



Newlandex Corporation, dba

REMEDIATION SERVICE, INT'L.

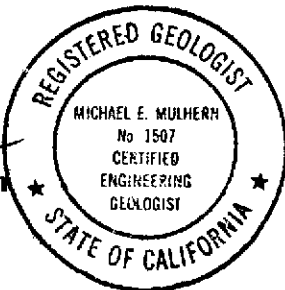
**FOURTH QUARTERLY REPORT  
of  
November 14, 1995  
GROUNDWATER SAMPLING AND  
WATER QUALITY MONITORING**

**2844 Mountain Boulevard  
Oakland, CA**

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

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

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



**Richard W. Pilat**  
RSI Program Director

**January 4, 1996**

RECEIVED  
JAN 31 PM 2:11  
TRANSPORTATION  
DIVISION

## TABLE OF CONTENTS

1.0 INTRODUCTION	Page 1
2.0 BACKGROUND	Page 1
3.0 GROUNDWATER MONITORING	Page 2
3.1 Groundwater Monitoring Procedures	Page 2
3.2 Groundwater Monitoring Results	Page 3
4.0 LIMITATIONS	Page 3
FIGURES	
1. Location Map	
2. Site Plan	
TABLES	
1. Summary of Analytical Results	
APPENDICES	
A. Groundwater Sample Logs	
B. Laboratory Reports and Chain of Custody Documents	

Groundwater remediation began in October, 1991. Active remediation was suspended temporarily between February, 1992 and February, 1994.

The site has been monitored on a quarterly basis since the site assessment in May, 1990. Over this period, levels of hydrocarbons measured at this site became asymptotic. Analytical results for groundwater samples collected during previous and current groundwater monitoring are summarized in Table 1.

A Corrective Action Plan recommending passive biodegradation as the most cost effective remedial alternative was submitted to Alameda County Department of Environmental Health (ACDEH) on February 21, 1995.

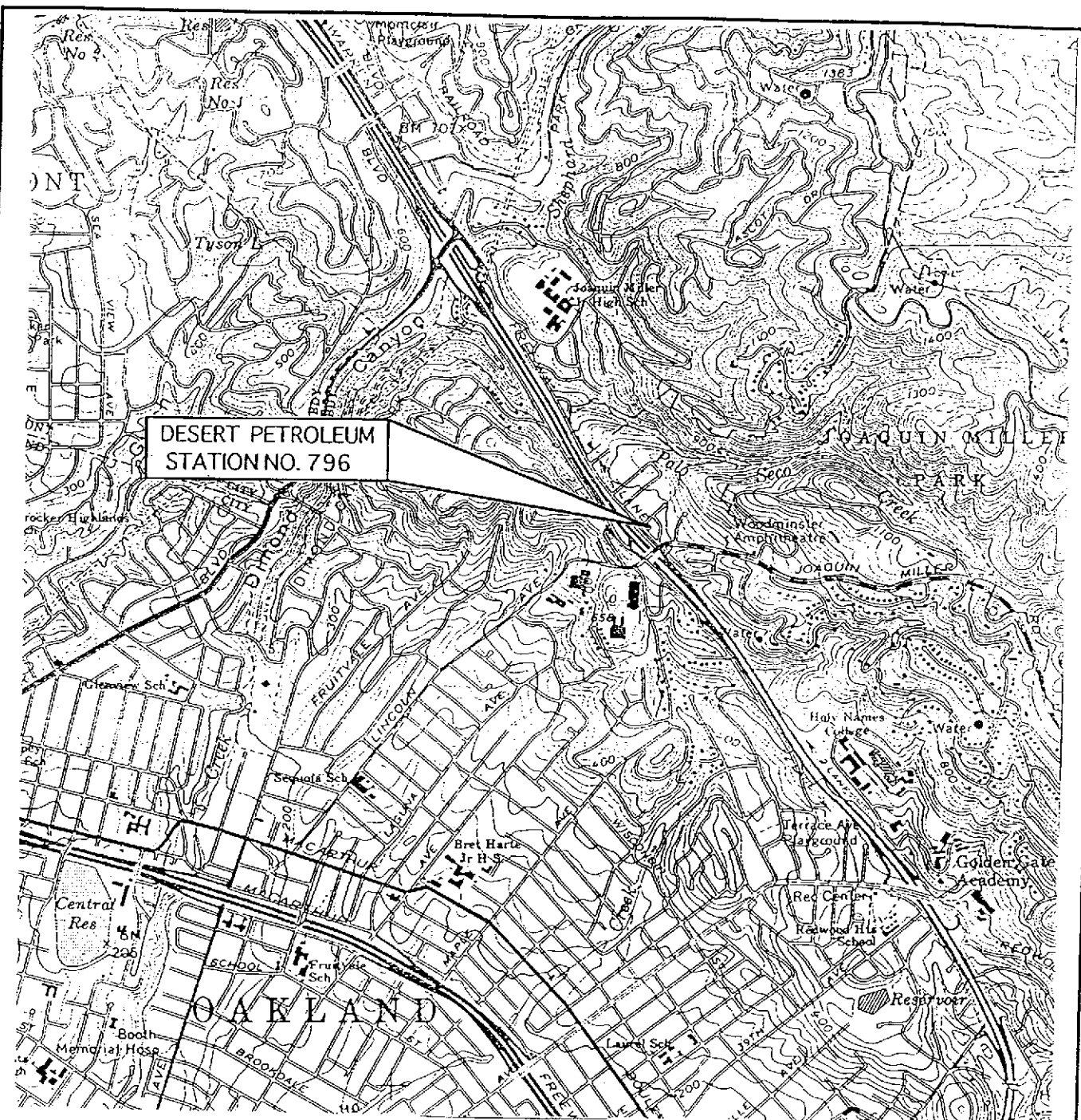
Based upon the low potential for migration to drinking water, the plan was approved with the requirement for continued groundwater monitoring.

### **3.0 GROUNDWATER MONITORING**

#### **3.1 Groundwater Monitoring Procedures**

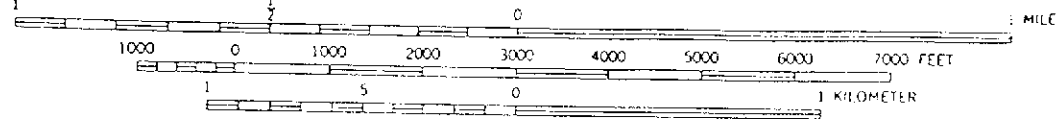
On November 1, 1995, groundwater monitoring wells RS-1, RS-2, RS-3 and RS-4, were measured for potentiometric groundwater elevation and checked for the presence of free product (Table 1). The distance from the top of the casing on the north side to the surface of the groundwater was measured to an accuracy of 0.01 feet. **No free product was found.** 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.

When the water levels had recharged to 80 percent, or a two hour time period had lapsed since purging, the wells were sampled with disposable polyethylene bailers. The samples were sealed, labeled and placed on blue ice for transportation to the state certified laboratory listed in Appendix B. All samples were analyzed for TPH as gasoline, MTBE and for BTEX using approved methods. The laboratory report is contained in Appendix B.

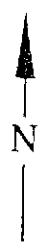


DESERT PETROLEUM  
STATION NO. 796

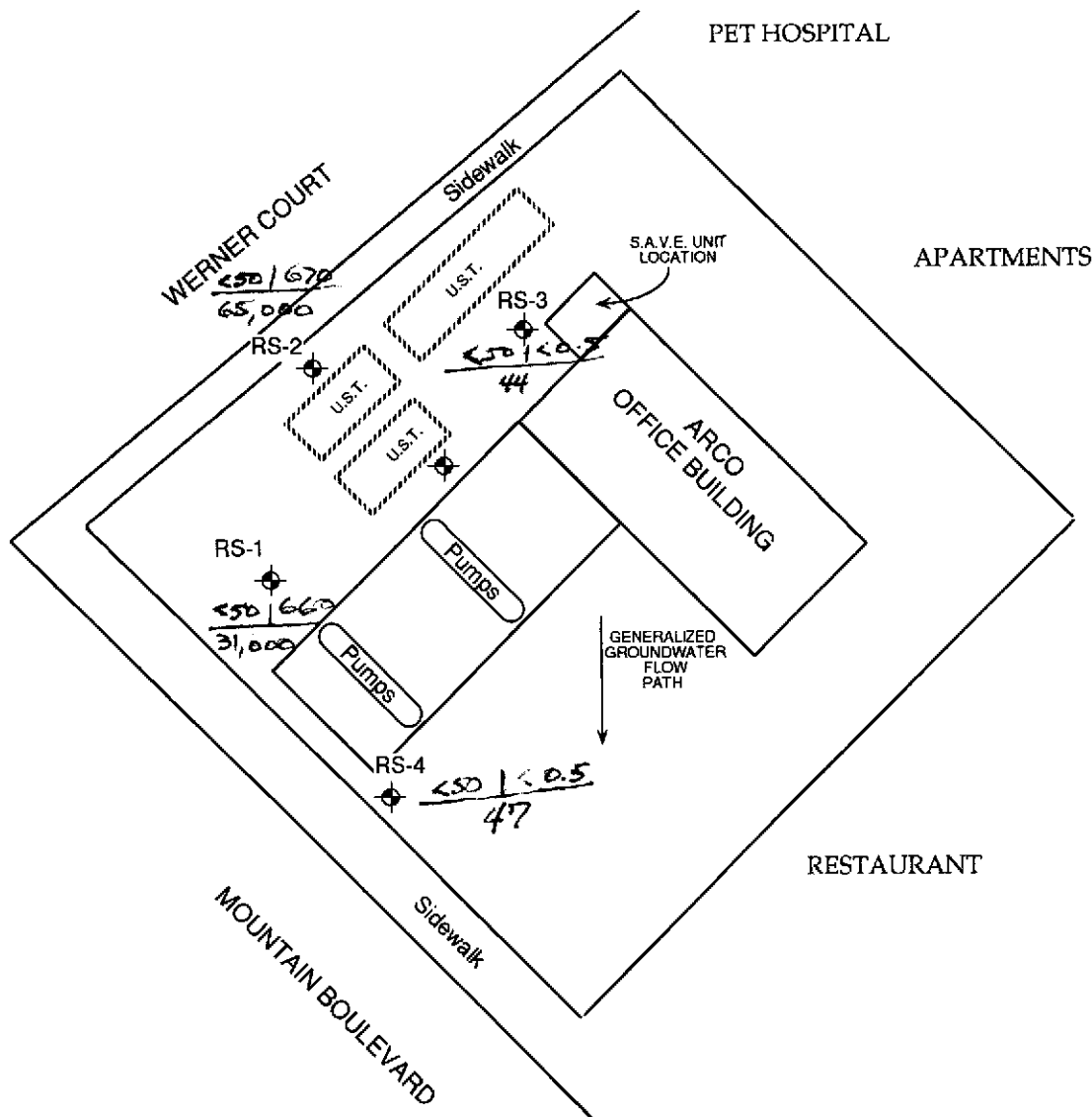
SCALE 1:24 000



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



DESERT PETROLEUM, INC.  
DESERT PETROLEUM STATION #796  
2844 MOUNTAIN BLVD.  
OAKLAND, CA  
FIGURE 1: LOCATION MAP  
RSI - REMEDIATION SERVICE, INT'L

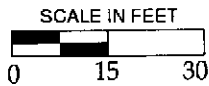


**LEGEND**

◆ GROUNDWATER MONITORING WELL LOCATION

NOTE : TPH CONCENTRATIONS ARE IN mg/L,  
BTEX M CONCENTRATIONS ARE IN µg/L.

$\frac{\text{TPH} \mid \text{benzene}}{\text{MTCBE}} \text{ } \mu\text{g/l}$



2844 MOUNTAIN BLVD.  
OAKLAND, CALIFORNIA

FIGURE 2: SITE MAP WITH GROUNDWATER FLOW PATH  
November 1, 1995



TABLE 1  
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

2844 MOUNTAIN BLVD.  
OAKLAND, CA

TPH analytical results are in mg/L (parts per million)  
BTEX and MTBE analytical results are in µg/L (parts per billion).

WELL #	DATE SAMPLED	TPH			ETHYL-	TOTAL	MTBE
		GASOLINE	BENZENE	TOLUENE	BENZENE	XYLENES	
RS-1	5/90	2.7	370	420	40	320	NA
	5/91	1.3	580	130	62	240	NA
	10/91	1.1	140	100	45	210	NA
	1/92	1.7	9.9	31	9.7	170	NA
	1/93	3.7	650	9.2	51	170	NA
	8/93	0.9	14	0.6	2.1	7.8	NA
	11/93	1.4	9.6	ND	0.9	4.9	NA
	1/94	4.2	95	3.1	58	130	NA
	5/94	7.5	270	11	37	96	NA
	8/94	0.13	12	0.5	2.6	4.7	NA
	11/94	0.27	4.7	0.7	0.6	15	NA
	2/95	12	81	2.3	1	12	NA
	6/95	37	460	ND	ND	ND	63000
	11/95	ND	660	16J	140	330	31000
RS-2	5/90	23	7,200	4,800	300	3,300	NA
	5/91	26	14,000	1,800	750	2,900	NA
	10/91	13	4,300	910	300	2,300	NA
	1/92	8.3	1,800	920	140	1,700	NA
	1/93	41	7,000	210	1,200	4,200	NA
	8/93	19	5,300	62	810	1,600	NA
	11/93	9.3	2,400	3.9	46	800	NA
	1/94	30	4,900	ND	880	2,600	NA
	5/94	120	3,300	330	ND	2,200	NA
	8/94	0.51	7.3	3.8	3.5	32	NA
	11/94	0.62	6.6	3.9	1.1	47	NA
	2/95	22	228	80	2	463	NA
	6/95	49	1300	160	200	1,600	71000
	11/95	ND	670	25	150	360	6000
RS-3	5/90	0.33	2	1	1	150	NA
	5/91	ND	0.4	ND	0.8	8.2	NA
	10/91	ND	ND	ND	ND	ND	NA
	1/92	ND	2.2	7.2	0.6	3.6	NA
	1/93	ND	ND	ND	ND	ND	NA
	8/93	ND	30	6	2.4	5	NA
	11/93	ND	4.8	0.4	0.6	1.9	NA
	1/94	0.33	25	3.2	3.9	12	NA
	5/94	0.67	34	4	28	70	NA
	8/94	ND	ND	ND	ND	ND	NA
	11/94	0.069	2.5	3.1	1	3.8	NA
	2/95	ND	0.3	0.4	ND	0.7	NA
	6/95	ND	ND	ND	ND	ND	66
	11/95	ND	ND	ND	ND	ND	44
RS-4	5/90	0.44	9	11	9	49	NA
	5/91	ND	8	4	3	5	NA
	10/91	0.83	280	120	24	170	NA
	1/92	0.62	34	8.3	2.1	21	NA
	1/93	0.15	32	1.7	5.8	13	NA
	8/93	ND	0.9	0.7	ND	0.3	NA
	11/93	ND	ND	ND	ND	ND	NA
	1/94	ND	1.7	ND	0.81	2.2	NA
	5/94	ND	ND	ND	ND	0.7	NA
	8/94	0.42	6.5	4.1	1.9	40	NA
	11/94	0.13	4.1	0.7	1.7	7.9	NA
	2/95	ND	6	1.2	3.5	13	NA
	6/95	ND	ND	ND	ND	ND	69
	11/95	ND	ND	ND	ND	ND	47

SUE shut off

SUE shut off

Title 22 CCR MCL — 1 150 700 1,750

TPH = Total petroleum hydrocarbons (gasoline)  
ND = Not detected above minimum detection levels.  
J= Below detection limit due to 50x dilution  
estimated value only



# WATER SAMPLE LOG

DATE: 11/1/95

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: MW-1

WEATHER CONDITIONS: Cloudy and cool

FIELD OBSERVATIONS: \_\_\_\_\_

TOTAL DEPTH OF WELL: 29.55 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE PURGING METHOD: Vacuum

DEPTH TO WATER: 8.71 feet

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

## WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance ( $\mu$ mhos/cm)	Comments
10:12	0	7.51	65.3	1232.00	Cloudy, no odor
10:18	14	7.57	65.5	1264.00	Cloudy, no odor
10:26	28	7.54	65.4	1255.00	Cloudy, no odor
10:36	42	7.49	65.3	1229.00	Cloudy, no odor
10:39	46	7.51	65.4	1220.00	Well nearly dry

TOTAL DISCHARGE: 46 gallons

TIME SAMPLE COLLECTED: 12:20 P.M.

DEPTH TO WATER AT TIME OF SAMPLE: 13.63 feet

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Cloudy

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ML VOA's, 2 x 1 L. Amber bottle

SAMPLE TRANSPORTED TO: ONSITE ENVIRONMENTAL

SAMPLED BY: Walter Lubcke

**BCI**  
**REMEDIAL SERVICE. INT'L.**

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

# WATER SAMPLE LOG

DATE: 11/1/95

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: MW-2

WEATHER CONDITIONS: Cloudy and cool

FIELD OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

TOTAL DEPTH OF WELL: 24.75 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE PURGING METHOD: Vacuum

DEPTH TO WATER: 7.64 feet

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

## WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance ( $\mu$ mhos/cm)	Comments
9:45	0	7.37	64.0	1138.00	Clear, no odor
9:50	11	7.45	65.7	1217.00	Clear, no odor
9:54	22	7.45	64.5	1206.00	Clear, no odor
10:00	33	7.40	64.4	1146.00	Clear, no odor
10:07	44	7.42	64.4	1190.00	Well almost dry 2.0' F.B.

TOTAL DISCHARGE: 45 gallons

TIME SAMPLE COLLECTED: 11:50 A.M.

DEPTH TO WATER AT TIME OF SAMPLE: 17.52 feet

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Clear, no odor.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ML VOA's

SAMPLE TRANSPORTED TO: Onsite Environmental

SAMPLED BY: Walter Lubcke



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



# WATER SAMPLE LOG

DATE: 11/1/95

LOCATION: 2844 Mountain Blvd., Oakland, CA

WELL NUMBER: MW-3

WEATHER CONDITIONS: Cloudy and cool

FIELD OBSERVATIONS: \_\_\_\_\_  
\_\_\_\_\_

TOTAL DEPTH OF WELL: 24.46 feet CASING DIAMETER: 4 inches

DEPTH TO FREE PRODUCT: NONE PURGING METHOD: Vacuum

DEPTH TO WATER: 7.10 feet

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

## WELL PURGING DATA

Time	Discharge (gallons)	pH	Temp in F.	Specific Conductance ( $\mu$ mhos/cm)	Comments
9:23	0	7.08	64.9	838.00	Clear, no odor
9:28	11	7.09	66.7	849.00	Clear, no odor
9:31	22	7.14	65.1	854.00	Clear, no odor
9:35	33	7.14	65.0	842.00	Clear, no odor
9:41	44	7.16	64.5	830.00	Clear, no odor

TOTAL DISCHARGE: 45 gallons

TIME SAMPLE COLLECTED: 11:40 A.M.

DEPTH TO WATER AT TIME OF SAMPLE: 8.03 feet

METHOD OF SAMPLE COLLECTION: Disposable Bailer

APPEARANCE OF SAMPLE: Clear, no odor.

AMOUNT AND SIZE OF SAMPLE CONTAINERS: 3 x 40 ML VOA's

SAMPLE TRANSPORTED TO: Onsite Environmental

SAMPLED BY: Walter Lubcke

**RSI**  
**REMEDATION SERVICE, INT'L.**

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

**Analytical Laboratory Report**  
EPA Methods 8015 Modified / 8020

<b>Date Sampled:</b> 1-Nov-95	<b>Proj Mgr:</b> Rick Pilat
<b>Date Received:</b> 1-Nov-95	<b>Client:</b> RSI
<b>Date Analyzed:</b> 6-Nov-95, 15-Nov-95	<b>Project:</b> Desert Petroleum, Oakland
<b>Date Reported:</b> 15-Nov-95	<b>Project #:</b> 796
<b>Report Number:</b> 6B085.rpt	<b>Matrix:</b> Water
<b>Lab Number:</b> 6B085	<b>Units:</b> ug/L
	<b>COC #:</b> None

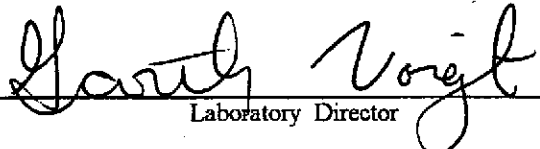
Lab ID No.	Field ID No.	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes total	TPH-Gas	BTEX Surrogate %	Matrix	BTEX dil
01	MW #3	44	ND	ND	ND	ND	ND	109	Water	1
02	MW #2	63000*	670	25	150	360	ND	98	Water	50
03	MW #1	1000*	660	16J	140	330	ND	102	Water	50
04	MW #4	47	ND	ND	ND	ND	ND	115	Water	1

<b>Detection Limits SOIL (PQL) mg/Kg</b>	0.005	0.005	0.005	0.005	0.015	1
<b>Detection Limits WATER (PQL) ug/L</b>	0.5	0.5	0.5	0.5	1.5	50

**NOTES:**  
 NR - Not requested  
 COC - Chain of custody  
 ND - Analytes not detected at, or above the stated detection limit  
 mg/Kg - Milligrams per kilogram (PPM)  
 PQL - Practical Quantitation Limit  
 MTBE - Methyl tert-butylether  
 \* - This result was obtained at a 500:1 dilution  
 M - Matrix effects  
 J - Below detection limit due to 50X dilution. Estimated value only.

**PROCEDURES:**  
 MTBE/BTEX - This analysis was performed using EPA Method 8020, and EPA Method 5030  
 TPHgas - This analysis was performed using EPA Method 8015, 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

  
 Date

**QC Data Report**

<b>C-O-C #:</b>	NONE	<b>Proj Mgr:</b>	Rick Pilat
<b>Date Sampled:</b>	11/1/95	<b>Client:</b>	RSI
<b>Date Received:</b>	11/01/95	<b>Project:</b>	Desert Petroleum, #796
<b>Date Analyzed:</b>	11/06/95	<b>Matrix:</b>	water
<b>Lab ID #:</b>	6B086	<b>Units:</b>	ug/L
<b>Report #:</b>	06nov95B.qac	<b>Sample ID:</b>	MW #2

Parameter	Blank Result ug/L	Spike Level ug/L	LCS Result ug/L	LCS Recov. %	Sample Result ug/L	MS Level ug/L	MS Result	MS Recov. %	MSD Result ug/L	MSD Recov. %	RPD %
MTBE	ND	20	21.2	106	ND	20	18.6	93	24.1	121	25.8
Benzene	ND	20	18.1	91	ND	20	21.6	108	22.6	113	4.5
Toluene	ND	20	17.9	90	ND	20	21.6	108	22.5	113	4.1
Ethyl benzene	ND	20	18.4	92	ND	20	24.1	121	23.6	118	2.1
total Xylenes	ND	60	55.7	93	ND	60	73.0	122	70.6	118	3.3
Gasoline	ND	-	-	-	ND	-	-	-	-	-	-
surr %rec btex	91	-	118	-	106	-	124	-	111	-	-

**DEFINITION OF TERMS:**

MTBE - Methyl tert-butylether  
LCS - Laboratory Control Spike (Blank Spike)  
MS - Matrix Spike  
MSD - Matrix Spike Duplicate  
RPD - Relative Percent Difference:  $(MS - MSD) / ((MS + MSD)/2) \times 100$

**LABORATORY QC CRITERIA**

<u>Parameter</u>	<u>Acceptable % Recoveries</u>	
MTBE	70%	130%
Benzene	70%	130%
Toluene	70%	130%
Ethylbenzene	70%	130%
Xylenes Total	70%	130%
%RPD	0%	30%

MTBE/BTEX - done by Instrument #72

06NOV95B.QAC

ON-SITE LABORATORIES

# K PRIME, INC.

## CHAIN OF CUSTODY RECORD

CONSULTING ANALYTICAL CHEMISTS

4197 Lakeside Drive, Suite 170, Richmond, CA 94806

FAX: (510) 222/4817-1 PHONE: (510) 222-4815

805-644-5892 FAX 805-654-0720

Client/Project ID <b>DESERT PETROLEUM</b>		Address/Phone <b>2060 KNOWL DR SUITE 200 VENTURA, CA 93003</b>					ANALYSES					KPI Project No.	
Project Location <b>D.P. # 796 2874 MOUNTAIN BLVD OAKLAND CA</b>		Client Project No.					805/654-0720 MT 195						
Contact <b>RICK PILAT</b>		Sampler (Signature) <i>[Signature]</i>											
Sample Identification No.	Date	Time	Lab Sample No.	Type of Sample	No. of Containers							Expected Turnaround Time	Remarks
MW #3	11-1-95	11:40		W	3	X	X					STAND	HCL
MW #2	↓	11:50		W	3	X	X					↓	↓
MW #1	↓	12:20		W	3	X	X					↓	↓
MW #4	↓	12:45		W	3	X	X					↓	↓
Relinquished by: (Signature) <i>[Signature]</i>		Date	Time	Received by: (Signature) <i>[Signature]</i>		Date	Time			Date	Time		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time			Date	Time		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time			Date	Time		
Disposal Method					White Copy : Accompanies Samples Yellow Copy : Sampler								
Disposed by: (Signature)		Date	Time										