

WELL NUMBER: #2

WEATHER CONDITIONS: SUNNY WARM.

FIELD OBSERVATIONS: ACCESS ALLOWED AS PER TELECOM
@ 5-19-95 @ 9:30 AM. TO START

TOTAL DEPTH OF WELL: 52' feet

CASING DIAMETER: 4" Inches

DEPTH TO FREE PRODUCT: 22.57

FREE PRODUCT THICKNESS: SHEEN feet

DEPTH TO WATER: 22.57 feet

PURGING METHOD: VACUUM ~~Bail~~

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

X GASOLINE

APPEARANCE:

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

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

ODOR:

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

TOTAL FREE PRODUCT & GROUNDWATER REMOVED: 15 gallons

FREE PRODUCT REMOVED BY: WATER

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

FREE PRODUCT REMOVAL LOG

PROJECT: [illegible] [illegible] [illegible] Livermore

DATE: JUNE 95

TIME: 1[illegible]

WELL NUMBER: # 2

WEATHER CONDITIONS: [illegible]-RAIN

FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 57 feet

CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: [illegible]

FREE PRODUCT THICKNESS: feet

DEPTH TO WATER: 57.11 feet

PURGING METHOD: [illegible] 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:

- [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: [signature]

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

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

REPORT DATE: 06/15/95

CASE #:

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.
SIGNED: Robert Weston DATE: 6-20-95

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: BALAJI ANGLE
PHONE: (510)449-2194
SIGNATURE:

REPRESENTING ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER
COMPANY OR AGENCY NAME:

ADDRESS: 2008 FIRST STREET, LIVERMORE, CA 94550
STREET / CITY / STATE / ZIP

RESPONSIBLE PARTY

NAME: BALAJI ANGLE
B & C GAS MINI MART ☐ UNKNOWN
CONTACT PERSON: BALAJI ANGLE
PHONE: (510)449-2194

ADDRESS: 2008 FIRST STREET / LIVERMORE / CA / 94550
STREET / CITY / STATE / ZIP

SITE LOCATION

FACILITY NAME (IF APPLICABLE): B & C GAS MINI MART
OPERATOR: BALAJI ANGLE
PHONE: (510)449-2194

ADDRESS: 2008 FIRST STREET / LIVERMORE / CA / 94550
STREET / CITY / COUNTY / ZIP

CROSS STREET: L & FIRST STREET

IMPLEMENTING AGENCIES

LOCAL AGENCY — AGENCY NAME: COUNTY OF ALAMEDA EHD
CONTACT PERSON: ROBERT WESTON
PHONE: (510)567-6781

REGIONAL BOARD
PHONE: ( )

SUBSTANCES INVOLVED

(1) NAME: GASOLINE — REGULAR UNLEADED — QUANTITY LOST (GALLONS): ☒ UNKNOWN

(2) ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 03/13/95
HOW DISCOVERED: ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☐ TANK REMOVAL ☒ OTHER FLOW REDUCTION

DATE DISCHARGE BEGAN: ☒ UNKNOWN

HAS DISCHARGE BEEN STOPPED? ☒ YES ☐ NO IF YES, DATE: 03/13/95

METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☐ CLOSE TANK & REMOVE ☒ REPAIR PIPING
☐ REPAIR TANK ☐ CLOSE TANK & FILL IN PLACE ☐ CHANGE PROCEDURE
☐ REPLACE TANK ☐ OTHER

SOURCE/CAUSE

SOURCE OF DISCHARGE
☐ TANK LEAK ☐ UNKNOWN
☒ PIPING LEAK ☐ OTHER

CAUSE(S)
☐ OVERFILL ☒ RUPTURE/FAILURE ☐ SPILL
☐ CORROSION ☐ UNKNOWN ☐ OTHER

CASE TYPE

CHECK ONE ONLY
☒ UNDETERMINED ☐ SOIL ONLY ☐ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY
☒ NO ACTION TAKEN ☐ PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED ☐ POLLUTION CHARACTERIZATION
☐ LEAK BEING CONFIRMED ☐ PRELIMINARY SITE ASSESSMENT UNDERWAY ☐ POST CLEANUP MONITORING IN PROGRESS
☐ REMEDIATION PLAN ☒ CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) ☐ CLEANUP UNDERWAY

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CAP SITE (CD) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ CONTAINMENT BARRIER (CB) ☐ NO ACTION REQUIRED (NA) ☐ TREATMENT AT HOOKUP (HU) ☐ VENT SOIL (VS)
☐ VACUUM EXTRACT (VE) ☒ OTHER (OT) NO ACTION AT THIS TIME

COMMENTS

SITE INVESTIGATION CURRENTLY IN PROGRESS.

PIPE UNION REPAIRED ON MARCH 13, 1995.

HSC 05 (8/90)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
[illegible] Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

StID 1689

June 14, 1995

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, CA 93032

RE: Workplan to Delineate Extent of Plume at 2008 1st Street, Livermore

Dear Mr. Rutherford:

On June 13, 1995 I met with Mr. Rick Pilat and received RSI's June 9, 1995 Soil and Groundwater Investigation Workplan for the above referenced site. This plan proposes to advance three soil borings along South L Street, and three soil borings along First Street. Grab groundwater samples collected and analyzed would help further delineate the contaminant plume. However, as discussed with Mr. Pilat, I need to have additional borings advanced at the end of South M Street and along Railroad Ave, to further define the downgradient edge of the plume. I am suggesting these locations because you do not wish to advance borings at the Oldsmobile site at this time. Also, one of the borings proposed along the west side of South L Street should be moved to the east side of L Street.

This work plan is acceptable once an amended site plan showing the additional boring locations recommended is received. The amended site plan is due within 7 days of the date of this letter, **or by June 22, 1995.**

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: Rick Pilat, RSI, 2060 Knoll Dr, #200, Ventura, CA 93003
Balagi Angle, 2008 1st Street, Livermore 94550
files

desert10

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

ALAMEDA COUNTY-ENV. HEALTH DEPT.
ENVIRONMENTAL PROTECTION DIV.
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577
(510)567-6700

StID 1689

May 1, 1995

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, CA 93032

RE: Plume Delineation at 2008 1st Street, Livermore 94550

Dear Mr. Rutherford:

I have completed review of Remediation Service, Int'l's March 1995 Soil and Groundwater Inverstigation Report and Quarterly Report for the above referenced site. In March 1995 five boreholes were drilled to first encountered groundwater, at a depth of 31 to 35'. Borings HP1, HP2, and HP3, advanced west, northwest of the site, detected free product in the augers. Groundwater samples were not collected as it was not considered to be cost effective since the boundaries of the contaminant plume had clearly not been reached.

Recent data gathered from a downgradient site, 1809 Railroad Ave, Livermore, indicated free product in the form of gasoline was detected in their monitoring well. This contamination appears to be from an offsite source. The former Desert Petroleum site is upgradient from this apartment complex.

At this time, you are required to fully delineate the extent of the groundwater plume resulting from the release of petroluem hydrocarbons from your site. A workplan for this phase of the investigation is due to this office by **May 22, 1995.** Field work should be expedited to fully characterized the extent and severity of the plume and its potential impact to the residents at the apartment complex.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: Rick Pilat, RSI, 2060 Knoll Dr, #200, Ventura, CA 93003
Balagi Angle, 2008 1st St, Livermore 94550
files

desert9

desert petroleum inc.

John Rutherford
Director
Environmental Affairs

Expand investigation to delineate extent of plume W, NW of site. See if Mill Spring is impacted by their plume.

April 19, 1995

Ms. Eva Chu
County of Alameda
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Subject: Groundwater Monitoring Report
2008 First St. Livermore, CA

Dear Ms. Chu:

Enclosed is the Groundwater Monitoring Report for the recent sampling of groundwater monitoring at the subject property.

Any questions regarding this report should be directed to our project manager Mr. Rick Pilat at Remediation Services Int'l., 805-644-5892.

Very truly yours,

J Rutherford/JR

John Rutherford

JR:js

cc: R. Pilat
SWRCB
Chron
File

Enclosure

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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GRAPHS

APPENDICES

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.

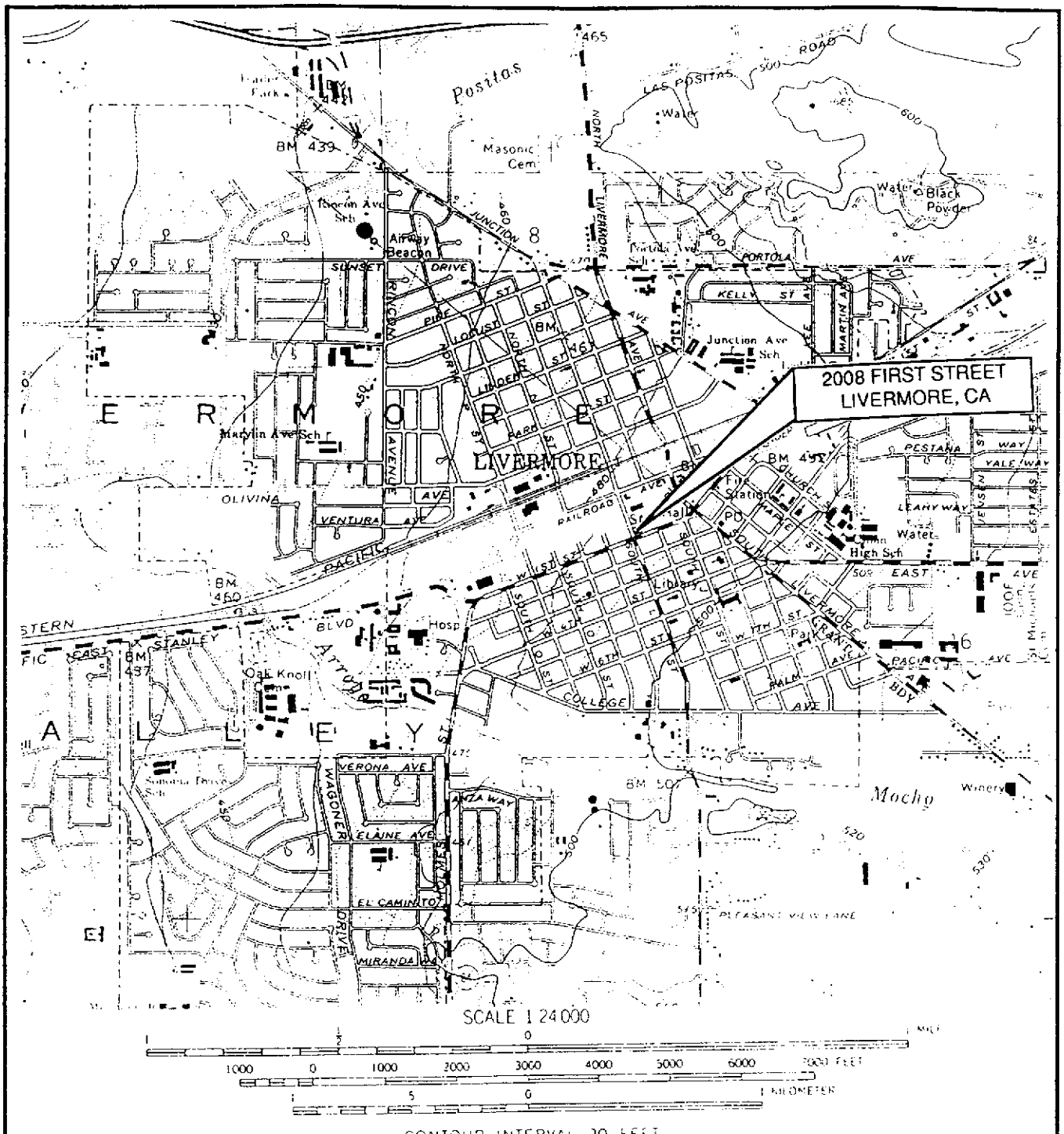
7.0 LIMITATIONS

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

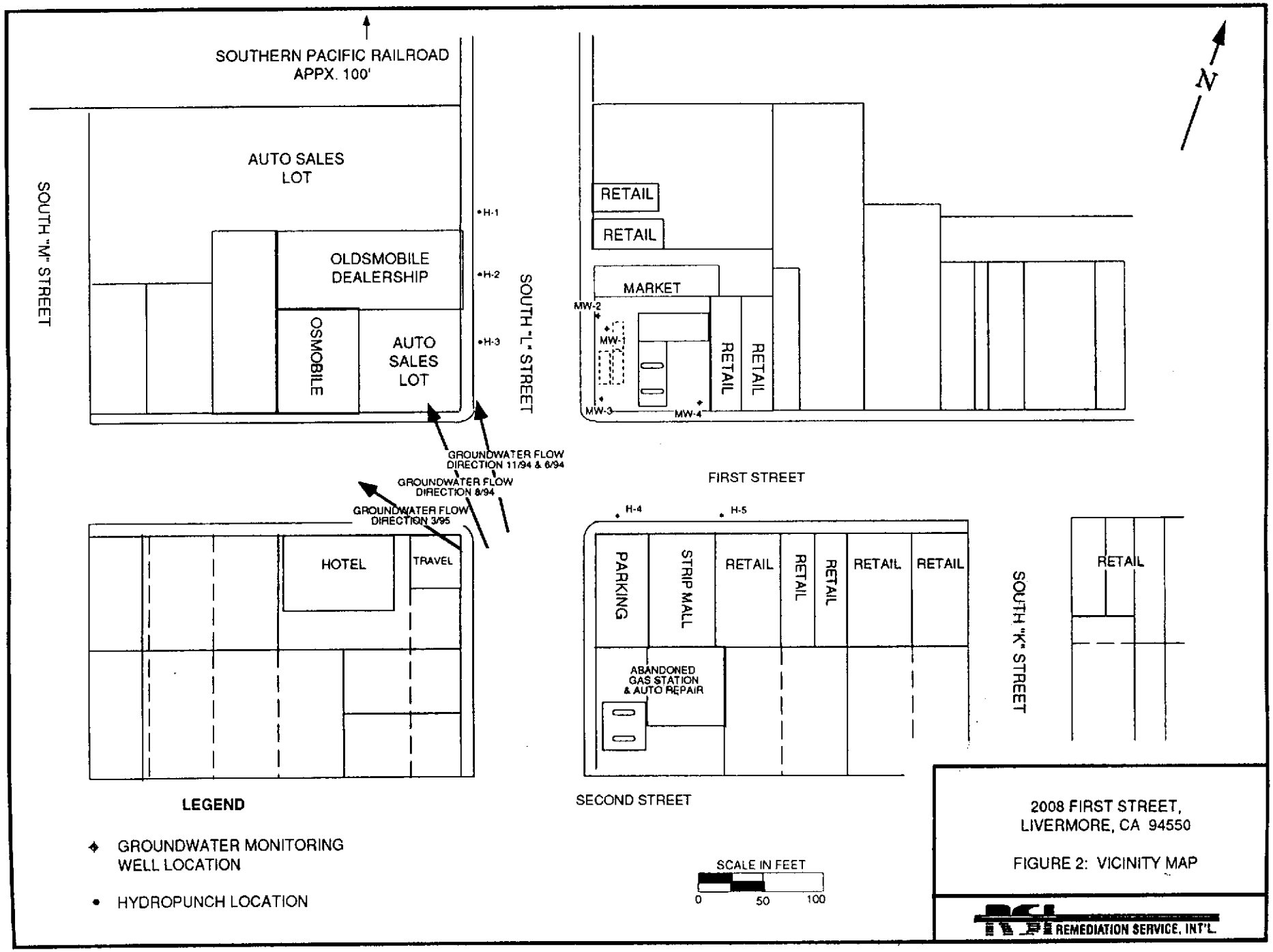


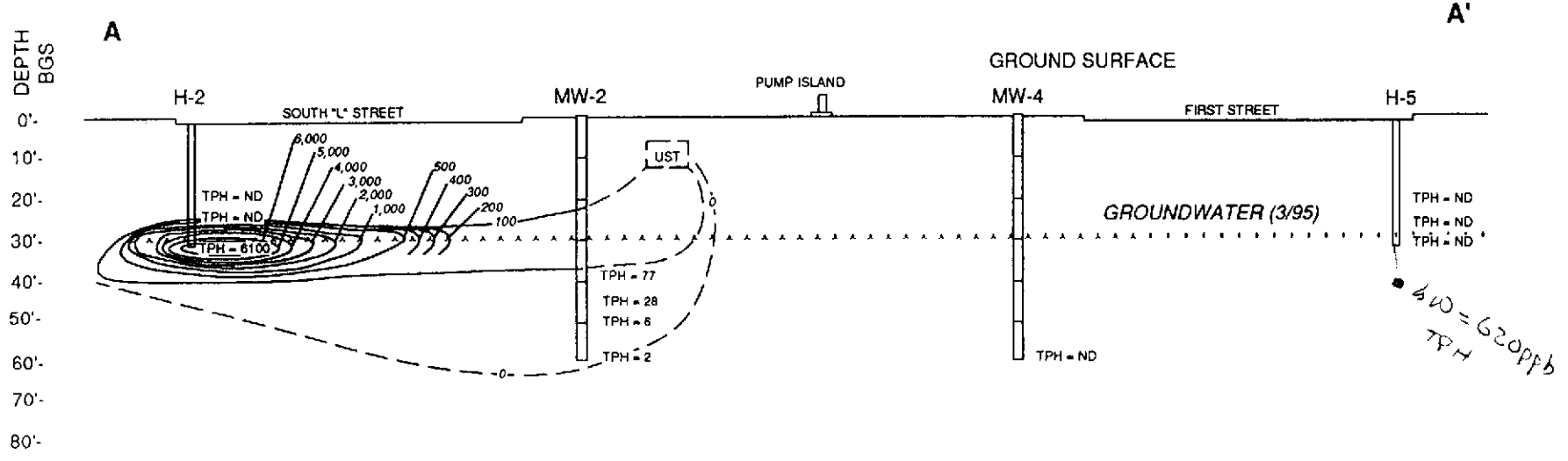
FROM U.S.G.S. 7.5' TOPOGRAPHIC QUADRANGLE "LIVERMORE, CALIFORNIA," 1961, PHOTOREVISED 1980

2008 FIRST STREET,
LIVERMORE, CA

FIGURE 1 LOCATION MAP

RSI - REMEDIATION SERVICE, INT'L


SOUTHERN PACIFIC RAILROAD
APPX. 100'
SOUTH "M" STREET
AUTO SALES LOT
OLDSMOBILE DEALERSHIP
OSMOBILE
AUTO SALES LOT
H-1
H-2
H-3
SOUTH "L" STREET
RETAIL
RETAIL
MARKET
RETAIL
RETAIL
MW-2
MW-1
MW-3
MW-4
FIRST STREET
N
GROUNDWATER FLOW DIRECTION 11/94 & 6/94
GROUNDWATER FLOW DIRECTION 8/94
GROUNDWATER FLOW DIRECTION 3/95
HOTEL
TRAVEL
H-4
H-5
PARKING
STRIP MALL
RETAIL
RETAIL
RETAIL
RETAIL
RETAIL
ABANDONED GAS STATION & AUTO REPAIR
SOUTH "K" STREET
RETAIL
SECOND STREET
LEGEND
GROUNDWATER MONITORING WELL LOCATION
HYDROPUNCH LOCATION
SCALE IN FEET
0
50
100
2008 FIRST STREET,
LIVERMORE, CA 94550
FIGURE 2: VICINITY MAP
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'

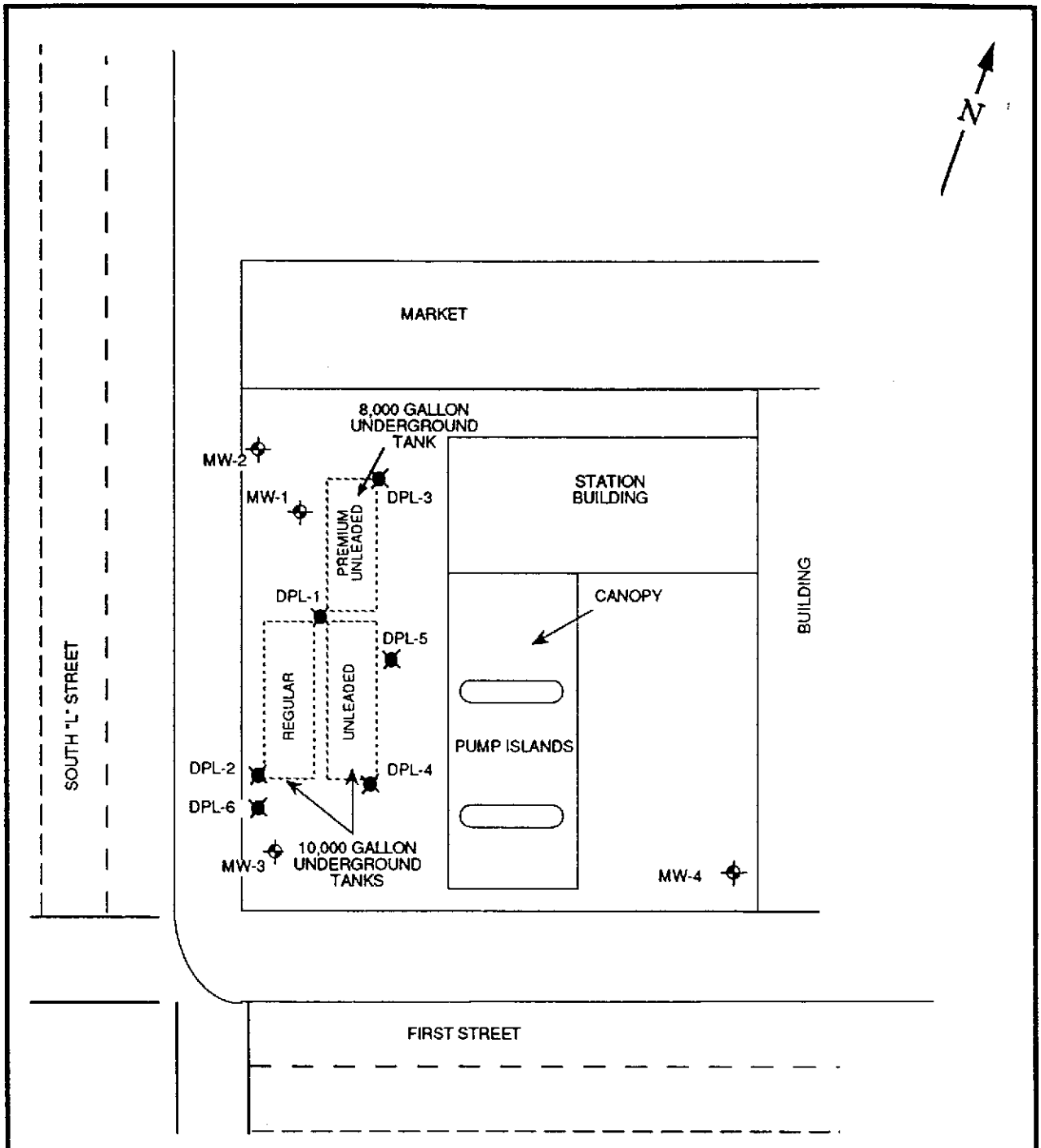
SCALE IN FEET

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.



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

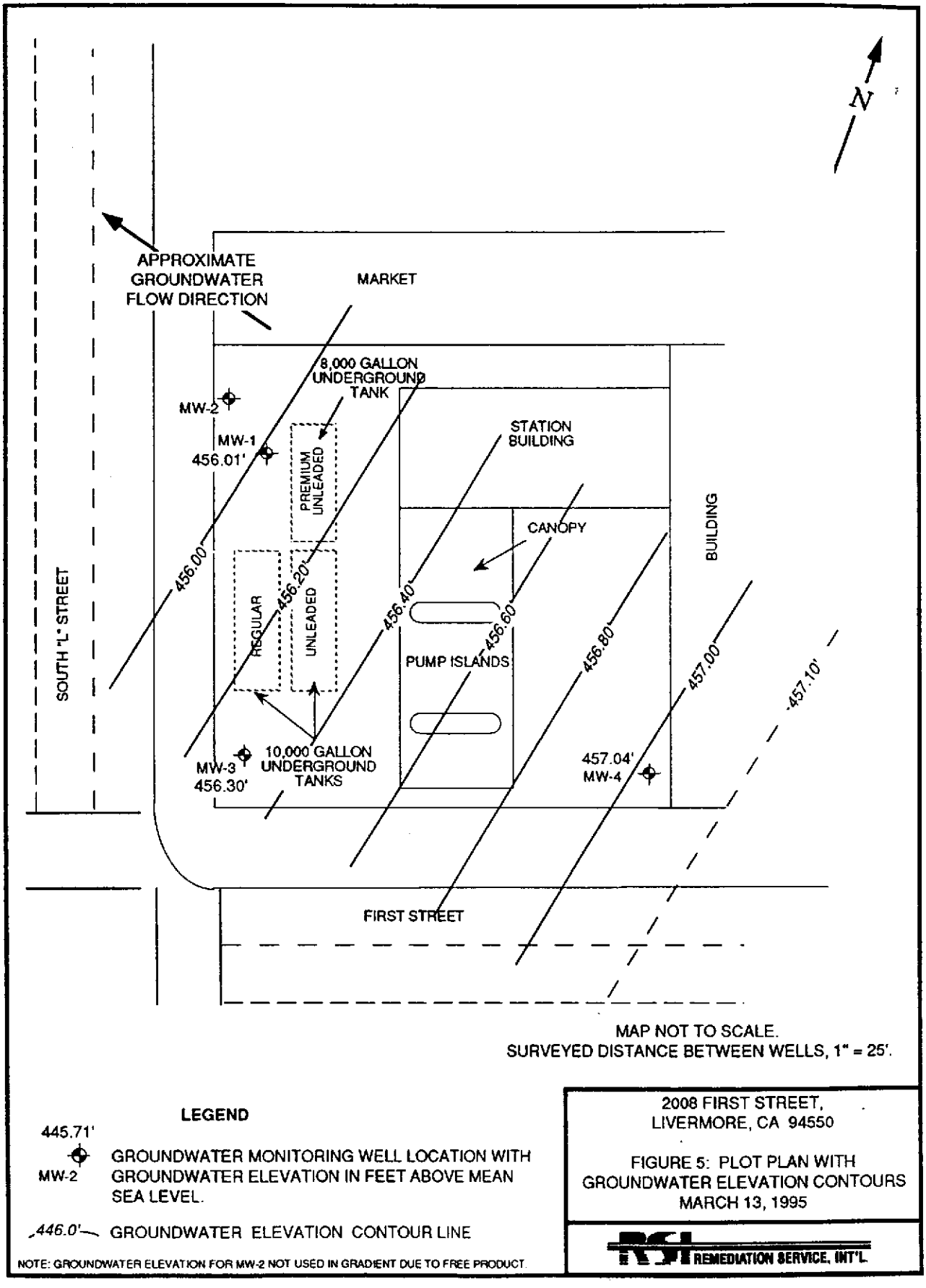
LEGEND

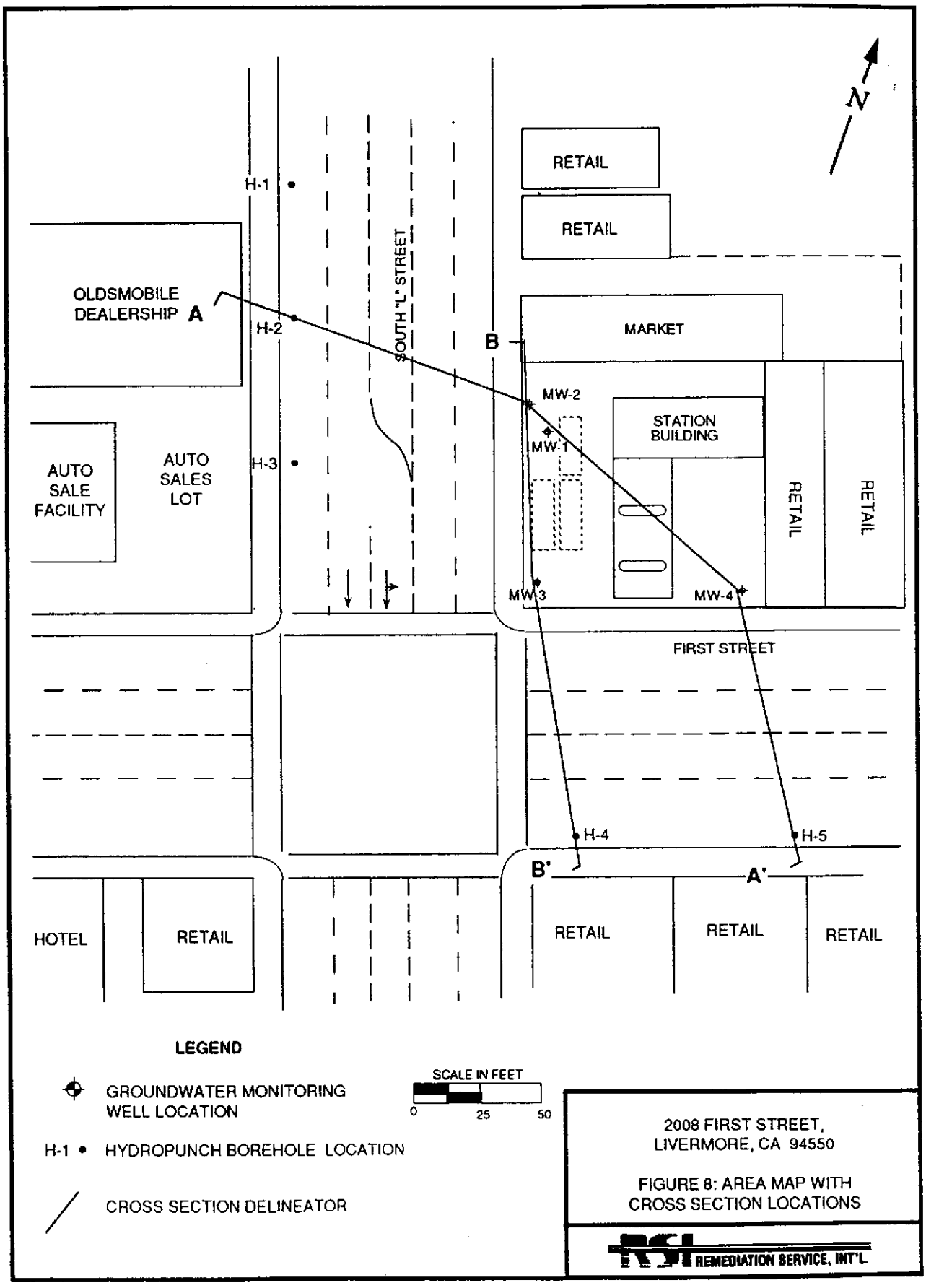
- GROUNDWATER MONITORING WELL LOCATION
- GEONOMICS AND ON-SITE TECHNOLOGIES BOREHOLE LOCATIONS

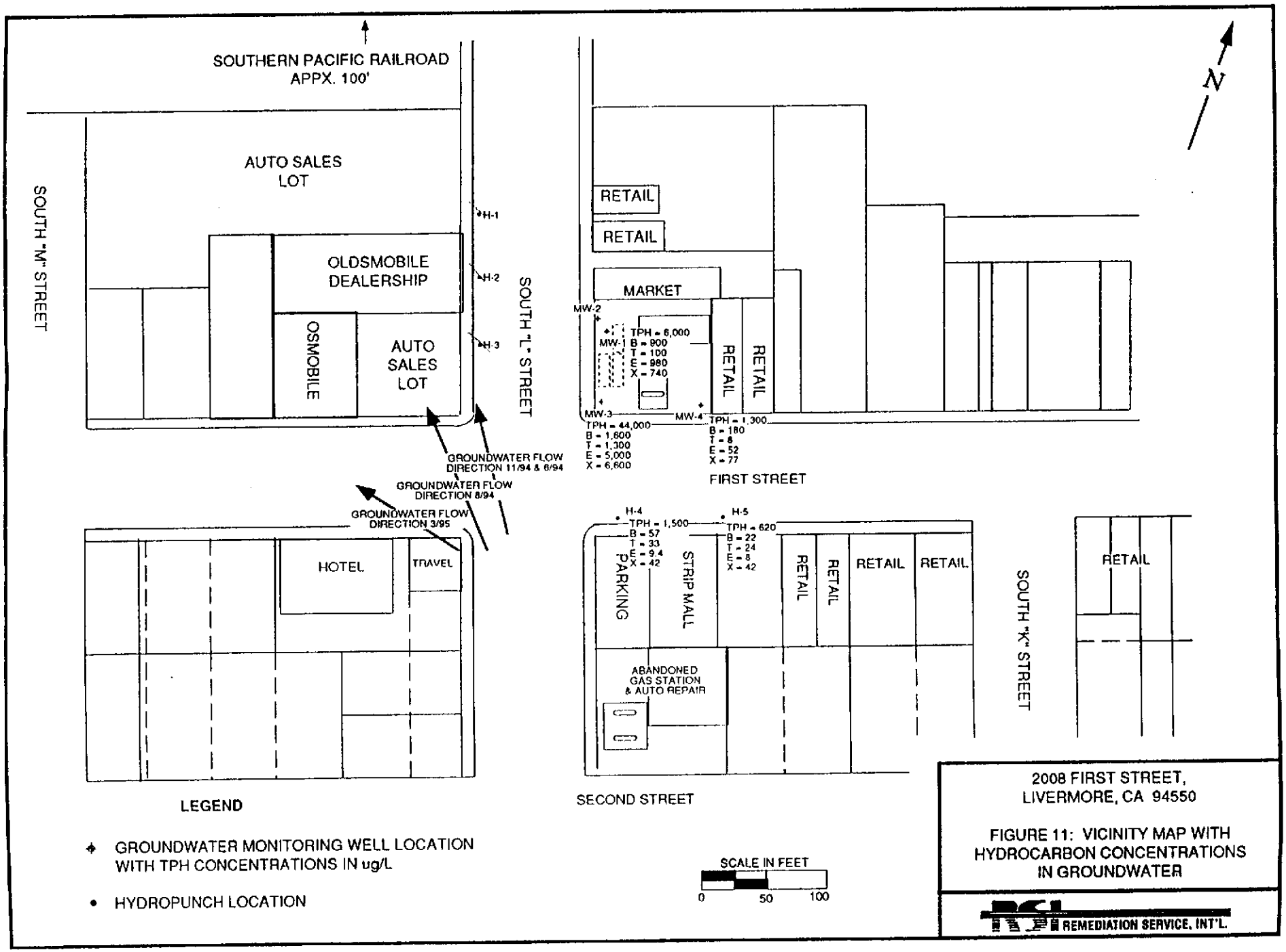
2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 4: PLOT PLAN WITH HISTORIC BOREHOLE LOCATIONS

REMEDIATION SERVICE, INT'L


N
APPROXIMATE GROUNDWATER FLOW DIRECTION
MARKET
8,000 GALLON UNDERGROUND TANK
MW-2
MW-1
456.01'
PREMIUM UNLEADED
STATION BUILDING
CANOPY
BUILDING
SOUTH "L" STREET
456.00
REGULAR
456.20'
UNLEADED
456.40
456.60
PUMP ISLANDS
456.80
457.00
457.10'
MW-3
456.30'
10,000 GALLON UNDERGROUND TANKS
457.04'
MW-4
FIRST STREET
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
REMEDIATION SERVICE, INT'L.

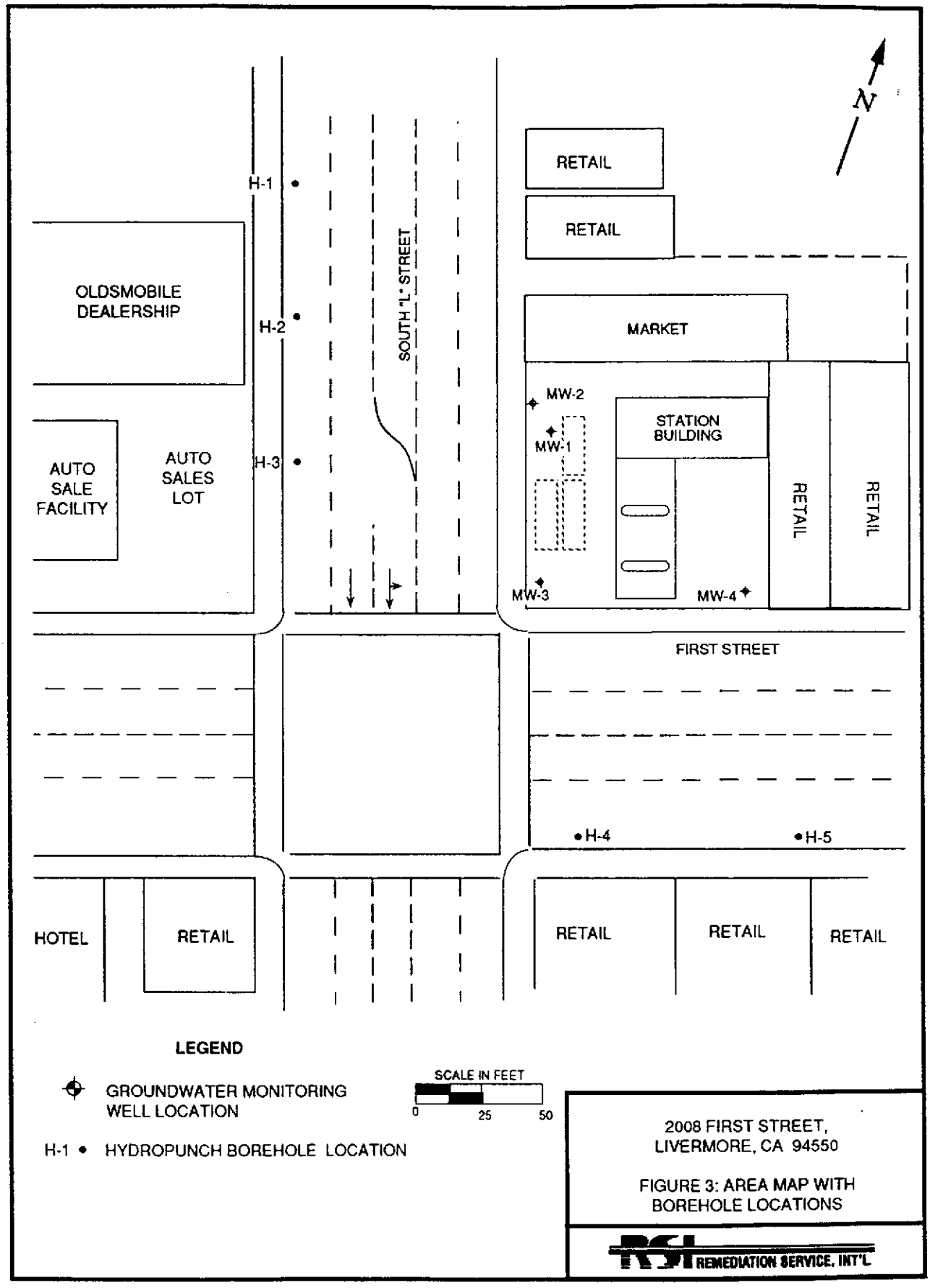

N
RETAIL
RETAIL
H-1
SOUTH "L" STREET
OLDSMOBILE DEALERSHIP
A
H-2
B
MARKET
MW-2
STATION BUILDING
MW-1
AUTO SALE FACILITY
AUTO SALES LOT
H-3
RETAIL
RETAIL
MW-3
MW-4
FIRST STREET
H-4
H-5
B'
A'
HOTEL
RETAIL
RETAIL
RETAIL
RETAIL
LEGEND
GROUNDWATER MONITORING WELL LOCATION
H-1 • HYDROPUNCH BOREHOLE LOCATION
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

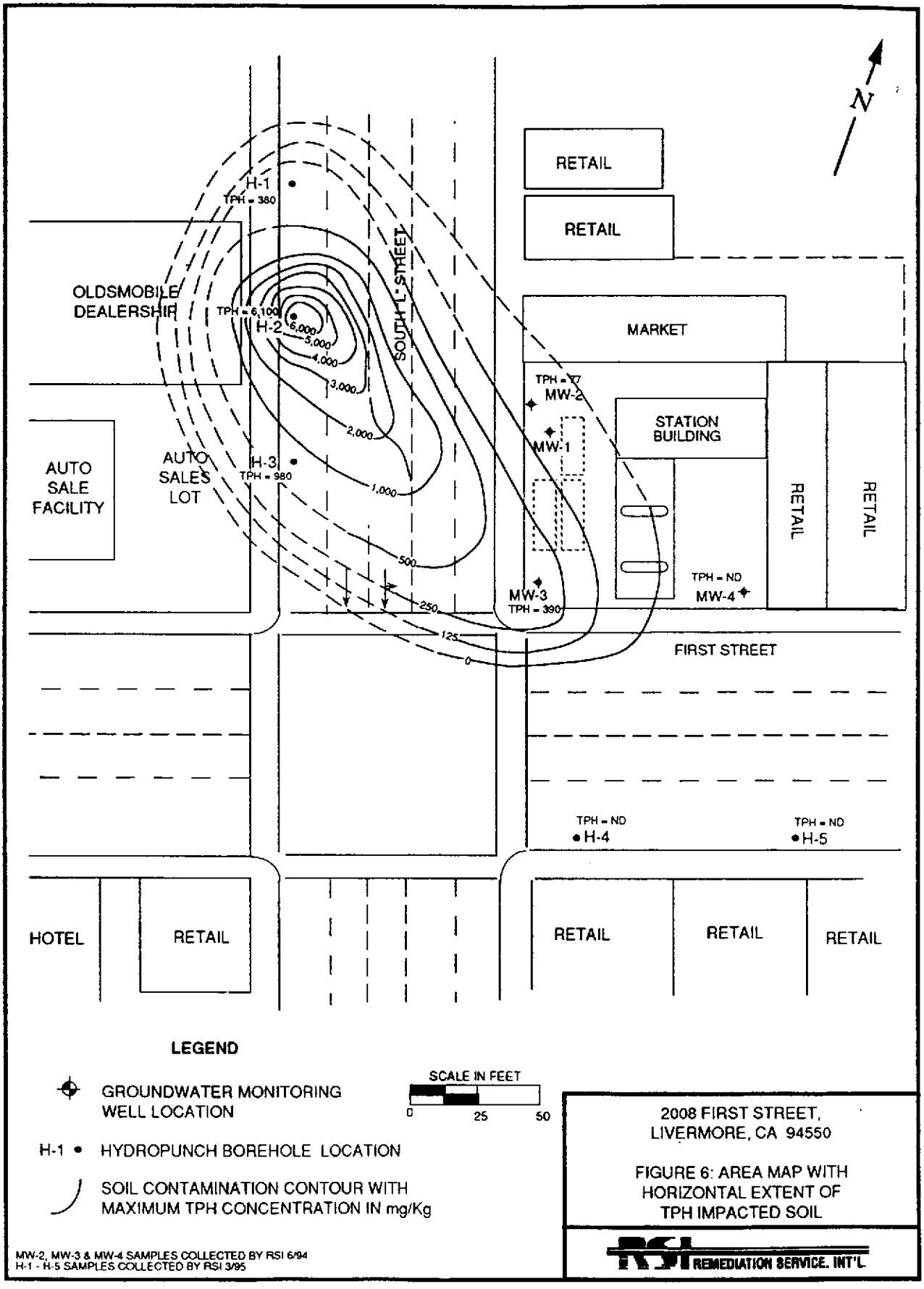


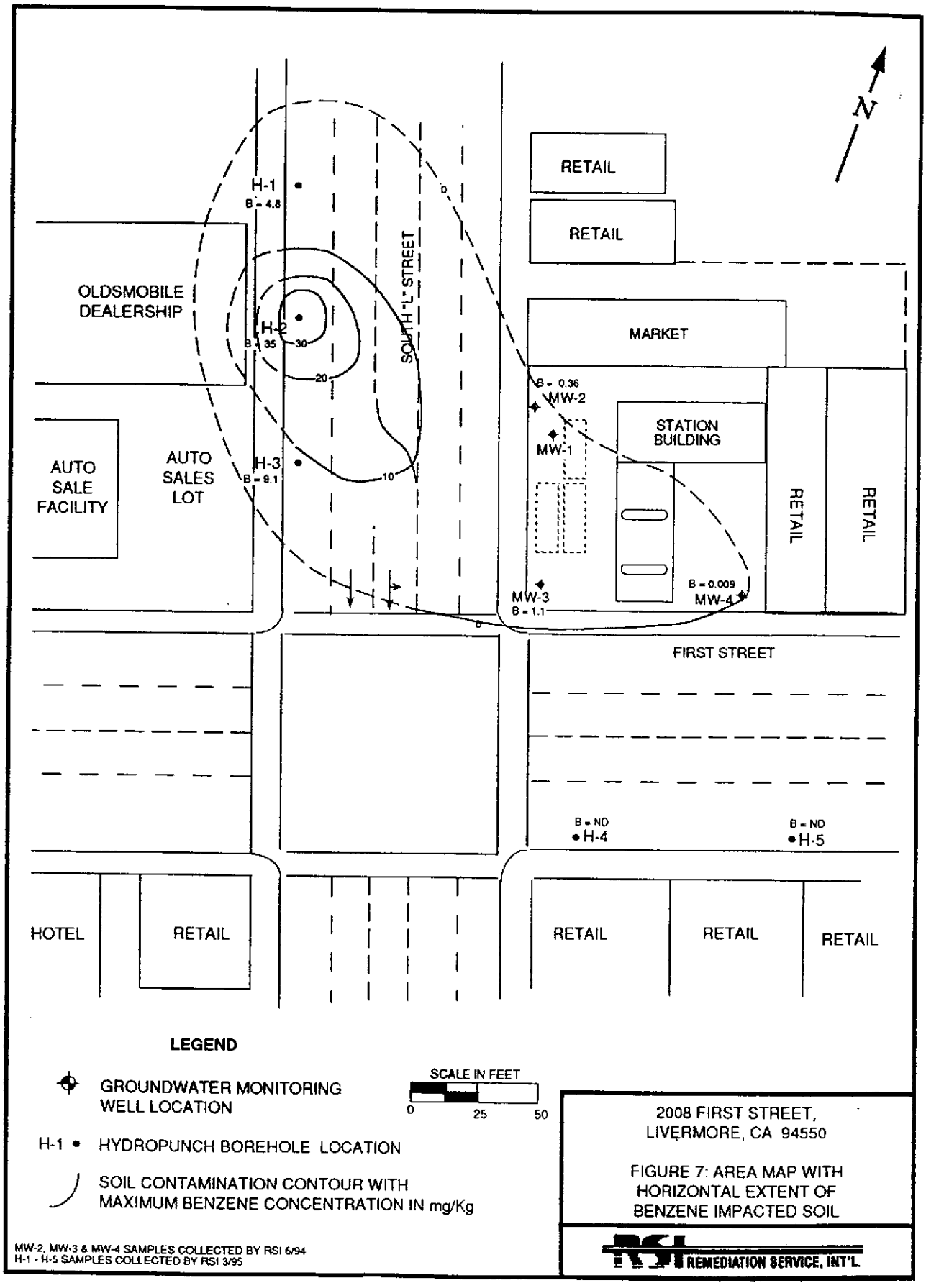
2008 FIRST STREET,
LIVERMORE, CA 94550

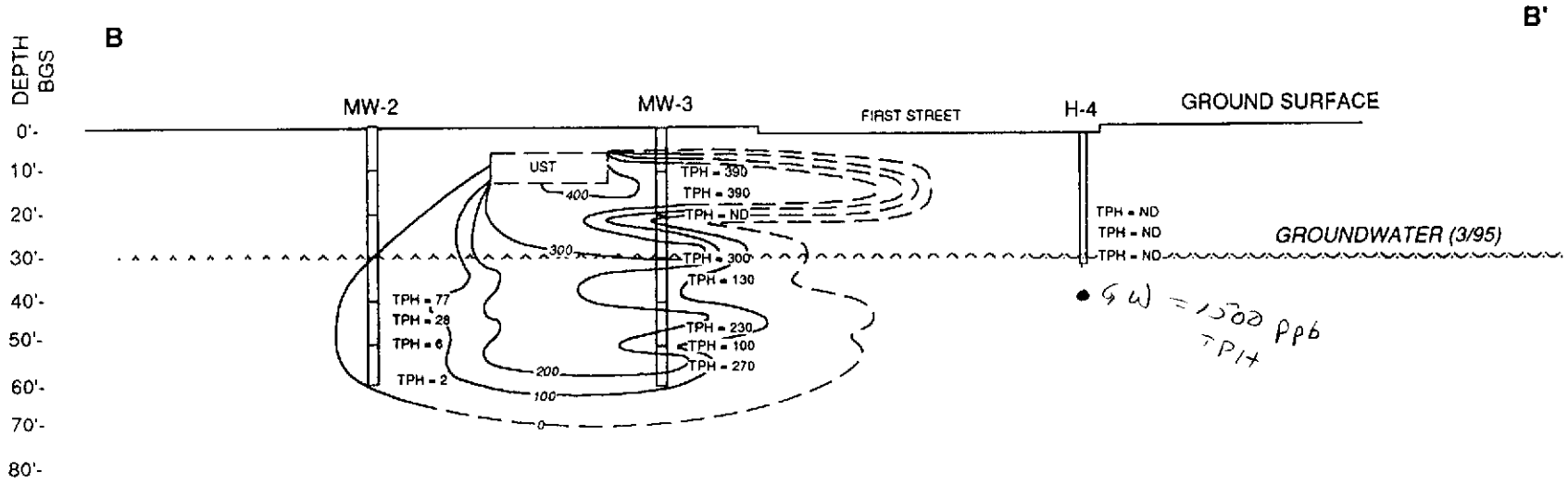
FIGURE 11: VICINITY MAP WITH HYDROCARBON CONCENTRATIONS IN GROUNDWATER

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


N
RETAIL
RETAIL
H-1
TPH = 380
SOUTH "L" STREET
OLDSMOBILE DEALERSHIP
TPH = 6,100
H-2
6,000
5,000
4,000
3,000
2,000
1,000
500
250
125
0
MARKET
TPH = ND
MW-2
STATION BUILDING
MW-1
AUTO SALE FACILITY
AUTO SALES LOT
H-3
TPH = 980
RETAIL
RETAIL
TPH = ND
MW-4
MW-3
TPH = 390
FIRST STREET
TPH = ND
H-4
TPH = ND
H-5
HOTEL
RETAIL
RETAIL
RETAIL
RETAIL
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
MW-2, MW-3 & MW-4 SAMPLES COLLECTED BY RSI 6/94
H-1 - H-5 SAMPLES COLLECTED BY RSI 3/95
2008 FIRST STREET,
LIVERMORE, CA 94550
FIGURE 6: AREA MAP WITH HORIZONTAL EXTENT OF TPH IMPACTED SOIL
REMEDIATION SERVICE, INT'L.


N
RETAIL
RETAIL
H-1
B = 4.8
SOUTH "L" STREET
OLDSMOBILE DEALERSHIP
H-2
B = 35
30
20
MARKET
B = 0.36
MW-2
STATION BUILDING
MW-1
AUTO SALE FACILITY
AUTO SALES LOT
H-3
B = 9.1
10
RETAIL
RETAIL
MW-3
B = 1.1
B = 0.009
MW-4
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
MW-2, MW-3 & MW-4 SAMPLES COLLECTED BY RSI 6/94
H-1 - H-5 SAMPLES COLLECTED BY RSI 3/95
2008 FIRST STREET, LIVERMORE, CA 94550
FIGURE 7: AREA MAP WITH HORIZONTAL EXTENT OF BENZENE 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.

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).

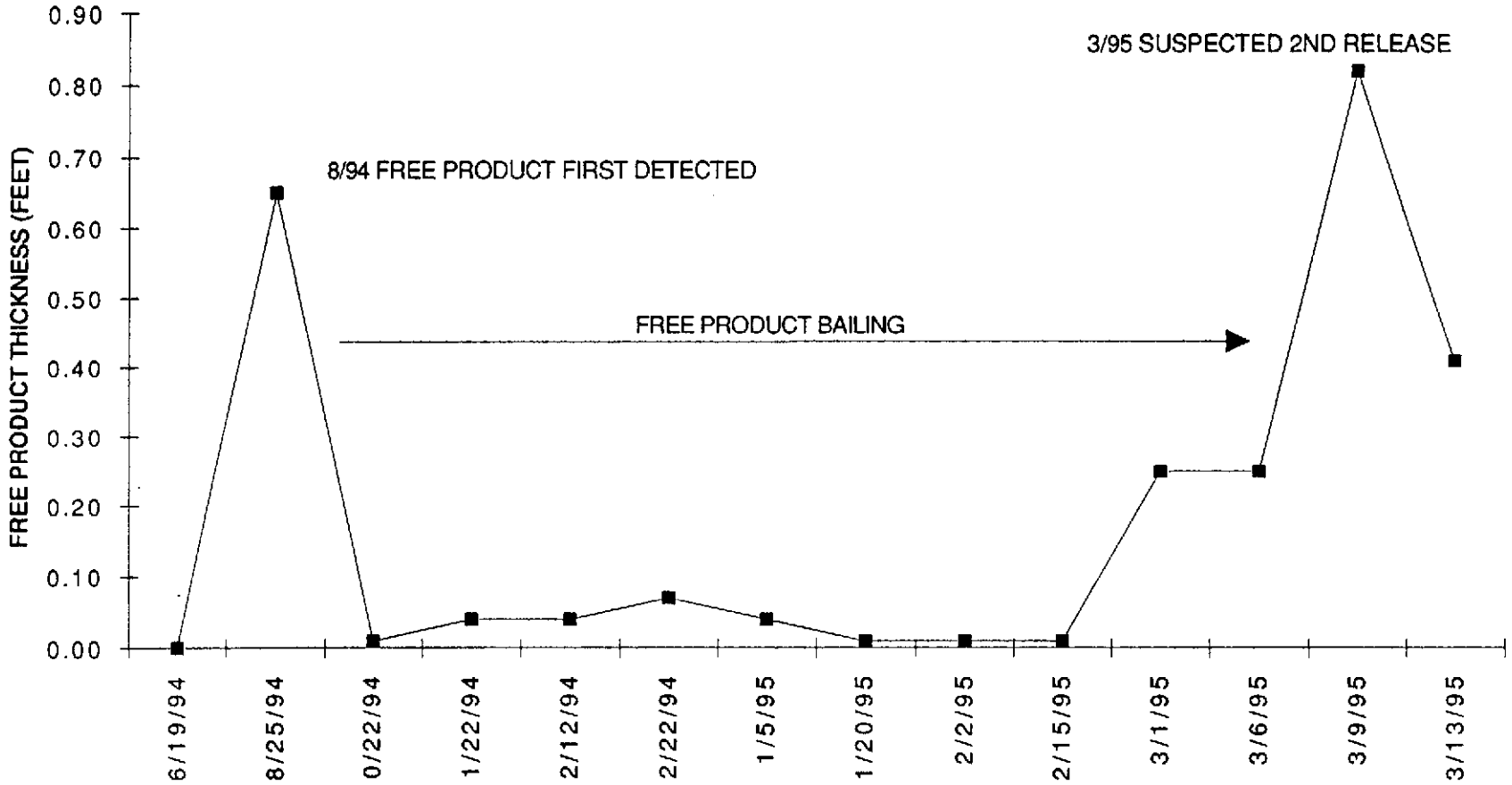
REMEDIATION SERVICE, INT'L.

GRAPHS

GRAPH 1

DP 795, LIVERMORE, CA

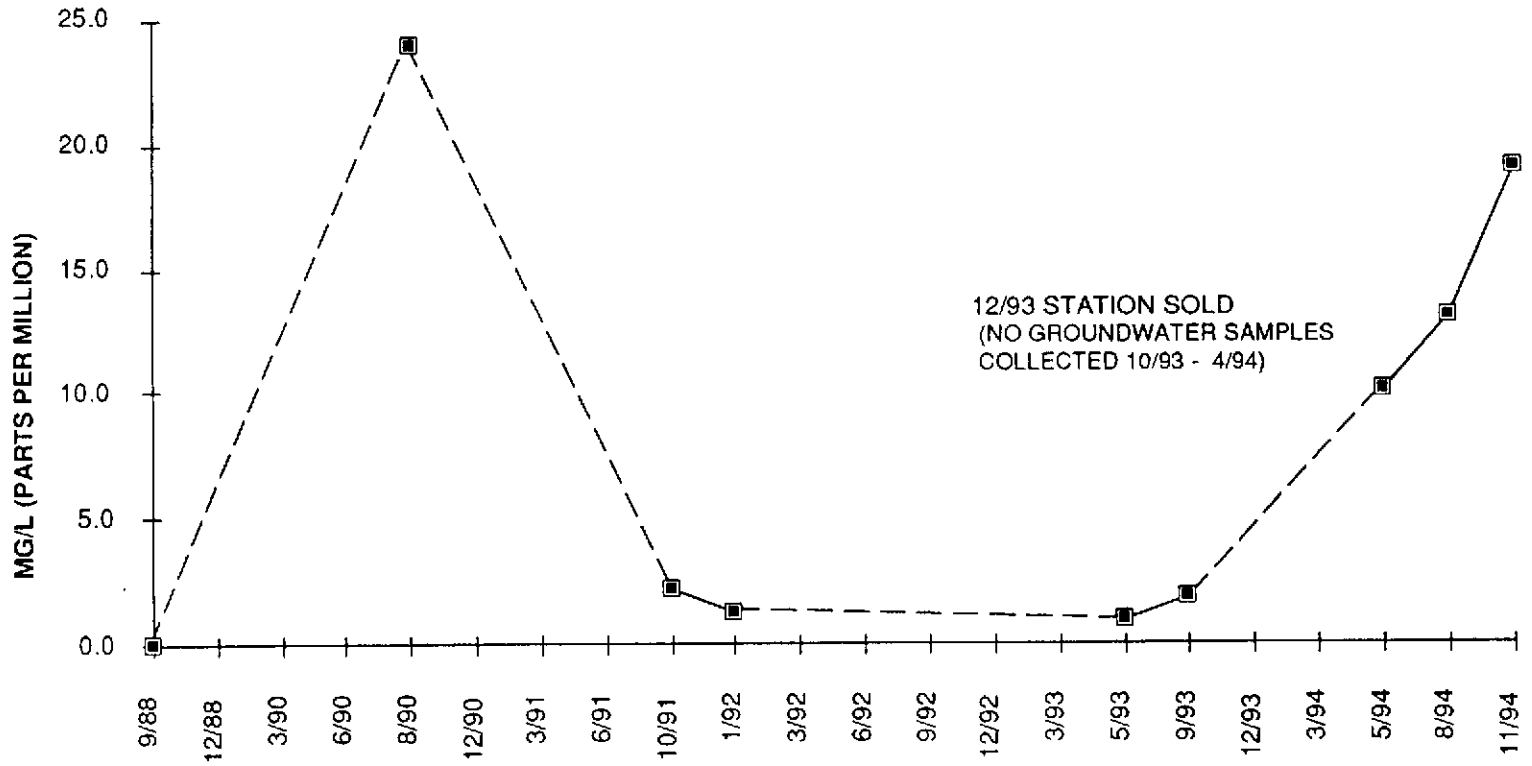
FREE PRODUCT THICKNESS, WELL MW-2



GRAPH 2

DP 795, LIVERMORE, CA

MW-1 TPH CONCENTRATIONS



REMEDIATION SERVICE, INT'L.

APPENDICES

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

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, Standa 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 a such work.

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

21. AS-BUILT PLANS: When required, Permittee shall submit o (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

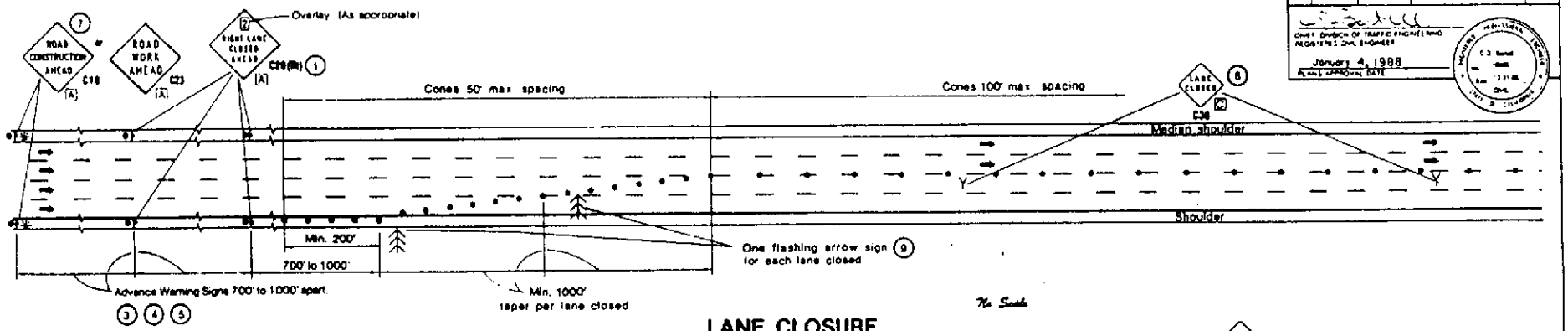
The permittee shall indemnify and save harmless the State of California, all officers, employees, and state contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on 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.

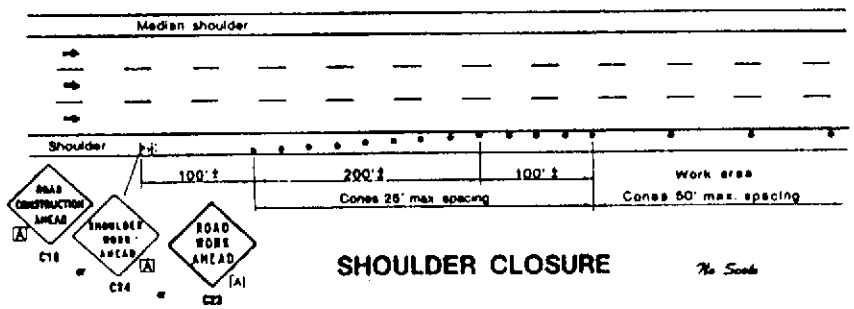
28. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent

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.

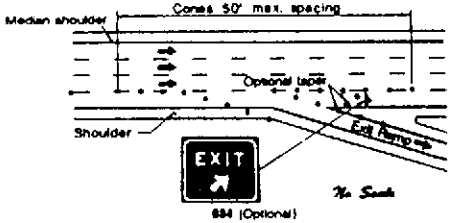
30. **MAINTENANCE OF HIGHWAYS** : The permittee agrees, by acceptance of a permit, to properly maintain any encroachment This will require inspection and repair of any damage to State facilities resulting from the encroachment.



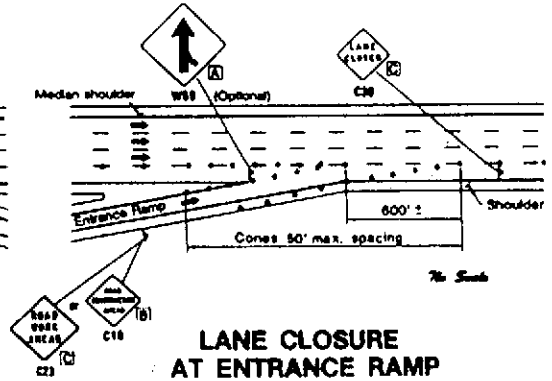
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT EXIT RAMP



LANE CLOSURE AT ENTRANCE RAMP

NOTES:

1. Median lane closure shall conform to the details for outside lane closures except that C20 (LT) 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 C26 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: R31

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

Phone: 805-644-5892

Permit No.: 5147

Receipt No.: 00762

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: W 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.
2. 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. PILAT

Date: 1/28/95

City Engineer

By: M. Dennehy

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
Hole Diameter 8 in. Maximum 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 Wyman Hong Date 2 Dec 94
Wyman Hong

91992

APPENDIX B

SOIL BORING LOG

DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	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		50/50	0	CL	CLAY WITH COARSE SAND, some gravel, v. stiff, dry, grey, slt. odor.
25		26/50 - 5"		CL	CLAY WITH COARSE SAND, some gravel, v. stiff, low plasticity. slt. moist, brown, no odor
30		3/4/07			Free Product in Sand & Clay, strong product odor CLAY WITH COARSE SAND, some gravel, soft, wet
35					

BOREHOLE COMPL / LITHOLOGY

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

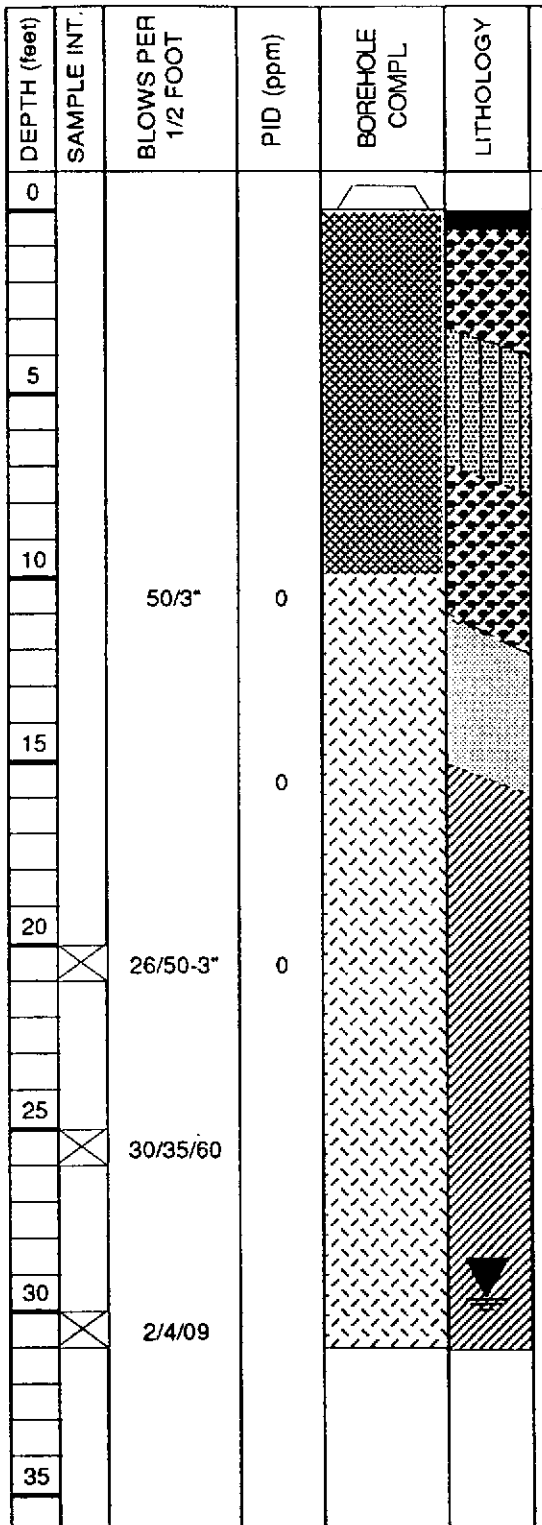
PROJECT: 2008 First Street, Livermore, CA

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



USCS	DESCRIPTION
	6" asphalt surface
GC	GRAVEL WITH SAND, some clay, dense, dry, grey brown, no product odor.
SM	SILTY SAND, with some gravel, dense, dry, grey brown, no product odor.
GC	GRAVEL WITH SAND, some clay, v. dense, dry, med. brown no product odor.
SP	MED. TO COARSE GRAINED SAND, with some gravel, dense, dry, med. brown, strong organic odor.
CL	CLAY WITH COARSE SAND, some gravel, v. stiff, dry, med. brown, no odor.
CL	CLAY WITH COARSE SAND, some gravel, v. stiff, low plasticity, slt. moist, grey, slt. odor
	Free Product in Sand & Clay, strong product odor

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)	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

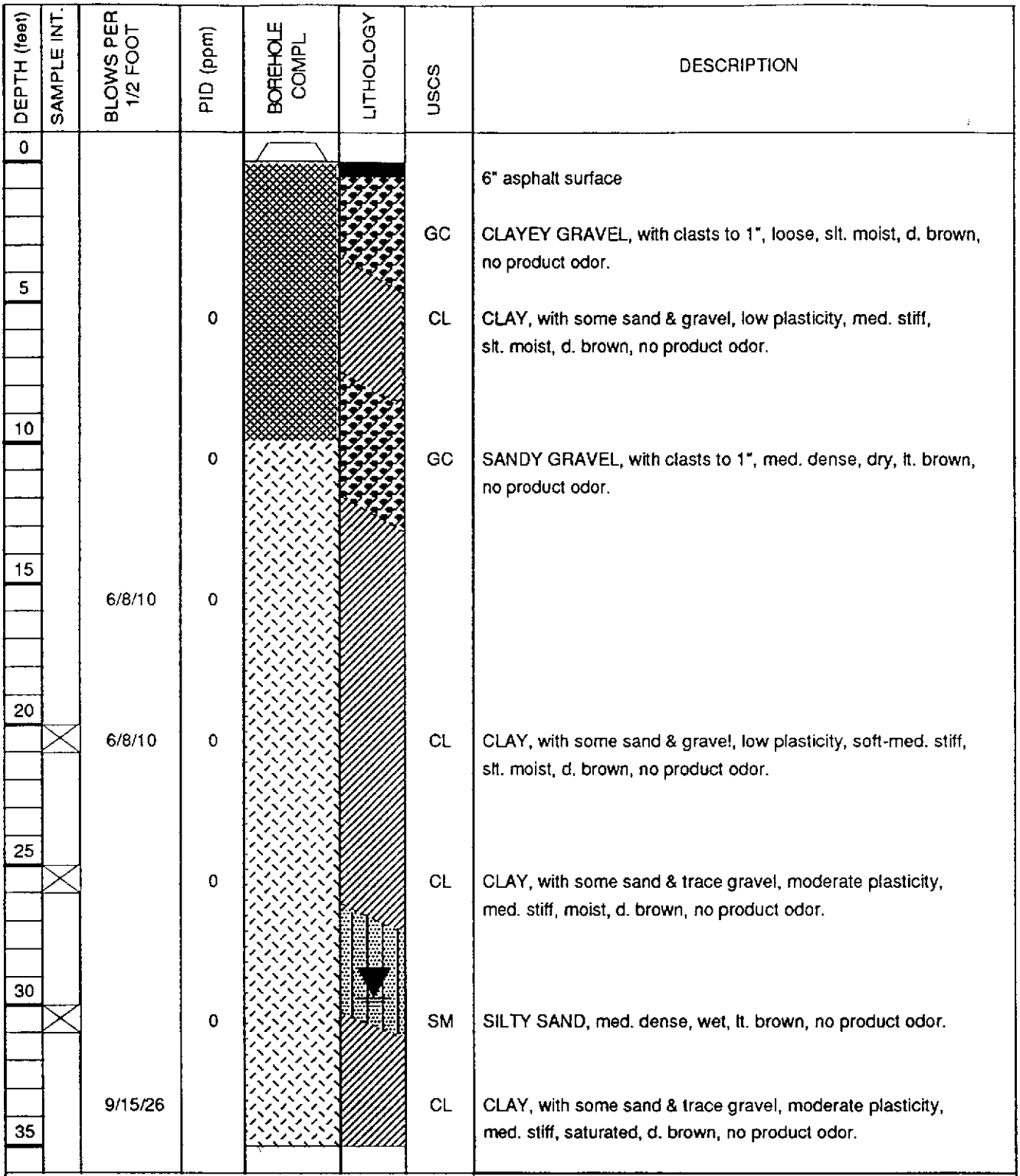
PROJECT: 2008 First Street, Livermore, CA

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)	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 Muthern, 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

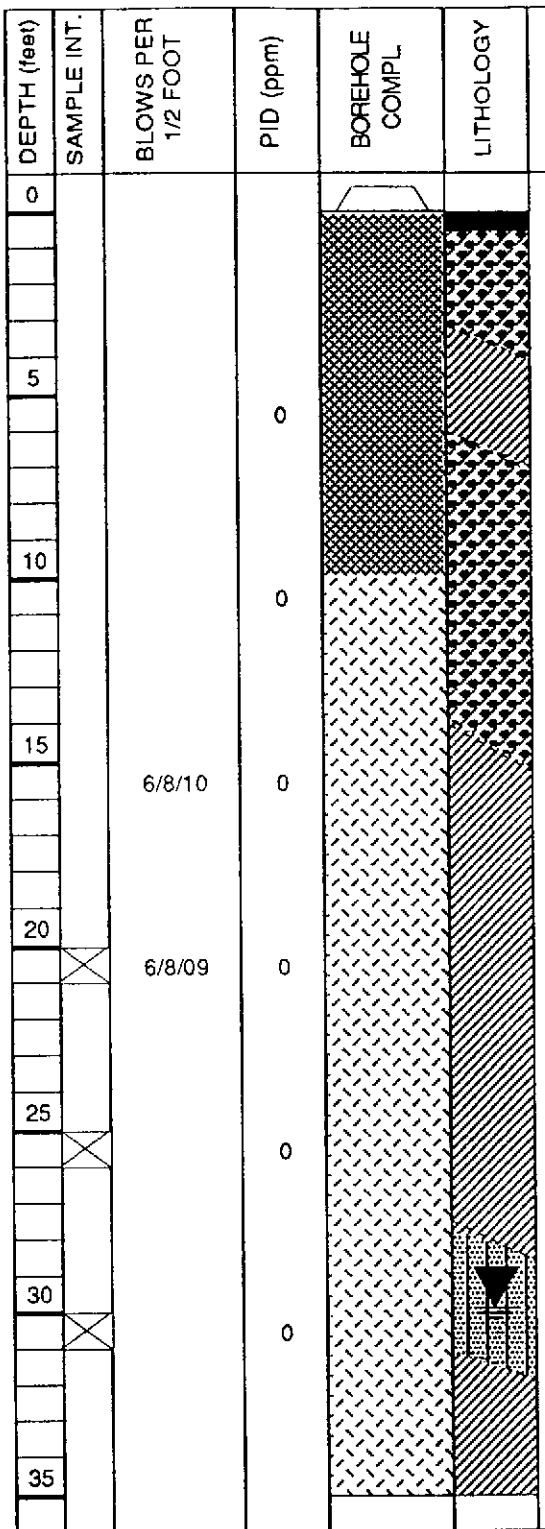
PROJECT: 2008 First Street, Livermore, CA

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



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.
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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) 644-5692 • 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.

RCI
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

3/29/95
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

Atkins Environmental

HELP LABS

2889 Bunsen Ave, Suite A Ventura, CA 93003

805-644-1044 Fax 805-644-0236

PG 1/2

Chain of Custody Record

Analytical Services Request

CLIENT NAME	ADDRESS	TELEPHONE/FAX NUMBER	METHOD OF SHIPMENT/SHIPPING DOCUMENT #
DESERT PET.		805-644-5892	COOLER / BL ICE

PROJECT NAME/LOCATION	CLIENT PROJECT NO.	REQUESTED TURNAROUND TIME	HELP LABS QUOTE #	HELP LABS PROJECT #
DP 795		24 HOURS:_____ 10 DAY:_____ 5 DAY:_____		

PROJECT MANAGER	SAMPLER (S)	P.O. NO.
Rick PILAT	PILAT	

SAMPLE IDENTIFICATION NO.	LAB NUMBER	DATE SAMPLED	TIME SAMPLED	CONTAINER #/TYPE	GRAB	COMPOSITE	SOIL	H_2O	OTHER	524.2	624	8260	TPH g/MS	Cal/BTEX 8015/8020				REMARKS
H-1 20'		3/8/95	9:00 A	BT										X				
H-1 30'			11											X				SAT W/ HC
H-2 20'			10:00											X				
H-2 25'			11											X				
H-2 30'			11											X				SAT W/ HC
H-1 25'			9:00A											X				
H-3 20'			11:00											X				
H-3 25'			11											X				
H-3 30'			11											X				SAT W/ HC
H-4 20'			2:00											X				

CONDITION OF SAMPLE:	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
TEMPERATURE UPON RECEIPT:				
SEALS INTACT: YES / NO	RELINQUISHED BY: (Signature) Mercedes Zaheer	RECEIVED BY: (Signature) 3/10/95	DATE	TIME
SAMPLE DISPOSAL:	RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME

SEND INVOICE TO:

PAGE _____ OF _____

Rick

Pg 2/2

tkins Environmental
HELP LABS
39 Bunsen Ave, Suite A Ventura, CA 93003
05-644-1044 Fax 805-644-0236

Chain of Custody Record
Analytical Services Request

IENT NAME	ADDRESS	TELEPHONE/FAX NUMBER	METHOD OF SHIPMENT/SHIPPING DOCUMENT #
DESERT			

OJECT NAME/LOCATION	CLIENT PROJECT NO.	REQUESTED TURNAROUND TIME	HELP LABS QUOTE #	HELP LABS PROJECT #
DP 795		24 HOURS:_____ 10 DAY:_____ 5 DAY:_____		

OJECT MANAGER	SAMPLER (S)	P.O. NO.
K PLATT (805) 652-9408	PLATT	

SAMPLE IDENTIFICATION NO.	LAB NUMBER	DATE SAMPLED	TIME SAMPLED	CONTAINER #/TYPE	GRAB	COMPOSITE	SOIL	H2O	OTHER	524.2	624	8260	TPH g/MS	GAS/BTEX 8015/8020				REMARKS
H-4 25'		3/8/95	2:30	BT										X				
H-4 30'			"	"										X				
H-4			3:00	VOAS										X				Sample noted as H-4@35'
H-5 20'			4:00	BT										X				
H-5 25'			"	"										X				
H-5 30			"	"										X				
H-5			5:00	VOAS										X				Sample noted as H-5@35'

ONDITION OF SAMPLE:

EMPERATURE UPON RECEIPT:

EALS INTACT: YES / NO

AMPLE DISPOSAL:

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature) Mercedes Jaketa 3/10/95	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME

END INVOICE TO: contacted client.

PAGE _____ OF _____

STATE OF CALIFORNIA - CALIFORNIA ENVIRON TAL PROTECTION AGENCY
PETE WILSON, *Governor*

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
2014 T STREET, SUITE 130
P.O. BOX 944212
SACRAMENTO, CALIFORNIA 94244-2120
(916) 227-4424
(916) 227-4530 (FAX)

Mr. John Rutherford
Desert Petroleum, Inc.
P.O. Box 1601
Oxnard, CA 93032

APR 1 0 1995

Dear Mr. Rutherford:

UNDERGROUND STORAGE TANK CLEANUP FUND, CLAIM NO. 003272

I have recently reviewed the file for Desert Petroleum, Inc. (DPI) Underground Storage Tank Cleanup Fund Claim **#003272**. Based on the information you have provided for your site at 2008 First Street, Livermore, an unauthorized release was identified in March 1988. The unauthorized release was discovered during the installation of vapor monitoring wells. Both soil and groundwater have been identified as being impacted with petroleum hydrocarbons.

Normally when petroleum contamination in groundwater and soil has been discovered underneath a UST system, a 24 hour immediate response is required. Immediately the source of the leak is to be located and abated. If the source cannot be stopped, the system is to be taken out of operation. No information exists in the subject claim file which indicate that the source has been abated. Also, it appears based on file information that the USTs identified at the subject site may still be in use. Essentially it appears that DPI may be negligent by not investigating or repairing the UST system and continuing to operate, thus causing an ongoing release. DPI's Claim **#003272** to the Fund may be ineligible per Section 2810.3 of the USTCF Regulations.

The unauthorized release report dated 4/1/88 submitted by the DPI states "At this time contamination is believed to be caused by overspills from product delivery...". Section 2804 of the USTCF Regulations state that the definition of the term **release** "...does not include releases which are clearly attributable to spills and overfills occurring as a result of filling or emptying of a tank."

In order to validate this claim, DPI must clearly establish that after contamination detection, repairs to the UST system were completed within a reasonable time period, or the UST system was taken out of service. If written documentation of UST leak identification and abatement is not received within 30 days from the date of this letter, I will recommend that this claim be issued a Notice of Ineligibility to the Fund.

Sincerely,

James Munch, P.E.
Technical Review Unit, Underground Storage Tank Cleanup Fund

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

StID 1689

October 4, 1994

Mr. John Rutherford
Desert Petroleum
P.O. Box 1601
Oxnard, CA 93032

RE: Free Product Removal at 2008 1st St, Livermore 94550

Dear Mr. Rutherford:

I have completed review of Remediation Services' September 1994 Quarterly Monitoring Report for the above referenced site. It appears all wells onsite exhibit elevated levels of petroleum hydrocarbons. In fact, well MW-2 detected free product.

At this time, interim measures should be taken to abate the potential effects of an unauthorized release of petroleum hydrocarbons with free product in groundwater. Please be advised, pursuant to Section 2655 of Article 5, Title 23 of the California Code of Regulations, the owner or operator shall conduct free product removal in a manner that will minimize the spread of contamination into previously uncontaminated zones. Free product removal reports must be prepared in compliance with said section and be submitted within 45 days upon completion of interim remediation.

A workplan for offsite investigation is currently due. Be sure this proposal includes evaluating the contaminant plume both up- and down-gradient from the tank pit/dispenser islands.

Please be advised that this is a formal request for technical reports pursuant to Title 23, CCR, Section 2722(c). Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by this agency.

Should you have any questions about the content of this letter, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: Richard Pilat, RSI, 2060 Knoll Dr, #200, Ventura, CA 93003
files (desert7)

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

ALCO HAZMAT
94 JUL 28 PM 4:37

SOIL & GROUNDWATER INVESTIGATION REPORT
for
2008 First Street
Livermore, California 94550

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

Healey

MW2,3,4
well screened from 30-60' – Too much!

Need to analyze MW-2 for VOCs + TOG

offsite investigation required

Michael Mulhern
E.G. #1507

REGISTERED GEOLOGIST
MICHAEL E. MULHERN
No. 1507
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

July 22, 1994

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the results of a soil and groundwater investigation for the real property located at 2008 First Street, Livermore, Alameda County, California 94550 (Figure 1). Remediation Service, Int'l. (RSI) is under contract to Desert Petroleum, Inc. to conduct assessment of soil and groundwater beneath the subject property.

The property is currently an operating retail gasoline service station. A preliminary site assessment conducted in February, 1988 indicated that both soil and groundwater contained elevated concentrations of petroleum hydrocarbons. Analytical results from groundwater monitoring well installation confirmed that soil and groundwater had been impacted by an unauthorized release. In May, 1993 Alameda County requested further soil and groundwater investigation to delineate the extent of impact.

RSI submitted a workplan to the Alameda County Department of Environmental Health (ACEMD) on January 3, 1994. The plan was approved by Ms. Eva Chu of ACEMD in a letter dated January 13, 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 (Figure 1). Site improvements include a storage/garage building, three underground storage tanks, two pump islands and one groundwater monitoring well. 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 2).

The site is flat, level and paved with asphalt.

3.0 BACKGROUND

On February 23, 1988, Geonomics Inc., installed four vapor monitoring probes around the tank area (DPL-1, -2, -3 & -4, Figure 3). 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 and a benzene concentration of 7.5 mg/Kg. Soil samples from DPL-3 and DPL-4 did not contain detectable levels of TPH or BTEX (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 3). 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. Groundwater was analyzed for TPH as gasoline and BTEX; no hydrocarbon compounds were detected in the groundwater at that time (On-Site Technologies, Inc. Report of Hydrogeologic Site Investigation, October 26, 1988).

On August 2, 1990, monitoring well GX-136 was sampled for TPH as gasoline and BTEX. Analytical results reported a TPH concentration of 24,000 µg/L and a benzene concentration of 1,300 ug/L (Table 2).

Groundwater has been monitored on a regular basis since 1990. The most recent measurement and sampling in May, 1994 reported groundwater at 33.57 feet bgs in well MW-1. Analysis of groundwater reported a TPH as gasoline concentration of 10,000 µg/L and a benzene concentration of 690 ug/L. Table 2 summarizes historic groundwater analytical results at the site.

4.0 SOIL AND GROUNDWATER INVESTIGATION

The purpose of this investigation was to examine the soil and groundwater for contamination that may have been released from the underground gasoline storage tanks. The investigation was initiated by installing three groundwater monitoring wells at the approximate locations shown on Figure 2.

4.1 Monitoring Well Installation Procedures

Prior to beginning drilling at the site, a well permit was obtained from the Alameda County Flood Control and Water Conservation District (Appendix A). Underground Service Alert was notified in order to have all underground utilities located and marked.

On June 16-18, 1994, three groundwater monitoring wells, MW-2, MW-3 & MW-4, were installed in the locations shown on Figure 3. The wells were drilled using a hollow-stem continuous flight auger drilling rig supplied and operated by Great Sierra Exploration in Novato, California (License #C57-

610487). Drilling and soil sampling was performed under the direct supervision of Michael Mulhern, California Certified Engineering Geologist #1507. A recently 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, field screened PID readings and a pictorial cross section of the finished wells are included in Appendix B. Soil descriptions are based on the USCS classification system.

During drilling operations, soil samples were collected at minimum five foot intervals extending from a depth of five feet to the total depth of the wells (60 feet bgs), and at the first sign of free water. Soil samples were collected from each well by driving a 2 inch diameter split spoon sampler containing three 6 inch long thin walled brass tubes into undisturbed soil beneath the auger. The samples were then sealed, labeled, placed on ice and transported under standard chain of custody to Coast to Coast Analytical, a state certified laboratory in San Jose, California. The samples were analyzed for TPH, BTEX and total lead using EPA methods 8015M, 8020 and 7420 respectively. Soil sample analyses are included in the Laboratory Report presented in Appendix E.

The monitoring wells were constructed of four-inch diameter schedule 40 PVC casing with 0.01-inch slots over the perforated interval. The wells were installed to a total depth of 60 feet bgs. Slotted casing was installed from 30 feet bgs to total well depth. The annular space around the slotted interval was filter packed with #2/20 Lonestar sand from a depth of approximately 25 feet bgs to total depth of the well. A two to three foot thick bentonite seal, which was hydrated in-place, was set over each filter pack. Concrete was used as the annular seal from the ground surface to the top of the bentonite. The wells were secured with locking caps and protective traffic-rated well boxes set into the concrete approximately one inch higher than the surrounding ground surface. See Appendix B for well construction details.

After the filter packs were placed and the bentonite seals and concrete had set, the wells were surged with a surge block to set the filter packs and remove any fine sediments. The wells were then further developed a minimum of 48 hours later by bailing until the water produced was visually free of sediment.

All soil cuttings and discharged water is contained on site in covered 55-gallon (17H) DOT approved drums which were sealed and labeled as pending lab analysis. Final disposal of the soil and groundwater will be based on laboratory results.

4.2 Monitoring Well Sampling Procedures

After the monitoring wells had been completed and set up, the wellheads were surveyed by a California Registered Surveyor to determine their elevation relative to a City of Livermore bench mark located on the northeast corner of First street and South L street. A copy of the survey report is included in Appendix C. On June 19, 1994, the groundwater monitoring wells were measured for depth to water to an accuracy of 0.01 feet. The measuring point for each well was a notched point at the top of the well casing on the north side. Wells MW-2, MW-3 and MW-4 were then purged and sampled. Purging was accomplished using a Grundfos Rediflo pump. The pump and hose were decontaminated between each well with TSP and a standard 3-bucket wash method. The wells were purged until three well volumes had been removed and temperature, conductivity and pH had stabilized. These parameters along with all other pertinent data were recorded on Water Sample Logs (Appendix D). The purged water was placed in 55 gallon DOT approved drums which were sealed and labeled as pending laboratory analysis.

The wells were allowed to recharge to a minimum of 80 percent, then sampled using a disposable polyethylene bailer. The samples, along with a trip blank, were labeled and placed on blue ice for transportation under standard chain of custody to Coast to Coast Analytical, a state certified laboratory in San Jose, California. All samples were analyzed to minimum detection limits for TPH, BTEX and total lead using EPA methods 8015M, 8020 and 7421, respectively. Laboratory Reports for Water Sample Analyses are included in Appendix F.

4.3 Soil and Groundwater Investigation Results

4.3.1 Geology and Hydrogeology

The site is located on the floor of the Livermore Valley at an elevation of approximately 480 feet above mean sea level 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.

As reported on the boring logs in Appendix B, predominantly silty sand, sandy gravel and gravel with sand were encountered to depth of approximately 15 to 20 feet bgs, and intermitent layers of sandy clay, silty sand and gravelly sand were encountered from 20 feet bgs to total boring depths (60 feet bgs). During drilling, groundwater was encountered in the clay and sand at a depth of approximately 40 feet bgs in the wells.

Depth to water measurements collected 2 days after the wells were completed and developed were between 37.15 to 38.15 feet bgs (Table 3 and Appendix D). Groundwater gradient was calculated to be approximately 0.021 ft/ft with groundwater flow in a northwesterly direction (Figure 4).

4.3.2 Soil Sampling Results

A petroleum odor was noted in the drill cuttings taken from well MW-2 at 45 feet bgs and from well MW-3 from 5 feet bgs to total depth. No product odor was noted in the cuttings from well MW-4. Head space field screening concentrations using a photoionization detector (PID) ranged between 0 and 2,000 parts per million vapor (ppmv) in well MW-2, between 0 and 3,000 ppmv in well MW-2 and between 0 and 9 ppmv in well MW-3. Field screened PID readings are included on the boring logs in Appendix B.

As reported in Table 1 and Appendix E, TPH was detected in the soil predominantly in well MW-3 at concentrations ranging between ND (MW-3 @ 20') and 390 mg/Kg (MW-3 @ 10' and 15'). Benzene concentrations in well MW-3 ranged between ND and 0.62 mg/Kg (MW-3 @45'). In well MW-2, TPH was reported at 40 to 60 feet bgs at a concentration ranging from 2 mg/Kg (MW-2 @ 60') to 77 mg/Kg (MW-2 @ 40'); benzene concentrations ranged from 0.04 to 0.36 mg/Kg. TPH was not detected in the sample from MW-4; benzene was detected at a low concentration of 0.009 mg/Kg.

4.3.3 Groundwater Sampling Results

Analytical results for groundwater samples collected on June 19, 1994 are summarized in Table 2 and shown graphically in Figure 5 ;the complete laboratory report is contained in Appendix F. State of California concentrations for drinking water standards are included in Table 2. Hydrocarbons were detected in the groundwater samples from all three wells. TPH concentrations ranged between 810 µg/L (MW-4) and 290,000 µg/L (MW-2). Benzene was also detected in all three wells at concentrations of 12 µg/L in well MW-4, 640 µg/L in MW-3 and 18,000 µg/L in MW-2. These concentrations for benzene exceed the California Department of Health Services Drinking Water Action Level of 1 part per billion (CCR Title 22, Section 64444.5).

Lead was detected in the groundwater samples from wells MW-2 and MW-4 at low concentrations of 0.016 mg/L and 0.007 mg/L, respectively.

5.0 CONCLUSIONS

This investigation found that the soil and groundwater has been impacted by hydrocarbon contamination near the capillary fringe in the former tank location. The highest soil contamination (TPH, 390 mg/Kg) was reported in well MW-3 which is situated 30 feet south of the former tank location. Groundwater contamination was greatest in well MW-2 (TPH, 290,000 µg/L); this well is downgradient of the former tank location.

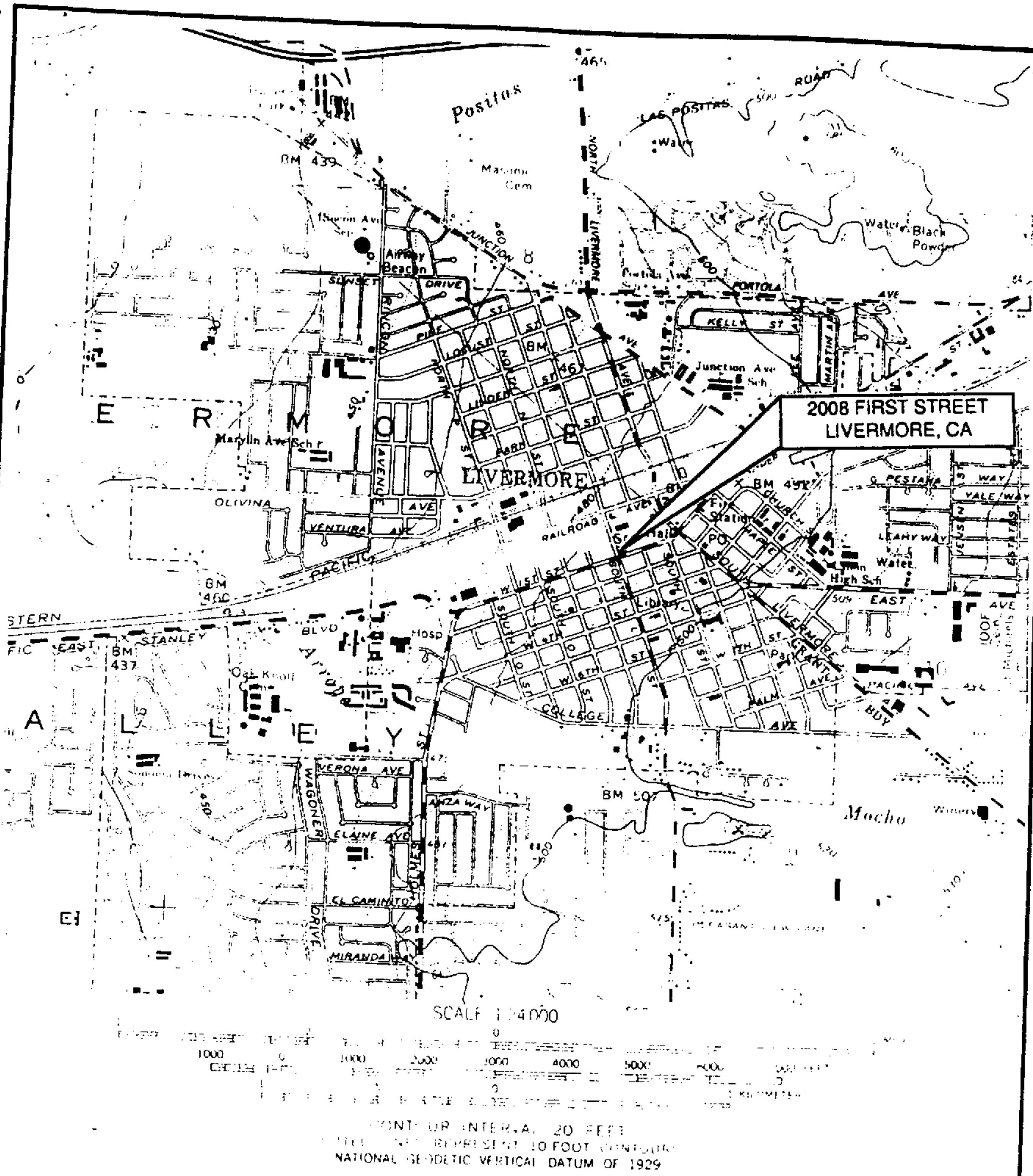
6.0 LIMITATIONS

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 investigation.

The services performed by Remediation Service, Int'l and it's sub-contractors 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.

FIGURES

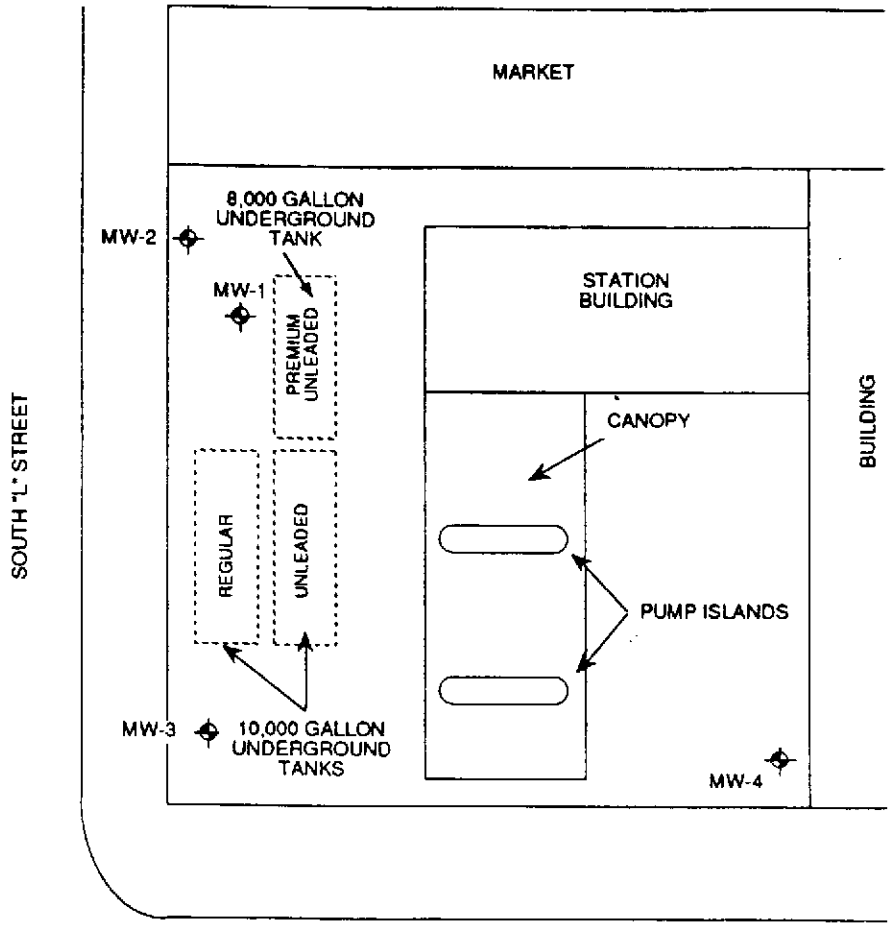


FROM U S G S 7.5' TOPOGRAPHIC QUADRANGLE "LIVERMORE CALIFORNIA," 1961 PHOTOREVISED 1980

2008 FIRST STREET
LIVERMORE, CA

FIGURE 1 LOCATION MAP

- REMEDIATION SERVICE, INT'L



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

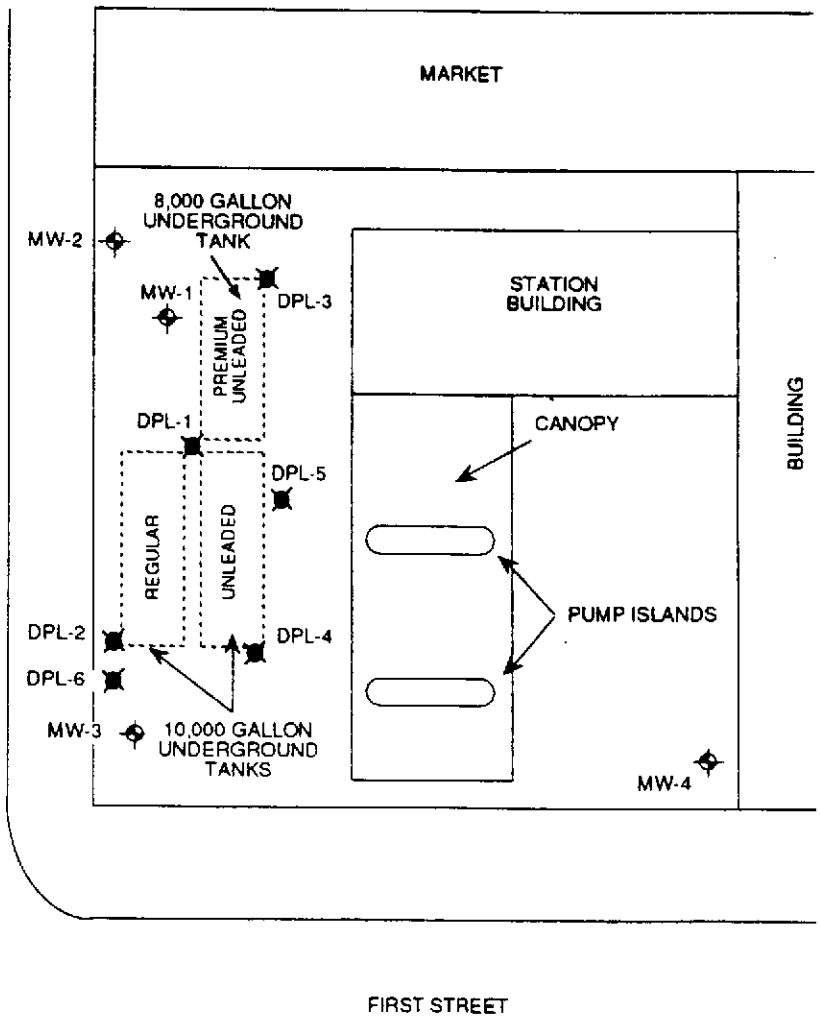
LEGEND

⊕ GROUNDWATER MONITORING WELL LOCATION

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 2: PLOT PLAN

REMEDIATION SERVICE, INT'L



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

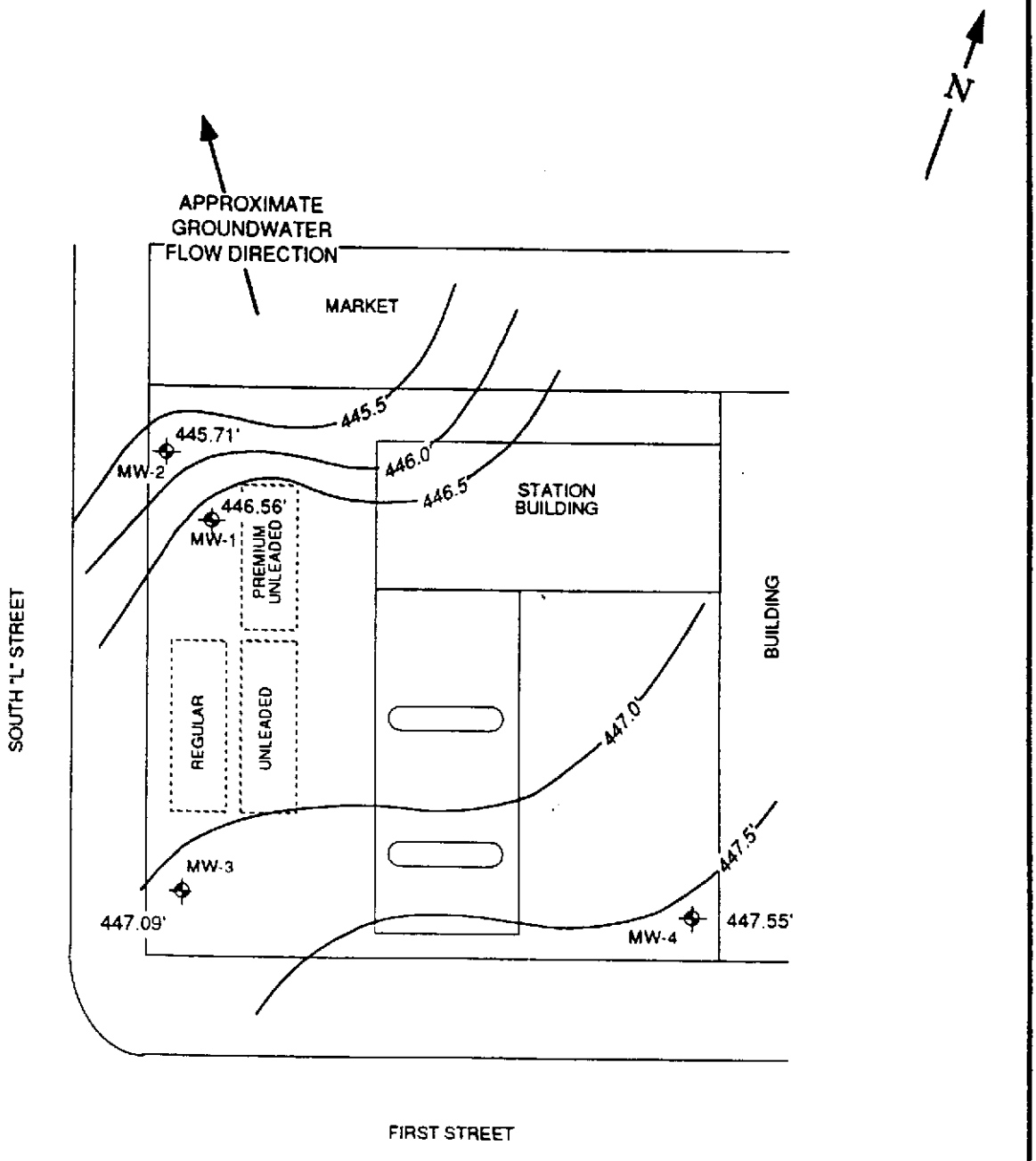
LEGEND

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

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 3: BOREHOLE LOCATIONS FROM 2/88 & 9/88 ASSESSMENTS

RSI REMEDIATION SERVICE, INT'L



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

LEGEND

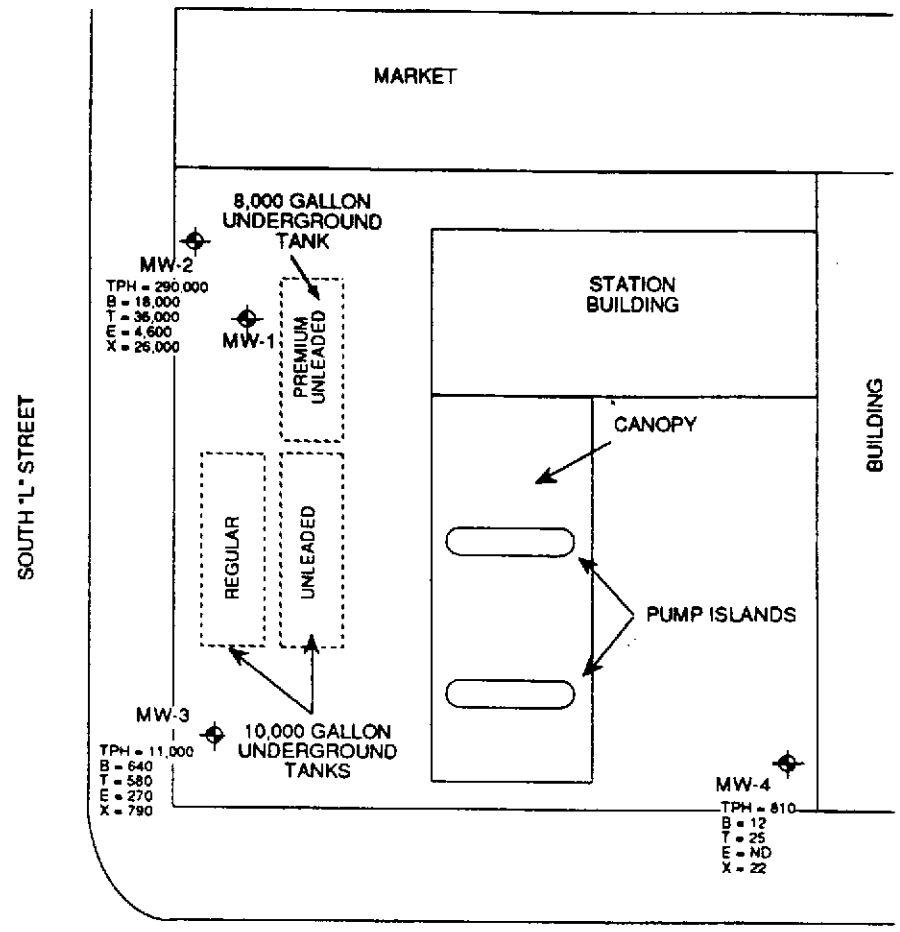
445.71'
MW-2 — GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL.

446.0' — GROUNDWATER ELEVATION CONTOUR LINE

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 4: PLOT PLAN WITH GROUNDWATER ELEVATION CONTOURS
JUNE 19, 1994

REMEDIATION SERVICE, INT'L



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

LEGEND

TPH = ND
B = ND
T = ND
E = ND
X = ND

GROUNDWATER MONITORING WELL LOCATION WITH TPH & BTEX CONCENTRATIONS IN µg/L

2008 FIRST STREET,
LIVERMORE, CA 94550

FIGURE 5. PLOT PLAN WITH GROUNDWATER ANALYTICAL RESULTS
JUNE 19, 1994

REMEDIATION SERVICE, INT'L

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS FROM SOIL SAMPLES COLLECTED DURING SOIL BORING

2008 FIRST STREET
LIVERMORE, CA

Results are in mg/Kg

SAMPLE DATE	SAMPLE DESCRIPTION	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL LEAD
6/16/94	MW-4 @ 40'	ND	0.009	17	0.006	0.02	12
6/17/94	MW-3 @ 10'	390	0.4	2.2	2.2	11	150
6/17/94	MW-3 @ 15'	390	0.3	1.9	2.2	11	190
6/17/94	MW-3 @ 20'	ND	0.17	0.012	0.006	0.081	12
6/17/94	MW-3 @ 30'	300	ND	1.6	1.7	8.3	14
6/17/94	MW-3 @ 35'	130	1.1	3.6	1.1	4.9	12
6/17/94	MW-3 @ 45'	230	0.62	3.8	2.5	10	28
6/17/94	MW-3 @ 50'	100	0.35	0.82	0.56	2	7
6/17/94	MW-3 @ 55'	270	0.47	3	1.9	6.7	24
6/17/94	MW-2 @ 40'	77	0.36	2.5	1.1	7	10
6/18/94	MW-2 @ 45'	28	0.3	0.16	0.4	0.97	8
6/18/94	MW-2 @ 50'	6	0.04	0.08	0.07	0.3	9
6/18/94	MW-2 @ 60'	2	0.045	0.18	0.041	0.23	14

since lead levels are high - recommend excavation of soil (Pb also found in GW) if site is ever demolished.

TPH = Total petroleum hydrocarbons as gasoline
TPH & BTEX analyzed by EPA methods 8015M & 8020, respectively.
Total Lead analyzed by EPA method 7420.

REMEDIATION SERVICE, INT'L.

TABLE 2
SUMMARY OF LABORATORY ANALYSIS OF GROUNDWATER

2008 FIRST STREET
LIVERMORE, CA

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

	WELL #	DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL LEAD
**	MW-1	8/2/90	24,000	1,300	1,300	400	2,700	NA
		10/10/91	2,200	430	170	100	290	NA
		1/8/92	1,200	200	120	30	150	NA
		5/11/93	960	66	8	41	90	NA
		9/21/93	1,900	311	118	33.8	112	NA
		5/22/94	10,000	690	1100	340	1200	NA
	MW-2	6/19/94	290,000	18,000	36,000	4,600	26,000	0.016
	MW-3	6/19/94	11,000	640	580	270	790	ND
*	MW-4	6/19/94	810	12	25	ND	22	0.007
	Title 22 CCR MCL		—	1	—	680	1,750	—
	DHS mcl for Pb							.05

TPH = Total petroleum hydrocarbons (gasoline)

* could there be offsite source?

** TPH-G/Benzene levels may be lower than MW-2 due to screen intervals below water level.

REMEDIATION SERVICE, INT'L

TABLE 3
GROUNDWATER ELEVATION DATA

2008 FIRST STREET
LIVERMORE, CA

Measurements are in feet.

Well	Date Measured	Depth to Water*	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	
MW-2	6/19/94	38.15	483.86	445.71	
MW-3	6/19/94	37.15	484.24	447.09	
MW-4	6/19/94	37.49	485.04	447.55	

*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.

APPENDICES

APPENDIX A

WELL PERMIT

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. 94550

CLIENT
Name DESERT PETROLEUM.
Address P.O Box 1601 Voice 805-644-6784
City OXNARD CA Zip 93032

APPLICANT
Name RSI CONTACT RICHARD PILAT
Fax 805-644-5892
Address 2060 KNOLL DR Voice 805-6540720
City VENTURA CA Zip 93001

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other N/A
Municipal ___ Irrigation ___

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

DRILLER'S LICENSE NO. 610487

WELL PROJECTS
Drill Hole Diameter 11 in. Maximum
Casing Diameter 4 in. Depth 65 ft
Surface Seal Depth 35' ft. Number 3

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft

ESTIMATED STARTING DATE 6/16/94
ESTIMATED COMPLETION DATE 6/17/94

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

APPLICANT'S SIGNATURE [signature] Date 6/10/94

FOR OFFICE USE

PERMIT NUMBER
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.

91992

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94588 • (510) 484-2600

10 June 1994

PERMITS OK
- VERBAL WYMAN HONG
10:00 A
6/13/94 RP

Mr. Rick Pilat
R.S.I., International
2060 Knoll Drive, Suite 200
Ventura, CA 93001

Dear Mr. Pilat:

Enclosed are the permit applications you requested for a monitoring well construction project in Livermore.

Please note that permit condition A-1 requests that an application be submitted five days prior to your proposed start of work.

If you have any questions, please contact Craig Mayfield at extension 233 or me at extension 235.

Very truly yours,

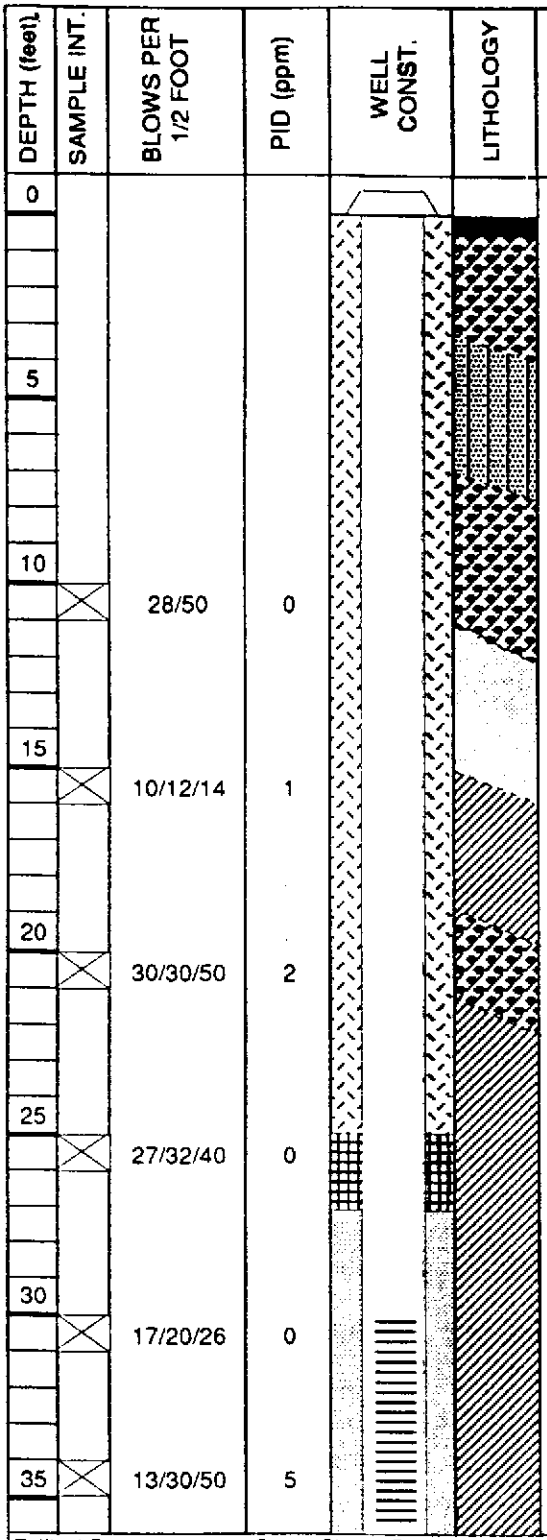
Wyman Hong

Wyman Hong
Water Resources Technician II

WH:mm
Enc.

APPENDIX B

SOIL BORING LOG



DEPTH (feet)	SAMPLE INT.	BLOWS PER 1/2 FOOT	PID (ppm)	USCS	DESCRIPTION
0					3" asphalt surface
				GC	GRAVEL WITH SAND, some clay, dense, dry, grey brown, no product odor.
5				SM	SITLY SAND, with some gravel, dense, dry, grey brown, no product odor.
10					
	X	28/50	0	GC	GRAVEL WITH SAND, some clay, dense, dry, med. brown no product odor.
15					
	X	10/12/14	1	SP	MED. TO COARSE GRAINED SAND, with some gravel, dense, dry, med. brown, no product odor.
				CL	CLAY WITH COARSE SAND, some gravel, dense, dry, med. brown, no product odor.
20					
	X	30/30/50	2	GC	GRAVEL WITH SAND, some clay, dense, slt. moist, grey brown, no product odor
25					
	X	27/32/40	0	CL	CLAY WITH COARSE SAND, some gravel, dense, low plasticity, slt. moist, d. brown, no product odor.
30					
	X	17/20/26	0		
35	X	13/30/50	5		

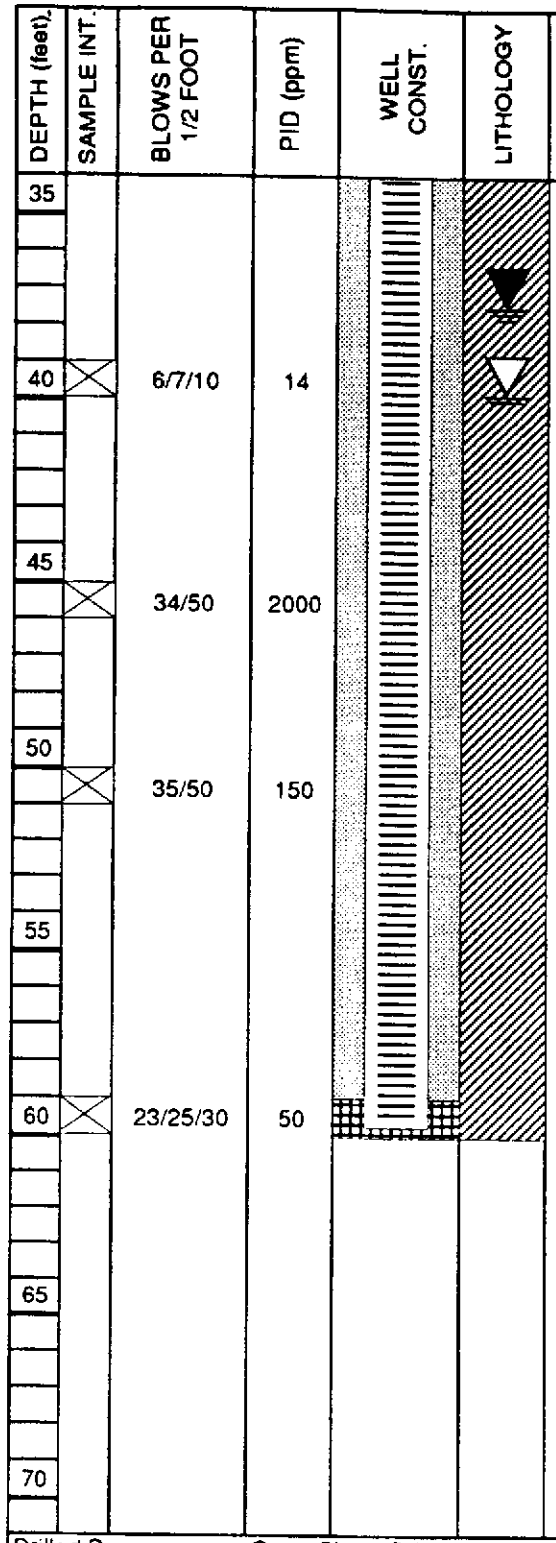
Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	NW corner, 7' N & 10' W of MW-1

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-2

DATE: 6/17/94

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



DESCRIPTION

First water encountered at approx. 40' bgs.

SANDY CLAY, some gravel, low plasticity, v. dense, wet, d. brown, strong product odor.

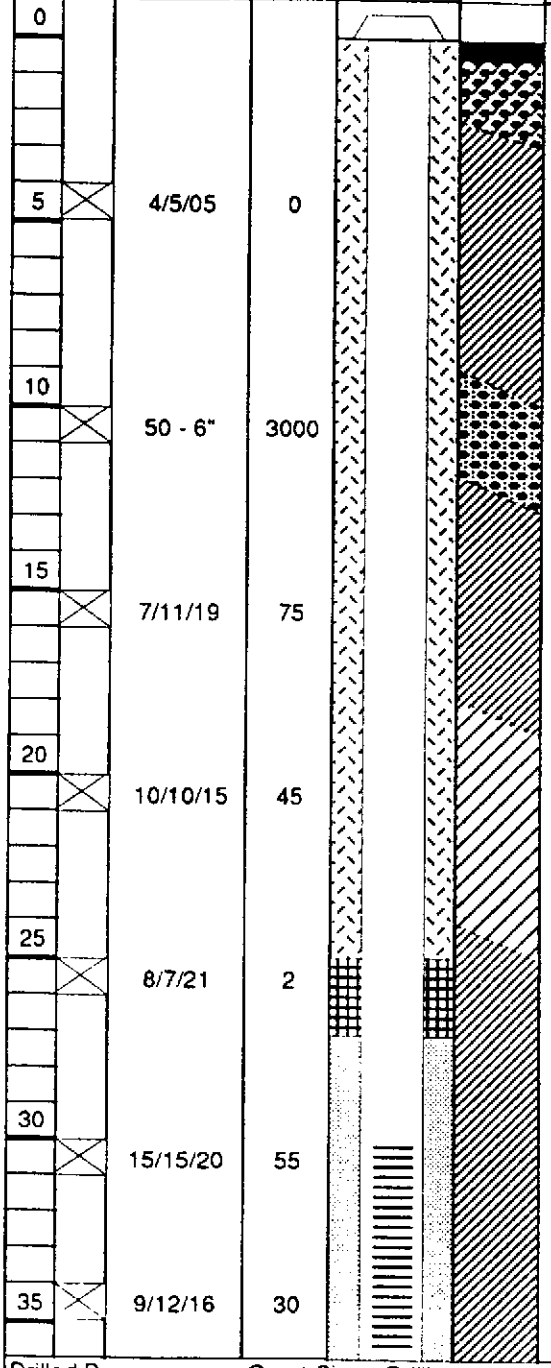
Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	NW corner, 7' N & 10' W of MW-1

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-2

DATE: 6/18/94

REMEDIATION SERVICE, INT'L.
2060 KNOLL DR., SUITE 300, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0720



Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	SW corner, 48.5' S & 15' E of MW-1

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-3

DATE: 6/17/94

PAGE 1 OF 2

REMEDIATION SERVICE, INT'L.
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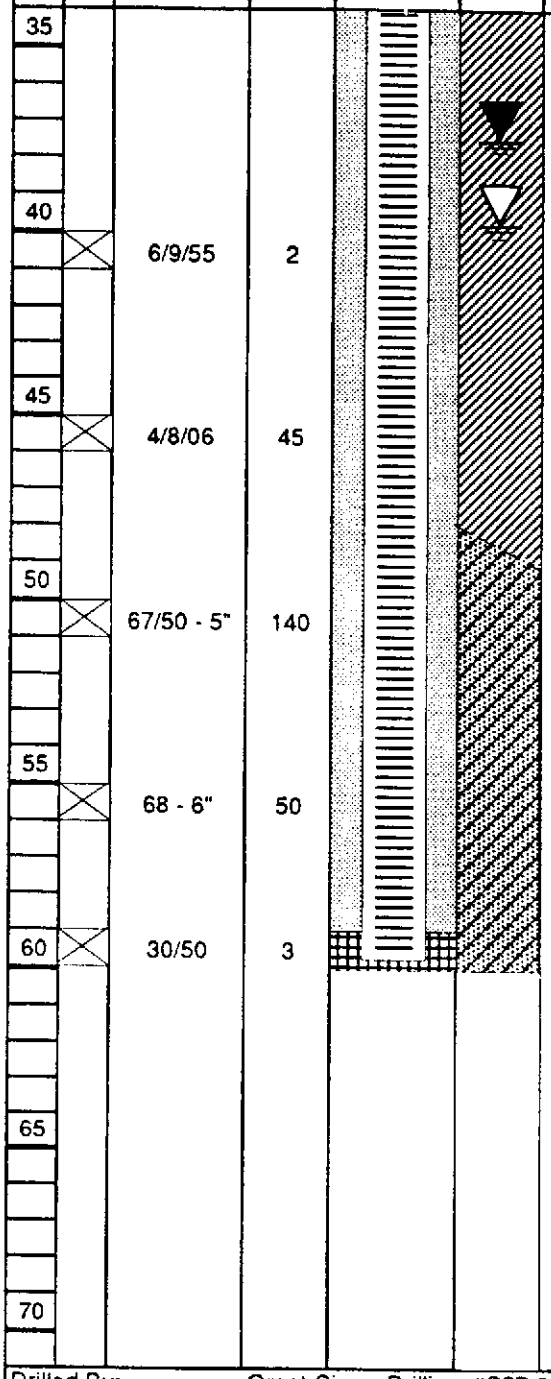


Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	SW corner, 48.5' S & 15' E of MW-1

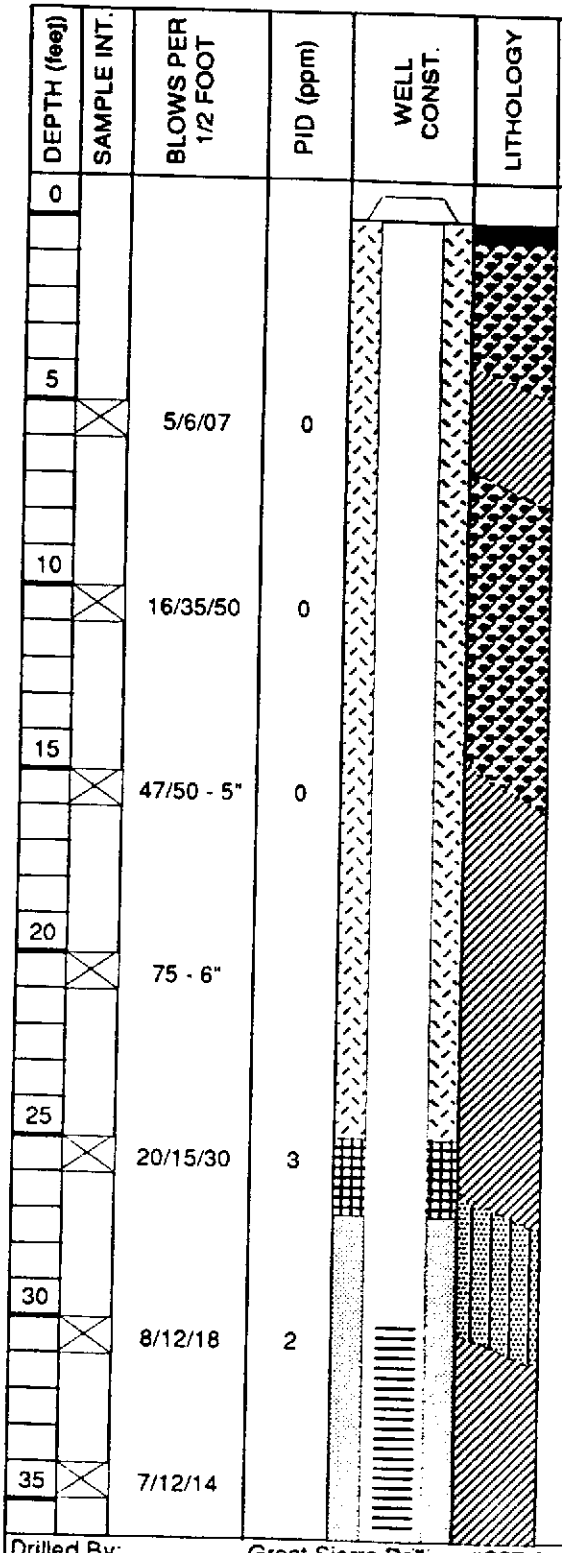
PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-3

DATE: 6/17/94

PAGE 2 OF 2

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	X	5/6/07	0	CL	CLAY, with some sand & gravel, low plasticity, loose, slt. moist, d. brown, no product odor.
10	X	16/35/50	0	GC	SANDY GRAVEL, with clasts to 1", dense, dry, lt. brown, no product odor.
15	X	47/50 - 5"	0		
20	X	75 - 6"		CL	CLAY, with some sand & gravel, low plasticity, v. dense, slt. moist, d. brown, no product odor.
25	X	20/15/30	3	CL	CLAY, with some sand & trace gravel, moderate plasticity, v. dense, moist, d. brown, no product odor.
30	X	8/12/18	2	SM	SILTY SAND, dense, slt. moist, lt. brown, no product odor.
35	X	7/12/14		CL	CLAY, with some sand & trace gravel, moderate plasticity, med. dense, slt. moist, d. brown, no product odor.

Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	SE corner, 34.5' S & 88' E of MW-1

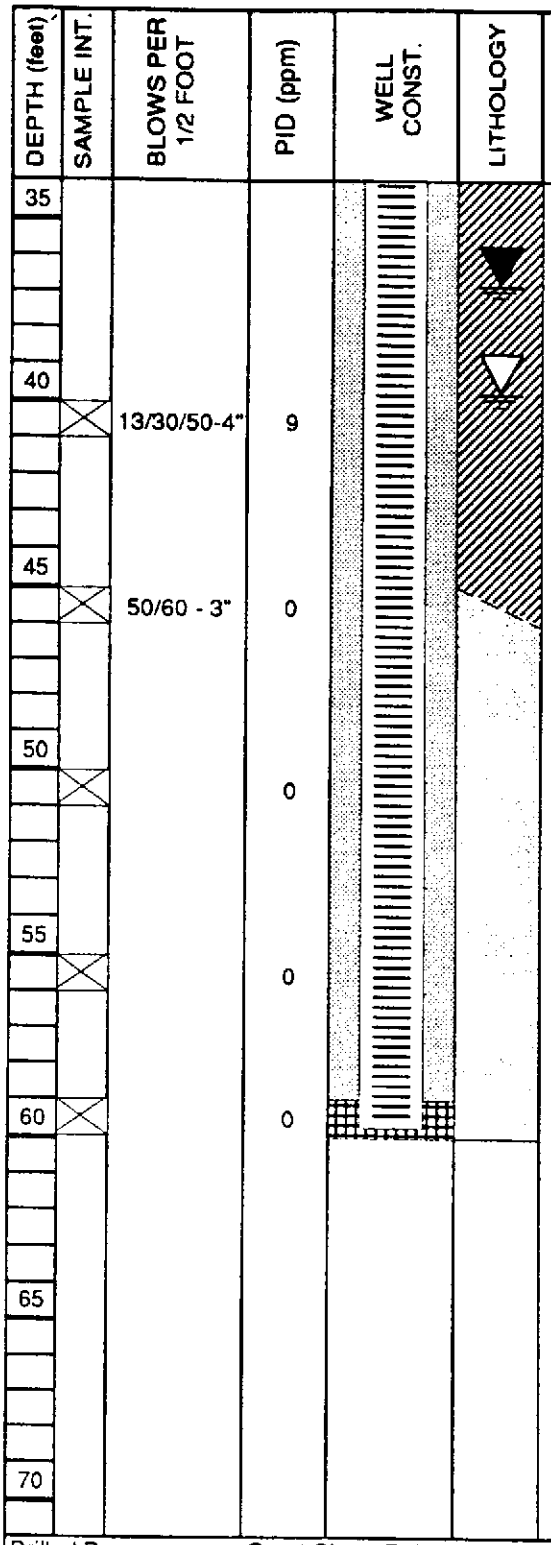
PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-4

DATE: 6/16/94

PAGE 1 OF 2

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



USCS	DESCRIPTION
CL	CLAY, with some sand & trace gravel, moderate plasticity, med. dense, slt. moist, d. brown, no product odor.
	First water encountered at approx. 40' bgs.
SP	MED. TO COARSE GRAINED SAND, with some gravel, v. dense, saturated, lt. brown, no product odor.

Drilled By:	Great Sierra Drilling, #C57-610487
Logged By:	D. Wilson
Reviewed By:	Michael Mulhern, EG #1507
Drilling Method:	Hollow Stem Auger
Hole Diameter:	10"
Total Depth:	60'
Sampling Method:	Split Spoon Sampler
Casing:	4" PVC
Screen:	4" x 0.02" PVC
Filter Pack:	#2/20 Sand
Borehole location:	SE corner, 34.5' S & 88' E of MW-1

PROJECT: 2008 First Street, Livermore, CA

WELL NO.: MW-4

DATE: 6/16/94

PAGE 2 OF 2

REMEDIATION SERVICE, INT'L.
2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5897 • FAX (805) 654-0720

APPENDIX C

MONITORING WELL ELEVATION SURVEY

Brian Kangas Foulk

June 24, 1994
BKF No. 945037-51

Ms. Heather Davis
Remediation Services Int'l.
2060 Knoll Dr.
Suite 200
Ventura,Ca. 93003

Consulting Engineers
1990 N. California Blvd
Suite 250
Walnut Creek, CA 94596
510/937-6202
FAX 510/937-6260

Subject: Monitor Well Survey- 2008 First St., Livermore.

Dear Ms. Davis,

The wells for the site above were surveyed for horizontal location and elevation by field methods using a City of Livermore bench mark, tied to mean sea level datum. The findings are as follows:

Well No.	Elevation, North rim	Elevation, Top casing	Northing	Easting
MW 1	484.49'	484.07'	1082.06	977.01
MW 2	484.28'	483.86'	1088.98	967.28
MW 3	484.47'	484.24'	1028.87	992.11
MW 4	485.32'	485.04'	1047.53	1064.79

Bench Mark- A street monument located at the intersection of First St. and South L St. Elevation taken as 483.82',

Basis of Bearing- Face of curb line of First St. taken as North 69° 30' 00" East from Assessor map data.

If you have any questions please call.

Sincerely,

BRIAN KANGAS FOULK

Barry Williams
Supervisor of Surveys
Professional Land Surveyor #6711
Expires 6-30-96.

rev. 7-19-94

APPENDIX D

WATER SAMPLE LOG

WATER SAMPLE LOG

DATE: 6/19/94

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: **MW-2**

WEATHER CONDITIONS: Sunny, warm, clear

FIELD OBSERVATIONS: Well & traffic box in excellent condition

TOTAL DEPTH OF WELL: 60.00 feet
CASING DIAMETER: 4 inches
DEPTH TO FREE PRODUCT: NONE
ONE WELL VOLUME = 26.74 gallons
DEPTH TO WATER: 38.15 feet
PURGING METHOD: Grundfos Rediflo Pump
DEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
10:46	5	7.50	82.6	0.12	Lt. brown, no odor, foggy
10:48	10	7.41	86.2	0.12	Lt. brown, no odor, foggy
10:50	15	7.26	89.5	0.10	Lt. brown, no odor, foggy
10:52	20	7.27	90.2	0.10	Lt. brown, no odor, foggy
10:54	25	7.30	91.7	0.10	Lt. brown, strong HC odor, foggy
10:56	30	7.28	91.5	0.10	Lt. brown, strong HC odor, foggy
10:58	35	7.21	95.5	0.10	Lt. brown, strong HC odor, foggy
11:00	40	7.28	96.4	0.10	Clear, strong HC odor, no turbidity
11:02	45	7.28	96.0	0.10	Clear, strong HC odor, no turbidity

TOTAL DISCHARGE: 81 gallons
WELL VOLUMES REMOVED: 3.0

TIME SAMPLE COLLECTED: 11:25 AM
DEPTH TO WATER AT TIME OF SAMPLE: 39.00 feet
PERCENT RECHARGE: 96
METHOD OF SAMPLE COLLECTION: Disposable Bailer
APPEARANCE OF SAMPLE: Clear
AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L amber bottle
SAMPLE TRANSPORTED TO: Coast to Coast Analytical, San Jose

SAMPLED BY: DW

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

WATER SAMPLE LOG

DATE: 6/19/94

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: **MW-3**

WEATHER CONDITIONS: Sunny, warm, clear

FIELD OBSERVATIONS: Well & traffic box in excellent condition

TOTAL DEPTH OF WELL: 60.00 feet
CASING DIAMETER: 4 inches
DEPTH TO FREE PRODUCT: NONE
ONE WELL VOLUME = 27.97 gallons
DEPTH TO WATER: 37.15 feet
PURGING METHOD: Grundfos Rediflo Pump
DEPTHS MEASURED FROM: Top of well casing, north side.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
9:40	5	7.63	73.2	2.1	Lt. brown, no odor, foggy
9:42	10	7.61	74.2	1.32	Lt. brown, no odor, foggy
9:44	15	7.62	75.0	1.26	Lt. brown, slt. HC odor, foggy
9:46	20	7.64	76.3	1.39	Lt. brown, slt. HC odor, foggy
9:48	25	7.46	78.3	1.47	Lt. brown, slt. HC odor, foggy
9:50	30	7.60	80.8	1.53	Lt. brown, slt. HC odor, foggy
9:52	35	7.60	82.8	1.52	Lt. brown, slt. HC odor, foggy
9:54	40	7.60	86.2	1.57	Clear, strong HC odor, no turbidity
9:56	45	7.61	88.0	1.57	Clear, strong HC odor, no turbidity

TOTAL DISCHARGE: 75 gallons
WELL VOLUMES REMOVED: 2.7

TIME SAMPLE COLLECTED: 10:15 AM
DEPTH TO WATER AT TIME OF SAMPLE: 37.59 feet
PERCENT RECHARGE: 98
METHOD OF SAMPLE COLLECTION: Disposable Bailer
APPEARANCE OF SAMPLE: Clear
AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L amber bottle
SAMPLE TRANSPORTED TO: Coast to Coast Analytical, San Jose

SAMPLED BY: DW

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

WATER SAMPLE LOG

DATE: 6/19/94

PROJECT LOCATION: 2008 First St., Livermore, CA

WELL NUMBER: **MW-4**

WEATHER CONDITIONS: Sunny, warm, clear

FIELD OBSERVATIONS: Well & traffic box in excellent condition

TOTAL DEPTH OF WELL: 60.00 feet
DEPTH TO FREE PRODUCT: NONE
DEPTH TO WATER: 37.49 feet
DEPTHS MEASURED FROM: Top of well casing, north side.

CASING DIAMETER: 4 inches
ONE WELL VOLUME = 27.55 gallons
PURGING METHOD: Grundfos Rediflo Pump

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments
8:10	5	8.71	68.9	1.04	Clear, no odor, no turbidity
8:23	10	8.41	59.2	1.08	Clear, no odor, no turbidity
8:25	15	8.60	58.7	0.81	Clear, no odor, no turbidity
8:27	20	8.13	58.0	0.78	Clear, no odor, no turbidity
8:29	25	8.11	57.7	0.73	Clear, no odor, no turbidity
8:31	30	8.03	57.6	0.66	Clear, no odor, no turbidity
8:33	35	8.06	57.3	0.66	Clear, no odor, no turbidity
8:35	40	8.06	57.3	0.63	Clear, no odor, no turbidity
8:37	45	8.07	57.3	0.64	Clear, no odor, no turbidity

TOTAL DISCHARGE: 83 gallons
WELL VOLUMES REMOVED: 3.0

TIME SAMPLE COLLECTED: 9:25 AM
DEPTH TO WATER AT TIME OF SAMPLE: 37.70 feet
PERCENT RECHARGE: 99
METHOD OF SAMPLE COLLECTION: Disposable Bailer
APPEARANCE OF SAMPLE: Clear
AMOUNT AND SIZE OF SAMPLE CONTAINERS: 4 x 40 ML VOA's, 1 x 1 L amber bottle
SAMPLE TRANSPORTED TO: Coast to Coast Analytical, San Jose

SAMPLED BY: DW

REMEDIATION SERVICE, INT'L.
2060 KNOLL DR., SUITE 200, VENTURA, CA 93003
(805) 644-5892 • FAX (805) 654-0770

APPENDIX E

LABORATORY REPORT
AND
CHAIN OF CUSTODY
FOR
SOIL SAMPLES

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-10
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 40'	Soil	Debbie Wilson	06/17/94 1610	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.05	0.36	
Toluene		0.05	2.5	
Ethylbenzene		0.05	1.1	
Xylenes		0.05	7.0	
Total Petroleum Hydrocarbons (Gasoline)		10.	77.	
Percent Surrogate Recovery			125.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#4\622B623
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-11
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 45'	Soil	Debbie Wilson	06/18/94 0930	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.05	0.30	
Toluene		0.05	0.16	
Ethylbenzene		0.05	0.40	
Xylenes		0.05	0.97	
Total Petroleum Hydrocarbons (Gasoline)		10.	28.	
Percent Surrogate Recovery			122.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623B311
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.

San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-12
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 50'	Soil	Debbie Wilson	06/18/94 0945	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.01	0.04	
Toluene		0.01	0.08	
Ethylbenzene		0.01	0.07	
Xylenes		0.01	0.30	
Total Petroleum Hydrocarbons (Gasoline)		2.	6.	
Percent Surrogate Recovery			122.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623B312
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-13
Project : Desert Petroleum Station #795
Analyzed : 06/21/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 60'	Soil	Debbie Wilson	06/18/94 1010	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.005	0.045	
Toluene		0.005	0.18	
Ethylbenzene		0.005	0.041	
Xylenes		0.005	0.23	
Total Petroleum Hydrocarbons (Gasoline)		1.	2.	
Percent Surrogate Recovery			102.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\6218306
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-1
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 10'	Soil	Debbie Wilson	06/17/94 0840	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1,2
Benzene		0.3	0.4	
Toluene		0.3	2.2	
Ethylbenzene		0.3	2.2	
Xylenes		0.3	11.	
Total Petroleum Hydrocarbons (Gasoline)		50.	390.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)
(2) Surrogate was diluted out due to sample dilution.

06/27/94
GC#2\623B308
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-2
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 15'	Soil	Debbie Wilson	06/17/94 0850	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1,2
Benzene		0.3	0.3	
Toluene		0.3	1.9	
Ethylbenzene		0.3	2.2	
Xylenes		0.3	11.	
Total Petroleum Hydrocarbons (Gasoline)		50.	390.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)
(2) Surrogate was diluted out due to sample dilution.

06/27/94
GC#2\623B309
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

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(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-3
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 20'	Soil	Debbie Wilson	06/17/94 0900	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.005	0.17	
Toluene		0.005	0.012	
Ethylbenzene		0.005	0.006	
Xylenes		0.005	0.081	
Total Petroleum Hydrocarbons (Gasoline)		1.	ND	
Percent Surrogate Recovery			105.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#4\622B618
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

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CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-4
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 30'	Soil	Debbie Wilson	06/17/94 0920	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1,2
Benzene		0.3	ND	
Toluene		0.3	1.6	
Ethylbenzene		0.3	1.7	
Xylenes		0.3	8.3	
Total Petroleum Hydrocarbons (Gasoline)		50.	300.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)
(2) Surrogate was diluted out due to sample dilution.

06/27/94
GC#2\623B310
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
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CLIENT: Rick Pilat
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2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-5
Project : Desert Petroleum Station #795
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 35'	Soil	Debbie Wilson	06/17/94 0930	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.03	1.1	
Toluene		0.03	3.6	
Ethylbenzene		0.03	1.1	
Xylenes		0.03	4.9	
Total Petroleum Hydrocarbons (Gasoline)		5.	130.	
Percent Surrogate Recovery			104.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\621B312
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

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CLIENT: Rick Pilat
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Ventura, CA 93003

Lab Number : JK-1945-6
Project : Desert Petroleum Station #795
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 45'	Soil	Debbie Wilson	06/17/94 1000	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				
Benzene		0.03	0.62	1
Toluene		0.03	3.8	
Ethylbenzene		0.03	2.5	
Xylenes		0.03	10.	
Total Petroleum Hydrocarbons (Gasoline)		5.	230.	
Percent Surrogate Recovery			114.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\621B313
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

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CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-7
Project : Desert Petroleum Station #795
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 50'	Soil	Debbie Wilson	06/17/94 1010	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.03	0.35	
Toluene		0.03	0.82	
Ethylbenzene		0.03	0.56	
Xylenes		0.03	2.0	
Total Petroleum Hydrocarbons (Gasoline)		5.	100.	
Percent Surrogate Recovery			71.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\621B318
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

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(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-8
Project : Desert Petroleum Station #795
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 55'	Soil	Debbie Wilson	06/17/94 1020	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1,2
Benzene		0.03	0.47	
Toluene		0.03	3.0	
Ethylbenzene		0.03	1.9	
Xylenes		0.03	6.7	
Total Petroleum Hydrocarbons (Gasoline)		5.	270.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)
(2) Surrogate was diluted out due to sample dilution.

06/27/94
GC#2\621B319
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

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(408) 955-9077

CLIENT: Rick Pilat
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2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-9
Project : Desert Petroleum Station #795
Analyzed : 06/23/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW4 @ 40'	Soil	Debbie Wilson	06/16/94 0955	06/18/94

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.005	0.009	
Toluene		0.005	17.	
Ethylbenzene		0.005	0.006	
Xylenes		0.005	0.020	
Total Petroleum Hydrocarbons (Gasoline)		1.	ND	
Percent Surrogate Recovery			106.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623B313
DT/eta3(dw)/jst
S-A-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

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(408) 955-9077

CLIENT: Coast-to-Coast Analytical Services, Inc.

QC Batch ID: S-A-062194

Analyzed : 06/21/94
Analyzed by: LD
Method : EPA 8020/8015M

METHOD BLANK
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
METHOD BLANK	Solid			

CONSTITUENT	(CAS RN)	*PQL mg/Kg	RESULT mg/Kg	NOTE
BTEX + TPH (Gasoline)				
Benzene		0.005	ND	1
Toluene		0.005	ND	
Ethylbenzene		0.005	ND	
Xylenes		0.005	ND	
Total Petroleum Hydrocarbons (Gasoline)		1.	ND	
Percent Surrogate Recovery			99.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623A351
DT/eta3(dw)/jst
JK1945-13

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

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Organics Manager

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QC Batch ID: S-A-062194

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 06/21/94
Analyzed by: LD
Method : EPA 8020/8015M

QC SPIKE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
QC SPIKE	Solid			

CONSTITUENT	*PQL mg/Kg	SPIKE AMOUNT	RESULT mg/Kg	%REC	NOTE
BTEX + TPH (Gasoline)					1
Benzene	0.005	0.10	0.12	120.	
Toluene	0.005	0.10	0.11	110.	
Ethylbenzene	0.005	0.10	0.11	110.	
Xylenes	0.005	0.30	0.34	113.	
Total Petroleum Hydrocarbons (Gasoline)	1.	2.5	2.3	92.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623B362
DT/eta3(dw)/jst
JK1945-13

Respectfully submitted,
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QC Batch ID: S-A-062194

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 06/21/94
Analyzed by: LD
Method : EPA 8020/8015M

QC SPIKE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
QC SPIKE DUPLICATE	Solid			

CONSTITUENT	*PQL mg/Kg	SPIKE AMOUNT	RESULT mg/Kg	%REC	%DIFF	NOTE
BTEX + TPH (Gasoline)						1
Benzene	0.005	0.10	0.12	120.	0.	
Toluene	0.005	0.10	0.11	110.	0.	
Ethylbenzene	0.005	0.10	0.10	100.	9.5	
Xylenes	0.005	0.30	0.32	107.	6.1	
Total Petroleum Hydrocarbons (Gasoline)	1.	2.5	2.0	80.	14.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/27/94
GC#2\623B353A
DT/eta3(dw)/jst
JK1945-13

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

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CLIENT: Rick Pilat
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Ventura, CA 93003

Lab Number : JK-1945-10
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 40'	Soil	Debbie Wilson	06/17/94 1610	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	10.	mg/Kg	EPA 7420	06/24/94	KP	1.

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

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CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-11
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 45'	Soil	Debbie Wilson	06/18/94 0930	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	8.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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CLIENT: Rick Pilat
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Ventura, CA 93003

Lab Number : JK-1945-12
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 50'	Soil	Debbie Wilson	06/18/94 0945	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	9.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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Lab Number : JK-1945-13
Project : Desert Petroleum Station #795

CLIENT: Rick Pilat
R.S.I.
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Ventura, CA 93003

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW2 @ 60'	Soil	Debbie Wilson	06/18/94 1010	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	14.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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CLIENT: Rick Pilat
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2060 Knoll Drive, Suite 200
Ventura, CA 93003

QC Batch ID: 5094062301 JK-1945-13
Project : Desert Petroleum Station #795

QC DUPLICATE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
MW2 @ 60'	Solid	Debbie Wilson	06/18/94	06/18/94

CONSTITUENT	*PQL	RESULT	%DIFF	UNITS	METHOD	ANALYZED	BY	NOTE
Lead, Total	1.	14.	0.	mg/Kg	EPA 7420	06/24/94	KP	.1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
JK1945-13

Respectfully submitted,
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CLIENT: Rick Pilat
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Ventura, CA 93003

Lab Number : JK-1945-1
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 10'	Soil	Debbie Wilson	06/17/94 0840	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	150.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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Lab Number : JK-1945-2
Project : Desert Petroleum Station #795

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 15'	Soil	Debbie Wilson	06/17/94 0850	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	190.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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Nick Gaone
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CLIENT: Rick Pilat
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2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-3
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 20'	Soil	Debbie Wilson	06/17/94 0900	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	12.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
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Ventura, CA 93003

Lab Number : JK-1945-4
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 30'	Soil	Debbie Wilson	06/17/94 0920	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	14.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

Nick Gaone
Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-5
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 35'	Soil	Debbie Wilson	06/17/94 0930	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	12.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick J. Gaone

Nick Gaone
Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-6
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 45'	Soil	Debbie Wilson	06/17/94 1000	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	28.	mg/Kg	EPA 7420	06/24/94	KP	1.

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

Nick Gaone
Inorganics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.

San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-7
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 50'	Soil	Debbie Wilson	06/17/94 1010	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	7.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

Nick Gaone
Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

Lab Number : JK-1945-8
Project : Desert Petroleum Station #795

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW3 @ 55'	Soil	Debbie Wilson	06/17/94 1020	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	24.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

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Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
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(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1945-9
Project : Desert Petroleum Station #795

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
MW4 @ 40'	Soil	Debbie Wilson	06/16/94 0955	06/18/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total	1.	12.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
5094062301

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

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Inorganics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

QC Batch ID: 5094062301

CLIENT: Coast-to-Coast Analytical Services, Inc.

METHOD BLANK
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
METHOD BLANK	Solid			

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTE
Lead, Total	1.	ND	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
JK1945-13

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone
Nick Gaone
Inorganics Manager

EXCELLENCE IN ANALYSIS

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NorCal Division (San Jose Laboratory)
2059 Junction Ave.

San Jose, CA 95131
(408) 955-9077

QC Batch ID: 5094062301

CLIENT: Coast-to-Coast Analytical Services, Inc.

QC MATRIX SPIKE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
MATRIX SPIKE	Solid			

CONSTITUENT	ORIGINAL	SPIKE	RESULT	%REC	UNITS	METHOD	ANALYZED	BY	NOTE
Lead, Total	14.	24.	40.	108.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
JK1945-13

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone

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NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

QC Batch ID: 5094062301

CLIENT: Coast-to-Coast Analytical Services, Inc.

QC MATRIX SPIKE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE RECEIVED
MATRIX SPIKE DUPLICATE	Solid		

CONSTITUENT	ORIGINAL	SPIKE	RESULT	%DIFF	UNITS	METHOD	ANALYZED	BY	NOTE
Lead, Total	14.	23.	38.	3.7	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
JK1945-13

Respectfully submitted,
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Inorganics Manager

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2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

QC Batch ID: 5094062301

CLIENT: Coast-to-Coast Analytical Services, Inc.

QC SPIKE
REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
QC SPIKE	Solid			

CONSTITUENT	*PQL	SPIKE	RESULT	%REC	UNITS	METHOD	ANALYZED	BY	NOTE
Lead, Total	1.	25.	27.	108.	mg/Kg	EPA 7420	06/24/94	KP	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/23/94 by NT using EPA 3050

06/28/94

NG/nfga3(dw)/kjp
JK1945-13

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Nick F. Gaone
Nick Gaone
Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES

4765 Calle Quetzal	Camarillo, CA 93012	(805) 389-1353	FAX (805) 389-1438
7726 Moller Rd.	Indianapolis, IN 46268	(317) 875-5894	FAX (317) 872-6189
2059 Junction Ave.	San Jose, CA 95131	(408) 955-9077	FAX (408) 955-9078
141 Suburban Road	San Luis Obispo, CA 93401	(805) 547-3888	FAX (805) 543-2685
2400 Cumberland Dr.	Valparaiso, IN 46383	(219) 464-2389	FAX (219) 462-2953
340 County Road No. 5	Westbrook, ME 04092	(207) 874-2400	FAX (207) 775-4029

Chain of Custody

• PLEASE PRINT IN PEN

Client: RSI	Contact: Rick Pilat	Phone #: (805) 644-3892	FAX #: (805) 654-0720
Address: 2060 Knoll Dr., Suite 200	City: Ventura	State: Ca.	Zip: 93003
Project Name/Number: Diesel Petroleum Station #795			Project MGR: Rick Pilat
Bill (if different than above)	Address		
Sampler (Print and sign): Debbie Wilson Debbie Wilson	Due Date	Circle for RUSH*	Copies To: Auth. Init.

* Subject to Availability

Sample Description	Date/Time Coll'd	*Matrix	# of Containers	Pres.	Filt. y/n	Analysis	Remarks	Lab ID #
MW3 10'	6-17-94 8:40	SL	1			7420 total lead, 8015M gas, 8020 BTEX	Please hold for instructions	JK1945-1
MW3 15'	6-17-94 8:50	SL	1					-2
MW3 20'	6-17-94 9:40	SL	2					-3
MW3 30'	6-17-94 9:20	SL	2					-4
MW3 35'	6-17-94 9:30	SL	2					-5
MW3 45'	6-17-94 10:00	SL	2					-6
MW3 50'	6-17-94 10:10	SL	2					-7
MW3 55'	6-17-94 10:20	SL	2					-8

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
Debbie Wilson	6-18-94 10:45	Kevin Terrell	Kevin Terrell	6-18 1230	Ken Petty

FOR LAB USE ONLY

Shipping Method	Shipping #	Received By	Date/Time	Condition (See Remarks)		
		Ken Petty	6-18-94 12:30	Cold	Sealed	Intact

REMARKS

Run analyses as listed per Rick Pilat 06/21/94 (13/SL)

* Matrix:
DW - Drinking Water
WW - Wastewater
GW - Groundwater
SW - Surface Water
IM - Impinger
FI - Filter
FP - Free Product
A/G - Air/Gas
SL - Sludge/Soil/Solid
OT - Other

COAST ANALYTICAL SERVICES

4765 Calle Quetzal • Camarillo, CA 93012 • (805) 389-1353 FAX (805) 389-1438
7726 Moller Rd. • Indianapolis, IN 46268 • (317) 875-5894 FAX (317) 872-6189
2059 Junction Ave. • San Jose, CA 95131 • (408) 955-9077 FAX (408) 955-9078
141 Suburban Road • San Luis Obispo, CA 93401 • (805) 547-3888 FAX (805) 543-2685
2400 Cumberland Dr. • Valparaiso, IN 46383 • (219) 464-2389 FAX (219) 462-2953
340 County Road No. 5 • Westbrook, ME 04092 • (207) 874-2400 FAX (207) 775-4029

Chain of Custody

• PLEASE PRINT IN PEN

Client: RSI	Contact: Rick Pilat	Phone # (805) 644-5892	FAX # (805) 644-0720
Address: 2060 Knoll Dr., Suite 200	City: Ventura	State: Ca.	Zip: 93003
Project Name/Number: Desert Petroleum Station #795			Project MGR: Rick Pilat
Bill (if different than above)	Address		
Sampler (Print and sign): Debbie Wilson	Due Date	Circle for RUSH*	Copies To: / Auth. Init.

Sample Description	Date/Time Coll'd	*Matrix	# of Containers	Pres.	Filt. y/n	* Subject to Availability Analysis	Remarks	Lab ID #
mw4 - 40'	6-16-94 9:55	SL	2			7420 TOTAL lead, 8015M gas, 8020 BTEX	Please hold for instructions	406452-9
mw2 - 40'	6-17-94 4:10	SL	2					-10
mw2 - 45'	6-18-94 9:30	SL	1					-11
mw2 - 50'	6-18-94 9:45	SL	1					-12
mw2 - 60'	6-18-94 10:10	SL	1					-13

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
Debbie Wilson	6-18-94 10:45	Kim Lovell	Kim Lovell	6-18 1230	Ken Petty

FOR LAB USE ONLY

Shipping Method	Shipping #	Received By	Date/Time	Condition (See Remarks)		
		Ken Petty	6-18-94 12:30	Cold	Sealed	Intact

REMARKS

* Matrix:
DW - Drinking Water
WW - Wastewater
GW - Groundwater
SW - Surface Water
IM - Impinger
FI - Filter
FP - Free Product
A/G - Air/Gas
SL - Sludge/Soil/Solid
OT - Other

APPENDIX F

LABORATORY REPORT
AND
CHAIN OF CUSTODY
FOR
GROUNDWATER SAMPLES

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1956-3
Project : Desert Petroleum #793, #19
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW2	Groundwater	Debbie Wilson	06/19/94 1125	06/20/94

CONSTITUENT	(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
BTEX + TPH (Gasoline)				1
Benzene		300.	18000.	
Toluene		300.	36000.	
Ethylbenzene		300.	4600.	
Xylenes		300.	26000.	
Total Petroleum Hydrocarbons (Gasoline)		30000.	290000.	
Percent Surrogate Recovery			87.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/28/94
GC#4\621B630
DT/eta3(dw)/jst
W-GAS-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1956-2
Project : Desert Petroleum #793, #19
Analyzed : 06/22/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW3	Groundwater	Debbie Wilson	06/19/94 1030	06/20/94

CONSTITUENT	(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
BTEX + TPH (Gasoline)				1
Benzene		5.	640.	
Toluene		5.	580.	
Ethylbenzene		5.	270.	
Xylenes		5.	790.	
Total Petroleum Hydrocarbons (Gasoline)		500.	11000.	
Percent Surrogate Recovery			90.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/28/94
GC#4\621B631
DT/eta3(dw)/jst
W-GAS-062194

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

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2059 Junction Ave.
San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1956-1
Project : Desert Petroleum #793, #19
Analyzed : 06/27/94
Analyzed by: LD
Method : EPA 8020/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW4	Groundwater	Debbie Wilson	06/19/94 0925	06/20/94

CONSTITUENT	(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
BTEX + TPH (Gasoline)				1
Benzene		5.	12.	
Toluene		5.	25.	
Ethylbenzene		5.	ND	
Xylenes		5.	22.	
Total Petroleum Hydrocarbons (Gasoline)		500.	810.	
Percent Surrogate Recovery			90.	

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

06/28/94
GC#2/627A311
DT/eta3(dw)/lmd
W-BTX-062794

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Dudley Torres
Organics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.

San Jose, CA 95131
(408) 955-9077

Lab Number : JK-1956-3
Project : Desert Petroleum #793, #19

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW2	Groundwater	Debbie Wilson	06/19/94 1125	06/20/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total Recoverable	0.005	0.016	mg/L	EPA 7421	06/21/94	DO	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/20/94 by AL using EPA 3005

06/27/94

NG/nfga3(dw)
0594061601

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Ken Patty for
Nick Gaone
Inorganics Manager

COAST-TO-COAST ANALYTICAL SERVICES, INC.

EXCELLENCE IN ANALYSIS

NorCal Division (San Jose Laboratory)
2059 Junction Ave.
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(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1956-2
Project : Desert Petroleum #793, #19

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW3	Groundwater	Debbie Wilson	06/19/94 1030	06/20/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total Recoverable	0.005	ND	mg/L	EPA 7421	06/21/94	DO	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/20/94 by AL using EPA 3005

06/27/94

NG/nfga3(dw)
0594061601

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Ken Petty for
Nick Gaone
Inorganics Manager

EXCELLENCE IN ANALYSIS

COAST-TO-COAST ANALYTICAL SERVICES, INC.

NorCal Division (San Jose Laboratory)
2059 Junction Ave.

San Jose, CA 95131
(408) 955-9077

CLIENT: Rick Pilat
R.S.I.
2060 Knoll Drive, Suite 200
Ventura, CA 93003

Lab Number : JK-1956-1
Project : Desert Petroleum #793, #19

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	RECEIVED
795, MW4	Groundwater	Debbie Wilson	06/19/94 0925	06/20/94

CONSTITUENT	*PQL	RESULT	UNITS	METHOD	ANALYZED	BY	NOTES
Lead, Total Recoverable	0.005	0.007	mg/L	EPA 7421	06/21/94	DO	1

San Jose Lab Certifications: CAELAP #1204
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 06/20/94 by AL using EPA 3005

06/27/94

NG/nfga3(dw)
0594061601

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Ken Petty for
Nick Gaone
Inorganics Manager

COAST · TO · COAST ANALYTICAL SERVICES

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141 Suburban Road • San Luis Obispo, CA 93401 • (805) 547-3888 FAX (805) 543-2685
2400 Cumberland Dr. • Valparaiso, IN 46383 • (219) 464-2389 FAX (219) 462-2953
340 County Road No. 5 • Westbrook, ME 04092 • (207) 874-2400 FAX (207) 775-4029

Chain of Custo[illegible]

Page [illegible]

• PLEASE PRINT IN PEN

Client: RSI
Contact: Rick Pilat
Phone #: (...) 644-5892
FAX #: [illegible]

Address: 2060 Knoll Dr., Suite 200 City: Ventura State: Ca. Zip: [illegible]

Project Name/Number: Desert Petroleum #793 / Desert Petroleum #19
Project MGR: Rick [illegible]

Bill (If different than above) Address

Sampler (Print and sign): Debbie Wilson [signature]
Due Date
Circle for RUSH*
Copies To:
Auth. In[illegible]

Sample Description	Date/Time Coll'd	*Matrix	# of Containers	Pres.	Filt. y/n	* Subject to Availability Analysis	Remarks	Lab ID
795, MW4	6-19-94 9:25	GW	5			7420 total lead, 8015M gas, 8020 BTEX		
795, MW3	6-19-94 10:30	GW	5			↓		
795, MW2	6-19-94 11:25	GW	5			↓		
DP19, MW1	6-20-94	GW	3			TPH Gas, BTEX		
DP19, MW2	6-20-94	GW	3			↓		
DP19, MW3	6-20-94	GW	3			↓		
DP19, MW4	6-20-94	GW	3			↓		

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
Debbie Wilson [signature]	6-20-94 2:30	Mike Teuter [signature]			

FOR LAB USE ONLY

Shipping Method	Shipping #	Received By	Date/Time	Condition (See Remarks) Cold	Sealed	Intact

REMARKS ____________________

* Matrix:
DW - Drinking Wa[ter]
WW - Wastewa[ter]
GW - Groundwa[ter]
SW - Surface W[ater]
IM - Impinger
FI - Filter
FP - Free Prod[uct]
A/G - Air/Gas
SL - Sludge/So[il]
OT - Other

CERTIFICATE OF UNDERGROUND STORAGE TANK SYSTEM TESTING

NDE ENVIRONMENTAL CORPORATION
20000 Mariner Avenue, Suite 500
Torrance, California 90503
(310) 542-4342

Test Date: 14 Mar 1993 **Work Order#:** 960851

Client: DESERT PETROLEUM, INC.
P.O.BOX 1601
OXNARD , CA 93032
Attn: John Rutherford

Site: DESERT #795
2008 FIRST STREET
LIVERMORE , CA 96550

The following tests were conducted at the site described above in accordance with all applicable portions of Federal, NFPA, and Local regulations.

TANK SYSTEM INFORMATION

Tank No.	Tank Capacity Gallons	Tank Diameter Inches	Product	Product Level Inches	Tank Material	Vapor Recovery	
						Stage I	Stage II
1	8,000	90	PREMIUM	69.00	STEEL	COAX	BALANCE
2	10,000	92	MIDGRADE	59.00	STEEL	COAX	BALANCE
3	10,000	93	UNLEADED	69.00	STEEL	COAX	BALANCE

TESTING RESULTS

Tank No.	VPLT Volume Change (gph)	Wetted Portion of Tank Pass/fail	Ullage Test Pass/Fail	Vent & Vapor Lines Pass/Fail	Product Lines Pass/Fail	Leak Detector Present? Yes/no	Leak Detector Results Pass/Fail
1	-0.031	PASS	FAIL	FAIL	PASS	YES	PASS
2	-0.012	PASS	PASS	PASS		NONE	
3	-0.031	PASS	PASS	PASS	PASS	YES	PASS

NDE appreciates the opportunity to serve you, and looks forward to working with you in the future. Please call any time, day or night, when you need us.

NDE Customer Service Representative

F. MILLER

Reviewed by: Benjamin Alicea

Testing conducted by

A. CHAND

Technician certification no.:

92-1262

Test Date: 14 Mar 1993 **Work Order#:** 960851

TANK TESTING DATA

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Product:	PREMIUM	MIDGRADE	UNLEADED			
True Capacity-gal:	8,000	10,000	10,000			
Manifolded tanks:	NO	NO	NO			
Manifolded Vents:	NO	NO	NO			
Tank Bottom to top of fill-in:	138	140	141			
Fill pipe length-in:	48	48	48			
Tank diameter-in:	90	92	93			
Tank Bottom to top of grade-in:	147	145	146			
Fill pipe diameter-in	4	4	4			
Fluid Level-in:	69.00	59.00	69.00			
Fluid Volume-gal:	6,581	6,774	7,955			
Water in tank-in:	0	0	0			
Specific Gravity:	0.720	0.720	0.720			
Tank Construction:	STEEL	STEEL	STEEL			
OFT/UFT:	UFT	UFT	UFT			
No. thermistor:	5	5	5			
Ground Water level-in	120	120	120			
How determined:	WELL	WELL	WELL			
Test start time: Test finish time:	08:06 10:51	08:13 10:20	08:19 10:22	: :	: :	: :
Total temperature change (degrees F):	-0.049	-0.014	-0.034			
Total fluid level change (inches):	-0.001	-0.001	0.001			
Leak Rate (GPH):	-0.031	-0.012	-0.031			
Pass/Fail:	PASS	PASS	PASS			

Test Date: 14 Mar 1993 **Work Order#:** 960851

ULLAGE TESTING DATA

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Product:	PREMIUM	MIDGRADE	UNLEADED			
True Capacity-gal:	8,000	10,000	10,000			
Ullage volume-gal:	1,419	3,226	2,045			
Fluid pressure on tank bottom(psi):	1.80	1.50	1.80			
Ullage test pressure:	2.2	2.5	2.2			
Stabilization time:	10	15	10			
Fill start time:	11:20	10:45	10:45	:	:	:
Time to 1 PSI:	8	6	5			
Time to test pressure:		4	5			
Start time - test 1:	:	11:10	11:05	:	:	:
Nitrogen flow (cfh):		0.20	0.20			
Ullage temperature-F:		61.2	58.9			
Finish time - test 1:	:	11:20	11:15	:	:	:
Nitrogen flow (cfh):		0.10	0.20			
Start time - test 2:	:	11:22	11:17	:	:	:
Nitrogen flow (cfh):		0.20	0.20			
Ullage temperature:		60.8	58.7			
Finish time - test 2:	:	11:32	11:27	:	:	:
Nitrogen flow (cfh):		0.10	0.20			
Start time - test 3:	:	11:35	11:30	:	:	:
Nitrogen flow (cfh):		0.20	0.20			
Ullage temperature-F:		60.8	58.8			
Finish time - test 3:	:	11:45	11:40	:	:	:
Nitrogen Flow (cfh):		0.10	0.20			
Pass/Fail:	FAIL	PASS	PASS			

ULLAGE TEST COMMENTS: PREMIUM FAILED ULLAGE TEST, A LEAK COULD BE HEARD BELOW DISPENSER #1 AND #2.

NOTE: [2 consecutive test @ < 0.275 constitute a PASS] [3 consecutive test @ > 0.275 constitute a FAIL]

Test Date: 14 Mar 1993

Work Order#: 960851

LINE TEST DATA

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Product:	PREMIUM	MIDGRADE	UNLEADED			
Pump type:	PRESSURE	PRESSURE	PRESSURE			
Pump Make:	WAYNE	TOKHIEM	WAYNE			
Isolator:	BULLET		BULLET			
Line Material:	STEEL	STEEL	STEEL			
Line Length (ft):	100	100	100			
Line Diameter(in):	2	2	2			
Test pressure(psi)	50		50			
Bleed Back (cc):	45		55			
Test start time:	11:50	:	11:50	:	:	:
Time (1):	12:00	:	12:00	:	:	:
Finish PSI:	46		48			
Vol Change (cc):	14		8			
Time (2):	12:10	:	12:10	:	:	:
Finish PSI:	48		49			
Vol Change (cc):	6		4			
Time (3):	12:20	:	12:20	:	:	:
Finish PSI:	48		50			
Vol Change (cc):	6		0			
Volume change-GPH:	0.014		0.006			
Pass/Fail:	PASS		PASS			

LINE TEST COMMENTS: PLUS LINE NOT TESTED, NO WAY TO ISOLATE.

Test Date: 14 Mar 1993 **Work Order#:** 960851

LEAK DETECTOR DATA

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Serial number:	1	2	3			
Product:	PREMIUM	MIDGRADE	UNLEADED			
Leak Detector manufacturer:	REDJACKET		REDJACKET			
Leak detector model:	X.L.D.		DIA			
Leak detector serial number:						
Open time - sec:	3		3			
Element holding-psi:	14		16			
Resiliency - cc:	50		55			
Leak calibration-cc:	256		260			
Leak Rate - GPH:	4.06		4.13			
Metering PSI:	10		10			
Detected Leak (Y/N):	YES		YES			
Pass/Fail:	PASS		PASS			

FAILED LEAK DETECTORS

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Leak Detector manufacturer:						
Leak detector model:						
Leak detector serial number:						
Leak Rate - GPH:						
Pass/Fail:						

LEAK DETECTOR TEST COMMENTS:

Test Date: 14 Mar 1993 **Work Order#:** 960851

COMMENTS

SITE CONDITIONS, NECESSARY REPAIRS:

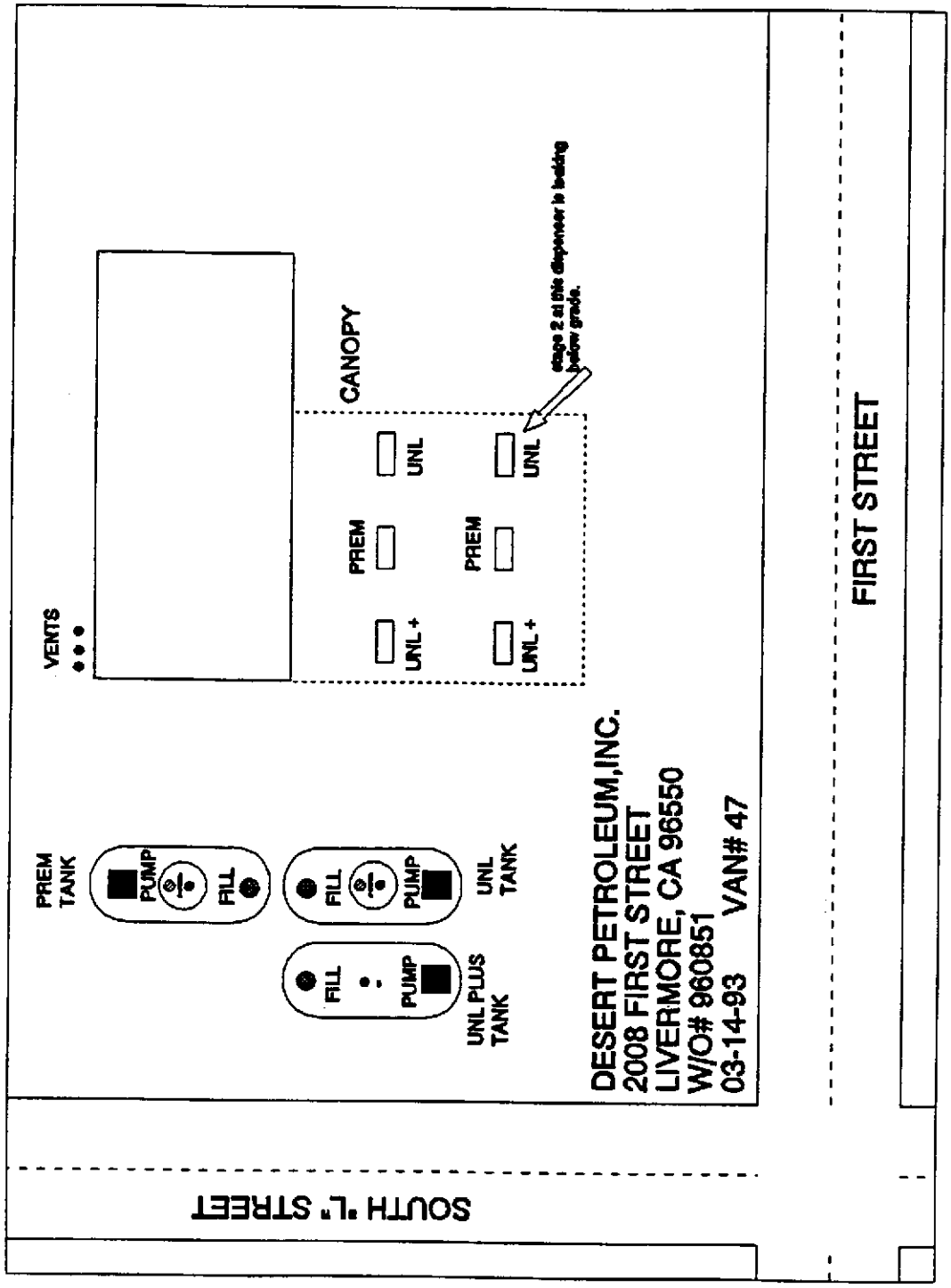
ADDITIONAL WORK PERFORMED:

PARTS/EQUIPMENT PROVIDED:

Was lock-out/tag-out procedure used?: **YES**
Was location fully operational upon leaving site?: **YES**
Was a visual inspection of all submersible pumps, leak detectors, dispensers, etc. conducted while on-site?: **YES**
Was station manager or attendant present during final inspection?: **YES**

Test Date: 14 Mar 1993 **Work Order#:** 960851

SITE DIAGRAM



desert petroleum inc.

John Rutherford
Director
Environmental Affairs

91 JUN 10 PM 1:24

June 7, 1991

Mr. Gil Wistar
Hazardous Materials Specialist
Dept. of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

RE: Desert Petroleum #795
2008 First Street
Livermore, CA 94550

Dear Mr. Wistar:

In response to your inquiry of May 24, 1991, please be advised that it is still our intention to move forward with the removal of the tanks at the subject site and installation of a new fuel system as quickly as possible.

We have submitted to your agency on May 14, 1991 the required plans, specifications and permit fees to install the new system. We have also made application through the Bay Area Air Quality Management District and have received authority to construct from them.

As of this time we have not received confirmation from your agency regarding our permit application. We request an extension on our approved closure plan for the tanks, pending approval from your agency on the new installation, bid processing and selection of a contractor. It was initially our intent to move forward much more quickly on this project, but we have been experiencing difficulties with obtaining the funds to do the project. With a six month extension we are certain that we can have the project permitted and completed within that time frame.

Your consideration in this matter is appreciated.

Very truly yours,

John D. Rutherford

JDR:jc

POST OFFICE BOX 1601, OXNARD, CALIFORNIA 93032 • TELEPHONE (805) 644-6784

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

May 24, 1991

Mr. John Rutherford
Desert Petroleum, Inc.
P.O. Box 1601
Oxnard, CA 93032

Re: **Underground tank removals at 277 N. L St. and 2008 First St., Livermore**

Dear Mr. Rutherford:

During a routine hazardous waste and underground tank inspection last month at the Quality Tune-Up Shop at 277 N. L St. in Livermore, the site operator indicated that the underground tanks were to remain in service. According to the operator, the City of Livermore would not permit the tanks to be removed from this location due to zoning or other considerations. Therefore, this office has cancelled the closure plan for this site, which was submitted and approved in January 1991. I have instructed our accounting department to refund the balance of the account to Desert Petroleum.

Also in January 1991, we approved a closure plan for the tanks at 2008 First St. Since this approval, we have heard no word from the contractor regarding this job. Please let us know within 10 days what the status of this tank removal is; note that an approved closure plan is good for only six months.

If you have any questions about this letter, please contact the undersigned at (415) 271-4320.

Sincerely,

Gilbert M. Wistar

Gil Wistar
Hazardous Materials Specialist

cc: Danielle Stefani, Livermore F.D.
Rafat A. Shahid, Asst. Agency Director, Environmental Health
files

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

Project Specialist (print) GIL WISTAR

ACCEPTED 1/24/91

DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 48 hours prior to the following required inspections:

_____ Removal of Tank and Piping
_____ Sampling
_____ Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

Not additional analyses on p. 5

UNDERGROUND TANK CLOSURE PLAN

*** * * Complete according to attached instructions * * ***

1. Business Name Desert Petroleum, Inc. #795

   Business Owner Desert Petroleum, Inc.

2. Site Address 2008 First Street

   City Livermore, CA Zip 94550 Phone 415-449-9722

3. Mailing Address P.O. Box 1601

   City Oxnard, CA Zip 93032 Phone 805-644-6784

4. Land Owner Desert Petroleum, Inc.

   Address P.O. Box 1601 City, State Oxnard, CA Zip 93032

5. Generator name under which tank will be manifested

   Desert Petroleum, Inc.

   EPA I.D. No. under which tank will be manifested CAL000005068

rev 12/90

5719S

6. Contractor Desert Petroleum/Owner Builder

Address P.O. Box 1601

City Oxnard, CA Phone 805-644-6784

License Type _____ ID# _____

7. Consultant Water Work

Address 1710 Main Street

City Escalon, CA Phone 209-838-3507

8. Contact Person for Investigation

Name J.D. Rutherford Title Dir. Environmental Affairs

Phone 805-644-6784

9. Number of tanks being closed under this plan 4

Length of piping being removed under this plan 100'

Total number of tanks at facility 4

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name H & H Ship Service EPA I.D. No. CAD004771168

Hauler License No. 0334 License Exp. Date 1/31/91

Address 220 China Basin

City San Francisco State CA Zip 94107

b) Product/Residual Sludge/Rinsate Disposal Site

Name H & H Ship Service EPA I.D. No. CAD004771168

Address 220 China Basin

City San Francisco State CA Zip 94107

c) Tank and Piping Transporter

Name H & H Ship Service EPA I.D. No. CAD004771168

Hauler License No. 0334 License Exp. Date 1/31/91

Address 220 China Basin

City San Francisco State CA Zip 94107

d) Tank and Piping Disposal Site

Name H & H Ship Service EPA I.D. No. CAD004771168

Address 220 China Basin

City San Francisco State CA Zip 94107

11. Experienced Sample Collector

Name Remediation Service, Int'l

Company same

Address 2060 Knoll Drive

City Ventura State CA Zip 93003 Phone 805-644-5892

12. Laboratory

Name Superior Analytical Inc.

Address 1555 Burke Street, Unit 1

City San Francisco State CA Zip 94124

State Certification No. 1332

13. Have tanks or pipes leaked in the past? Yes [X] No [ ]

If yes, describe. Site is under investigation for unknown discharge which appears to be overspill.

14. Describe methods to be used for rendering tank inert

Inert tank with 1.5 lbs of solid carbon dioxide (dry ice) for each 100 gallons of tank volume. Cap all openings except vent pipe. Allow one hour for oxygen displacement.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. **It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.**

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, ground-water, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
10,000 gal 10,000 gal 8,000 gal	Motor fuel gasoline storage. Installation dates unknown. Relined 1987. Currently in service.	Soil	One sample at each tank end within two feet of native soil/ backfill interface
280 gal	Waste oil - Installation date unknown. Currently in service.	Soil	"

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated)	Sampling Plan NONE

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

    The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
Hydrocarbons	5030 (gasoline)	8260	.005
Lead	Total Lead	T. Lead AA	
BTEX	5030	8020	.005
additional analyses for waste oil tanks:			
TPH-D	3550	8260	
TOG		5520 D & F	
CL HC		8010/8240	

17. Submit Site Health and Safety Plan (See Instructions)

18. Submit Worker's Compensation Certificate copy

Name of Insurer **American Home Assurance Company**

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) **Robert O. Morris**

Signature _____

Date _____

Signature of Site Owner or Operator

Name (please type) **John D. Rutherford**

Signature _____

Date 1/15/91

rev 12/90

Desert Petroleum, Inc.
Site Health and Safety Plan

The following Health and Safety Plan has been developed to protect and ensure the safety of individuals working at the Desert Petroleum job site located at 2008 First Street, Livermore, CA 94550.

1. Facility/Job Site

The facility is a retail gasoline service station. The job site work consists of removal and replacement of existing underground storage tanks and piping, including excavation, compaction, and sampling of soils on site.

2. Health and Safety Officer

Mr. Robert Morris is the Project Manager - 805-644-6784. Desert Petroleum is the facility owner - 805-644-6784. The designated safety officer will be the field supervisor on site. This safety officer has full authority to operate, correct any problems, or shut down the job activities if required, in order to maintain safety.

3. Safety Briefings

All on-site employees and contractors will be briefed on a daily basis prior to beginning work concerning any safety or health hazards. This briefing will be conducted by the on-site supervisor (safety officer).

4. Personal Protection Equipment

a. Personnel will wear safety glasses when working in the area.
b. Organic half mask and respirators will be available and are to be used should vapors become noticeable.
c. Nitrile gloves will be worn during work when a potential for direct contact with hazardous chemicals exists.
d. The on-site safety officer will designate hard hat areas within the work zone of the site.

5. Confined Space Procedures

No confined space entry will be allowed.

6. Site Security

The site will be completely enclosed by a locked 8' fence. Only authorized personnel will have access to the job site. All stockpiled soil and equipment will remain inside the fenced areas of the work zone. Additional security and warning will be done using barricades, fencing and caution tape as needed.

7. Job Hazard Analysis

Petroleum hydrocarbons are the only known chemical hazard that may be encountered. These include:

a. Total Petroleum Hydrocarbons
b. Benzene
c. Ethyl Benzene
d. Toluene
e. Xylenes

Chemical concentrations will vary but are not expected to exceed those found at a normal gasoline facility, ACGIH Gasoline TLV 300 ppm, STEL 500 ppm. If dermal contact occurs, the affected area is to be flushed with water. Should vapors or fumes be inhaled, the person will be removed from the work area.

8. Spill Containment/Emergency

In a small spill situation, the spill will be absorbed with sand or any other available and appropriate material. The disposal will depend on the concentration of the contaminant. In the case of a large spill or fire, the Fire Department will be called.

Emergency Response Numbers:

Paramedics: 911
Fire Department: 911
Environmental Health Department: 415-271-4320
Hospital: 415-447-7000

Telephone service is available at the work site. The nearest hospital facility is Valley Memorial Hospital, located approximately 1/4 mile northeast of the site at 1111 E. Stanley Blvd. in Livermore.

9. Training Requirements

All employees, contractors and subcontractors working in hazardous materials/waste operations on site are trained under 29 CFR 1910.120 Regulations and other appropriate OSHA training as applicable to their job function.

Health and Safety Compliance

The following employees of Desert Petroleum, Inc., their contractors and subcontractors, have read and will comply with the site Health and Safety Plan and indicate the same by signature and date.

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY): 1/09/91

PRODUCER
Andreini & Company
220 West 20th Avenue
San Mateo
Ca 000094403

CODE SUB-CODE

INSURED GASCO GASOLINE, INC.
(NAMED INSURED LIST ATTACHED)
P.O. BOX 1601
OXNARD,
CA 930321601

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	NATIONAL UNION FIRE INS. CO.
COMPANY LETTER B	AMERICAN HOME INS. CO.
COMPANY LETTER C	
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
A	GENERAL LIABILITY	GL 5424327	7/01/90	7/01/91	GENERAL AGGREGATE	$2,000,
	X COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OPS AGGREGATE	$1,000,
	CLAIMS MADE X OCCUR.				PERSONAL & ADVERTISING INJURY	$1,000,
	OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$1,000,
					FIRE DAMAGE (Any one fire)	$ 50,
					MEDICAL EXPENSE (Any one person)	$ 5,
A	AUTOMOBILE LIABILITY	CA 5424328	7/01/90	7/01/91	COMBINED SINGLE LIMIT	$ 1,200,
	X ANY AUTO				BODILY INJURY (Per person)	$
	ALL OWNED AUTOS				BODILY INJURY (Per accident)	$
	SCHEDULED AUTOS				PROPERTY DAMAGE	$
	X HIRED AUTOS					
	X NON-OWNED AUTOS					
	GARAGE LIABILITY					
	EXCESS LIABILITY				EACH OCCURRENCE $	AGGREGATE $
	OTHER THAN UMBRELLA FORM					
B	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY	WC 5817393	1/01/91	1/01/92	STATUTORY	
					$ 1,000,	(EACH ACCIDENT)
					$ 1,000,	(DISEASE—POLICY LIMIT)
					$ 1,000,	(DISEASE—EACH EMPLOYEE)
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

*EXCEPT WITH RESPECT TO NON-PAYMENT OF PREMIUM, WHICH SHALL BE 10 DAYS NOTICE.

CERTIFICATE HOLDER

COUNTY OF ALAMEDA

805 SWAN WAY
ROOM 200
OAKLAND CA 94621

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL *30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

GASCO GASOLINE, INC.

GENERAL LIABILITY NAMED INSURED

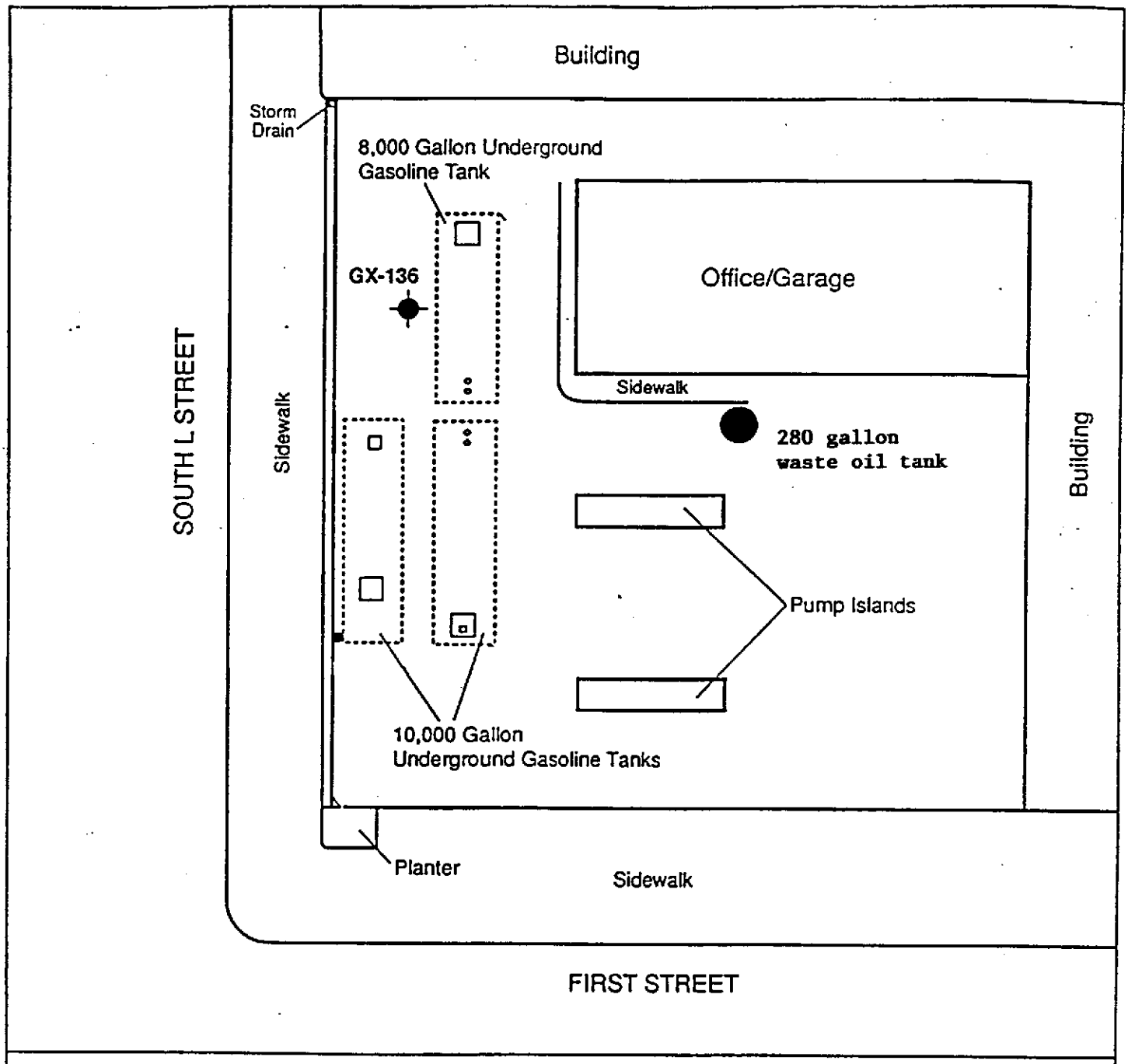
Gasco Gasoline, Inc.
Desert Petroleum, Inc.
Gasco Gasoline DBA: Thompson Petroleum Tank Lines
High Desert Oil Company, Inc.
Anchor Refining Company, Inc.
Anchor Refining Company, Inc. DBA: Sierra Anchor, a Joint Venture
Thompson Charter & Leasing
Parks Oil Company
Thompson/Ryan, A Joint Partnership
W. E. & K. B. Thompson, Individually
Belridge Energy Resources, Inc.

AUTOMOBILE LIABILITY NAMED INSURED

Gasco Gasoline, Inc.
Desert Petroleum
Gasco Gasoline DBA: Thompson Petroleum Tank Lines
High Desert Oil Company, Inc.
Anchor Refining Company, Inc.
DBA: Sierra Anchor, A Joint Venture
Thompson Charter and Leasing
Thompson/Ryan, a Joint Venture
Houston Ranch Gathering Systems
W. E. & K. B. Thompson, Individually
Belridge Energy Resources, Inc.
Palm Enterprises
Commercial Petroleum Equipment Company, Inc.
Newlandex, Inc. DBA: RSI

WORKERS' COMPENSATION NAMED INSURED

Gasco Gasoline, Inc.
DBA: Thompson Petroleum Tank Lines
Anchor Refining Company, Inc.
DBA: Thompson Charter & Leasing
Desert Petroleum, Inc.



SITE MAP

DESERT PETROLEUM STATION NO. 795
2008 First Street
Livermore, California
Prepared for
DESERT PETROLEUM
VENTURA, CALIFORNIA

LEGEND

GX-136 ⊕ Water Well

0 25 50
SCALE IN FEET

RSI REMEDIATION SERVICE, INT'L.
P.O. BOX 1601, OXNARD, CALIFORNIA 93032
(805) 644-5892 • FAX (805) 654-0720

WORK PLAN FOR FURTHER SITE ASSESSMENT DESERT PETROLEUM, INC. Station #795 2008 First Street Livermore, California

Prepared for:
DESERT PETROLEUM, INC.
2060 Knoll Drive
Ventura, CA 93003

Prepared by:
RSI - REMEDIATION SERVICE, INT'L
P.O. Box 1601
Oxnard, CA 93032

August 15, 1990

TABLE OF CONTENTS

1.0 INTRODUCTION

This work plan presents the proposed site assessment work to be completed at the Desert Petroleum Station #795 (dba British Petroleulm). Remediation Service Int'l (RSI) has been retained by Desert Petroleum, Inc. to develop a work plan to further assess hydrocarbon contamination migration.

1.1 Site Description

The site is located at 2008 First Street, Livermore, Alameda County, California (Figure 1). The site is currently occupied by a retail gasoline outlet; improvements consist of an office/garage, two pump islands and three underground storage tanks - one 8,000 gallon (unleaded premium) and two 10,000 gallon (leaded and unleaded regular).

1.2 Background Summary

In late February, 1988, Geonomics installed four vapor recovery wells, surrounding the tanks, to monitor the subsurface for hydrocarbon leaks. Gasoline contamination was identified in two of the wells, DPL-1 and -2. A soil sample from DPL-1 at approximately 12 ft below ground surface (bgs) had 400 parts per million (ppm) total petroleum hydrocarbon (TPH). Both wells had high initial vapor readings, over 13,000 ppm as measured by a Gastechtor meter.

On-Site Technologies conducted the first site assessment in August 1988. They drilled and sampled three borings, then completed boring number GX-136 as a groundwater monitoring well. Soil contamination was identified in all three borings, at 30 or more feet below the surface. Concentrations of TPH ranged from 0.8 ppm (DPL-5) to 1600 ppm (DPL-6). Groundwater was analyzed but no hydrocarbon compounds were detected.

2.0 GROUNDWATER SAMPLING

On August 2, one groundwater well, GX-136, was purged and sampled. Superior Analytical, a State certified laboratory, tested the sample. The results below are in parts per billion (ppb).

Well I.D.	Benzene	Toluene	Xylenes	Ethyl Benzene	TPH
GX-136	1,300	1,300	2,700	400	24,000

The level of gasoline and its components now exceed the State maximum concentration for contaminants in drinking water. The laboratory report, chain of custody and field log are in Appendix B.

3.0 FUTURE SITE ASSESSMENT

3.1 Work Plan

RSI proposes to drill and sample four soil borings and then

complete these as groundwater monitoring wells (Figure 2). To determine the possibility of contamination migrating on-site, RS-3 will be advanced and sampled. Two wells, RS-1 and -2, will be installed in the area of known contamination to effect remediation. These two wells will be screened to treat both the soil and groundwater, if necessary. The fourth well, RS-4, is along the northern property boundary and will be used to assess possible downgradient migration of the contamination.

3.2 Drilling, Sampling and Completion Procedures

Under the supervision of an RSI geologist, four soil borings will be advanced using a truck mounted hollow-stem auger drilling rig. Soil samples will be collected at five foot intervals and at the groundwater-soil interface. Collection procedures are discussed in detail in Appendix C. Representative samples will be delivered to a state certified laboratory for analyses. Analyses will include total petroleum hydrocarbons (TPH) as well as benzene, toluene, ethylbenzene and xylenes (BTXE) using DOHS methodology and/or modified EPA methods 8015/8020/8240.

Each soil boring will be completed as a groundwater monitoring well, with 4-inch diameter PVC casing. Each well will extend approximately 20 feet past the first encountered groundwater, unless a significant aquitard is encountered. The wells will be constructed in the manner depicted in Appendix E.

After the wells have been completed, the wells will be developed and the wellhead elevations will be surveyed. Groundwater samples will be collected following the procedures outlined in

Appendix D. The samples will be analyzed by a state certified laboratory for TPH and BTXE using DOHS methodology and/or EPA methods 602 or 8240.

3.3. Work Schedule

Upon approval of this proposal by the Alameda County Health Care Services Agency, RSI will apply for the appropriate permits and schedule drilling.

4.0 LIMITATIONS OF INVESTIGATIONS

The discussion and recommendation presented in this report are based on the following:

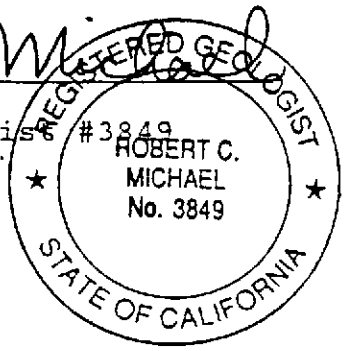
1. The professional performance of the personnel who conducted the investigations.
2. The observations of the field personnel.
3. The results of laboratory analyses performed by a state certified laboratory.
4. Any referenced documents.
5. Our understanding of the regulations of the State of California; also, if applicable, other local regulations.

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. Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

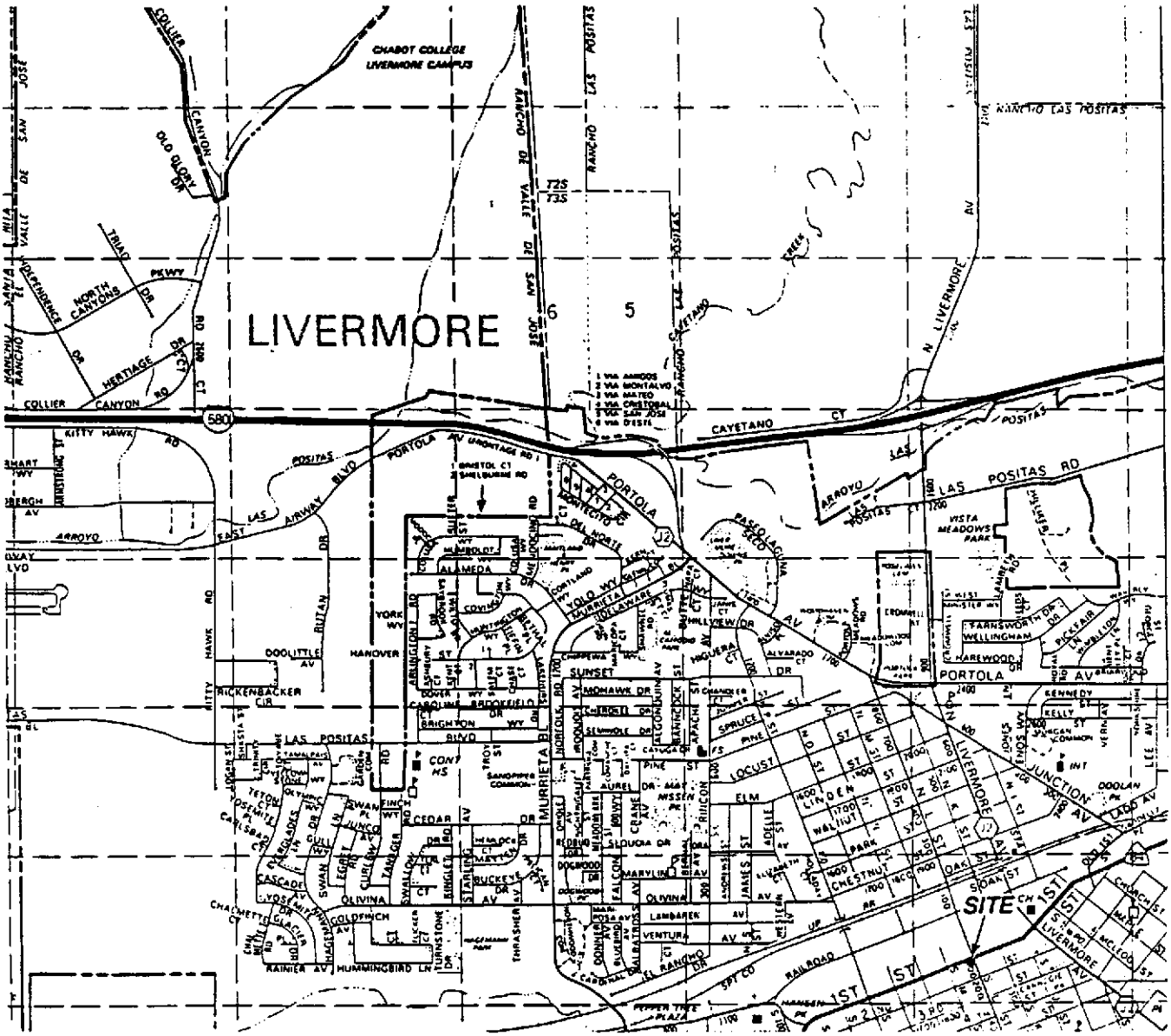
Wendy C. Wittl
Senior Project Geologist

Robert Michael
Registered Geologist #3849



RSI/795.Aug90

FIGURES



VICINITY MAP

DESERT PETROLEUM STATION NO. 795

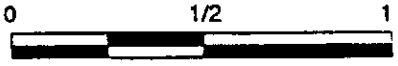
2008 First Street

Livermore, California

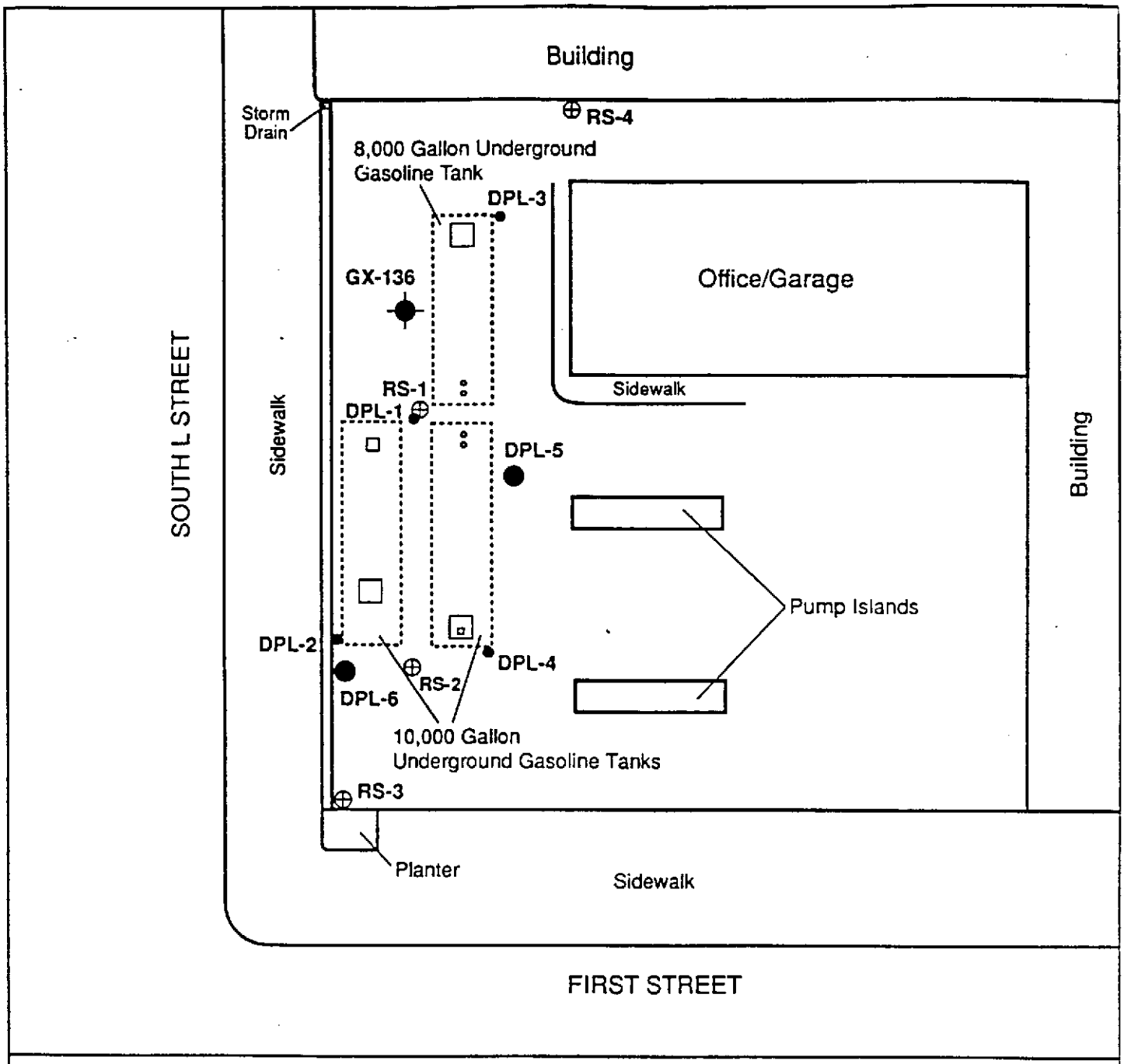
Prepared for

DESERT PETROLEUM

VENTURA, CALIFORNIA



SCALE



SITE MAP

DESERT PETROLEUM STATION NO. 795
2008 First Street
Livermore, California
Prepared for
DESERT PETROLEUM
VENTURA, CALIFORNIA

LEGEND

- DPL-4 ● Soil Samples
- DPL-6 ● Soil Borings
- GX-136 ⊕ Water Well
- RS-4 ⊕ Groundwater Monitoring/ Recovery Wells

0 25 50
SCALE IN FEET

N

APPENDIX A

APPENDIX B

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 52337
CLIENT: REMEDIATION SERVICE, INT'L
CLIENT JOB NO.: DP-795

DATE RECEIVED: 08/03/90
DATE REPORTED: 08/09/90

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/l) Benzene	Toluene	Ethyl Benzene	Xylenes
1	MW-1	1300	1300	400	2700

ug/L - parts per billion (ppb)

Minimum Detection Limit in Water:0.3ug/L

QAQC Summary:
Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 84% : Duplicate RPD = <15%

Richard Srna, Ph.D.
Laboratory Director

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I · SAN FRANCISCO, CA 94124 · PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 52337
CLIENT: REMEDIATION SERVICE, INT'L
CLIENT JOB NO.: DP-795

DATE RECEIVED: 08/03/90
DATE REPORTED: 08/09/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (ug/l) Gasoline Range
1	MW-1	24000

ug/L - parts per billion (ppb)
Minimum Detection Limit for Gasoline in Water: 50ug/L

QAQC Summary:
Daily Standard run at 2mg/L: RPD Gasoline = <15%
MS/MSD Average Recovery = 84%: Duplicate RPD = 1%

Richard Srna, Ph.D.
Laboratory Director

RSI 52337 9H

Chain of Custody Record

Project No. DP 795

Project Name

Samplers B Mossman

P.O. No.

Superior Analytical Laboratory
1555 Burke St. Unit 1
San Francisco, CA 94124
(415) 647-2081

Sample Number	Date	Time	Location	Matrix	Number of Containers	Sample Preservation	TPH as Gasoline	BTXE	TPH as Diesel	Oil & Grease	8010	8240			
MW-1	8/2/90	16:30	MW-1	WATER	2	HCl	X	X							

Relinquished By (Signature)	Date/Time	Received By (Signature)	Date/Time	REMARKS:
1. Bill Mossman	8/3/90 16:17	1.		
2.		2.		
3.		3.		
4.		4.	8/3/90	16:50

APPENDIX C

DESCRIPTION OF BORING TECHNIQUES AND SAMPLING PROCEDURES

Under the supervision of a Remediation Service Int'l - (RSI) geologist, the soil borings are advanced using a truck mounted hollow-stem auger. Each auger flight is 5 feet in length with an inner diameter of 3.5 inches and an outer diameter of 8 inches. A pilot assembly, in conjunction with the auger head which is fitted with cutting blades, helps advance the auger through the soil and prevents solids from entering the hollow-stem portion of the auger. The hollow auger acts as a "temporary casing" preventing collapse of the borehole wall. Soil cuttings are carried up to the surface via the auger flights.

When the desired sample depth is reached, the drill bit and center plug are removed from the auger stem and replaced with a Modified California Split Spoon sampler. Usually, sampling is done at the end of each 5 foot auger flight. The sampler consists of an outer 12 to 18 inch long "split barrel" sampler in which a thin-walled set of rings is inserted. These rings are brass or stainless steel cylinders, each 2.0 to 3.25 inches in diameter and 3 to 6 inches long.

A 140 pound hammer is used to drive the sampler into the formation below the bottom of the auger flight, thereby filling all of the sampling rings with soil. This method allows for collection of an undisturbed soil sample, preventing introduction of overburden soil by the drilling process. The number of hammer blows (blows per foot, BPF) to advance the sampler a given distance is recorded on the boring log. This gives an indication of the amount of force required to recover the sample.

After retrieving and dismantling the sampler, all the thin tube rings are removed. The bottom ring is immediately sealed for laboratory analysis by covering both ends with teflon sheeting, plastic caps and securing the caps with tape. If some of the soil in the bottom ring has fallen out or appears to have been disturbed during the recovery operation, the second to last ring is used. This ring is labeled and placed in an ice chest for cold storage pending transportation to the laboratory. This packaging protocol is designed to prevent loss of volatiles from the soil sample, and to prevent any cross contamination. Standard chain of custody procedures are followed for all samples.

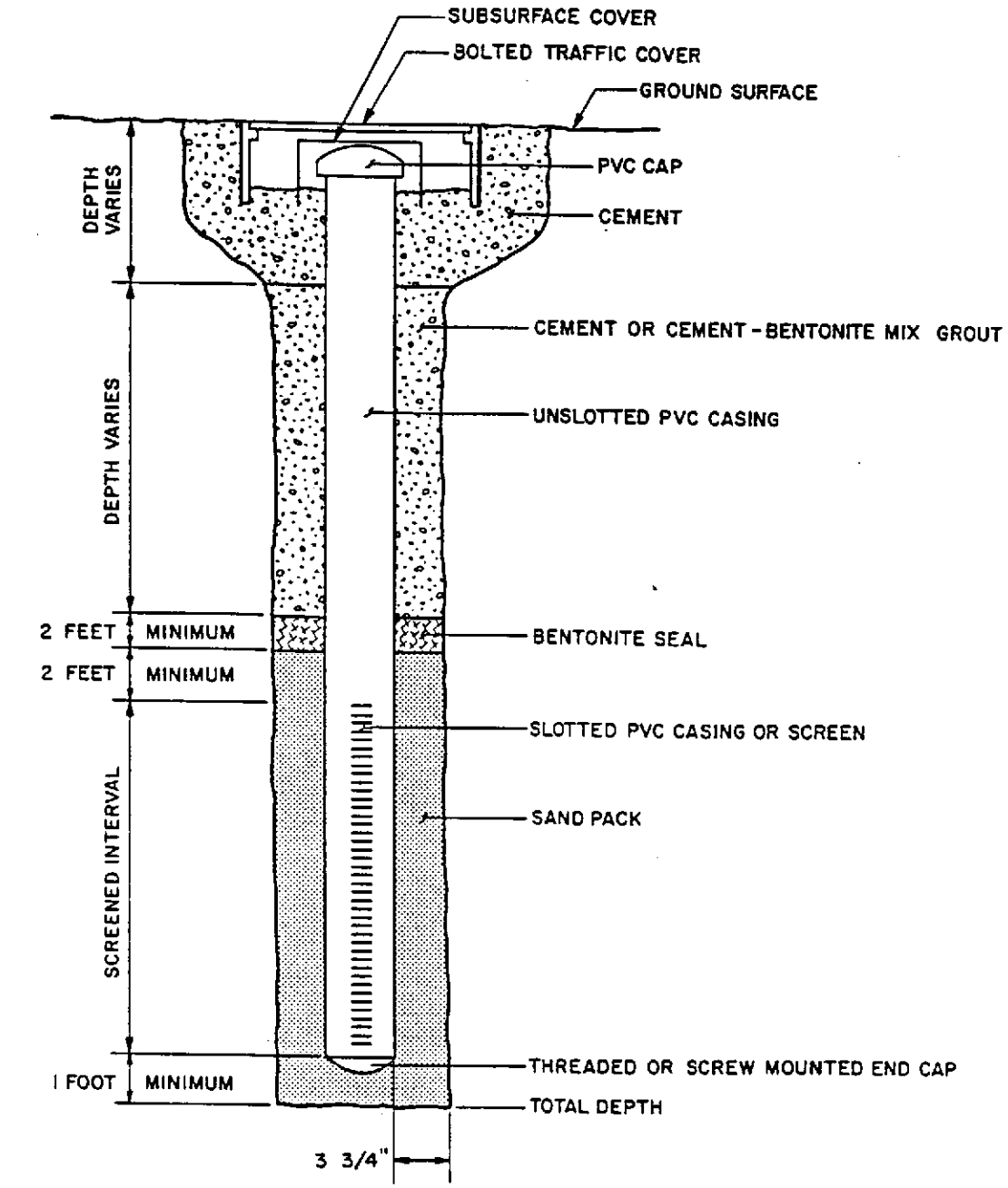
Soil from the second ring is used for field analysis of possible hydrocarbon contamination. The sample is placed in a Ziploc bag, sealed and allowed to volatilize for a HNU Photoionization Analyzer (PID) measurement. A head-space measurement is taken by breaking the seal just enough to insert the probe. The highest reading is recorded. However, if the reading stabilizes at a significantly different level, this also is noted. The PID has a detection range from 0.1 ppm to 2000 ppm for hydrocarbon vapors, when calibrated with a benzene standard.

Soils in the remaining rings are used for the field descriptions. The field data includes a written soils description, the Unified Soil Classification code, and any notable odors, staining or contamination. Also recorded are unusual drilling conditions, equipment malfunctions or other observations of field conditions for future reference. All data are included on the boring logs.

An alternative method to the use of brass rings is glass jars for sample collection. This method still utilizes the split spoon sampler, but no brass rings are inserted. Instead, soil from the base of the sampler is encapsulated in a glass jar. The jar is then treated in the same manner as soil samples in brass rings. The remaining soil in the sampler is used for field analysis and description.

To prevent any cross - contamination, the augers are steam cleaned prior to drilling each boring. The split spoon sampler is cleaned using a three step process commonly referred to as a "three bucket wash". This consist of first a trisodium phosphate wash, followed by a tap water rinse and finally a deionized water rinse. This process is completed between each sample run.

All cuttings and excess sample material recovered during the drilling operations are placed in 55 gallon DOT hazardous waste drums pending laboratory analysis results. Proper disposal is the client's responsibility.



NO SCALE
TYPICAL ONLY

TYPICAL MONITORING WELL CONSTRUCTION

APPENDIX D

SAMPLING PROCEDURES FOR GROUNDWATER MONITORING WELLS

1. Top of casing or wellhead is surveyed and referenced to datum point.

2. Equipment is decontaminated using a three bucket wash. This consists of: (1) washing the equipment in water with trisodiumphosphate detergent; (2) rinsing with tap water; and, (3) rinsing with deionized water.

3. Depth to water, depth to free product (if present) and total depth of well is measured.

4. The well is bailed or pumped either until dry, or until 4 to 5 casing volumes of water have been removed. The water is discharged into a DOT hazardous waste drum which is labeled and left on site pending laboratory analysis of water sample.

5. After the well has recovered, a sample is taken using a teflon bailer and placed in a VOA vial such that no headspace is present. The vial is sealed, labeled, and cooled.

6. The field data sheet is completed with all pertinent information.

7. All the equipment is decontaminated using the 3-bucket wash.

8. The samples are transported to the laboratory as soon as possible following chain of custody procedures.

9. Wells are sampled from the cleanest to the most contaminated.

10. Site conditions are noted which may potentially contaminate the sample . . . any smoke, vapors from running engines, etc.

GROUNDWATER SAMPLE
FIELD LOG

PROJECT NAME DP-795
LOCATION LIVERMORE
WELL NUMBER MW-1

SAMPLER BJM

SAMPLE:
WELL X
SURFACE WATER ____
SEEP ____
OTHER (DESCRIBE) ____

DATE OF SAMPLING 8/2/90
WEATHER CONDITIONS SUNNY + WARM
DEPTH TO FREE PRODUCT —
DEPTH TO WATER 43.10
DATUM ELEVATION(msl) ____
GROUNDWATER ELEVATION(msl) ____
TOTAL WELL DEPTH 77

WATER LEVEL MEASURING EQUIPMENT INTERFACE PROBE
FREE PRODUCT LEVEL MEASURING EQUIPMENT "
EVACUATION EQUIPMENT PVC BAILER
GALLONS TO BE EVACUATED (4 casing vols.) 20
TIME OF EVACUATION START 14:05 FINISH 15:10
TOTAL GALLONS EVACUATED 20

SAMPLING EQUIPMENT DISPOSABLE BAILER
SAMPLING TIME START ____ FINISH 16:30
SAMPLING RATE (ml/min.) ____
APPEARANCE OF SAMPLE CLEAR

FIELD OBSERVATIONS AND/OR PROBLEMS ENCOUNTERED DTW = 43.12
DRUM TO SUMP

EQUIPMENT DECONTAMINATION 3 BUCKET WASH

SAMPLES HAND CARRIED/SHIPPED ON 8/3/90 (date) AT 11:30 (time)

VIA ____ (carrier and shipper's number) TO SEQUOIA ANALYTICAL laboratory

FOR ANALYSIS OF TPH (GAS) BTEX

P7

Bob Perez Adjusters, Inc.
636 S. Second Ave., Suite G
Covina, Ca. 91723
(818) 915-5761
Fax # (818) 332-5230

4/17/89

April 10, 1989

CERTIFIED MAIL

No. Alameda County Health Department
Environmental Management Division
470 27th Street #300
Oakland, CA 94612

Attention: Underground Storage Tank Program

Re:	Insured	:	Gasco Oil Company
	Incident #	:	1106
	B&C File #	:	PLI 16-16708
	O/File #	:	89-006
	L/Location	:	2008 1st Street Livermore, California

Gentlemen:

We are again writing after having 2 previous letters requesting information sent relative to the above site (copies attached). Please respond to our prior requests and provide us with file information relative to contamination at the above site. We have received some material from the California Regional Water Quality Control Board which was previously sent to your office and therefore we are quite confident that your agency does possess a file on the above loss location.

Please do not delay in providing us with the necessary material.

Very truly yours,

Bob Perez
BOB PEREZ ADJUSTERS, INC.

BP:cj

Enclosures
1. 02/20/89 Letter to No. Alameda County Health Dept.
2. 01/10/89 Letter to No. Alameda County Health Dept.

cc: Bivona & Cohen
Tom Byro

Bob Perez Adjusters, Inc.
696 S. Second St., Suite G
Covina, Ca. 91723
(818) 915-5761

January 10, 1989

No. Alameda County Health Department
Environmental Management Division
470 27th Street #300
Oakland, CA 94612

Attention: Underground Storage Tank Program

Re:	Insured	:	Gasco Oil Company
	Incident #	:	1106
	B&C File #	:	PLIA 16-16708
	O/File #	:	89-006
	L/Location	:	2008 1st Street Livermoore, California

Gentlemen:

We are investigating the above pollution claim on behalf of the Law Firm of Bivona & Cohen in New York. We have been requested to obtain information relative to any and all incidences of gasoline, oil or diesel fuel contamination at the loss location captioned above.

Would your records reflect any unauthorized release from underground storage tanks caused by gasoline, oil or diesel fuel or spills?

If there is a charge for the material above, please advise our office and we will promptly issue payment.

We look forward to receiving the above information as soon as possible.

Very truly yours,

Bob Perez
BOB PEREZ ADJUSTERS, INC.

BP:cj

cc: Bivona & Cohen
Tom Byro

Bob Perez Adjusters, Inc.
636 S. Second St., Suite C
Covina, Ca. 91723
(818) 915-5761

February 20, 1989

CERTIFIED MAIL

No. Alameda County Health Department
Environmental Management Division
470 27th Street #300
Oakland, CA 94612

Attention: Underground Storage Tank Program

Re:	Insured	:	Gasco Oil Company
	Incident #	:	1106
	B&C File #	:	PLI 16-16708
	O/File #	:	89-006
	L/Location	:	2008 1st Street Livermoore, California

Gentlemen:

We are providing you with a copy of our January 10, 1989 letter, wherein we asked your department whether or not your office might have any information relative to any contamination/pollution problems at the above loss location.

We are especially interested in determining whether or not your records would reflect any unauthorized release of gasoline, oil or diesel fuel from the underground storage tanks or piping.

We look forward to receiving the above information as soon as possible. If there is a charge for this material, please contact our office and we will promptly issue payment.

Very truly yours,

Bob Perez
BOB PEREZ ADJUSTERS, INC.

BP:cj

Enclosure
1. 01/10/89 Letter to No. Alameda County Health Dept.

cc: Bivona & Cohen
Tom Byro

OST On-Site Technologies, Inc.

Engineers
Hydrogeologists

Report of Site Investigation

at

Desert Petroleum Service Station #795
2008 First Street
Livermore, CA

For:

John D. Rutherford
Desert Petroleum, Inc.
P.O. Box 1601
Oxnard, CA 93032

10-18-88

Project Number: 309-88-22
RD GX136.rpt

CONTENTS

OST On-Site Technologies, Inc.

Engineers
Hydrogeologists

Date: October 18, 1988

Report of Hydrogeologic Site Investigation

at

Desert Petroleum Service Station #795
2008 First Street
Livermore, California

I. INTRODUCTION

A. Site Location:

2008 First Street, Livermore, CA

B. Business:

Desert Petroleum Service Station
2008 First Street
Livermore, CA
Contact: John D. Rutherford (805) 644-6784

C. Site Description:

The facility is a motor vehicle refueling station.

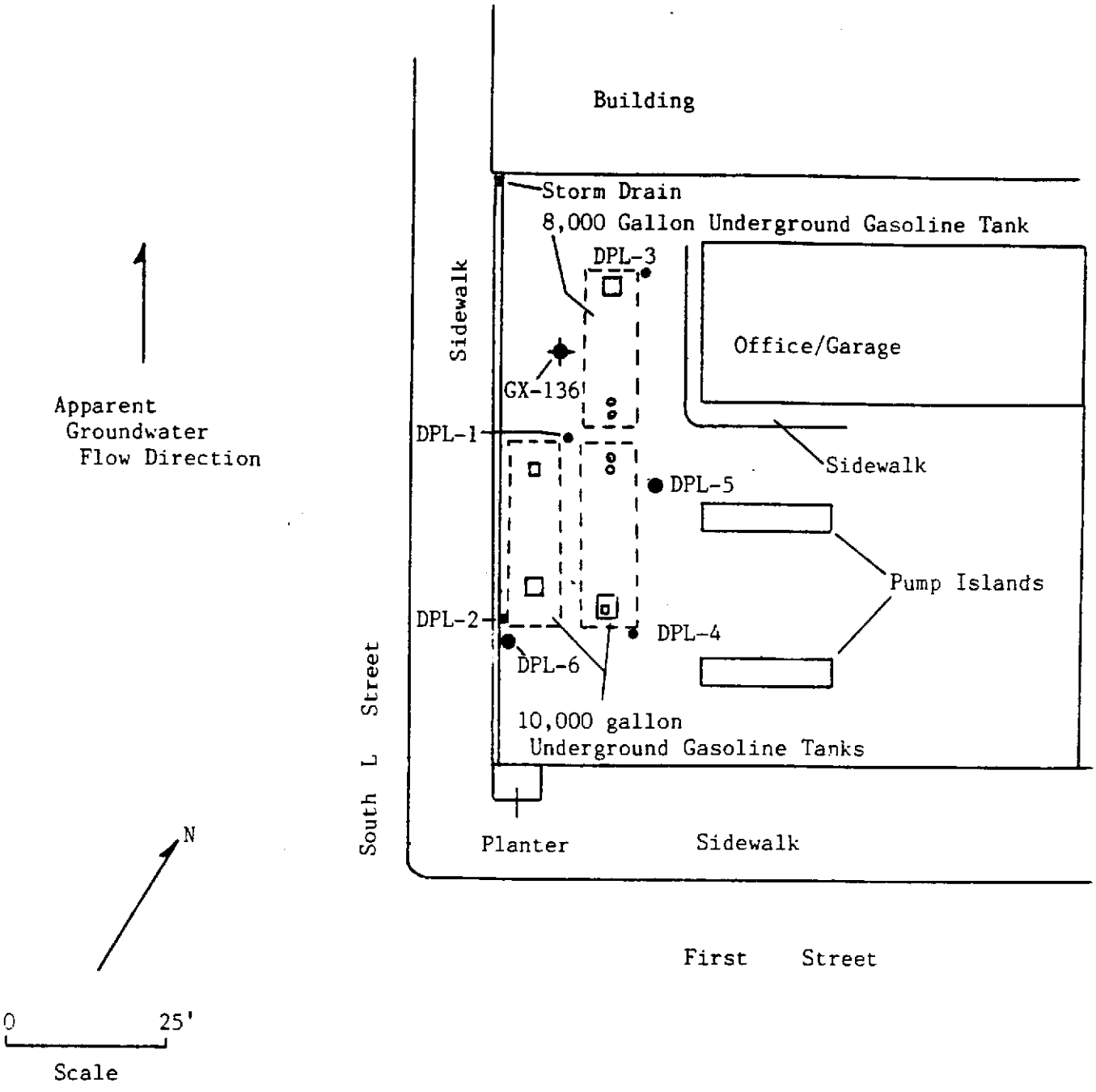
1. Site Map:

A site map illustrating the locations of underground storage tanks, the two soils borings, and one monitoring well is included as Figure 1.

D. Objective and Scope:

The purpose of the project was to investigate the condition of the soils and groundwater in the immediate vicinity of the underground gasoline storage tanks. The scope of the investigation was to drill two soil borings and install one groundwater monitoring well and to collect and analyze an appropriate number of soil and groundwater samples. This was considered to be the initial step toward a comprehensive site evaluation.

Underground Hazardous Materials Specialists
1715 S. Bascom Avenue • Campbell, CA 95008 • (408) 371-4810 • Fax (408) 371-2010



LEGEND: Soil Samples
- • DPL- 1 thru 4 (5/20/88 Report)
- ● Soil Borings DPL-5 & 6
- ✦ Water Well GX-136

Figure 1. Site Map
Desert Petroleum #795
2008 First Street
Livermore, CA

OST On-Site Technologies, In
Suite 212
100 West Rincon Avenue
Campbell, CA 95008
(408) 374-9

II. BACKGROUND

Contamination was identified at the site during the installation of vapor monitoring probes (DPL - 1 thru DPL - 4) on the underground gasoline tanks. Soil samples taken during the probe installation identified 400 PPM total volatile hydrocarbons (as gasoline) in a soil sample from probe DPL - 1. Soil samples from probes DPL - 3 and DPL - 4 did not indicate significant hydrocarbon contamination. Because the backfill of the 10,000 gallon gasoline tank nearest to L Street is pea gravel, we were unable to take a soil sample below probe DPL - 2. However a high vapor concentration (>13,000 PPM) was detected in this probe. These findings indicated the need for additional work at the site.

III. INVESTIGATIVE APPROACH

The investigative approach presented herein, consistent with the Regional Water Quality Control Board's (RWQCB) Guidelines for Addressing Fuel Leaks (September 1985), was submitted to the Alameda County Health Care Services, Department of Environmental Health in a proposal dated August 12, 1988.

Specifically proposed was the installation of a groundwater monitoring well located approximately 10 feet from the area where the highest hydrocarbon concentrations were detected and two other soil borings to take additional soil samples. The proposed location of the well is also in the apparent downgradient direction from the area of highest concentrations.

Figure 1 shows the location of the tanks, the four vapor probes/soil sample borings completed previously, and the groundwater well and two soil borings installed for this study. Since contamination was not evident until approximately 28 feet in the soil samples collected during drilling of the water well, a field decision was made to move the proposed location of DPL - 5 to a point farther away from the well. The new location of DPL -5 is approximately equidistant to the well and the DPL - 6 boring. The proposed location of DPL - 6 was also moved slightly because the original location was very close to one of the underground tanks.

A. Installation of Groundwater Monitoring Well and Borings:

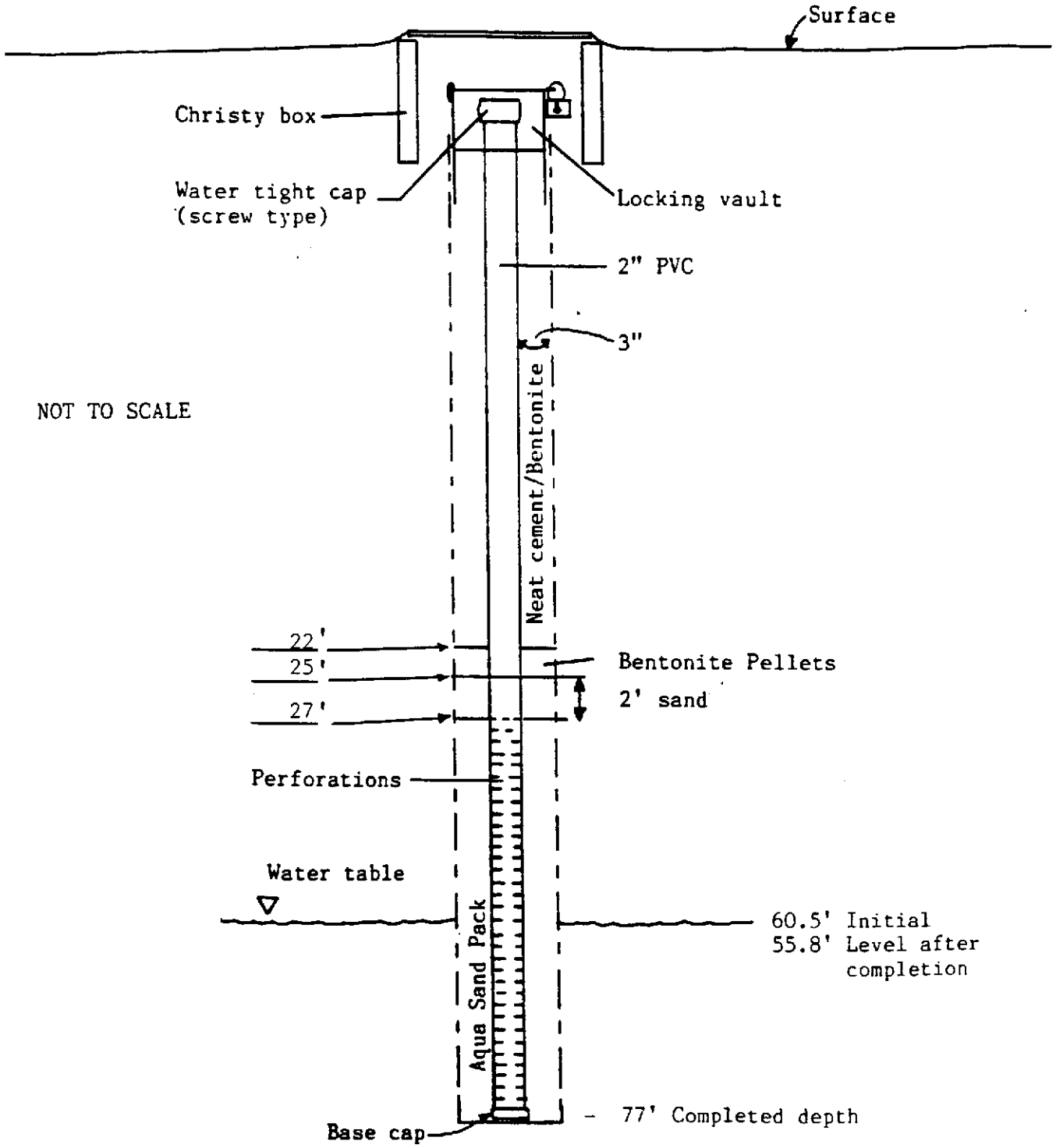
1. Well Locations and Borings:

The location of the monitoring well and two borings are shown on the site map, Figure 1.

2. Well Construction:

Monitoring well GX-136 was installed on September 22, 1988. Figure 2 is a schematic construction diagram which shows the construction details of the well. Construction of the groundwater monitoring well is in conformance with State Water Board Standards, specifically as provided in the "Guidelines for Addressing Fuel Leaks" by the RWQCB unless explicitly modified by the Alameda County Flood Control and Water Conservation District.

Figure 2 Well Construction Diagram



Specifically these standards are:

- The well was drilled with an 8 inch hollow stem auger.

- The bottom of the well was drilled approximately 16.5 ft into the saturated zone (depth where groundwater was first encountered).

- The casing was 2 inch PVC, perforated from the bottom of the well to approximately 33.5 ft above the top of where the saturated zone was first encountered (perforated from 27 to 77 ft).

- The slot size, based upon field examination of the soils from the aquifer horizon, was 0.020 in.

- The annular space around the well was packed with clean graded #3 aqua sand from the bottom to 2 ft above the perforated casing.

- The well was sealed with 3.0 ft of bentonite pellets above the sand followed by bentonite/neat cement grout.

- The wellhead was secured with a stovepipe type locking vault.

- Well identification information was affixed on the interior of the security structure as specified.

- Well construction was permitted and inspected by the Alameda County Flood Control and Water Conservation District.

- The well was developed by surging and bailing with a stainless steel bailer until turbidity had diminished and temperature and pH stabilized. Water produced during well development was stored in a 55 gallon drum for appropriate future disposal.

3. Soils Sampling for the Well and Soil Borings

- Soils sampled during drilling were collected, handled, and analyzed in accordance with State Water Quality Control Board and applicable EPA standards. Sampling frequency and analyses were consistent with the RWQCB Guidelines.

- Soils samples were taken during drilling using a split tube type drive sampler. Immediately after sampling, samples were appropriately sealed and refrigerated. Soil samples were taken starting from the point just below the elevation of the bottoms of the tanks (about 15 feet), at five foot intervals until the saturation zone was reached. All soil samples were analyzed for total petroleum hydrocarbons as gasoline plus BTEX.

- A detailed well construction report including the date of installation, drilling log, casing size and type, depth to water, screen interval, slot size, and surface sealing data is provided in this report.

- Soil cuttings obtained during drilling and groundwater produced during development and sampling of the well are stored on-site until laboratory analyses confirm whether or not these materials must be handled and disposed of as hazardous materials.

4. Groundwater Sampling:

A groundwater sample taken after well development was obtained, handled, and analyzed in accordance with State Water Quality Control Board and applicable EPA standards.

- The groundwater sample was taken after approximately 10 well volumes were removed from the well. Water produced during purging was stored in a 55-gallon drum for future disposal.

- After purging with a stainless steel bailer, the water sample was obtained with a teflon bailer and handled in a manner to minimize the loss of volatile constituents from the sample. Samples were collected in 40 ml. vials, immediately refrigerated and maintained in that condition until delivery to a State certified testing laboratory for the required analyses performed.

- Chain-of-custody documentation was maintained and copies are provided in this report.

B. Results

Laboratory results: (See attached laboratory analyses reports)

The soil and groundwater samples were analyzed by Trace Analysis Laboratory which is State certified for performing the required tests. Samples were tested for total petroleum hydrocarbons (as gasoline) plus BTEX. A summary of the laboratory results are presented in table 1 on page 9.

IV. SUMMARY/RECOMMENDATIONS

1. Detectable hydrocarbon concentrations were found in soils from the well and the two borings, see Figure 1 "Site Map" for hole locations.

- In soil boring DPL - 6 gasoline concentrations of 1,600 parts-per-million (PPM) were detected in a soil sample from a depth of 36 feet. All other soil samples taken during the sampling program tested at 100 PPM or less.

- Contamination was not detected at depths less than 26 feet in any of the borings.

2. Contamination was not detected in the groundwater sample taken at a depth of 55.8 ft from well GX-136. This may indicate that contamination may not be present in the groundwater at the site.

TABLE 1

Soil samples results:

Note: < means less than the detection limit.

Sample #	Depth (ft)	TPH as Gasoline (PPM)	Benzene (PPM)	Toluene (PPM)	Total Xylenes (PPM)	Ethyl/ benzene (PPM)
Water Well:						
GX136-1	16.0	<0.5	<0.03	<0.03	<0.07	<0.04
GX136-2A	23.5	<0.5	<0.03	<0.03	<0.07	<0.04
GX136-3	28.5	<0.5	<0.03	<0.03	<0.07	<0.04
GX136-4	33.5	31	0.14	0.87	4.70	0.74
GX136-5	38.5	72	<0.70	<0.70	4.00	<1.00
GX136-6	43.5	10	0.14	0.13	0.72	0.18
GX136-7	48.5	0.51	<0.03	<0.03	<0.07	<0.04
GX136-8	53.5	1.70	0.12	0.11	0.29	0.049
GX136-9	58.5	54	<0.70	<0.70	4.40	<1.00
Soil Borings:						
DPL 5-1	16.0	<0.50	<0.03	<0.03	<0.07	<0.04
DPL 5-2	21.0	<0.50	<0.03	<0.03	<0.07	<0.04
DPL 5-3	26.0	<0.50	<0.03	<0.03	<0.07	<0.04
DPL 5-4	31.0	33	0.71	1.70	6.20	0.77
DPL 5-5	36.0	8.5	0.054	1.10	2.00	0.23
DPL 5-6	41.0	0.80	0.097	0.10	0.13	<0.04
DPL 5-7	46.0	<0.50	<0.05	<0.05	<0.07	<0.04
DPL 6-1A	17.5	<0.50	<0.03	<0.03	<0.07	<0.04
DPL 6-2	21.0	<0.50	<0.03	<0.03	<0.07	<0.04
DPL 6-3	26.0	2.5	<0.03	<0.03	<0.07	<0.04
DPL 6-4	31.0	12	0.14	0.083	1.40	0.31
DPL 6-5	36.0	1600	<1.00	3.70	32	5.30
DPL 6-6	41.0	11	0.035	<0.03	<0.07	<0.04
DPL 6-7	46.0	100	<0.70	<0.70	4.80	<1.00

Groundwater sample results:

Sample #	Depth (ft)	TPH as Gasoline (PPB)	Benzene (PPB)	Toluene (PPB)	Total Xylenes (PPB)	Ethyl/ benzene (PPB)
GX136-1W	55.8	<7.0	<0.3	<0.3	<0.5	<0.3

Project Number: 309-88-22
RD GX136.rpt

3. **Recommendations for Further Investigation to Define the Lateral and Vertical Extent of Contamination.**

A. Drill one additional water well near DPL - 6 where the highest level of soil contamination was found.

B. Provide comprehensive report of results including recommendations for further work for remedial action to Alameda County Flood Control and Water Conservation District and Regional Water Quality Control Board (RWQCB), and the Alameda Department of Environmental Health.

V. REPORTING

A copy of this report including results of laboratory analyses should be sent to the Alameda County Flood Control and Water Conservation District, the State Regional Water Quality Control Board, San Francisco Bay Region, and the Alameda Department of Environmental Health in the provided format.

VI. CERTIFICATION

To the best of our knowledge, all statement above are true and correct.

Prepared by:

Roger D. Dockter
Senior Geologist

Reviewed by:

Ashok K. Verma, Ph.D.
Senior Hydrogeologist/Engineer

VII. DISTRIBUTION

Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson St., Room 6040
Oakland, CA 94607
Attn.: Ms. Leslie Fergerson

Mr. Wyman Hong
Alameda County Flood Control and Water Conservation District
5997 Parkside Drive
Pleasanton, CA 94566

Ms. Lizabeth Rose
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way
Room 200
Oakland, CA 94621

APPENDIX

Well Installation Report

Well Owner: Desert Petroleum, Inc. Permit #: 88438
Address: 2008 First Street City: Livermore, CA
Well #: GX-136 Well Type: Water monitoring well Date installed: 9/22/88

Gravel Pack:
Type: 3 Aqua sand From: 77.0 ft to: 25.0 ft Diameter of bore: 8.0 in.

Casing Installed:
Type: Plastic From: 0.0 ft to: 77.0 ft Diameter: 2.0 in.

Perforations:
Slot size: 0.020 in. From: 77.0 ft to: 27.0 ft

Surface Seal:
From: 0.0 ft to: 25.0ft Method of sealing: 3.0 ft bentonite at base followed by bentonite/cement grout to surface.

Bottom Seal: From: None

Water Levels: Depth to first water: 60.5 ft Level after completion: 55.8 ft

Well Log

Total depth: 77.0 ft Completed depth: 77.0 ft

	Description
0.0 - 1.0	Asphalt (4") and basefill (8')
1.0 - 3.0	Sand and gravel, silty
3.0 - 7.0	Sand, silty, fine (SM), 10YR6/2 & 10YR5/4, with scattered granules and pebbles.
7.0 -15.0	Gravel (GC) with clay silt matrix. Clasts to 2". Decrease in size to 0.5" at 9' and 0.25" at 12'.
15.0 -18.0	Sand, silty, fine with scattered pebbles (SM), 10YR4/4 & 10YR3/4. Sample GX136-1 taken at 16.0' (5/.5, 4/.5, 5/.5).
18.0 -22.5	Gravel (GC) with a silty clay matrix, 10YR4/4, clasts to 1". Sample GX136-2 taken at 21.0' (26/.5, 25/.5, 28/.5). Rock only, no recovery.
22.5 -26.0	Sand and Gravel (GP), Wet on rock surfaces with sewage odor. Sample GX136-2A at 23.5' (9/.5, 18/.5, 30/.5).
26.0 -33.0	Gravel with silty clay matrix (GC), 10YR4/4, clasts to 1.5". Sample GX136-3 at 28.5' (7/.5, 20/.5, 34/.5). Matrix is 10YR6/2 at 28'. Unit predominatly sand (SM) between 31 and 33'.

(cont. next page)

33.0 -38.0	Clay, silty with pebbles (CL), 10YR4/2.
38.0 -54.0	Gravel with silty clay matrix (GC), 5Y6/1, clasts <0.5". Sample GX136-5 taken at 38.5' (16/.5, 17/.5, 19/.5). Sample GX136-6 taken at 43.5' (10/.5, 13/.5,32/.5). Unit color is 10YR4/2 at 46'. Sample GX136-7 taken at 48.5' (19/.5, 44/.5, 46/.5). Unit color is 5Y6/1 at 48'. Sample GX136-8 taken at 53.5' (19/.5, 24/.5, 27/.5).
54.0 -60.5	Sand, Clayey with pebbles (SC), 10YR6/1 & 10YR5/6. Sample GX136-9 taken at 58.5 (5/.5, 7/.5, 12/.5). Water at 60.5'.
60.5 -77.0	Sand and gravels, no cuttings returned to surface.

Note - Well developed and water sample GX136-1W taken at 55.8' (standing level of water after well completion). Hydrocarbon odors detected in drill cuttings from approximately 26' to 60'.

Borehole Logs

Borehole	Interval (in ft)	Description
DPL-5	0.0 - 1.0	Asphalt (0.33'), Basefill (0.67')
	1.0 - 8.0	Sand and gravel, clayey (GC), 10YR3/2, unit contains brick fragments.
	8.0 - 15.0	Gravel (GC), clasts up to 1.5 inches decreaseing in size to .25 inches at 14.0'. Moist at 14.0'
	15.0 - 18.0	Sand (SM), with silty clay matrix, Mottled color, 10YR5/3 and 10YR4/6. Sample DPL5-1 taken at 16.0' (2/.5, 2/.5, 5/.5).
	18.0 - 30.0	Sand and gravel (GC), with silty clay matrix, 10YR4/4. Sample DPL5-2 at 21.0' (23/.5, 27/.5, 31/.5). Color 5GY5/1 at 21.5 and unit has a sewage odor. Zones of pea gravel occur above 21.5'. Sample DPL2-3 at 26.0' (9/.5, 21/.5, 27/.5). Unit becomes coarser at 27 -28'.
	30.0 - 46.5	Sand, sand and gravels, and gravels. Alternating zone with a fine clayey sand at 30', 10YR4/3. Gravel zones occur at 31.0', 40.0', and 42.0' and are less than 1 foot thick. Sample DPL5-4 taken at 31.0' (4/.5, 4/.5, 6/.6). Sample DPL5-5 taken at 36.0' (10/.5, 4/.5, 7/.5). Sample DPL5-6 taken at 41.0' (11/.5, 20/.5, 23/.5). Sample DPL5-7 taken at 42.0' (9/.5, 19/.5, 38/.5) Samples below 30' had hydrocarbon odors.
DPL-6	0.0 - 0.25	Asphalt
	0.25- 40.0	Silt, clayey (SC), 10YR3/2, with brick fragments to 9.0'. Color is 5Y4/1 at 9.0' with hydrocarbon odor, 10Y4/2 at 13.0' with no odor. Sample DPL6-1 taken at 16.0', but was not recovered. Alternate sample DPL6-1A taken at 17.5' (4/.5, 8/.5, 13/.5). Mottled color at 20', 10YR5/3 and 10YR4/6. Sample DPL6-2 taken at 21.0' (16/.5, 22/.5, 9/.5). Sample DPL6-3 taken at 26.0' (3/.5, 4/.5, 7/.5). Sample DPL6-4 at 31.0' (4/.5, 7/.5, 9/.5), unit color is 5Y4/1 and 10YR4/4. Color is 5GY4/1 at 32'. Sample DPL6-5 taken at 36.0' (3/.5, 4/.5, 5/.5).

DPL-6 (continued next page)

Borehole Logs (cont.)

Borehole	Interval (in ft)	Description
DPL-6	40.0 - 46.0	Gravel, sandy, clayey (GC), matrix color is 5GY4/1, gravel clasts are up to 1.5 inches. Sample DPL6-6 taken at 41.0' (15/.5, 24/.5, 32/.5).
	46.0 - 46.5	Sand (SC), 5GY4/1, moist. Sample DPL6-7 taken at 46.0' (19/.5, 15/.5, 10/.5). Hydrocarbon odors noted in samples below 26.0'

Note - Boreholes were sealed with 3 feet of bentonite pellets at the bottom of the hole with a cement/bentonite mixture to foot below the surface. A 1 foot thick concrete plug was installed at the surface.

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

DATE: 10/13/88

LOG NO.: 6438

DATE SAMPLED: 9/22/88, 9/23/88 and 9/27/88

DATE RECEIVED: 9/27/88

CUSTOMER: On-Site Technologies, Inc.

REQUESTER: Roger Dockter

PROJECT: No. 309-88-22, Desert Petroleum, 2008 1st Street, Livermore, CA

Sample Type: Soil

Method and Constituent	Units	GX136-1 Concentration	GX136-1 Detection Limit	GX136-2A Concentration	GX136-2A Detection Limit	GX136-3 Concentration	GX136-3 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	< 500	500	< 500	500	< 500	500
Modified EPA Method 8020:							
Benzene	ug/kg	< 30	30	< 30	30	< 30	30
Toluene	ug/kg	< 30	30	< 30	30	< 30	30
Xylenes	ug/kg	< 70	70	< 70	70	< 70	70
Ethyl Benzene	ug/kg	< 40	40	< 40	40	< 40	40

DATE: 13/88
LOG NO.: 6438
DATE SAMPLED: 9/22/88, 9/23/88 and 9/27/88
DATE RECEIVED: 9/27/88
PAGE: Two

Sample Type: Soil

Method and Constituent	Units	GX136-4 Concentration	GX136-4 Detection Limit	GX136-5 Concentration	GX136-5 Detection Limit	GX136-6 Concentration	GX136-6 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	31,000	500	72,000	7,000	10,000	500
Modified EPA Method 8020:							
Benzene	ug/kg	140	30	< 700	700	140	30
Toluene	ug/kg	870	30	< 700	700	130	30
Xylenes	ug/kg	4,700	70	4,000	2,000	720	70
Ethyl Benzene	ug/kg	740	40	< 1,000	1,000	180	40

		GX136-7		GX136-8		GX136-9	
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	510	500	1,700	500	54,000	7,000
Modified EPA Method 8020:							
Benzene	ug/kg	< 30	30	120	30	< 700	700
Toluene	ug/kg	< 30	30	110	30	< 700	700
Xylenes	ug/kg	< 70	70	290	70	4,400	2,000
Ethyl Benzene	ug/kg	< 40	40	49	40	< 1,000	1,000

		DPL5-1		DPL5-2		DPL5-3	
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	< 500	500	< 500	500	< 500	500
Modified EPA Method 8020:							
Benzene	ug/kg	< 30	30	< 30	30	< 30	30
Toluene	ug/kg	< 30	30	< 30	30	< 30	30
Xylenes	ug/kg	< 70	70	< 70	70	< 70	70
Ethyl Benzene	ug/kg	< 40	40	< 40	40	< 40	40

DATE: 10/13/88
LOG NO.: 6438
DATE SAMPLED: 9/22/88, 9/23/88 and 9/27/88
DATE RECEIVED: 9/27/88
PAGE: Three

Sample Type: Soil

Method and Constituent	Units	DPL5-4 Concentration	DPL5-4 Detection Limit	DPL5-5 Concentration	DPL5-5 Detection Limit	DPL5-6 Concentration	DPL5-6 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	33,000	500	8,500	500	800	500
Modified EPA Method 8020:							
Benzene	ug/kg	710	30	54	30	97	30
Toluene	ug/kg	1,700	30	1,100	30	100	30
Xylenes	ug/kg	6,200	70	2,000	70	130	70
Ethyl Benzene	ug/kg	770	40	230	40	< 40	40

Method and Constituent	Units	DPL5-7 Concentration	DPL5-7 Detection Limit	DPL6-1A Concentration	DPL6-1A Detection Limit	DPL6-2 Concentration	DPL6-2 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	< 500	500	< 500	500	< 500	500
Modified EPA Method 8020:							
Benzene	ug/kg	< 50	50	< 30	30	< 30	30
Toluene	ug/kg	< 50	50	< 30	30	< 30	30
Xylenes	ug/kg	< 70	70	< 70	70	< 70	70
Ethyl Benzene	ug/kg	< 40	40	< 40	40	< 40	40

Method and Constituent	Units	DPL6-3 Concentration	DPL6-3 Detection Limit	DPL6-4 Concentration	DPL6-4 Detection Limit	DPL6-5 Concentration	DPL6-5 Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	2,500	500	12,000	500	1,600,000	10,000
Modified EPA Method 8020:							
Benzene	ug/kg	< 30	30	140	30	< 1,000	1,000
Toluene	ug/kg	< 30	30	83	30	3,700	1,000
Xylenes	ug/kg	< 70	70	1,400	70	32,000	2,000
Ethyl Benzene	ug/kg	< 40	40	310	40	5,300	1,000

DATE: 13/88
LOG NO.: 6438
DATE SAMPLED: 9/22/88, 9/23/88 and 9/27/88
DATE RECEIVED: 9/27/88
PAGE: Four

Sample Type: Soil

Method and Constituent	Units	DPL6-6 Concentration	DPL6-6 Detection Limit	DPL6-7 Concentration	DPL6-7 Detection Limit
DHS Method:					
Total Petroleum Hydrocarbons as Gasoline	ug/kg	11,000	500	100,000	7,000
Modified EPA Method 8020:					
Benzene	ug/kg	35	30	< 700	700
Toluene	ug/kg	< 30	30	< 700	700
Xylenes	ug/kg	< 70	70	4,800	2,000
Ethyl Benzene	ug/kg	< 40	40	< 1,000	1,000

DATE: 10/13/88
LOG NO.: 6438
DATE SAMPLED: 9/22/88, 9/23/88 and 9/27/88
DATE RECEIVED: 9/27/88
PAGE: Five

Sample Type: Water

Method and Constituent	Units	GX136-1W Concentration	GX136-1W Detection Limit
DHS Method:			
Total Petroleum Hydrocarbons as Gasoline	ug/l	< 7	7
Modified EPA Method 8i 20:			
Benzene	ug/l	< 0.3	0.3
Toluene	ug/l	< 0.3	0.3
Xylenes	ug/l	< 0.5	0.5
Ethyl Benzene	ug/l	< 0.3	0.3

Hugh R. McLean
Supervisory Chemist

HRM:mln

1715 S. Bascom Avenue
Campbell, California 95008

OST On-Site Technologies, Inc. (408) 371-4810

TO: TAL
(Laboratory Name)

CHAIN OF CUSTODY RECORD

Attention: Roger Dockter

Project Number	Site Name & Address
309-88-22	DESERT PETROLEUM 2008 1st St. Livermore CA

SAMPLERS: (Signature) Roger Dockter

Sample No.	Date	Time	Soil	Water	Location of Sample	No. of containers	Analyses requested: TPH as Gas +BTEX*	TPH as Diesel*	VOC - EPA 8240*	TOG - EPA 503E*	Waste Oil Suite* TPH (High Boilers) Total Oil & Grease EPA 8240 plus identify 10 highest peaks.	REMARKS
GX136-1	9/22/88	9:30			Water well @ 16'	1	X					
GX136-2A		9:15			" " " 23.5	1	X					
GX136-3		9:25			" " " 28.5	1	X					
GX136-4		9:40			" " " 33.5	1	X					
GX136-5		9:59			" " " 38.5	1	X					
GX136-6		10:30			" " " 43.5	1	X					
GX136-7		11:15			" " " 48.5	1	X					
GX136-8		12:00			" " " 53.5	1	X					
GX136-9		1:30			" " " 58.5	1	X					

Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Relinquished by: (signature) Roger Dockter	Date/Time 9/27/88 3:15p	Received for LABORATORY by: (signature) TAL	Date/Time 9/27/88 7:15	Remarks Need Region 3 detection levels 10-day TAT	*Per RWQCB Guidelines Benzene 50 ppb T, X, E 100 ppb TPH 1,000 ppb

1715 S. Bascom Avenue
Campbell, California 9500[illegible]

TO: TAL
(Laboratory Name)

OST On-Site Technologies, Inc. (408) 371-4810

CHAIN OF CUSTODY RECORD

Attention: Roger Duckter

Project Number	Site Name & Address
309-88-22	DESERT PETROLEUM LIVERMORE, CA 2008 1st St.

SAMPLERS: (Signature) Roger Duckter

Sample No.	Date	Time	Soil	Water	Location of Sample	No. of containers	TPH as gas +BTEX*	TPH as Diesel*	VOC - EPA 8240*	TOG - EPA 503E*	Waste Oil Suite* TPH (High Boilers) Total Oil & Grease EPA 8240 plus identify 10 highest peaks.			REMARKS
DPL 5-1	9/23/88	9:00			Soil boring #5 @ 16'	1	X							
DPL 5-2	↓	9:20			" " " " 21'	1	X							
DPL 5-3		9:35			" " " " 26'	1	X							
DPL 5-4		9:50			" " " " 31'	1	X							
DPL 5-5		10:30			" " " " 36'	1	X							
DPL 5-6		11:00			" " " " 41'	1	X							
DPL 5-7		11:30			" " " " 46'	1	X							
DPL 6-1A		12:30			Soil boring #6 @ 17.5'	1	X							
DPL 6-2		1:00			" " " 21'	1	X							
DPL 6-3		1:20			" " " 26'	1	X							
DPL 6-4		1:45			" " " 31'	1	X							
DPL 6-5		2:15			" " " 36'	1	X							
DPL 6-6		2:45			" " " 41'	1	X							
DPL 6-7	↓	3:00			" " " 46'	1	X							

Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)

Relinquished by: (signature)	Date/Time	Received for LABORATORY by: (signature)	Date/Time	Remarks
Roger Duckter	9/23/88 3:15	TAL [signature]	9/23/88 3:15	[illegible] detection levels [illegible] ppb [illegible] ppb [illegible] TAL [illegible] *Per RWQCB Guidelines

[redacted] 17[redacted] Bas[redacted] Ave[redacted]
Campbell, California 95008

TO: Trace Analysis
(Laboratory Name)

OST On-Site Technologies, Inc. (408) 371-4810

CHAIN OF CUSTODY RECORD

Attention: Roger Dockter

Project Number	Site Name & Address	No. of containers	Analyses requested									REMARKS
309-88-22	Desert Petroleum 2008 1st St. Livermore, CA		TPH as gas +BTEX*	TPH as Diesel*	VOC - EPA 8240*	TOG - EPA 503E*	Waste Oil Suite* TPH (High Boilers) Total Oil & Grease EPA 8240 plus identify 10 highest peaks.					
SAMPLERS: (Signature) Tom Hoffman												

Sample No.	Date	Time	Soil	Water	Location of Sample										
GX136-1W	9/27/88	1:30 pm		X	GX136/65'	2	X								

Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Tom Hoffman	9/27/88 2:30	Roger Dockter			
Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Relinquished by: (signature)	Date/Time	Received for LABORATORY by: (signature)	Date/Time	Remarks	*Per RWQCB Guidelines
Roger Dockter	9/27/88 3:22	TAL	9/27/88 3:22	10-day TAT	

ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT Desert Petroleum #795
2008 First St.
Livermore, CA

(2) CLIENT
Name Desert Petroleum, Inc.
Address P.O. 1601 Phone (805) 644-6784
City Oxnard, CA Zip 93032

(3) APPLICANT
Name Geonomics, Inc.
Address 100 W. Rincon #212 Phone (408) 374-9116
City Campbell, CA Zip 95008

(4) DESCRIPTION OF PROJECT
Water Well Construction ___ Geotechnical X
Cathodic Protection ___ Well Destruction X

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other Borings

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Hollow stem auger

WELL PROJECTS
Drill Hole Diameter 8 in. Depth(s) 65 ft.
Casing Diameter 2 in. Number
Surface Seal Depth 5+ ft. of Wells 1
Driller's License No. 384167

GEOTECHNICAL PROJECTS
Number 2
Diameter 8 in. Maximum Depth 25 ft.

(7) ESTIMATED STARTING DATE 8/31/88
ESTIMATED COMPLETION DATE 8/31/88

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

APPLICANT'S SIGNATURE Thomas Shett Date 8/22/88

FOR OFFICE USE

PERMIT NUMBER 88438
LOCATION NUMBER

Approved Wyman Hong Date 23 Aug 88
Wyman Hong

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as t arrive at the Zone 7 office five days prior t proposed starting date.
2. Notify this office (484-2600) at least one da prior to starting work on permitted work an before placing well seals.
3. Submit to Zone 7 within 60 days after completio of permitted work the original Department o Water Resources Water Well Drillers Report o equivalent for well projects, or bore hole log and location sketch for geotechnical projects Permitted work is completed when the last surfac seal is placed or the last boring is completed.
4. Permit is void if project not begun within 9 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal a industrial wells or 20 feet for domestic, irrig tion, and monitoring wells unless a lesser dep is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cu tings or heavy bentonite and upper two feet with co pacted material.

D. CATHODIC. Fill hole above anode zone with concre placed by tremie, or equivalent.

E. WELL DESTRUCTION. See attached.

X Suite 212
100 West Rincon Avenue
Campbell, CA 95008

Geonomics Inc.

Contractor's Lic.
CA #478010
(408) 374-9116

ENVIRONMENTAL SERVICES DIVISION

Aug 12, 1988

Ms. Lizabeth Rose
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way
Room 200
Oakland, CA 94621

Dear Ms. Rose:

This letter is to submit a proposal for the subsurface investigation at the Desert Petroleum service station #795 located at 2008 1st St., Livermore, California. This investigation is required by the Alameda County Health Care Services (letter to John Rutherford dated May 20, 1988) because of documented hydrocarbon contamination of soils beneath the site.

This proposal addresses Items 1, 2, 3, and 4 of the Alameda County Health Services letter dated May 20, 1988:

ITEM 1 - TYPE AND QUANTITY OF HAZARDOUS SUBSTANCES RELEASED

The type of the contamination identified at the site is 400 ppm total volatile hydrocarbons (as gasoline) in a soil sample from probe DPL - 1. Soil samples from DPL - 3 and DPL - 4 did not indicate significant hydrocarbon contamination. Because the backfill material of Tank #2 is pea gravel, we were unable to take a soil sample below probe DPL - 2 where high vapor concentrations (>13,000 ppm) were detected. We suspect that the high vapors detected adjacent to the tank may result from overfill and/or spillage events. However, the specific origin and extent of the contamination is unknown at this time (see Geonomics, Inc. report dated March 10, 1988).

ITEM 2 - RESULTS OF INVESTIGATIONS TO DETERMINE THE EXTENT OF SOIL, GROUNDWATER OR SURFACE WATER CONTAMINATION DUE TO THE RELEASE

The attached report by Geonomics, Inc. dated March 10, 1988 describes the partial installation of vapor monitoring probes (wells), soil sampling, and laboratory analyses for the site. The results of the investigation are summarized under Item 1 (above).

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The proposed first phase of our investigation to define the extent of the contamination is listed below:

1. We propose to establish the horizontal and vertical extent of this contamination by installing one groundwater monitoring well and drilling two soil borings. The borings and well will be drilled with an 8 inch hollow stem auger which will be steam cleaned between holes. The boreholes would be sampled and the cuttings inspected visually and for odors for evidence of contamination during drilling. The soil samples taken with a hollow stem auger using a split spoon sampler would include reporting and lab analyses for total parts hydrocarbon TPH as gasoline plus benzene, toluene, ethylbenzene, and total xylenes (BTEX). Each soil boring will be 25 feet deep and located within 3 feet of DPL-1 and DPL-2. Soil samples will be taken at a depth of 15 feet and every 5 feet until completion of the boring (3 soil samples per boring). After completion the soil boreholes will be filled and sealed with neat cement. The groundwater well will be placed in a down gradient position with respect to tank #2. Soil samples for the well will be taken at a depth of 15 feet and every 5 feet until the groundwater table is reached (estimated to be about 50 feet). If groundwater is encountered at 50 feet the well will be completed 15 feet into the saturated zone. The locations of the borings and the well is shown on figure 1.

   Well Construction
   Figure 2 is a preliminary construction diagram which shows the general plan for constuction of the well. A detailed well installation report will be provided as part of the final report.

   Construction of the groundwater well will be in conformance with State Water Quality Board Standards, specifically as provided in the "Guidelines for Addressing Fuel Leaks" by the Bay Area Regional Water Quality Control Board unless explicitely modified by either the Alameda County Flood Control and Water Conservation District or the City of Livermore.

   For the proposed well at 2008 1st. St., Livermore, CA:

   - The casing will be 2 inch PVC, perforated from the bottom of the well to at least 5 feet above the top of the saturated zone.

   - The annular space around the well will be packed with clean graded #3 sand from the bottom to 2 feet above the perforated casing.

   - The well will be sealed with 0.5-1 foot of bentonite pellets above the sand followed by neat cement slurry to the surface. The seal will be as extensive as possible and will in no case be less than 5 feet without a specific variance fron the city of Livermore and Zone 7.

   - The wellhead will be sealed with a water tight threaded cap and secured with a stovepipe type locking vault.

   - Well identification will be affixed on the interior of the security vault.

   -The well will be developed by surging and bailing with a stainless steel

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bailer until turbidity is diminished and temperature and pH are stabilized.

Goundwater Sampling
A groundwater sample taken after development will be obtained, handled, and analyzed in accordance with State Water Quality Control Board and applicable EPA standards.

Specifically:

- After the well has been allowed to stabilize for at least 72 hours it will be sampled to observe the presence of floating product. If present, the amount of floating product will be assessed using a clear bailer.

- A groundwater sample will be taken after seven to ten well volumes of water have been removed from the well and the water level has recovered to 80% of its initial level. Water produced during purging will be stored in 55 gallon drums prior to appropriate disposal.

- After purging several well volumes, the water samples will be obtained (using either a teflon bailer or teflon bladder pump) and handled in a manner which minimizes the loss of volatile constituents from the sample. Samples will be collected in 40 ml. vials, immediately refrigerated and maintained in that condition until delivered to the state certified testing laboratory.

- Samples will be tested for total petroleum hydrocarbons (as gasoline) and BTEX.

- Chain-of-custody documentation will be maintained and provided in the final report.

ITEM 3 - METHOD OF CLEANUP IMPLEMENTED TO DATE, PROPOSED CLEANUP ACTIONS, AND APPROXIMATE COST OF ACTION TO DATE

It is premature to consider methods of cleanup of the site before the investigation in Item 2 is completed.

ITEM 4 - METHOD AND LOCATION OF DISPOSAL OF RELEASED HAZARDOUS SUSTANCE

It is premature to consider the haulage of contaminated soil because of several options available for on-site treatment.

Please advise us if this proposal is acceptable so we may promptly proceed with this project. We have scheduled installation of the monitoring well and borings for August 31, 1988. If you have any questions regarding any aspects of the proposal please call.

Sincerely,

Thomas S. Nett
Geologist

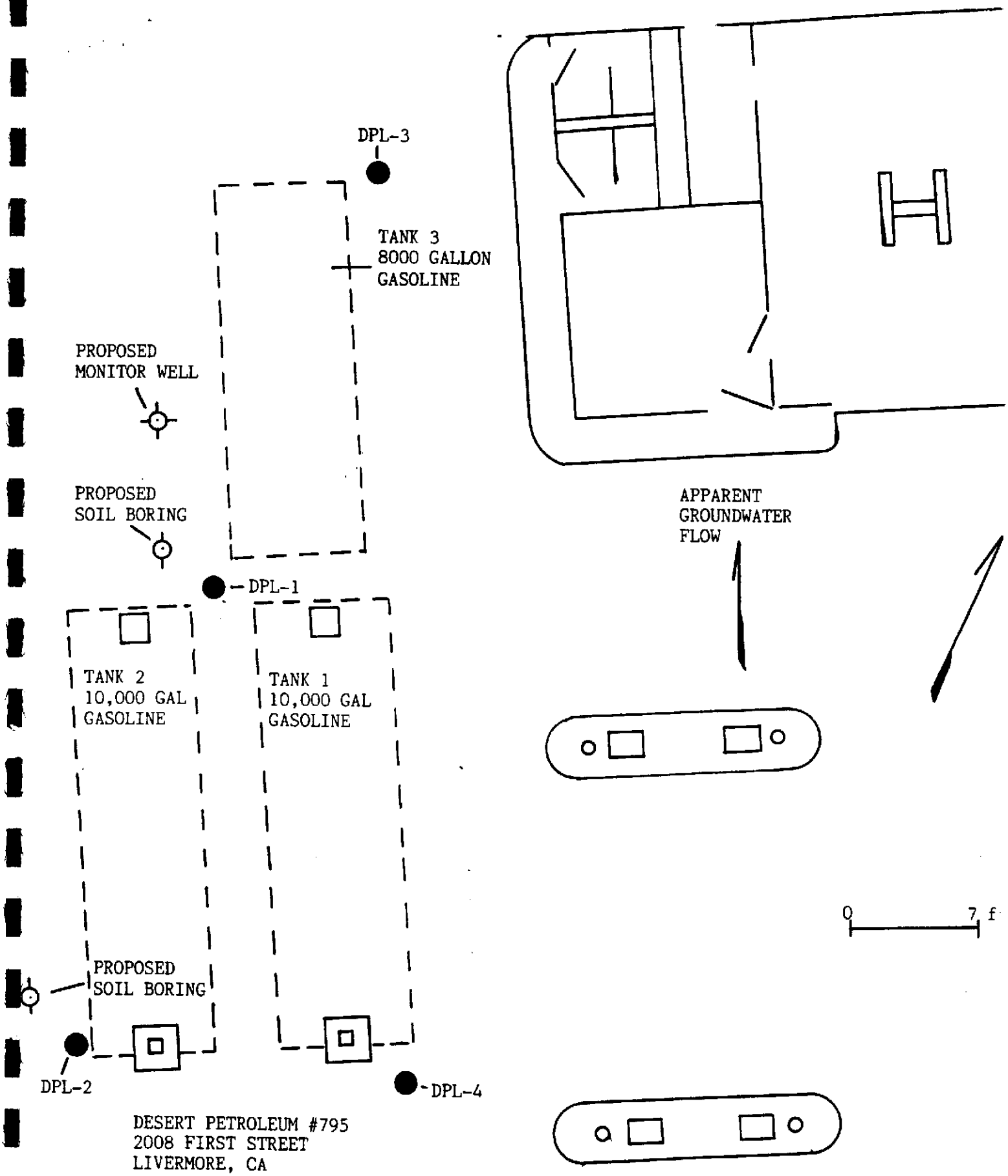
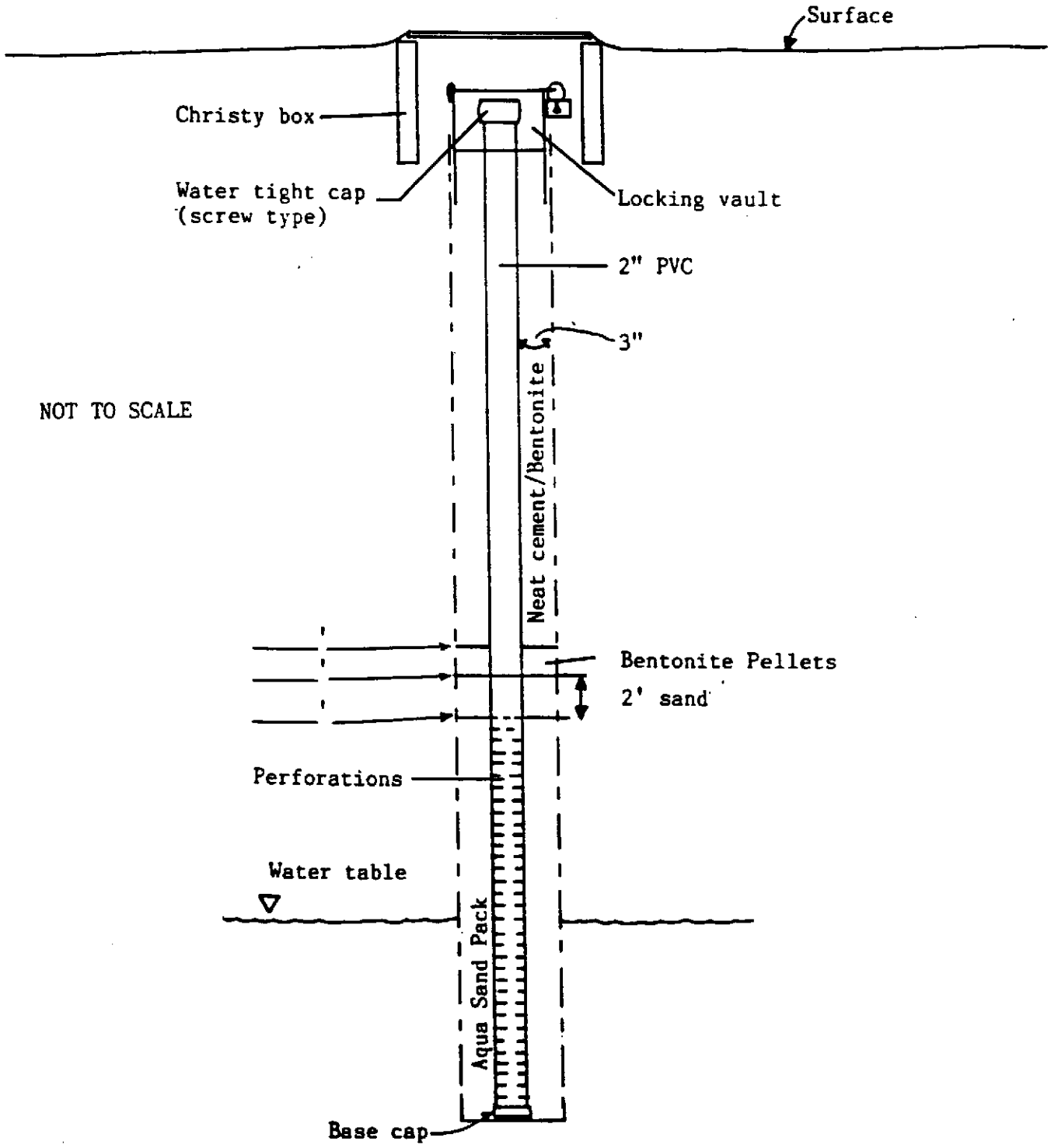
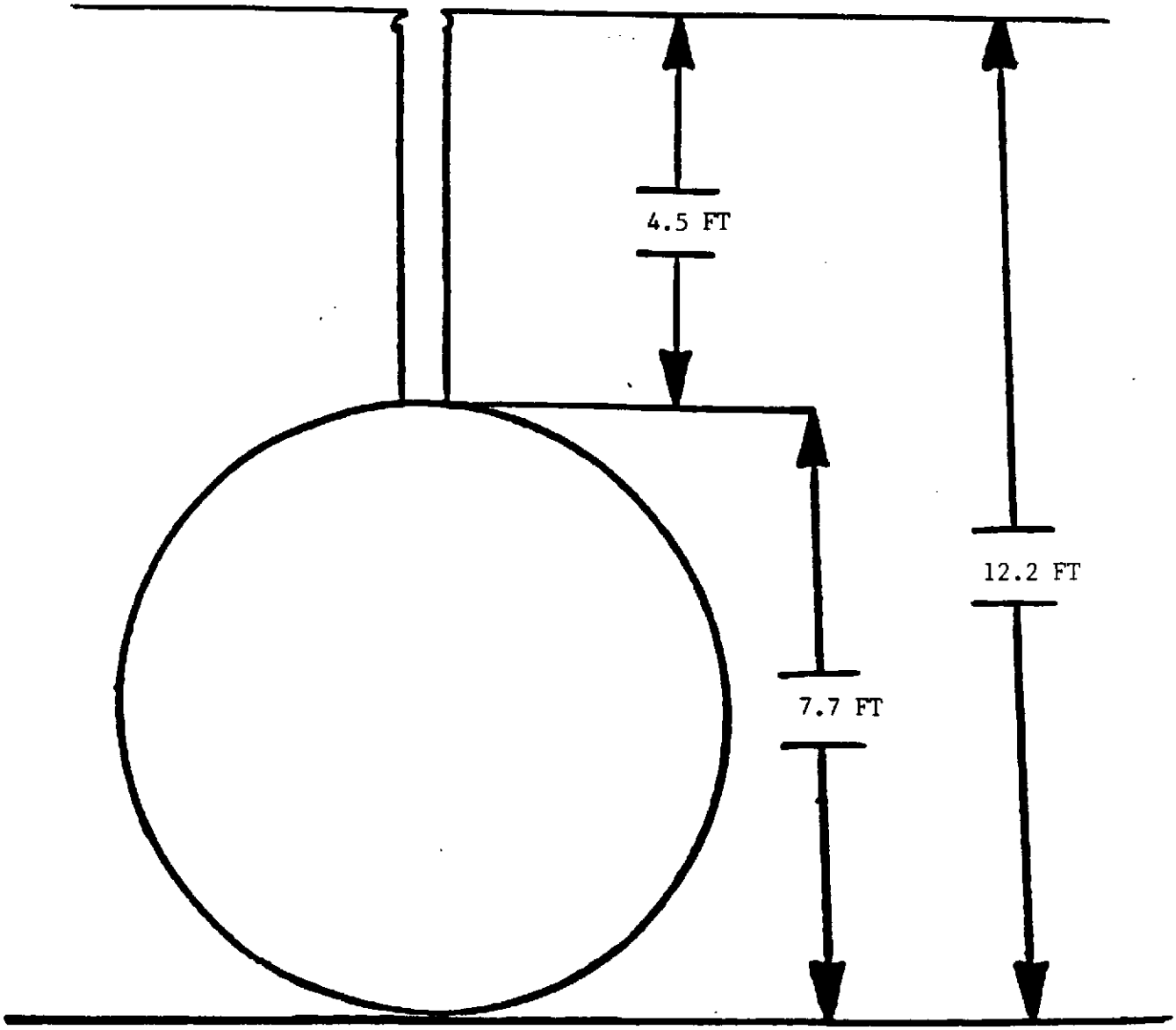

DPL-3
TANK 3
8000 GALLON
GASOLINE
PROPOSED
MONITOR WELL
PROPOSED
SOIL BORING
DPL-1
TANK 2
10,000 GAL
GASOLINE
TANK 1
10,000 GAL
GASOLINE
APPARENT
GROUNDWATER
FLOW
0
7 f
PROPOSED
SOIL BORING
DPL-2
DPL-4
DESERT PETROLEUM #795
2008 FIRST STREET
LIVERMORE, CA

Figure 1

Figure 2 Well Construction Diagram





All three tanks show same profile dimensions.

Figure 3

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ENVIRONMENTAL SERVICES DIVISION

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March 10, 1988

Mr. J. D. Rutherford
Desert Petroleum, Inc.
P.O. Box 1601
Oxnard, CA 93032

Dear Mr. Rutherford,

Attached is a copy of the report describing the partial installation of vapor monitoring probes (wells), soil sampling, and laboratory analyses for your service station located at 2008 First St., Livermore, California. Except for installation of the surface vaults, four probes (wells) have been completed in the backfill surrounding the storage tanks. Installation of the surface vaults await a judgement regarding the condition of the site, with respect to the appropriate use of vapor monitoring for leak detection. Meanwhile, the top of the probes (wellheads) have been covered with pea gravel and a temporary concrete plug. The concrete seals are flush with the surrounding pavement.

The initial vapor readings from two probes (DPL-1 and DPL-2) in the tank backfills at this facility were relatively high, over 13,000 PPM. Because the backfill of Tank #2 was pea gravel, we were unable to take a sample below probe DPL-2 where high vapor concentrations were detected. We suspect that the high vapors detected adjacent to this tank may result from overfill and/or spillage events.

The two of the three soils samples that were obtained at the site, below probes DPL-3 and DPL-4 did not indicate significant hydrocarbon contamination. Sample DPL-288-1 from below probe DPL-1 showed hydrocarbon contamination of 400 PPM.

While the results of the drilling and vapor testing provide evidence of some hydrocarbon contamination, the origin and extent of the contamination is unknown at this time. We will keep in contact with you to resolve the eventual outcome of the project.

We have appreciated the opportunity to be of service to you in this matter. If you have questions regarding any aspect of the report, please contact us. As we discussed, an invoice for our time and materials, to date, is enclosed.

Sincerely,

Ronald W Michelson

Ronald W. Michelson
Registered Geologist (CA #3875)

enclosures

Suite 212
100 West Rincon Avenue
Campbell, CA 95008

Geonomics Inc.

ENVIRONMENTAL SERVICES DIVISION

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March 10, 1988

**Report for Soil Sampling and Vapor Monitoring Probe Installation-
Near Underground Storage Tanks**

Name of Business: Desert Petroleum, Inc. #795

Site address: 2008 First St., Livermore, CA

Type of work performed: Soil samples taken adjacent to underground storage tanks for laboratory testing, and installation of vapor monitoring probes

Date sampled: February 23-24, 1988

Number of tanks: 3

Tank - capacity (approx.), contents, depth to bottom:

Tank 1: 10,000 gal., gasoline, (unleaded), 12.2'

Tank 2: 10,000 gal., gasoline, (leaded), 12.2'

Tank 3: 8,000 gal., gasoline, (ethyl), 12.2'

Soil samples:

Sample #	Depth(ft)	Description (See attached Site Map)
DPL-288-1	14.6	Between tanks 1, 2, & 3. Silty fine sand with pebbles, stained green
DPL-288-3	15.0	At north end of Tank 3. Silty sand with pebbles and cobbles.
DPL-288-4	16.3	At south end of Tank 1. Silty sand with pebbles and cobbles.

Laboratory results: (lab report attached)

Sample Number	Tested for:	Test results (In ppm)
	Note: < means below the reporting limit.	
DPL-288-1	Total Volatile Hydrocarbons (gasoline)	400.0
	Benzene	7.5
	Toluene	9.5
	Total xylenes	27.0
DPL-288-3	Total Volatile Hydrocarbons (gasoline)	<1.0
	Benzene	<2.0
	Toluene	<0.6
	Total xylenes	<0.6
DPL-288-4	Total Volatile Hydrocarbons (gasoline)	<1.0
	Benzene	<2.0
	Toluene	<0.6
	Total xylenes	<0.6

Quality assurance:

Samples were obtained, handled, and analyzed according to State Water Quality Control Board, and EPA guidelines.

Each sample was taken with a split tube type drive sampler in 1 1/2 inch brass tube. The tube was immediately capped with aluminum foil and plastic caps and taped.

The sample was refrigerated immediately after sampling and kept refrigerated while transported from the field. At Geonomics headquarters the samples were deep frozer and maintained in a frozen condition until delivery to a State certified testing laboratory.

Chain-of-custody documentation was maintained and a copy is included.

Ronald W. Michelson

Ronald W. Michelson
Registered Geologist (CA #3875)

3/10/88
Date

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Vapor Probe Installation Report

Well Owner: Desert Petroleum, Inc.
Address: 2008 First St. & L. St. City: Livermore, CA
Well #: DPL-1 Well Type: Vapor monitoring probe Date installed: 2/24/88

Bottom of tank: 12.2 ft Top of tank: 4.5 ft

Initial vapor reading: >13,000 PPM [1] (GasTech) Contents of tank: gasoline

Backfill: pea gravel
Type: & sand From: 1.0 ft to: 12.0 ft Diameter of bore: 6.0 in.

Casing Installed:
Type: Plastic From: 0.5 ft to: 13.4 ft Diameter: 2.0 in

Perforations:
Slot size: .020 in. From: 8.6 ft to: 13.4 ft

Surface Seal:
Temporary
From: Surface to: 0.5 ft Method of sealing: Concrete

Well Log

Total Depth 14.6 ft Completed Depth 13.4 ft

Interval Sampled	Description
0.0 - 0.4 ft	Asphalt
0.4 - 1.0 ft	Basefill, rocky
1.0 - 6.0 ft	Dark brown silty sand & pea gravel backfill
6.0 -12.0 ft	Silty sand, greenish stained.
12.0 -14.6 ft	Silty fine sand with pebbles, stained greenish brown Sample DPL-288-1 at 14.6'

1/
Initial vapor readings were obtained with a field hydrocarbon analyzer, Gastechtor Model 1238, manufactured by Gastech, Inc., Newark, California. The instrument was calibrated with hexane gas in air. Readings are extremely approximate and should be used in the relative sense only, to compare background conditions, rather as representing absolute values.

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Vapor Probe Installation Report

Well Owner: Desert Petroleum, Inc.
Address: 2008 First St. & L. St. City: Livermore, CA
Well #: DPL-2 Well Type: Vapor monitoring probe Date installed: 2/24/88

Bottom of tank: 12.2 ft Top of tank: 4.6 ft

Initial vapor reading: >13,000 PPM[1] (GasTech) Contents of tank: gasoline

Backfill:
Type: Pea gravel From: 0.4 ft to: 11.0 ft Diameter of bore: 6.0 in.

Casing Installed:
Type: Plastic From: 0.5 ft to: 11.0 ft Diameter: 2.0 in

Perforations:
Slot size: .020 in. From: 7.7 ft to: 11.0 ft

Surface Seal:
Temporary
From: Surface to: 0.5 ft Method of sealing: Concrete

Well Log

Total Depth 11.5 ft Completed Depth 11.0 ft

Interval Sampled	Description
0.0 - 0.4 ft	Asphalt
0.4 -11.0 ft	Pea gravel backfill
11.0 -11.5 ft	Silty sand, greenish-brown stained.

1/ Initial vapor readings were obtained with a field hydrocarbon analyzer, Gastechtor Model 1238, manufactured by Gastech, Inc., Newark, California. The instrument was calibrated with hexane gas in air. Readings are extremely approximate and should be used in the relative sense only, to compare background conditions, rather as representing absolute values.

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Vapor Probe Installation Report

Well Owner: Desert Petroleum, Inc.
Address: 2008 First St. & L. St. City: Livermore, CA
Well #: DPL-3 Well Type: Vapor monitoring probe Date installed: 2/24/88

Bottom of tank: 12.2 ft Top of tank: 4.5 ft

Initial vapor reading: 125 PPM[1] (GasTech) Contents of tank: gasoline

Backfill:
Type: Sand From: 1.0 ft to: 12.2 ft Diameter of bore: 6.0 in.

Casing Installed:
Type: Plastic From: 0.5 ft to: 14.0 ft Diameter: 2.0 in

Perforations:
Slot size: .020 in. From: 8.7 ft to: 14.0 ft

Surface Seal:
Temporary
From: Surface to: 0.5 ft Method of sealing: Concrete

Well Log

Total Depth 15.0 ft Completed Depth 14.0 ft

Interval Sampled	Description
0.0 - 0.4 ft	Asphalt
0.4 - 1.0 ft	Rocky basefill
1.0 - 2.0 ft	Sand, medium to coarse backfill
2.0 -12.2 ft	Silty fine to medium sand backfill
12.2 -15.0 ft	Silty sand, w/ pebbles & cobbles
	Sample DPL-288-3 at 15.0'

1/ Initial vapor readings were obtained with a field hydrocarbon analyzer, Gastechtor Model 1238, manufactured by Gastech, Inc., Newark, California. The instrument was calibrated with hexane gas in air. Readings are extremely approximate and should be used in the relative sense only, to compare background conditions, rather as representing absolute values.

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ENVIRONMENTAL SERVICES DIVISION

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Vapor Probe Installation Report

Well Owner: Desert Petroleum, Inc.
Address: 2008 First St. & L. St. City: Livermore, CA
Well #: DPL-4 Well Type: Vapor monitoring probe Date installed: 2/24/88

Bottom of tank: 12.2 ft Top of tank: 4.5 ft

Initial vapor reading: 250 PPM[1] (GasTech) Contents of tank: gasoline

Backfill:
Type: Sand From: 1.0 ft to: 16.3 ft Diameter of bore: 6.0 in.

Casing Installed:
Type: Plastic From: 0.5 ft to: 14.6 ft Diameter: 2.0 in

Perforations:
Slot size: .020 in. From: 8.8 ft to: 14.6 ft

Surface Seal:
Temporary
From: Surface to: 0.5 ft Method of sealing: Concrete

Well Log

Total Depth 16.3 ft Completed Depth 14.6 ft

Interval Sampled	Description
0.0 - 0.4 ft	Asphalt
0.4 - 1.0 ft	Rocky basefill
1.0 - 8.0 ft	Silty fine sand and backfill
8.0 -16.3 ft	Silty sand with pebbles & cobbles Sample DPL-288-4 at 16.3'

1/ Initial vapor readings were obtained with a field hydrocarbon analyzer, Gastechtor Model 1238, manufactured by Gastech, Inc., Newark, California. The instrument was calibrated with hexane gas in air. Readings are extremely approximate and should be used in the relative sense only, to compare background conditions, rather as representing absolute values.

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

DATE: 3/3/88

LOG NO.: 5705

DATE SAMPLED: 2/24/88

DATE RECEIVED: 2/25/88

CUSTOMER: Geonomics, Inc.

REQUESTER: Ron Michelson

PROJECT: No. 301-88-4B, Desert Petroleum, 2008 1st Street, Livermore, CA

		Sample Type: Soil					
		DPL288-1		DPL288-3		DPL288-4	
Method and Constituent	Units	Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
Modified EPA Method 8015:							
Volatile Hydrocarbons	ug/kg	400,000	1,000	< 1,000	1,000	< 1,000	1,000
Modified EPA Method 8020:							
Benzene	ug/kg	7,500	2,000	< 2,000	2,000	< 2,000	2,000
Toluene	ug/kg	9,500	600	< 600	600	< 600	600
Xylenes	ug/kg	27,000	600	< 600	600	< 600	600

Hugh R. McLean
Supervisory Chemist

HRM:mln

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, California 94612
(415) 271-4320

May 20, 1988

Desert Petroleum Inc.
P.O. Box 1601
Oxnard, CA 93032
Attn: J. D. Rutherford

SUBJECT: UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK)/ CONTAMINATION SITE REPORT AT 2008 - 1ST ST., LIVERMORE

Dear Mr. Rutherford:

On April 1, 1988, our office received a contaminated soils report prepared by Geonomics, Inc. for the subject site.

The California Administrative Code, Title 23, requires all unauthorized releases to be reported. Section 2652(b) requires within five (5) working days of detecting the release, the operator or permittee shall submit to the local agency (Alameda County Hazardous Materials Division) a full written report to include all of the following information which is known at the time of filing the report:

1. List of type and quantity of hazardous substances released.
2. The results of all investigations completed at that time to determine the extent of soil or groundwater or surface water contamination due to the release.
3. Method of clean-up implemented to date, proposed clean-up actions, and approximate cost of actions taken to date.
4. Method and location of disposal of the released hazardous substance and any contaminated soils or groundwater or surface water (indicate whether a hazardous waste manifest(s) is utilized).

5. Proposed method of repair or replacement of the primary and secondary containers.
6. Facility operator's name and telephone number.

Until clean-up is complete, the operator or permittee shall submit reports to the County and the Regional Water Quality Control Board (RWQCB) every three (3) months or at a more frequent interval if specified by either agency. The reports shall include the information requested in 2, 3 and 4 of the above. The report requested above shall be prepared in accordance with the San Francisco Regional Water Quality Control Board's "Guidelines for Addressing Fuel Leaks," September 1985. The initial investigation report shall be submitted within 30 days and shall include a site safety plan.

Soils contaminated at hazardous waste concentrations shall be transported by a licensed hazardous hauler and disposed of or treated at a California Department of Health Services approved facility. Soils contaminated below hazardous waste concentrations may be managed as non-hazardous but are subject to waste discharge requirements of the Regional Board.

Enclosed is an "Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report" which should be completed and returned within 5 working days. Should you have any questions regarding this letter, please contact Lizabeth Rose, Hazardous Materials Specialist at 271-4320.

Sincerely,

R/C. A. Shahid

Rafat A. Shahid, Chief
Hazardous Materials Division

RAS:mam

cc: RWQCB
Livermore Fire Department

Enclosure

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☑ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED ? ☐ YES ☑ NO

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.
SIGNED _____ DATE _____

REPORT DATE: 04 01 88 | CASE #:

REPORTED BY
NAME OF INDIVIDUAL FILING REPORT: J.D. RUTHERFORD | PHONE: (805) 644-6784 | SIGNATURE: John R. [illegible]
REPRESENTING ☑ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER _____
COMPANY OR AGENCY NAME: DESERT PETROLEUM INC.
ADDRESS: P.O. BOX | STREET 1601 | CITY OXNARD | STATE CA | ZIP 93032

RESPONSIBLE PARTY
NAME: DESERT PETROLEUM INC. ☐ UNKNOWN | CONTACT PERSON: J.D. RUTHERFORD | PHONE: (805) 644-6784
ADDRESS: P.O. BOX | STREET 1601 | CITY OXNARD | STATE CA | ZIP 9303

SITE LOCATION
FACILITY NAME (IF APPLICABLE): MOBIL # 56795 | OPERATOR: DESERT PETROLEUM | PHONE: ( )
ADDRESS: 2008 | STREET 1ST STREET | CITY LIVERMORE | COUNTY ALAMEDA | ZIP
CROSS STREET: L STREET
TYPE OF AREA ☐ COMMERCIAL ☐ INDUSTRIAL ☐ RURAL ☑ RESIDENTIAL ☐ OTHER _____
TYPE OF BUSINESS ☑ RETAIL FUEL STATION ☐ FARM ☐ OTHER _____

IMPLEMENTING AGENCIES
LOCAL AGENCY / AGENCY NAME: ALAMEDA HEALTH CARE SERVICES | CONTACT PERSON: LIZABETH ROSE | PHONE: ( ) 271-4320
REGIONAL BOARD | PHONE: ( )

SUBSTANCES INVOLVED
(1) NAME: Motor Fuel Gasoline. | QUANTITY LOST (GALLONS): ☑ UNKNOWN
(2) ☐ UNKNOWN

DISCOVERY/ABATEMENT
DATE DISCOVERED: 03 00 88 | HOW DISCOVERED ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☐ TANK REMOVAL ☑ OTHER Soil Sample Reported
DATE DISCHARGE BEGAN: ☑ UNKNOWN
HAS DISCHARGE BEEN STOPPED ? ☑ YES ☐ NO IF YES, DATE
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) ☐ REMOVE CONTENTS ☐ REPLACE TANK ☐ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☑ OTHER No discharge from Facility.

SOURCE/CAUSE
SOURCE OF DISCHARGE ☐ TANK LEAK ☑ UNKNOWN ☐ PIPING LEAK ☐ OTHER
TANKS ONLY/CAPACITY: 10K - 10K - 8K GAL. | AGE Reused 1987 YRS ☑ UNKNOWN
MATERIAL ☐ FIBERGLASS ☑ STEEL ☐ OTHER _____
CAUSE(S) ☐ OVERFILL ☐ RUPTURE/FAILURE ☐ CORROSION ☑ UNKNOWN ☐ SPILL ☐ OTHER _____

CASE TYPE
CHECK ONE ONLY ☑ UNDETERMINED ☐ SOIL ONLY ☐ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS
CHECK ONE ONLY ☑ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) ☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION
CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☑ OTHER (OT) Site Assessment

COMMENTS
At this time Contamination is believed to be caused by overspills from product delivery over a period of time. Underground tanks and piping were precision tested and found to be tight. Some type of further site assessment has been contracted.

HSC 05 (4/87)

desert petroleum inc.

John Rutherford
Director
Environmental Affairs

March 29, 1988

Alameda County
Health Care Services
470 27th Street, Room 322
Oakland, CA 94612
Attn: Hazardous Management Unit

Re: SS# 795
2008 First Street
Livermore, CA

Gentlemen:

Please find enclosed a copy of our consultants report concerning the above location along with recent soils testing done while placing vapor probe installations for future monitoring.

While the report indicates elevated levels of hydrocarbons, we believe this to be historical due to overfill and spillage during product deliveries.

Recent precision testing of the tanks and piping confirm that the systems are tight. These testing results were previously submitted to your agency on March 16, 1988.

As a precaution we are submitting our consultants report and will await further direction.

Very truly yours,

J. D. Rutherford

JDR:ca
enclosures

POST OFFICE BOX 1601, OXNARD, CALIFORNIA 93032 • TELEPHONE (805) 644-6784

Suite 212
100 West Rincon Avenue
Campbell, CA 95008

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ENVIRONMENTAL SERVICES DIVISION

March 10, 1988

2008
First
Ave.

Mr. J. D. Rutherford
Desert Petroleum, Inc.
P.O. Box 1601
Oxnard, CA 93032

Dear Mr. Rutherford,

Attached is a copy of the report describing the partial installation of vapor monitoring probes (wells), soil sampling, and laboratory analyses for your service station located [redacted] Except for installation of the surface vaults, four probes (wells) have been completed in the backfill surrounding the storage tanks. Installation of the surface vaults await a judgement regarding the condition of the site, with respect to the appropriate use of vapor monitoring for leak detection. Meanwhile, the top of the probes (wellheads) have been covered with pea gravel and a temporary concrete plug. The concrete seals are flush with the surrounding pavement.

The initial vapor readings from two probes (DPL-1 and DPL-2) in the tank backfills at this facility were relatively high, over 13,000 PPM. Because the backfill of Tank #2 was pea gravel, we were unable to take a sample below probe DPT-2 where high vapor concentrations were detected. We suspect that the high vapors detected adjacent to this tank may result from overfill and/or spillage events.

The two of the three soils samples that were obtained at the site, below probes DPL-3 and DPL-4 did not indicate significant hydrocarbon contamination. Sample DPL-288-1 from below probe DPL-1 showed hydrocarbon contamination of 400 PPM.

While the results of the drilling and vapor testing provide evidence of some hydrocarbon contamination, the origin and extent of the contamination is unknown at this time. We will keep in contact with you to resolve the eventual outcome of the project.

We have appreciated the opportunity to be of service to you in this matter. If you have questions regarding any aspect of the report, please contact us. As we discussed, an invoice for our time and materials, to date, is enclosed.

Sincerely,

Ronald W Michelson

Ronald W. Michelson
Registered Geologist (CA #3875)

enclosures

Laboratory results: (lab report attached)

Sample Number	Tested for:	Test results (In ppm)
	Note: < means below the reporting limit.	
DPL-288-1	Total Volatile Hydrocarbons (gasoline)	400.0
	Benzene	7.5
	Toluene	9.5
	Total xylenes	27.0
DPL-288-3	Total Volatile Hydrocarbons (gasoline)	<1.0
	Benzene	<2.0
	Toluene	<0.6
	Total xylenes	<0.6
DPL-288-4	Total Volatile Hydrocarbons (gasoline)	<1.0
	Benzene	<2.0
	Toluene	<0.6
	Total xylenes	<0.6

Quality assurance:

Samples were obtained, handled, and analyzed according to State Water Quality Control Board, and EPA guidelines.

Each sample was taken with a split tube type drive sampler in 1 1/2 inch brass tube. The tube was immediately capped with aluminum foil and plastic caps and taped.

The sample was refrigerated immediately after sampling and kept refrigerated while transported from the field. At Geonomics headquarters the samples were deep frozen and maintained in a frozen condition until delivery to a State certified testing laboratory.

Chain-of-custody documentation was maintained and a copy is included.

Ronald W. Michelson 3/10/88

Ronald W. Michelson
Registered Geologist (CA #3875)

Date

Suite 212
100 West Rincon Avenue
Campbell, CA 95008

Geonomics Inc.

ENVIRONMENTAL SERVICES DIVISION

Contractor's Lic.
CA #478010
(408) 374-9116

March 10, 1988

**Report for Soil Sampling and Vapor Monitoring Probe Installation-
Near Underground Storage Tanks**

Name of Business: Desert Petroleum, Inc. #795

Site address: 2008 First St., Livermore, CA

Type of work performed: Soil samples taken adjacent to underground storage tanks for laboratory testing, and installation of vapor monitoring probes

Date sampled: February 23-24, 1988

Number of tanks: 3

Tank - capacity (approx.), contents, depth to bottom:

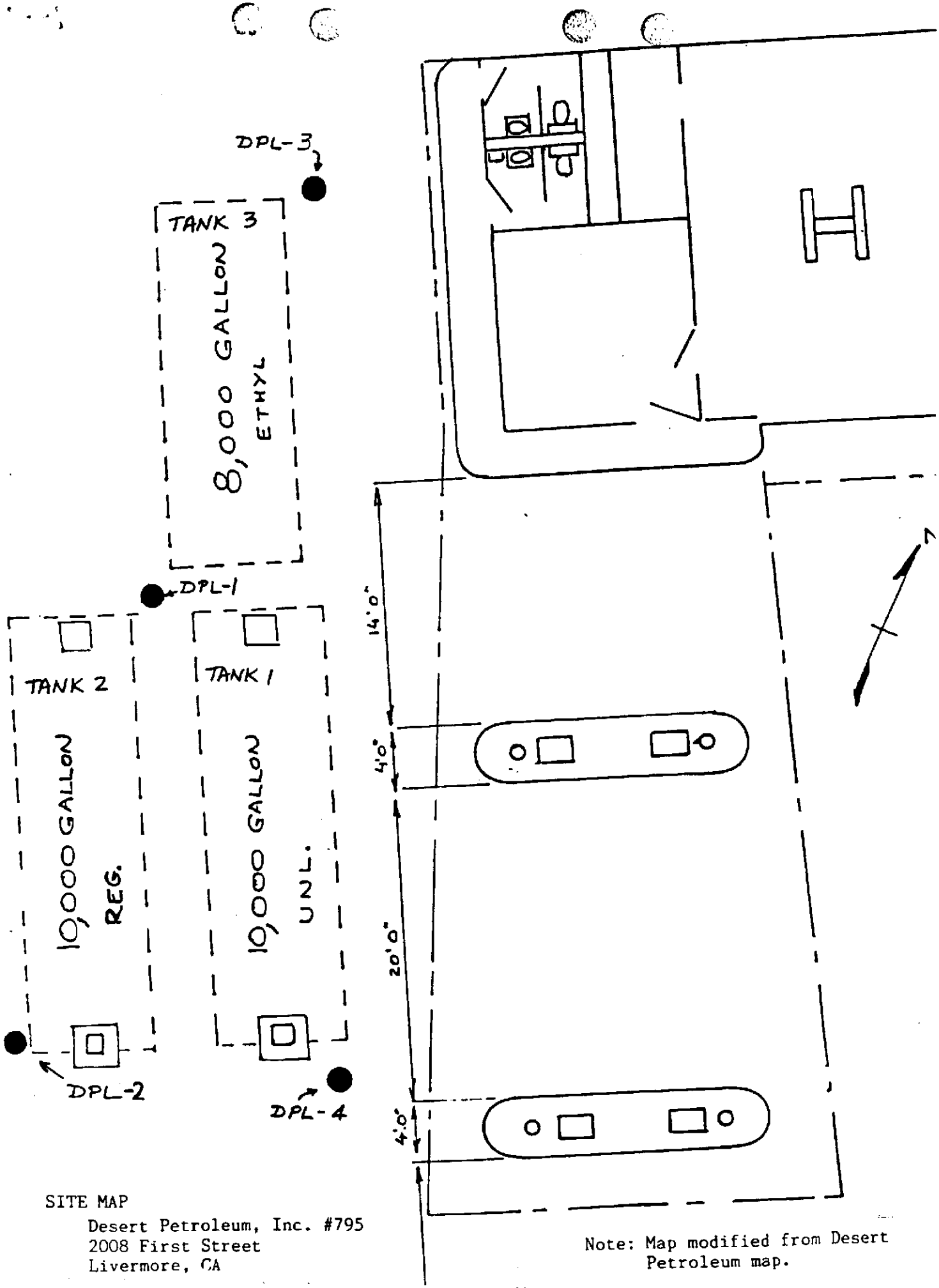
Tank 1: 10,000 gal., gasoline, (unleaded), 12.2'

Tank 2: 10,000 gal., gasoline, (leaded), 12.2'

Tank 3: 8,000 gal., gasoline, (ethyl), 12.2'

Soil samples:

Sample #	Depth(ft)	Description (See attached Site Map)
DPL-288-1	14.6	Between tanks 1, 2, & 3. Silty fine sand with pebbles, stained green
DPL-288-3	15.0	At north end of Tank 3. Silty sand with pebbles and cobbles.
DPL-288-4	16.3	At south end of Tank 1. Silty sand with pebbles and cobbles.



SITE MAP

Desert Petroleum, Inc. #795
2008 First Street
Livermore, CA

Note: Map modified from Desert Petroleum map.

ENVIRONMENTAL LABORATORIES INC

March 8, 1988

John Rutherford
Desert Petroleum Inc.
P.O. Box 1601
Oxnard, CA 93032

RE: Station Mobil / 2008 First Street,
Livermore, CA

Dear Mr. Rutherford,

On February 24, 1988, a Petro Tite System Test(s) was performed at the above-referenced location. The test was performed by Ken Green, E.L.I. Technician. The NFPA Code 329.02 criteria for a tight system is a maximum loss of .05 gallons per hour. Because of the almost infinite variables involved, this is not the permission of actual leakage.

During the stand-pipe test procedure, the internal liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

SYSTEM TESTS:

Tank No. 1 - South
Size - 10,000 gallons
Product - Unleaded
The test showed a minus .034 gallons per hour.
Based on the above criteria, we find the tank tested mathematically tight.

This concludes our test and findings on February 24, 1988. If you have any questions regarding the results, please contact me. It is your responsibility to notify your local County Health Department, Environmental Health, within thirty (30) days of the results of this test. This notification is required by the California Administrative Code, Title 23 Waters, Chapter 3, Water Resources Control Board, Sub-chapter 16, Underground Tank Regulations, Article 4.30.

We have enjoyed working with you on this project. If you need any further information, please feel free to contact our office.

Sincerely,

Johnny Enos
Operations Manager

JE:lg
Encls

ENVIRONMENTAL LABORATORIES INC

February 11, 1988

John Rutherford
Desert Petroleum Inc.,
P.O. Box 1601
Oxnard, CA 93032

RE: Station #795 / 2008 First Street,
Livermore, CA

Dear Mr. Rutherford,

On February 1, 1988, a Petro Tite System Test(s) was performed at the above-referenced location. The test was performed by Rick Werner, E.L.I. Technician. The NFPA Code 329.02 criteria for a tight system is a maximum loss of .05 gallons per hour. Because of the almost infinite variables involved, this is not the permission of actual leakage.

During the stand-pipe test procedure, the internal liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

SYSTEM TESTS:

Tank No. 1 - West
Size - 10,000 gallons
Product - Regular
The test showed a minus .003 gallons per hour.
Based on the above criteria, we find the tank tested mathematically tight.

Tank No. 2 - North
Size - 8,000 gallons
Product - Premium Unleaded
The test showed a plus .007 gallons per hour.
Based on the above criteria, we find the tank tested mathematically tight.

Tank No. 3 - South
Size - 10,000 gallons
Product - Unleaded
The test showed a minus 1.000 gallons per hour and over, due to large amounts of product displacement.
Based on the above criteria, we find the tank tested mathematically not tight.

COUNTY COPY

1477 E. Shaw, Suite 150 / Fresno, California 93710 / (209) 225-6698

ENVIRONMENTAL LABORATORIES INC

Due to the fact that tank #3, did not pass the integrity tests, we recommend that the following steps be taken:

1. Uncover to isolate your tanks.
2. Nitrogen test vapor and vent lines.
3. Perform Petro-Tite product line test.
4. Before covering tanks, retest systems for tightness.

This will give you the information needed to see if you have a piping problem, or if it is a tank failure. If you have any questions, please do not hesitate to contact our office.

This concludes our test and findings on February 1, 1988. If you have any questions regarding the results, please contact me. It is your responsibility to notify your local County Health Department, Environmental Health, within thirty (30) days of the results of this test. This notification is required by the California Administrative Code, Title 23 Waters, Chapter 3, Water Resources Control Board, Sub-chapter 16, Underground Tank Regulations, Article 4.30.

We have enjoyed working with you on this project. If you need any further information, please feel free to contact our office.

Sincerely,

Johnny A Enos Jr

Johnny Enos
Operations Manager

JE:lg
Encls

1477 E. Shaw, Suite 150 / Fresno, California 93710 / (209) 225-6698

CERTIFICATE #414812262