



PACIFIC  
ENVIRONMENTAL  
GROUP, INC. ENVIRONMENTAL  
PROTECTION

97 JAN 22 AM 9:20

January 13, 1997  
Project 310-058.5A

Ms. Susan Keach  
Oro Loma Sanitary District  
2600 Grant Avenue  
San Lorenzo, California 94580

Re: Wastewater Discharge Permit 024 - December 1996 Sewer Report  
Unocal Service Station 5760  
376 Lewelling Boulevard at Usher Street  
San Lorenzo, California

Dear Ms. Keach:

On behalf of Unocal Corporation, Pacific Environmental Group, Inc. (PACIFIC) is operating a groundwater extraction (GWE) and treatment system at the site referenced above. This letter transmits treatment system operational data for the period from November 27 through December 9, 1996. Operational parameters are summarized in the table below.

<i>Current System Status:</i>	<i>Operational</i>
<i>Reporting Period:</i>	11/27/96 - 12/9/96
<i>Period Temperature:</i>	64.7
<i>Period pH reading:</i>	6.92
<i>Period Volume Discharged:</i>	13,969 gallons
<i>Total Discharged to Date:</i>	345,661 gallons
<i>Average Flow Rate:</i>	0.8 gallon per minute
<i>Analytical Reports:</i>	Attached

Field measurements and the analytical results indicate that the GWE system is currently in compliance with all conditions of the discharge permit.

January 13, 1997

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Monthly analyses include total petroleum hydrocarbons and benzene, toluene, ethylbenzene and xylenes (BTEX compounds); quarterly analyses include chemical oxygen demand, pH, and total suspended solids. Operational and analytical data are included in Tables 1 and 2, and the certified analytical report and chain-of-custody documentation are included as Attachment A. If you have any questions regarding this project or require further information, please do not hesitate to call.

Sincerely,

**Pacific Environmental Group, Inc.**

Suzanne McClurkin-Nelson  
Staff Scientist

Attachments: Table 1 - Treatment System Metered Volume  
Table 2 - Groundwater Treatment System Analytical Data  
Attachment A - Certified Analytical Report and Chain-of-Custody  
Documentation

cc: Ms. Tina Berry, Unocal Corporation  
Mr. Richard Hiatt, Regional Water Quality Control Board - S.F. Bay Region

Table 1  
Treatment System Metered Volume

Unocal Service Station 5760  
376 Lewelling Boulevard at Usher Street  
San Lorenzo, California

Date Sampled	Flow Meter Reading (gallons)	Flow Meter Net Volume (gallons)	Cumulative System Discharge To Date (gallons)	Average Total System Discharge (gpm)	Average Total System Discharge (gpd)
10/18/95 a	76	0	0	N/A	N/A
10/30/95	4,040	3,964	3,964	0.2	330
11/30/95	7,751	3,711	7,675	0.1	120
12/27/95	15,031	7,280	14,955	0.2	270
01/22/96	19,350	4,319	19,274	0.1	166
02/13/96	28,980	9,630	28,904	0.3	438
03/11/96 b	82,320	53,340	82,244	1.4	1,976
04/05/96	82,660	340	82,584	0.01	14
05/15/96 c	132,610	49,950	132,534	0.87	1,249
07/02/96 d	142,690	10,080	142,614	N/A	N/A
07/17/96 e,f	194,730	52,040	194,654	2.4	3,469
10/15/96 g	243,783	49,053	243,707	N/A	N/A
11/11/96	298,271	54,488	298,195	1.4	2,018
11/27/96	331,768	33,497	331,692	1.5	2,094
12/09/96	345,737	13,969	345,661	0.8	1,164

gpm = Gallons per minute

gpd = Gallons per day

N/A = Not applicable or not available

- a. GWE continuous system operation began on October 18, 1995.
- b. GWE system found down 3/11/96; carbon changeout performed 3/25/96.
- c. GWE system shut down in May for primary carbon replacement.
- d. System restarted July 2, 1996.
- e. System temporarily shut down to address operational problems.
- f. Carbon changeout to primary on 10/13/96; primary & secondary switched.
- g. System restarted 10/15/96 following carbon changeout.

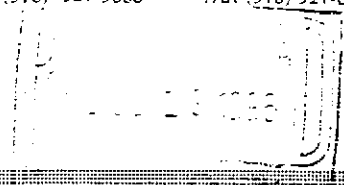
Table 2  
Groundwater Treatment System Analytical Data

Unocal Service Station 5760  
376 Lewelling Boulevard at Usher Street  
San Lorenzo, California

Date Sampled						Permit Compliance Parameters		
	TPPH (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	COD (mg/L)	TSS (mg/L)	pH (units)
<b>Influent Samples</b>								
10/30/95	33,000	480	1,400	900	7,100	N/A	N/A	N/A
11/30/95	15,000	190	310	210	3,700	N/A	N/A	N/A
12/27/95	1,100	16	23	<2.0	300	N/A	N/A	N/A
02/13/96 b	32,000	460	1,100	1,500	7,700	N/A	N/A	N/A
04/05/96	25,000	280	1,400	900	6,400	N/A	N/A	N/A
05/15/96	22,000	240	1,200	850	4,700	N/A	N/A	N/A
07/02/96	22,000	230	1,300	950	4,700	N/A	N/A	N/A
10/15/96 e	4,900	94	14	210	1,600	N/A	N/A	N/A
11/11/96	15,000	130	560	550	4,500	N/A	N/A	N/A
12/09/96	3,800	14	<5.0	10	800	N/A	N/A	N/A
<b>Effluent Samples</b>								
10/04/95	<50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	8.89 a
10/30/95	<50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS
11/30/95	<50	<0.50	<0.50	<0.50	<0.50	NS	NS	NS
12/27/95	<50	<0.50	<0.50	<0.50	<0.50	NS	NS	7.05 a
02/13/96 b	<50	<0.50	<0.50	<0.50	<0.50	<20	9.0	6.83 a
04/05/96 c	83	<0.50	0.80	<0.50	2.0	<20	11	6.83 a
05/15/96 c	<50	1.8	1.6	<0.50	5.8	<20	12	6.86 a
07/02/96 d	<50	<0.50	<0.50	<0.50	<0.50	15	2.0	7.09 a
10/15/96 e	<50	<0.50	<0.50	<0.50	0.54	NS	NS	8.74 a
11/11/96	<50	<0.50	<0.50	<0.50	<0.50	NS	NS	7.55 a
11/27/96	<50	<0.50	<0.50	<0.50	<0.50	<20	<1.0	7.2
12/09/96	<50	<0.50	<0.50	<0.50	<0.50	NS	NS	6.92 a
TPPH = Total purgeable petroleum hydrocarbons COD = Chemical oxygen demand TSS = Total suspended solids µg/L = Micrograms per liter mg/L = Milligrams per liter N/A = Not applicable NS = Not sampled < = Denotes any potential concentrations fell below the shown detection limit for the analysis. a. The pH reading was measured by field instruments, not by laboratory analysis. b. GWE system was found down 1/17/96 and two pumps were pulled for repair and replaced 2/13/96. c. Carbon replacement of primary on 3/25/96 (switched to secondary); new primary replaced in May. d. System restarted July 2, 1996; de-activated July 17 to schedule carbon replacement to current primary. e. System restarted 10/15/96 following carbon changeout.								

**ATTACHMENT A**

**CERTIFIED ANALYTICAL REPORT  
AND CHAIN-OF-CUSTODY DOCUMENTATION**



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 310-058.5A/5760, San Lorenzo Sample Descript: Infl Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612621-01	Sampled: 12/09/96 Received: 12/09/96 Analyzed: 12/12/96 Reported: 12/16/96
Attention: Andrew Lehane		

QC Batch Number: GC121196BTEX03B  
Instrument ID: GCHP3

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**


Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	3800
Benzene	5.0	14
Toluene	5.0	N.D.
Ethyl Benzene	5.0	10
Xylenes (Total)	5.0	800
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	92

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
 Tod Granicher  
 Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 310-058.5A/5760, San Lorenzo Sample Descript: Effl Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612621-02	Sampled: 12/09/96 Received: 12/09/96 Analyzed: 12/12/96 Reported: 12/16/96
Attention: Andrew Lehane		

QC Batch Number: GC121196BTEX03B  
Instrument ID: GCHP3

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	99

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

*Tod*  
\_\_\_\_\_  
Tod Granicher  
Project Manager



Sequoia  
Analytical

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Sacramento, CA 95834

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FAX (510) 988-9673  
FAX (916) 921-0100

Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Andrew Lehane

Client Proj. ID: 310-058.5A/5760, San Lorenzo

Received: 12/09/96

Lab Proj. ID: 9612621

Reported: 12/16/96

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 6 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

**SEQUOIA ANALYTICAL**

Tod Granicher  
Project Manager





Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110  
Attention: Andrew Lehane

Client Project ID: 310-058.5A / 5760, San Lorenzo  
Matrix: LIQUID

Work Order #: 9612621 01, 02

Reported: Dec 18, 1996

### QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC121196BTEX03B	GC121196BTEX03B	GC121196BTEX03B	GC121196BTEX03B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	961251801	961251801	961251801	961251801
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/11/96	12/11/96	12/11/96	12/11/96
Analyzed Date:	12/11/96	12/11/96	12/11/96	12/11/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L

Result:	8.2	8.5	8.8	29
MS % Recovery:	82	85	88	97

Dup. Result:	8.6	8.8	9.1	29
MSD % Recov.:	86	88	91	97

RPD:	4.8	3.5	3.4	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK121196	BLK121196	BLK121196	BLK121196
Prepared Date:	12/11/96	12/11/96	12/11/96	12/11/96
Analyzed Date:	12/11/96	12/11/96	12/11/96	12/11/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.5	9.0	9.5	31
LCS % Recov.:	85	90	95	103

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

  
Tod Granicher  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME:  
REC. BY (PRINT)

PEG  
JKL

WORKORDER:  
DATE OF LOG-IN:

9612621  
12-11-96

CIRCLE THE APPROPRIATE RESPONSE

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
1	A-C	Intl	WA (3)	Intact	12-09	
2	V	Effl	1	↓	↓	
<p>Intact 12-09-96</p>						

1. Custody Seal(s) Present  Absent Intact / Broken
2. Custody Seal #: Put in Remarks Section
3. Chain-of-Custody Present  / Absent\*
4. Traffic Reports or Packing List: Present  Absent
5. Airbill: Airbill / Sticker Present  Absent
6. Airbill #: \_\_\_\_\_
7. Sample Tags: Present  / Absent  
Sample Tags #s:  Listed / Not Listed on Chain-of-Custody
8. Sample Condition:  Intact / Broken\* / Leaking\*
9. Does information on custody reports, traffic reports and sample tags agree?  Yes / No\*
10. Proper Preservatives used:  Yes / No\*
11. Date Rec. at Lab: 12-09-96
12. Time Rec. at Lab: 17:57
13. Temp Rec. at Lab: 10°C

\*If Circled, contact Project Manager and attach record of resolution.

# UNOCAL 76

680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600  
 819 Striker Ave., Suite B • Sacramento, CA 95834 • (916) 921-9600  
 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600

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 East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200  
 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9000

Consultant Company: Pacific Env. Group Inc. Project Name: 310-058.SA  
 Address: 2025 GATEWAY PI #1440 UNOCAL Project Manager: TINA Barry  
 City: SAN JOSE State: CA Zip Code: 95110 AFE #:  
 Telephone: (408) 441-7500 FAX #: (408) 441-7539 Site #, City, State: 5760 SAN LORENZO, CA  
 Report To: Andrew Lehane Sampler: Don Waterpaul QC Data:  Level D (Standard)  Level C  Level B  Level A

Turnaround  10 Work Days  5 Work Days  3 Work Days  
 Time:  2 Work Days  1 Work Day  2-8 Hours

Drinking Water  
 Waste Water  
 Other  
 Analyses Requested: 9612621

CODE:  Misc.  Detect.  Eval.  Remed.  Demol.  Closure

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TAPPAS / BTEX										Comments				
1. INF1	12/19/96 11:30	H <sub>2</sub> O	3	VDA	1	X														
2. EFP1	12/19/96 11:30	H <sub>2</sub> O	3	VDA	2	X														
3.																				
4.																				
5.																				
6.																				
7.																				
8.																				
9.																				
10.																				

Relinquished By: <u>Don Waterpaul</u>	Date: <u>12/19/96</u>	Time: <u>14:30</u>	Received By: <u>D. Alarcón</u>	Date: <u>12/19/96</u>	Time: <u>14:30</u>
Relinquished By: <u>D. Alarcón</u>	Date: <u>12/19/96</u>	Time: <u>4:10</u>	Received By: <u>SW Wright</u>	Date: <u>12/19/96</u>	Time: <u>4:10</u>
Relinquished By: <u>SW Wright</u>	Date: <u>12/19/96</u>	Time: <u></u>	Received By Lab: <u>FWT</u>	Date: <u>12-09-96</u>	Time: <u>17:07</u>

Were Samples Received in Good Condition?  Yes  No Samples on Ice?  Yes  No Method of Shipment \_\_\_\_\_ Page \_\_\_ of \_\_\_

To be completed upon receipt of report:  
 1) Were the analyses requested on the Chain of Custody reported?  Yes  No If no, what analyses are still needed? \_\_\_\_\_  
 2) Was the report issued within the requested turnaround time?  Yes  No If no, what was the turnaround time? \_\_\_\_\_

Approved by: D. Alarcón

Pink - Client

Yellow - Laboratory

White - Laboratory