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

Jw
6/11/93

GROUNDWATER MONITORING REPORT
for
DESERT PETROLEUM STATION NUMBER 795
2008 First Street
Livermore, California

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

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

June 1, 1993

TABLE OF CONTENTS

1.0 INTRODUCTION Page 1

2.0 GROUNDWATER MONITORING Page 1
- 2.1 Groundwater Monitoring Procedures Page 1
- 2.2 Groundwater Monitoring Results Page 1

3.0 LIMITATIONS Page 2

FIGURES
1. Location Map
2. Site Plan

TABLES
1. Groundwater Data
2. Summary of Laboratory Analytical Results

APPENDICES
A. Groundwater Sample Log
B. Laboratory Report & Chain of Custody

1.0 INTRODUCTION

This report presents the results of groundwater monitoring for Desert Petroleum Station #795 located at 2008 First Street, Livermore, Alameda County, California (Figure 1). The site is currently occupied by a retail gasoline station with three underground storage tanks, two pump islands and an office/garage building (Figure 2). A site assessment conducted in 1988 indicated that both soil and groundwater contained elevated concentrations of petroleum hydrocarbons. This report presents the results of the recent groundwater monitoring at this site.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Monitoring Procedures

On May 11, 1993 the groundwater monitoring well was measured for depth to groundwater, purged and sampled. The well was measured to an accuracy of 0.01 feet and the measuring point was the top of the traffic box. The well was purged with a clean PVC bailer. Approximately four (4) casing volumes of water were removed and the Ph, temperature and conductivity of the water was monitored and recorded with other pertinent information on a Water Sample Log (Appendix A). The purged water was placed in a 55 gallon DOT drum and stored on site.

The well was allowed to recharge to approximately 99 percent of its initial static water level and a sample was collected with a disposable bailer. The sample was collected in three 40-milliliter VOA vials which were labeled, placed on ice and transported to Coast to Coast Analytical Services, a state certified laboratory.

The sample was tested for total petroleum hydrocarbons (TPH) as gasoline using EPA Method 8015M and benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA method 602. The minimum detection level for TPH was 0.1 parts per million (ppm) and .001 ppm for BTEX.

2.2 Groundwater Monitoring Results

The depth to groundwater in MW-1 was 34.76 feet on May 11, 1993. This reflects a rise in the groundwater level of over 33 feet since the last measurement of 68.72 feet, taken on January 8, 1992 (Table 1). Because only one groundwater monitoring well is present at the site, the direction of groundwater flow and gradient cannot be determined.

Analytical results of the water sample collected from MW-1 contained lower TPH and BTEX concentrations as compared to previous results. As shown in Table 2, the concentrations of ethylbenzene and total xylenes are less than the maximum

contaminant levels (MCL) for drinking water as per Title 22 of the California Code of Regulations (CCR). The benzene concentration is still slightly above the MCL of 0.001 ppm. No MCLs have been established for TPH or toluene. Appendix B contains the lab report and chain of custody.

3.0 LIMITATIONS

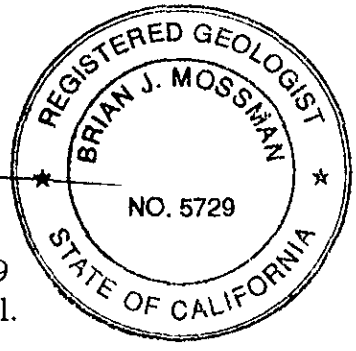
The discussion, conclusion and any recommendations presented in this report are based on the professional performance of the personnel who conducted the investigations, the observations of the field personnel, the results of laboratory analyses performed by a state certified laboratory, any referenced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

It is possible that variations in the soil and groundwater conditions exist beyond the points explored in this investigation.

The services performed by Remediation Service, Int'l have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California.

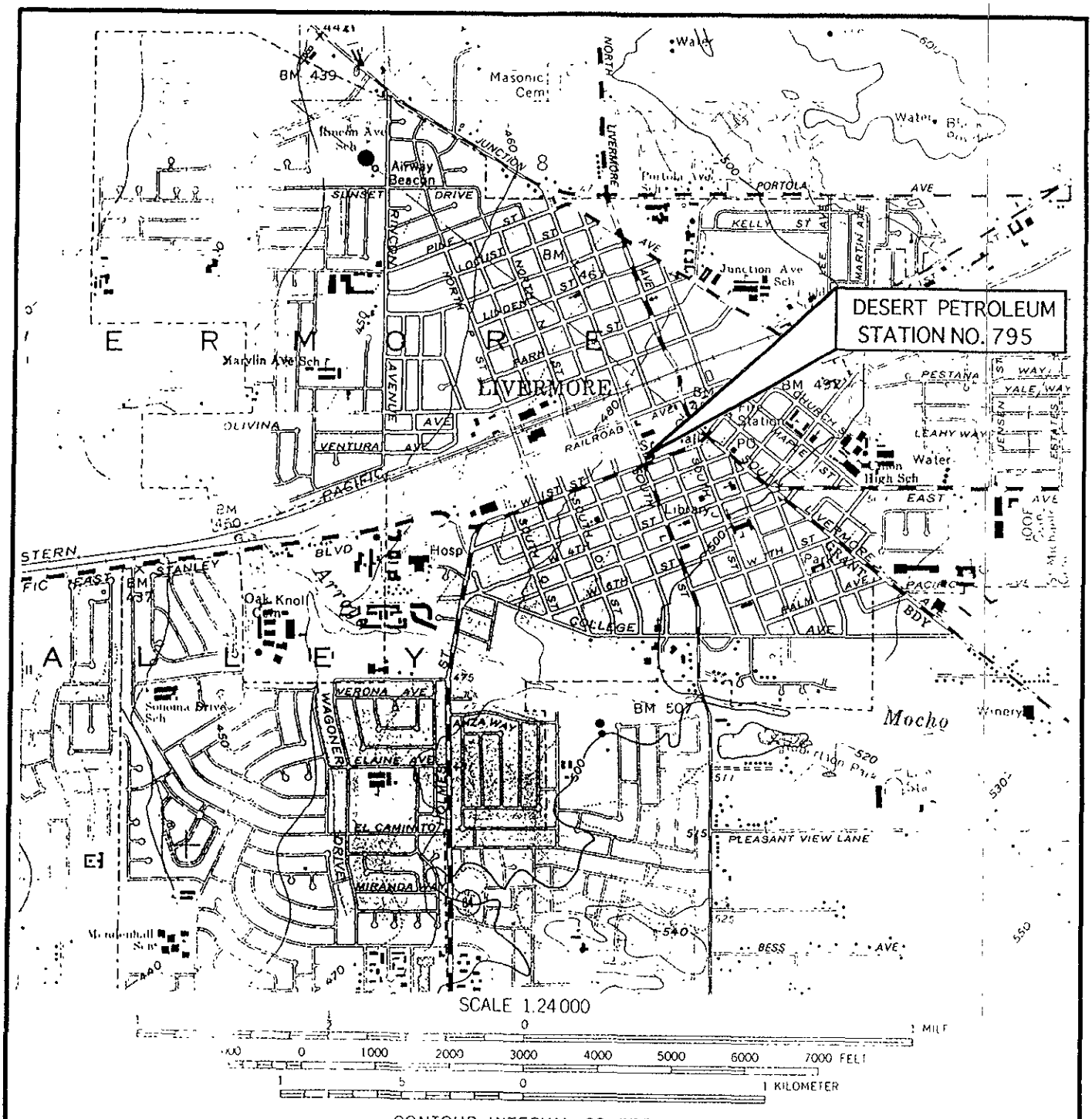
Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

Respectfully submitted,



Brian Mossman
Registered Geologist #5729
Remediation Service, Int'l.

FIGURES



CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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

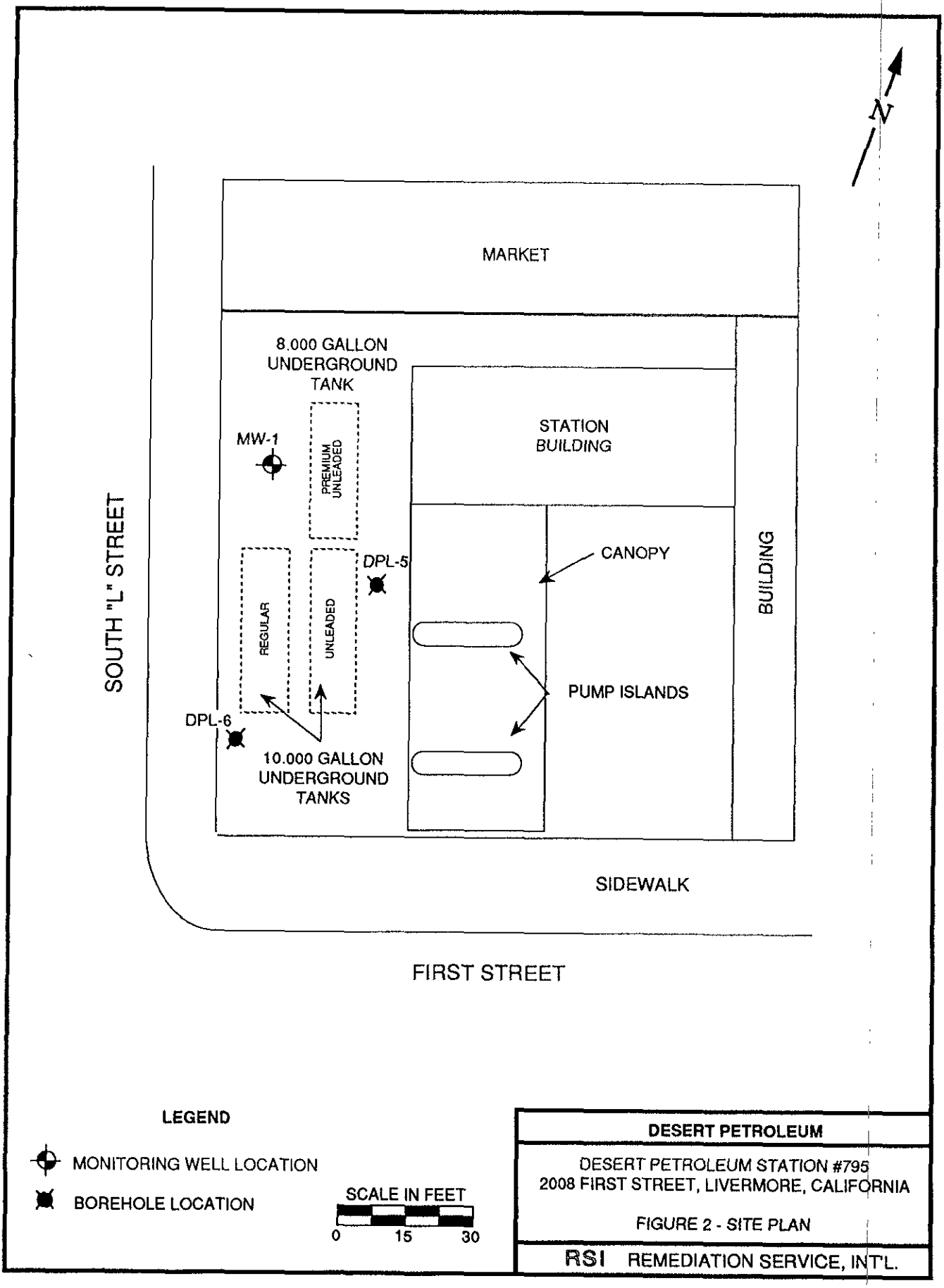
N

DESERT PETROLEUM, INC.

DESERT PETROLEUM STATION #795
2008 FIRST STREET,
LIVERMORE, CA

FIGURE 1 - LOCATION MAP

RSI - REMEDIATION SERVICE, INT'L


N
MARKET
8,000 GALLON
UNDERGROUND
TANK
MW-1
PREMIUM
UNLEADED
STATION
BUILDING
CANOPY
DPL-5
REGULAR
UNLEADED
BUILDING
PUMP ISLANDS
DPL-6
10,000 GALLON
UNDERGROUND
TANKS
SOUTH "L" STREET
SIDEWALK
FIRST STREET
LEGEND
MONITORING WELL LOCATION
BOREHOLE LOCATION
SCALE IN FEET
0
15
30
DESERT PETROLEUM
DESERT PETROLEUM STATION #795
2008 FIRST STREET, LIVERMORE, CALIFORNIA
FIGURE 2 - SITE PLAN
RSI REMEDIATION SERVICE, INT'L.

TABLES

TABLE 1
GROUNDWATER DATA
DESERT PETROLEUM STATION #795
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

TABLE 2
SUMMARY OF LABORATORY ANALYSIS OF GROUND WATER
DESERT PETROLEUM STATION #795

Measurements are in parts per million.

WELL #	DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-1	8/2/90	24.00	1.300	1.300	0.400	2.700
	10/10/91	2.20	0.430	0.170	0.100	0.290
	1/8/92	1.20	0.200	0.120	0.030	0.150
	5/11/93	0.96	0.066	0.008	0.041	0.090
Title 22 CCR MCL			0.001		0.680	1.750

TPH = Total petroleum hydrocarbons (gasoline)

APPENDICES

APPENDIX A

WATER SAMPLE LOGS

WATER SAMPLE LOG

CLIENT: DESERT PETROLEUM DATE: 5/11/93
PROJECT: DP 795
LOCATION: 2008 First Street, Livermore, CA.

WELL NUMBER: **MW-1** (formerly GX136)

WEATHER CONDITIONS: Patchy clouds, cool 58 F.
FIELD OBSERVATIONS:

TOTAL DEPTH OF WELL: 76.65 feet CASING DIAMETER: 2 inches
DEPTH TO FREE PRODUCT: NA feet ONE WELL VOLUME = 26.8 gallons
DEPTH TO WATER: 34.76 feet PURGING METHOD: PVC Bailer
DEPTHS MEASURED FROM: Top of traffic box.

WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance (µmhos/cm)	Comments (Color, Odor, Turbidity)
19:40	start	8.01	64.0	11.87	clear, minor HC odor, no sheen
19:57	5	8.04	66.3	11.66	gray/silty, minor HC odor, minor sheen
20:20	10	8.11	66.2	11.52	gray/silty, minor HC odor, minor sheen
20:35	15	8.15	66.2	11.58	gray/silty, minor HC odor, minor sheen
20:45	20	8.18	65.8	11.52	lt. brown/silty,minor HC odor, no sheen
20:59	27	8.18	65.6	11.58	lt. brown/silty,minor HC odor, no sheen

TOTAL DISCHARGE: 27 gallons CASING VOLUMES REMOVED: 4

TIME SAMPLE COLLECTED: 21:05
DEPTH TO WATER AT TIME OF SAMPLE: 35.11 feet PERCENT RECHARGE: 99
METHOD OF SAMPLE COLLECTION: Disposable bailer
APPEARANCE OF SAMPLE: light brown/ silty
AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ml. VOA
SAMPLE TRANSPORTED TO: CCAS

SAMPLED BY: EPM

RSI - REMEDIATION SERVICE, INT'L

APPENDIX B

LABORATORY REPORTS
AND
CHAIN OF CUSTODY

COAST · TO · COAST ANALYTICAL SERVICES

Air, Water & Hazardous Waste Sampling, Analysis & Consultation
Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Benicia, CA • Camarillo, CA • San Jose, CA • Goleta, CA
Anaheim, CA • Tempe, AZ • Valparaiso, IN • Westbrook, ME • Indianapolis, IN

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

CLIENT: Brian Mossman
R.S.I.
2060 Knoll Drive
Ventura, CA 93003

Lab Number : JJ-0597-1
Project : DP 795

Analyzed : 05/21/93
Analyzed by: LD
Method : E602/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
MW-1	Monitoring Water	Eamon Moriarty	05/11/93	05/13/93

CONSTITUENT	(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
BTEX + TPH (Gasoline)				1
Benzene		1.	66.	
Toluene		1.	8.	
Ethylbenzene		1.	41.	
Xylenes		1.	90.	
Total Petroleum Hydrocarbons (Gasoline)		100.	960.	

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)

05/25/93
GC2/520B325
MC/mcc/lmd
GC2-052193

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

Marissa Coronel
Laboratory Director

COAST - TO - COAST ANALYTICAL SERVICES

Air, Water & Hazardous Waste Sampling, Analysis & Consultation
Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Benicia, CA • Camarillo, CA • San Jose, CA • Goleta, CA
Anaheim, CA • Tempe, AZ • Valparaiso, IN • Westbrook, ME • Indianapolis, IN

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

CLIENT: Brian Mossman
R.S.I.
2060 Knoll Drive
Ventura, CA 93003

Lab Number : JJ-0597-2
Project : DP 795

Analyzed : 05/24/93
Analyzed by: LD
Method : E602/8015M

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
Field Blank	Monitoring Water	Eamon Moriarty	05/11/93	05/13/93

CONSTITUENT	(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
BTEX + TPH (Gasoline)				1
Benzene		0.5	ND	
Toluene		0.5	ND	
Ethylbenzene		0.5	ND	
Xylenes		0.5	ND	
Total Petroleum Hydrocarbons (Gasoline)		50.	ND	

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)

05/25/93
GC2/524B306
MC/mcc/lmd
GC2-052493

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

Marissa Coronel
Laboratory Director

COAST - TO - COAST ANALYTICAL SERVICES

141 Suburban Road • San Luis Obispo, CA 93401 • (805) 543-2553 FAX (805) 543-2685
751 S. Kellogg, Suite A • Goleta, CA 93117 • (805) 964-7838 FAX (805) 964-4386
1885 North Kelly Road • Napa, CA 94558 • (707) 257-7211 FAX (707) 226-1001
9333 Tech Center Dr., Ste. 800 • Sacramento, CA 95826 • (916) 368-1333 FAX (916) 362-2484
2400 Cumberland Dr. • Valparaiso, Indiana 46383 • (219) 464-2389 FAX (219) 462-2953

Chain of Custody

• PLEASE PRINT IN PEN

Client: LSE | Contact: E. Mor... | Phone #: ( ) 4 ... 392 | FAX #: (...) 654-07...

Address: 2060 Knoll Dr | City: Ventura | State: CA | Zip: 93003

Project Name/Number: DP 795 | Project MGR: ... Mossman

Bill (If different than above)

Sampler: Eamon Moriarty | Due Date | Circle for RUSH | Copies To: | Auth. Init.

Sample Description	Date/Time Coll'd	*Matrix	# of Containers	Pres.	Filt. y/n	Analysis	Remarks	Lab ID #
MW-1	05-11-9.. / 1205	GW	3	HCl	N	BTEX / TPH-g		
Field Blank	05-11-9 / 1215	DW	3	HCl	N	BTEX / TPH-g		

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
Eamon Moriarty	05-11-9.. / ...	[illegible]			

FOR LAB USE ONLY

Shipping Method	Shipping #	Received By	Date/Time	Cold	Sealed	Intact
Lennie Davenport		[illegible]	5-13-93 / 1600	Y	Y	Y

REMARKS:

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

INVOICE