

PACIFIC  
ENVIRONMENTAL  
GROUP INC.

LCR  
8/14/96

August 9, 1996  
Project 310-058.5A

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

Re: Wastewater Discharge Permit 024 - July 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 between May 15 and July 2, 1996 (Table 1), at which time the system was reactivated. Operational parameters are summarized below.

<i>Current System Status:</i>	<i>Operational</i>
<i>Reporting Period:</i>	5/15/96 - 7/2/96
<i>Period Temperature:</i>	74.9
<i>Period pH reading:</i>	7.09
<i>Period Volume Discharged:</i>	10,080 gallons
<i>Total Discharged to Date:</i>	142,614 gallons
<i>Average Flow Rate:</i>	N/A
<i>Analytical Reports:</i>	Attached

The GWE system was re-started on July 2, 1996 following carbon replacement of the current primary vessel. The secondary carbon vessel was replaced in March 1996. Sample results and measurements confirm that the system is currently operating in full compliance with the discharge permit.

August 9, 1996

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The certified analytical report and chain-of-custody documentation for samples taken July 2, 1996 are included as Attachment A. 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. 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  
Ms. Amy Leech, Alameda County Health Care Services

**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	8,630	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

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.

Table 2  
Groundwater Treatment System Analytical Data

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

Date Sampled						<u>Permit Compliance Parameters</u>		
	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
<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	b/c 15	2.0	7.09 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.								

**ATTACHMENT A**

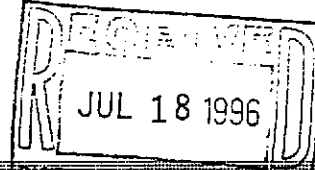
**CERTIFIED ANALYTICAL REPORT  
AND CHAIN-OF-CUSTODY DOCUMENTATION**



**Sequoia  
Analytical**

680 Chesapeake Drive Redwood City, CA 94063  
404 N. Wiget Lane Walnut Creek, CA 94598  
819 Striker Avenue, Suite 8 Sacramento, CA 95834

(415) 364-9600 FAX (415) 364-9233  
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Pacific Environmental Group  
2025 Gateway Place, Suite 440  
San Jose, CA 95110

Client Proj. ID: 310-058.5A/5760, San Lorenzo  
Lab Proj. ID: 9607272

Sampled: 07/02/96  
Received: 07/03/96  
Analyzed: see below

Attention: Steve Clark

Reported: 07/17/96

**LABORATORY ANALYSIS**

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9607272-02				
Sample Desc: LIQUID, EFFL				
Chemical Oxygen Demand	mg/L	07/15/96	20	15
pH by paper	pH Units	07/15/96	N/A	1.0
Total Suspended Solids	mg/L	07/08/96	1.0	2.0

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

**SEQUOIA ANALYTICAL - ELAP #1210**

Claudia Hirotsu  
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: INFL Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9607272-01	Sampled: 07/02/96 Received: 07/03/96 Analyzed: 07/16/96 Reported: 07/17/96
Attention: Steve Clark		

QC Batch Number: GC071696BTEX17A  
Instrument ID: GCHP17

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2500	22000
Benzene	25	230
Toluene	25	1300
Ethyl Benzene	25	950
Xylenes (Total)	25	4700
Chromatogram Pattern:		Gas
<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

Claudia Hirotsu  
Project Manager





Pacific Environmental Group Client Project ID: 310-058.5A / 5760, San Lorenzo  
 2025 Gateway Place, Suite 440 Matrix: LIQUID  
 San Jose, CA 95110  
 Attention: Steve Clark Work Order #: 9607272 02 Reported: Jul 17, 1996

**QUALITY CONTROL DATA REPORT**

Analyte: Chemical Oxygen Demand  
 QC Batch#: IN071596410400A  
 Analy. Method: EPA 410.4  
 Prep. Method: N.A.

Analyst: S. Chin  
 MS/MSD #: 960727202  
 Sample Conc.: 15  
 Prepared Date: 7/15/96  
 Analyzed Date: 7/15/96  
 Instrument I.D.#: MANUAL  
 Conc. Spiked: 100 mg/L

Result: 99  
 MS % Recovery: 84  
 Dup. Result: 99  
 MSD % Recov.: 84  
 RPD: 0.0  
 RPD Limit: 0-20

LCS #: LCS071596  
 Prepared Date: 7/15/96  
 Analyzed Date: 7/15/96  
 Instrument I.D.#: MANUAL  
 Conc. Spiked: 100 mg/L  
 LCS Result: 100  
 LCS % Recov.: 100

MS/MSD 75-125  
 LCS 80-120  
 Control Limits

**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**  
  
 Claudia Hirotsu  
 Project Manager







Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Steve Clark	Client Project ID: 310-058.5A / 5760, San Lorenzo Matrix: LIQUID  Work Order #: 9607272 02	Reported: Jul 17, 1996
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QUALITY CONTROL DATA REPORT

<b>Analyte:</b>	Total Suspended Solids
<b>QC Batch:</b>	IN70896150100A
<b>Analy. Method:</b>	EPA 150.1
<b>Prep Method:</b>	N.A.

**Analyst:** N. Le

**Duplicate Sample #:** 960728801

**Prepared Date:** 7/8/96  
**Analyzed Date:** 7/8/96  
**Instrument I.D.#:** MANUAL

**Sample Concentration:** 11

**Dup. Sample Concentration:** 13

**RPD:** 17  
**RPD Limit:** 0-20

SEQUOIA ANALYTICAL

Claudia Hirotsu  
Project Manager

\*\* RPD = Relative % Difference

9607272.PPP <2>





Pacific Environmental Group Client Project ID: 310-058.5A / 5760, San Lorenzo  
 2025 Gateway Place, Suite 440 Matrix: LIQUID  
 San Jose, CA 95110  
 Attention: Steve Clark Work Order #: 9607272 01 Reported: Jul 17, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071696BTEX17A	GC071696BTEX17A	GC071696BTEX17A	GC071696BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD #:	960730603	960730603	960730603	960730603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/16/96	7/16/96	7/16/96	7/16/96
Analyzed Date:	7/16/96	7/16/96	7/16/96	7/16/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.7	8.8	8.7	25
MS % Recovery:	87	88	87	87
Dup. Result:	9.5	9.3	9.3	28
MSD % Recov.:	95	93	93	93
RPD:	8.8	5.5	6.7	7.4
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK071696	BLK071696	BLK071696	BLK071696
Prepared Date:	7/16/96	7/16/96	7/16/96	7/16/96
Analyzed Date:	7/16/96	7/16/96	7/16/96	7/16/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	30
LCS % Recov.:	100	100	100	100

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

**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**

Claudia Hirotsu  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9607272.PPP <3>



# UNOCAL 76

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 15055 S.W. Sequola Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Consultant Company: DAC ENV. GRP. Project Name: 310-0585A  
 Address: 2025 Gateway Dr #440 UNOCAL Project Manager: Tina Berry  
 City: San Jose State: CA Zip Code: 95110 AFE #:  
 Telephone: 408447500 FAX #: 408447538 Site #, City, State: 5760, San Lorenzo, CA  
 Report To: Steve Clark Sampler: Mark Cubru QC Data:  Level D (Standard)  Level C  Level B  Level A

Turnaround  10 Work Days  5 Work Days  3 Work Days  Drinking Water  
 Time:  2 Work Days  1 Work Day  2-8 Hours  Waste Water  
 CODE:  Misc.  Detect.  Eval.  Remed.  Demol.  Closure  Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested	Comments
1. <u>INFIL</u>	<u>7/13/96</u>	<u>Soil</u>	<u>3</u>	<u>100</u>	<u>96072A2</u>	<u>CS/BIEX</u>	<u>SS = Suspended Solids</u>
2. <u>EFFL</u>	<u>7/13/96</u>	<u>Water</u>	<u>1</u>	<u>1K</u>		<u>160.7</u>	
3. <u>EFFL</u>	<u>7/13/96</u>	<u>Water</u>	<u>1</u>	<u>1K</u>		<u>COD 410.4</u>	<u>COD = Chemical Oxygen Demand</u>
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Relinquished By: <u>[Signature]</u>	Date: <u>7/13/96</u>	Time: <u>602</u>	Received By: <u>[Signature]</u>	Date: <u>7/7/96</u>	Time: <u>602</u>
Relinquished By: <u>[Signature]</u>	Date: <u>7/3/96</u>	Time: <u>1000</u>	Received By: <u>[Signature]</u>	Date: <u>7-3-96</u>	Time: <u>1000</u>
Relinquished By: <u>[Signature]</u>	Date: <u>7-3-96</u>	Time: <u>1218</u>	Received By Lab: <u>[Signature]</u>	Date: <u>7-3-96</u>	Time: <u>1218</u>

Were Samples Received in Good Condition?  Yes  No Samples on Ice?  Yes  No Method of Shipment \_\_\_\_\_ Page 1 of 1

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: \_\_\_\_\_ Signature: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_

Pink - Client

Yellow - Laboratory

White - Laboratory