

ENVIRONMENTAL
PROTECTION
96 NOV 14 AM 8:37

November 11, 1996

Ms. Amy Leech
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94501

RE: Unocal Service Station #5760
376 Lewelling Boulevard
San Lorenzo, California

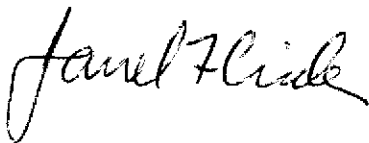
Dear Ms. Leech:

Per the request of the Unocal Corporation Project Manager, Ms. Tina R. Berry, enclosed please find our data report (MPDS-UN5760-11) dated October 29, 1996 for the above referenced site.

Should you have any questions regarding the reporting of data, please feel free to call our office at (510) 602-5120. Any other questions may be directed to the Project Manager at (510) 277-2321.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/jfc

Enclosure

cc: Ms. Tina R. Berry



PACIFIC
ENVIRONMENTAL
GROUP INC.

November 11, 1996
Project 310-058.5A

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

Re: Wastewater Discharge Permit 024 - October 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 September 30 through October 15, 1996, at which time the GWE system was re-started following carbon changeout. Operational parameters are summarized in the table below.

<i>Current System Status:</i>	<i>Operational</i>
<i>Reporting Period:</i>	9/30/96 - 10/15/96
<i>Period Temperature:</i>	61.2
<i>Period pH reading:</i>	8.74
<i>Period Volume Discharged:</i>	49,053 gallons
<i>Total Discharged to Date:</i>	243,707 gallons
<i>Average Flow Rate:</i>	N/A
<i>Analytical Reports:</i>	Attached

The primary carbon vessel was changed-out on October 13, 1996 and the primary and secondary vessel positions were switched. The GWE system was re-started on October 15, 1996 following pre-soaking of the new carbon. Field measurements and the analytical results indicate that the GWE system is currently in compliance with all

96 NOV 14 PM 2:22
ENVIRONMENTAL
PROTECTION

November 11, 1996

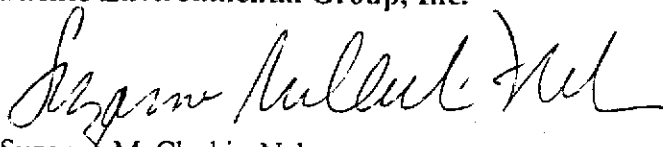
Page 2

conditions of the discharge permit with the exception of xylene, which was reported at a concentration of 0.54 parts per billion (ppb), slightly above the detection limit of 0.50 ppb.

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
~~Mr. Amy Litch, 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	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

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 576D
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)
Influent Samples								
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
Effluent Samples								
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
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.								

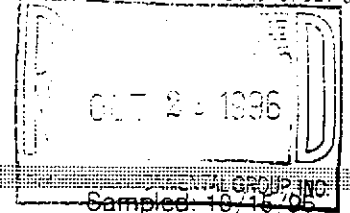
ATTACHMENT A
CERTIFIED ANALYTICAL REPORT
AND CHAIN-OF-CUSTODY DOCUMENTATION



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
(510) 988-9600 FAX (510) 988-9673
(916) 921-9600 FAX (916) 921-0100



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: 9610A47-01

Sampled: 10/16/96
Received: 10/16/96
Analyzed: 10/18/96
Reported: 10/24/96

QC Batch Number: GC101896BTEX01A
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	4900
Benzene	5.0	94
Toluene	5.0	14
Ethyl Benzene	5.0	210
Xylenes (Total)	5.0	1600
Chromatogram Pattern:		Gas
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	74

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: 9610A47-02	Sampled: 10/15/96 Received: 10/16/96 Analyzed: 10/21/96 Reported: 10/24/96
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QC Batch Number: GC102196BTEX18A
Instrument ID: GCHP1B


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:	0.54

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	108

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
Attention: Jessica Nelligan

Client Project ID: 310-058.5A / 5760, San Lorenzo
Matrix: LIQUID
Work Order #: 9610A47 01, 02

Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC101896BTEX01A	GC101896BTEX01A	GC101896BTEX01A	GC101896BTEX01A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	961081109	961081109	961081109	961081109
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/18/96	10/18/96	10/18/96	10/18/96
Analyzed Date:	10/18/96	10/18/96	10/18/96	10/18/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	9.9	30
MS % Recovery:	100	100	99	100
Dup. Result:	10	9.8	9.7	29
MSD % Recov.:	100	98	97	97
RPD:	0.0	2.0	2.0	3.4
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK101896	BLK101896	BLK101896	BLK101896
Prepared Date:	10/18/96	10/18/96	10/18/96	10/18/96
Analyzed Date:	10/18/96	10/18/96	10/18/96	10/18/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.1	8.8	8.7	26
LCS % Recov.:	91	88	87	87

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

SEQUOIA ANALYTICAL

Tod
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.

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



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Jessica Nelligan

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

Work Order #: 9610A47 01, 02

Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC102196BTEX18A	GC102196BTEX18A	GC102196BTEX18A	GC102196BTEX18A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	961091602	961091602	961091602	961091602
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/21/96	10/21/96	10/21/96	10/21/96
Analyzed Date:	10/21/96	10/21/96	10/21/96	10/21/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.8	9.6	29
MS % Recovery:	103	98	96	95
Dup. Result:	10	9.5	9.4	29
MSD % Recov.:	100	95	94	95
RPD:	3.0	3.1	2.1	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK102196	BLK102196	BLK102196	BLK102196
Prepared Date:	10/21/96	10/21/96	10/21/96	10/21/96
Analyzed Date:	10/21/96	10/21/96	10/21/96	10/21/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	12	11	10	32
LCS % Recov.:	120	109	104	108

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.

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

9610A47.PPP <2>

UNOCAL 76

690 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9000
 819 Striker Ave., Suite B • Sacramento, CA 95834 • (916) 921-9600
 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600

18939 120th Ave., N.E., Suite 101 • Bothell, WA 98011 • (206) 481-9200
 East 11115 Montgomery, Suite B • Spokane, WA 99208 • (509) 924-9200
 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Consultant Company: <u>URS ENV. C/P</u>		Project Name: <u>310-058-5A</u>	
Address: <u>2025 Gateway Dr #440</u>		UNOCAL Project Manager: <u>Tina Berry</u>	
City: <u>San Jose</u>	State: <u>CA</u>	Zip Code: <u>95110</u>	AFE #:
Telephone: <u>408 547 7503</u>	FAX #: <u>408 547 7531</u>	Site #, City, State: <u>5760, San Lorenzo, CA</u>	
Report To: <u>Andrew Larson</u>	Sampler: <u>Mark Colborn</u>	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround <input checked="" type="checkbox"/> 10 Work Days <input type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days	<input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> Waste Water <input type="checkbox"/> Other	Analyses Requested (Grid area with diagonal lines)
Time: <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours		
CODE: <input type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input checked="" type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure		

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested										Comments				
1. <u>INF</u>	<u>10/16/96</u>	<u>Soil</u>	<u>3</u>	<u>UO2</u>	<u>01</u>	<input checked="" type="checkbox"/>														
2. <u>ETF</u>	<u>10/16/96</u>	<u>Soil</u>	<u>3</u>	<u>UO2</u>	<u>02</u>	<input checked="" type="checkbox"/>														
3.																				
4. <u>INF</u>	<u>10/16/96</u>	<u>Soil</u>	<u>2</u>	<u>PCB</u>		<input checked="" type="checkbox"/>														
5.																				
6.																				
7.																				
8.																				
9.																				
10.																				

Relinquished By: <u>[Signature]</u>	Date: <u>10/16/96</u>	Time: <u>7:30</u>	Received By: <u>[Signature]</u>	Date: <u>10/16/96</u>	Time: <u>0752</u>
Relinquished By: <u>[Signature]</u>	Date: <u>10/16/96</u>	Time: <u>10:15</u>	Received By: <u>[Signature]</u>	Date: <u>10-16-96</u>	Time: <u>10:15</u>
Relinquished By: <u>[Signature]</u>	Date:	Time:	Received By Lab: <u>[Signature]</u>	Date: <u>10/16/96</u>	Time: <u>11:57</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 Laboratory Turnaround Time? Yes No If no, what was the turnaround time? _____

Pink - Client
 Yellow - Laboratory
 White - Laboratory



PACIFIC
ENVIRONMENTAL
GROUP INC.

October 18, 1996
Project 310-058.5A

Mr. Richard Hiatt
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Re: Unocal Corporation
Quarterly Summary Report
Third Quarter 1996

Dear Mr. Hiatt:

As directed by Ms. Tina Berry of Unocal Corporation, Pacific Environmental Group, Inc. is forwarding the quarterly summary report for the following location:

Service Station

5760

Location

376 Lewelling Boulevard, San Lorenzo

If you have questions or comments, please do not hesitate to contact our office at (408) 441-7500.

Sincerely,

Pacific Environmental Group, Inc.

Joseph Muzzio
Project Geologist

Enclosure

cc: Ms. Tina Berry, Unocal Corporation
Ms. Amy Leech, Alameda County Environmental Health Care Services

Quarterly Summary Report Third Quarter 1996

Unocal Service Station 5760
376 Lewelling Boulevard
San Lorenzo, California

City/County ID #: None
County: Alameda

BACKGROUND

The underground storage tanks were removed and replaced in November 1987. Currently, there are nine monitoring wells on site. Groundwater monitoring and sampling of wells began in February 1988. A remedial action plan was submitted during the third quarter 1994. Groundwater extraction and soil vapor extraction systems were installed in August and September 1995.

In February 1996, modifications to the present sampling and monitoring activities were presented in a letter to Unocal and Alameda County, recommending a reduction to semiannual groundwater sampling for some of the monitoring wells.

RECENT QUARTER ACTIVITIES

Semiannual groundwater monitoring and sampling were conducted in September 1996. Monthly monitoring of soil and groundwater remedial systems were performed and appropriate reports documenting findings were submitted, as well as a quarterly performance report.

NEXT QUARTER ACTIVITIES

Operation of soil vapor and groundwater extraction and treatment system will continue.

CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated? Yes.
Dissolved groundwater delineated? No.
Free product delineated? Yes.
Amount of groundwater contaminant recovered this quarter? Approximately 8 pounds.
Soil remediation in progress? Yes.
Start? October 1995.
Anticipated completion date? Unknown.
Dissolved/free product remediation in progress? Yes.
Start? October 1995.
Anticipated completion? Unknown.

CONSULTANT: Pacific Environmental Group, Inc.

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Ms. Tina R. Berry

RE: Semi-Annual Data Report
Unocal Service Station #5760
376 Lewelling Boulevard
San Lorenzo, California

Dear Ms. Berry:

This data report presents the results of the most recent monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled are indicated in Table 1. Oxygen Release Compound (ORC) filter socks were present in monitoring wells U-6 and U-9. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent semi-annual period is shown on the attached Figure 1.

Ground water samples were collected from monitoring wells U-6 and U-9 on September 24, 1996. Prior to sampling, the two wells were each purged of 9 gallons of water. In addition, dissolved oxygen concentrations were measured and are presented in Table 3. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded on the purging/sampling data sheets which are attached to this report. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. Trip blank, Field blank and Equipment blank samples (denoted as ES1, ES2 and ES3, respectively) were also collected for quality assurance and control. MPDS Services, Inc. transported the purged ground water to the Unocal Refinery located in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in Table 2. The concentrations of Total Petroleum

Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected this semi-annual period are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

DISTRIBUTION

A copy of this report should be sent to Ms. Amy Leech of the Alameda County Health Care Services Agency.

If you have any questions regarding this report, please do not hesitate to call Mr. Joel G. Greger at (510) 602-5120.

Sincerely,

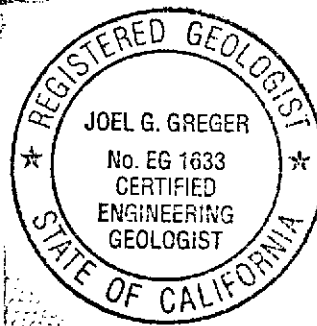
MPDS Services, Inc.



Haig (Gary) Tejirian
Senior Staff Geologist



Joel G. Greger, C.E.G.
Senior Engineering Geologist



License No. EG 1633
Exp. Date 8/31/98

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation
Purging /Sampling Data Sheets

cc: Mr. Joe Muzzio, Pacific Environmental Group, Inc.

Table 1
 Summary of Monitoring Data

Well #	Ground Water Elevation (feet)	Depth to Water (feet)*	Total Well Depth (feet)*	Product Thickness (feet)	Sheet	Water Purged (gallons)
--------	-------------------------------	------------------------	--------------------------	--------------------------	-------	------------------------

(Monitored and Sampled on September 24, 1996)

U-1	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING - CONNECTED TO REMEDIATION SYSTEM					
U-2*	23.36	17.90	29.91	0	--	0
U-3	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING- CONNECTED TO REMEDIATION SYSTEM					
U-4*	23.06	17.19	27.88	0	--	0
U-5*	22.76	16.55	28.45	0	--	0
U-6	22.62	15.06	28.28	0	No	9
U-7*	22.52	14.59	34.93	0	--	0
U-8*	22.82	15.75	29.84	0	--	0
U-9	22.39	14.92	28.20	0	No	9

(Monitored and Sampled on March 20, 1996)

U-1★	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING - CONNECTED TO REMEDIATION SYSTEM					
U-2*	26.24	15.02	29.90	0	--	0
U-3★	WELL WAS INACCESSIBLE FOR MONITORING AND PURGING- CONNECTED TO REMEDIATION SYSTEM					
U-4*	25.32	14.93	27.86	0	--	0
U-5*	25.24	14.07	28.40	0	--	0
U-6	25.27	12.41	28.27	0	No	11
U-7*	25.15	11.96	34.97	0	--	0
U-8*	25.32	13.25	29.82	0	--	0
U-9	25.04	12.27	28.20	0	No	11

(Monitored and Sampled on December 14, 1995)

U-1	WELL WAS INACCESSIBLE - CONNECTED TO REMEDIATION SYSTEM					
U-2	23.08	18.18	29.92	0	No	17.5
U-3	WELL WAS INACCESSIBLE - CONNECTED TO REMEDIATION SYSTEM					
U-4	22.82	17.43	27.88	0	No	15.5
U-5	22.75	16.56	28.56	0	No	8.5
U-6	22.79	14.89	28.30	0	No	9.5
U-7	22.72	14.39	34.85	0	No	14
U-8	22.90	15.67	29.85	0	No	10
U-9	22.64	14.67	28.20	0	No	9.5

Table 1
 Summary of Monitoring Data

Well #	Ground Water Elevation (feet)	Depth to Water (feet)*	Total Well Depth (feet)*	Product Thickness (feet)	Sheen	Water Purged (gallons)
--------	-------------------------------------	------------------------------	--------------------------------	--------------------------------	-------	------------------------------

(Monitored and Sampled on September 12, 1995)

U-1	23.43	16.77	30.10	0	No	20
U-2	23.46	17.80	29.96	0	No	18
U-3	23.15	16.11	24.95	0	No	13.5
U-4	23.15	17.10	27.95	0	No	16.5
U-5	23.01	16.30	28.61	0	No	8.5
U-6	22.83	14.85	28.35	0	No	9.5
U-7	22.71	14.40	34.95	0	No	14
U-8	23.07	15.50	29.90	0	No	10
U-9	22.58	14.73	28.26	0	No	9.5

Well #	Well Casing Elevation (feet)**
--------	--------------------------------------

U-1	40.20
U-2	41.26
U-3	39.26
U-4	40.25
U-5	39.31
U-6	37.68
U-7	37.11
U-8	38.57
U-9	37.31

- ◆ The depth to water level and total depth measurements were taken from the top of the well casings.
- * Monitored only.
- ** The elevation of the top of the well casing are relative to Mean Sea Level.
- ★ Well was sampled on March 22, 1996.
- Sheen determination was not performed.

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-1	9/24/96	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	3/22/96	13,000	200	590	640	4,000	790
	12/14/95	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	9/12/95	43,000	910	2,700	1,700	9,600	1,400
	6/13/95	53,000	1,400	5,000	2,500	14,000	2,800
	3/9/95	49,000	860	3,200	1,900	10,000	1,500
	12/5/94	1,300	55	20	16	330	--
	9/7/94	41,000	1,600	6,200	3,100	16,000	--
	6/9/94	59,000	5,200	1,300	5,200	15,000	--
	3/9/94	45,000	930	4,100	2,000	11,000	--
	12/2/93	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	9/9/93	67,000	2,900	18,000	6,200	32,000	--
	6/4/93	35,000	1,300	5,700	900	9,200	--
	2/12/93	70,000	2,200	8,400	3,100	18,000	--
	11/20/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	8/6/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	4/7/92	NOT SAMPLED - PRODUCT SKIMMER INSTALLED IN WELL					
	3/5/92	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/4/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	9/19/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	6/3/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	3/4/91	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	12/5/90	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT					
	8/24/90	27,000	1,200	1,800	1,400	5,500	--
	6/5/90	46,000	2,300	5,500	2,500	11,000	--
	3/20/90	36,000	2,100	5,500	1,900	9,300	--
2/9/88	93,000	3,600	11,000	†	20,000	--	
U-2	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	ND
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	ND
	3/9/95	ND	ND	ND	ND	ND	ND
	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	0.63	ND	0.61	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	62	1.1	5.4	1.1	9.7	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	ND	ND	ND	ND	ND	--
	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
U-2 (Cont.)	11/20/92	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
	3/5/92	ND	ND	0.36	ND	ND	--
	12/4/91	ND	ND	ND	ND	ND	--
	9/19/91	ND	ND	ND	ND	ND	--
	6/3/91	ND	ND	ND	ND	ND	--
	3/4/91	ND	ND	0.9	ND	2.6	--
	12/5/90	ND	ND	ND	ND	ND	--
	8/23/90	ND	ND	ND	ND	ND	--
U-3	9/24/96	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	3/22/96	15,000	150	490	480	3,100	400
	12/14/95	NOT SAMPLED - WELL CONNECTED TO REMEDIATION SYSTEM WHICH WAS NOT RUNNING					
	9/12/95	69,000	1,700	820	4,000	19,000	29,000
	6/13/95	64,000	1,700	1,500	3,800	18,000	900
	3/9/95	100,000	2,300	3,300	4,800	21,000	54,000
	12/5/94	140,000	3,100	5,100	4,900	21,000	--
	9/7/94	100,000	2,400	4,900	4,200	21,000	--
	6/9/94	120,000*	3,300	6,100	5,200	26,000	--
	3/9/94	120,000	4,500	8,300	5,600	28,000	--
	12/2/93	110,000	3,200	7,700	5,600	26,000	--
	9/9/93	110,000	2,800	10,000	6,500	31,000	--
	6/4/93	92,000	2,900	8,700	4,300	20,000	--
	2/12/93	80,000	3,700	9,400	3,700	18,000	--
	11/20/92	50,000	3,200	4,700	1,900	10,000	--
	8/6/92	140,000	5,100	13,000	5,000	23,000	--
	4/7/92	97,000	6,100	16,000	5,400	28,000	--
	3/5/92	160,000	5,300	15,000	5,400	26,000	--
	12/4/91	75,000	2,500	6,100	1,900	11,000	--
	9/19/91	61,000	3,300	9,700	2,800	15,000	--
6/3/91	130,000	5,800	19,000	4,600	24,000	--	
3/4/91	84,000	1,400	10,000	2,900	17,000	--	
1/18/91	51,000	1,700	3,100	1,500	7,500	--	
12/5/90	69,000	1,900	3,500	1,600	9,800	--	
8/23/90	110,000	4,400	13,000	2,800	17,000	--	
U-4	9/24/96	SAMPLED ANNUALLY					
	3/20/96	SAMPLED ANNUALLY					
	12/14/95	ND	ND	ND	ND	ND	1.3
	9/12/95	ND	ND	ND	ND	ND	ND
	6/13/95	ND	ND	ND	ND	ND	2.7
	3/9/95	ND	ND	ND	ND	ND	ND

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	
U-4 (Cont.)	12/5/94	ND	ND	ND	ND	ND	--	
	9/7/94	ND	ND	1.1	ND	1.0	--	
	6/9/94	ND	ND	ND	ND	ND	--	
	4/13/94	ND	ND	ND	ND	ND	--	
	3/9/94	ND	1.4	4.7	1.1	8.1	--	
	12/2/93	ND	ND	ND	ND	2.6	--	
	9/9/93	ND	ND	ND	ND	ND	--	
	6/4/93	ND	ND	ND	ND	ND	--	
	2/12/93	ND	ND	ND	ND	ND	--	
	11/20/92	ND	ND	2.5	ND	ND	--	
	8/6/92	ND	ND	ND	ND	ND	--	
	4/7/92	ND	ND	ND	ND	ND	--	
	3/5/92	ND	ND	ND	ND	ND	--	
	12/4/91	ND	ND	ND	ND	ND	--	
	9/19/91	ND	ND	ND	ND	ND	--	
	6/3/91	ND	ND	ND	ND	ND	--	
	3/4/91	ND	ND	ND	ND	ND	--	
	1/18/91	ND	ND	ND	ND	ND	--	
	12/5/90	ND	ND	ND	ND	ND	--	
	8/23/90	ND	ND	1.0	ND	1.8	--	
U-5	9/24/96	SAMPLED ANNUALLY						
	3/20/96	SAMPLED ANNUALLY						
	12/14/95	ND	ND	ND	ND	ND	ND	
	9/12/95	ND	ND	ND	ND	ND	ND	
	6/13/95	ND	ND	ND	ND	ND	0.87	
	3/9/95	ND	ND	ND	ND	ND	ND	
	12/5/94	ND	ND	ND	ND	ND	--	
	9/7/94	ND	ND	0.73	ND	0.84	--	
	6/9/94	ND	ND	ND	ND	ND	--	
	4/13/94	ND	ND	ND	ND	ND	--	
	3/9/94	71	1.7	6.3	1.5	10	--	
	12/2/93	ND	ND	ND	ND	ND	--	
	9/9/93	ND	ND	ND	ND	ND	--	
	6/4/93	ND	ND	ND	ND	ND	--	
	2/12/93	ND	ND	ND	ND	ND	--	
11/20/92	ND	ND	ND	ND	ND	--		
8/6/92	ND	ND	ND	ND	ND	--		
4/7/92	ND	ND	ND	ND	ND	--		

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	
U-6	9/24/96	ND	ND	ND	ND	ND	750	
	3/20/96	52	1.1	0.98	ND	0.75	1,200	
	12/14/95	760	ND	ND	7.0	8.4	1,100	
	9/12/95	ND	ND	ND	ND	ND	6,600	
	6/13/95	1,300	ND	ND	20	46	5,400	
	3/9/95	2,500	29	ND	70	120	320	
	12/5/94	450**	ND	ND	ND	ND	--	
	9/7/94	1,600*	ND	ND	ND	ND	--	
	6/9/94	2,600*	16	ND	29	ND	--	
	3/9/94	2,200	11	8.2	24	16	--	
	12/2/93	2,100	12	1.6	21	1.1	--	
	9/9/93	6,300♦♦	29	ND	120	34	--	
	6/4/93	13,000	100	38	450	320	--	
	2/12/93	2,600	27	ND	120	51	--	
	11/20/92	WELL WAS INACCESSIBLE						
	8/6/92	9,200	160	ND	360	150	--	
	4/7/92	6,600	90	ND	820	1,200	--	
U-7	9/24/96	SAMPLED ANNUALLY						
	3/20/96	SAMPLED ANNUALLY						
	12/14/95	ND	ND	ND	ND	ND	1.4	
	9/12/95	ND	ND	ND	ND	ND	ND	
	6/13/95	ND	ND	ND	ND	ND	3.5	
	3/9/95	ND	ND	ND	ND	ND	ND	
	12/5/94	ND	ND	ND	ND	ND	--	
	9/7/94	ND	ND	ND	ND	ND	--	
	6/9/94	ND	ND	ND	ND	ND	--	
	4/13/94	ND	ND	ND	ND	ND	--	
	3/9/94	ND	1.4	4.4	0.96	7.5	--	
	12/2/93	ND	ND	ND	ND	ND	--	
	9/9/93	ND	ND	ND	ND	ND	--	
	6/4/93	ND	ND	ND	ND	ND	--	
	2/12/93	ND	ND	ND	ND	ND	--	
11/20/92	ND	ND	ND	ND	ND	--		
8/6/92	ND	ND	ND	ND	ND	--		
4/7/92	ND	ND	ND	ND	ND	--		
U-8	9/24/96	SAMPLED ANNUALLY						
	3/20/96	SAMPLED ANNUALLY						
	12/14/95	ND	ND	ND	ND	ND	ND	
	9/12/95	ND	ND	ND	ND	ND	ND	
	6/13/95	ND	ND	ND	ND	ND	ND	
	3/9/95	ND	ND	ND	ND	ND	ND	

Table 2
 Summary of Laboratory Analyses
 Water

Well #	Date	TPH as Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylenes	MTBE
U-8 (Cont.)	12/5/94	ND	ND	ND	ND	ND	--
	9/7/94	ND	ND	ND	ND	ND	--
	6/9/94	ND	ND	ND	ND	ND	--
	4/13/94	ND	ND	0.78	ND	0.98	--
	3/9/94	ND	1.2	3.7	0.79	6.1	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	ND	ND	ND	ND	ND	--
	6/4/93	ND	ND	ND	ND	ND	--
	2/12/93	ND	ND	ND	ND	ND	--
	8/6/92	ND	ND	ND	ND	ND	--
	4/7/92	ND	ND	ND	ND	ND	--
U-9	9/24/96	ND	ND	ND	ND	ND	ND
	3/20/96	ND	ND	ND	ND	ND	480
	12/14/95	ND	ND	ND	ND	ND	4,400
	9/12/95	ND	ND	ND	ND	ND	1,600
	6/13/95	ND	ND	ND	ND	ND	1,200
	3/9/95	2,500**	ND	ND	ND	ND	5,800
	12/5/94	3,700**	ND	ND	ND	ND	--
	9/7/94	2,700**	ND	ND	ND	ND	--
	6/9/94	2,900**	ND	ND	ND	ND	--
	4/13/94	ND	ND	ND	ND	ND	--
	3/9/94	5,700*	ND	ND	ND	ND	--
	12/2/93	ND	ND	ND	ND	ND	--
	9/9/93	1,200♦	ND	ND	ND	ND	--
	6/4/93	2,100♦	ND	ND	ND	ND	--

Table 2
Summary of Laboratory Analyses
Water

-
- * Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be gasoline and non-gasoline mixture.
 - ** Sequoia Analytical Laboratory reported that the hydrocarbon detected did not appear to be gasoline.
 - † Ethylbenzene and xylenes were combined prior to March 1990.
 - ◆ The concentration reported as gasoline is primarily due to the presence of a discrete hydrocarbon peak not indicative of standard gasoline.
 - ◆◆ The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.

MTBE = methyl tert butyl ether.

ND = Non-detectable.

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Note: The detection limit for results reported as ND by Sequoia Analytical Laboratory is equal to the stated detection limit times the dilution factor indicated on the laboratory analytical sheets.

Prior to August 1, 1995, the total purgeable petroleum hydrocarbon (TPH as gasoline) quantification range used by Sequoia Analytical Laboratory was C4 - C12. Since August 1, 1995, the quantification range used by Sequoia Analytical Laboratory is C6 - C12.

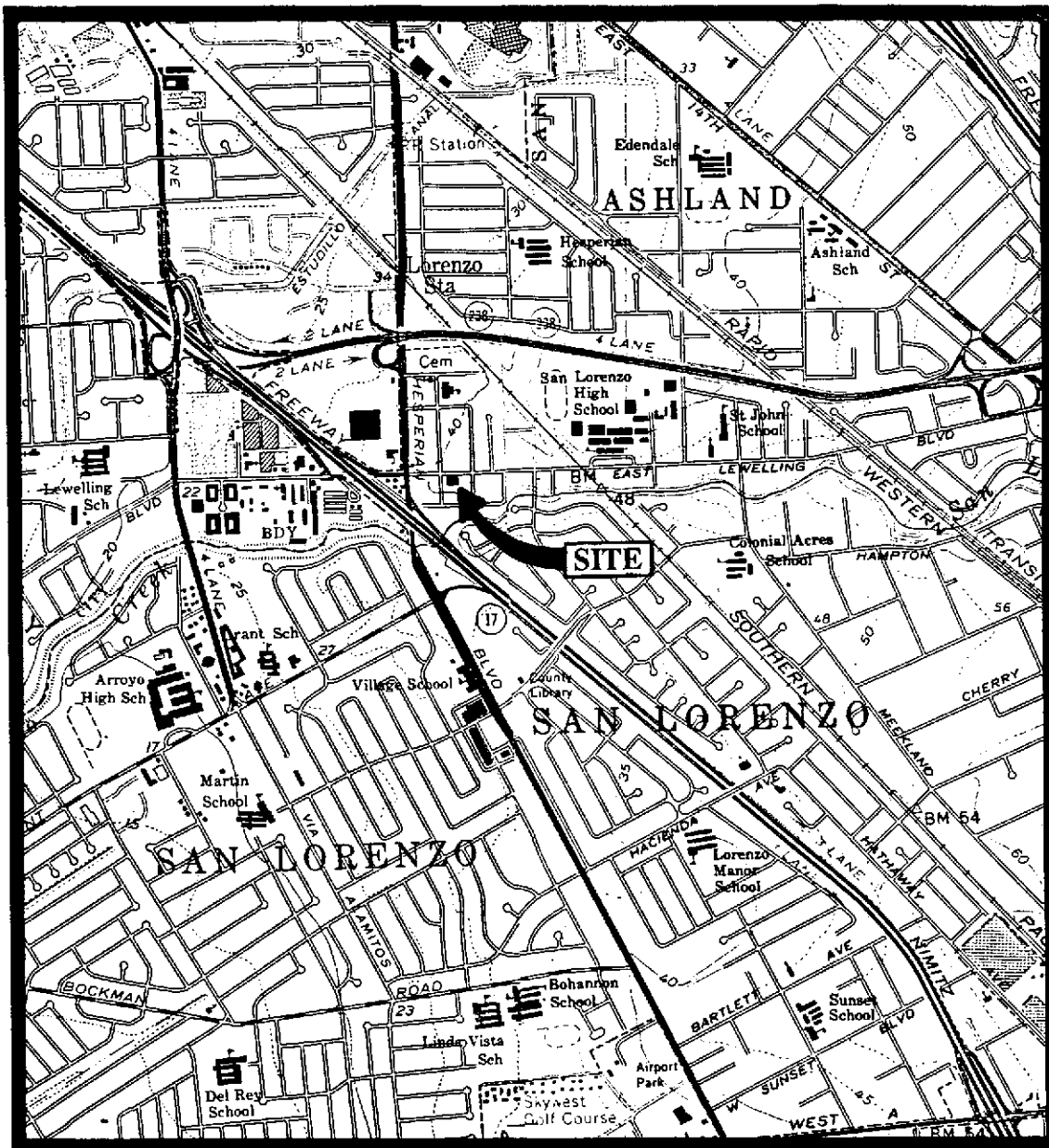
Laboratory analyses data prior to December 2, 1993, were provided by GeoStrategies, Inc.

Table 3
Summary of Monitoring Data
Dissolved Oxygen Concentration (DO) Measurements

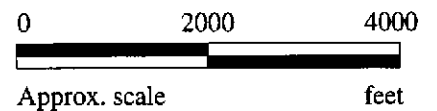
Date	Well #	DO (mg/L)	
		<u>Before Purging</u>	<u>After Purging</u>
9/20/96	U-6	3.73	3.81
3/20/96	U-6	3.85	3.89
9/20/96	U-9	3.85	3.98
3/20/96	U-9	4.02	4.00

mg/L = milligrams per liter

Note : Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.



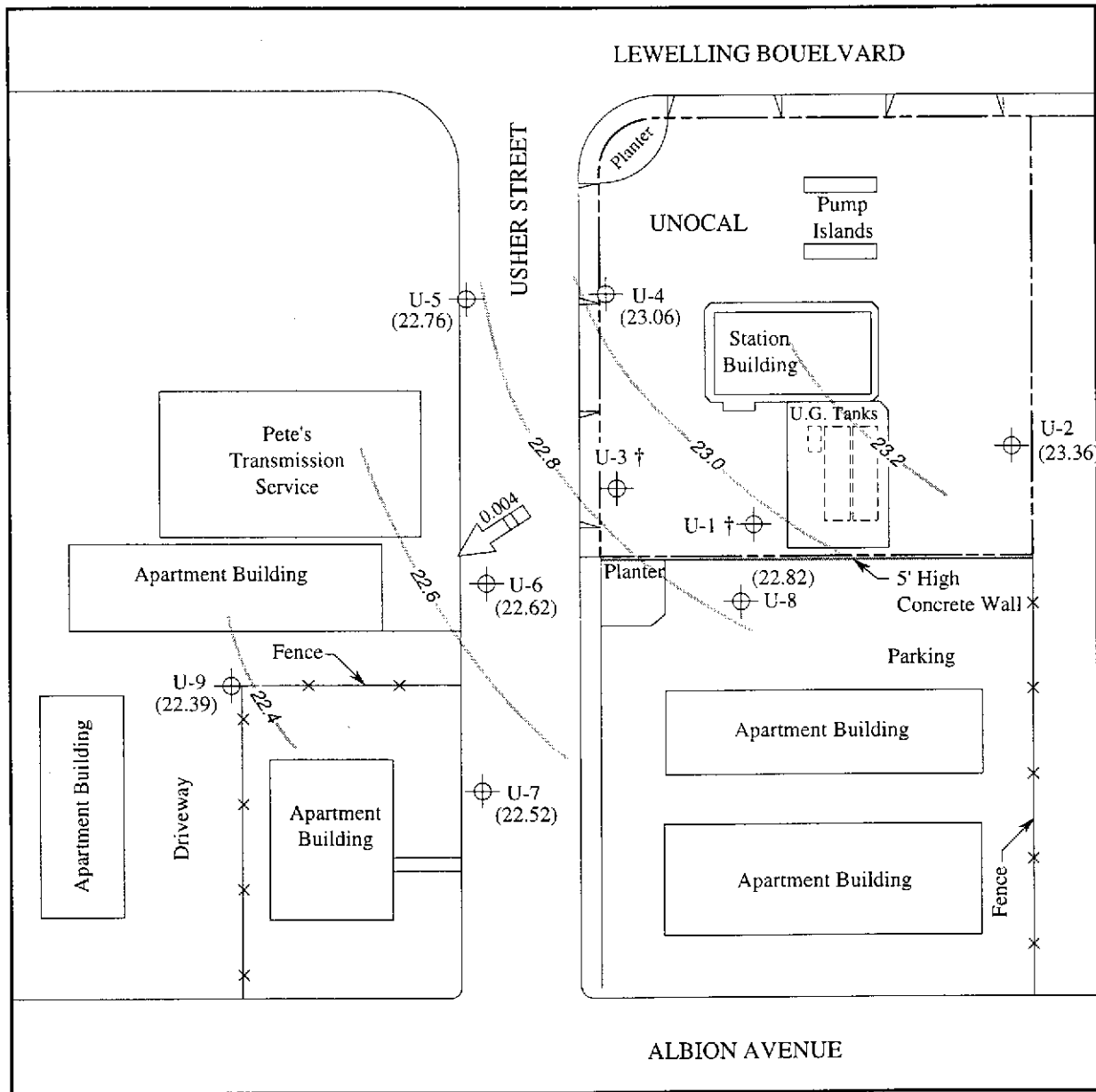
Base modified from 7.5 minute U.S.G.S.
Hayward and San Leandro Quadrangles
(both photorevised 1980)








MPDS SERVICES, INCORPORATED

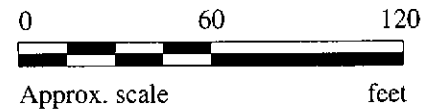
**UNOCAL SERVICE STATION #5760
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA**

**LOCATION
MAP**



LEGEND

-  Monitoring well
-  Ground water elevation in feet above Mean Sea Level
-  Direction of ground water flow with approximate hydraulic gradient
-  Contours of ground water elevation
-  † Well was inaccessible, attached to remediation system.

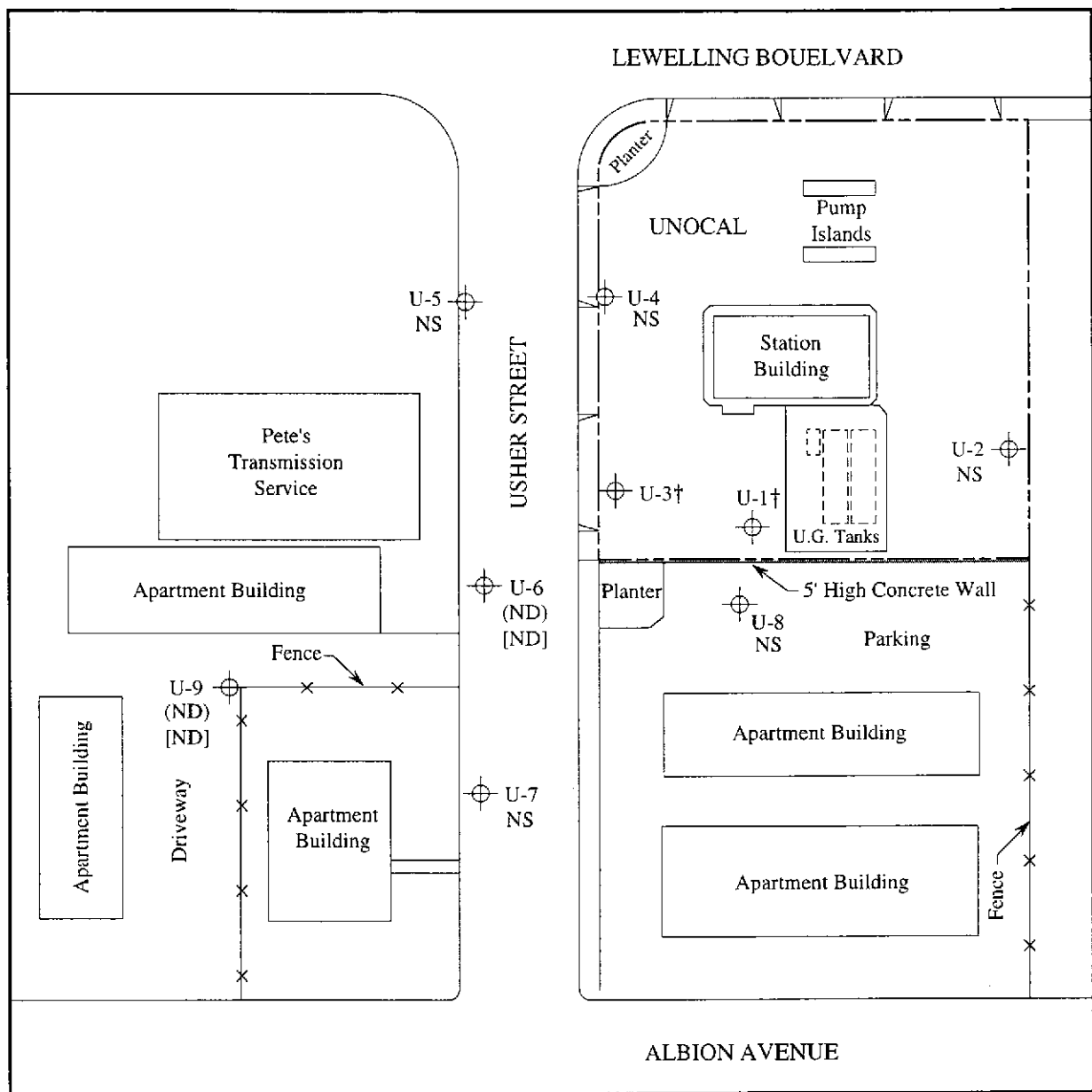


POTENTIOMETRIC SURFACE MAP FOR THE SEPTEMBER 24, 1996 MONITORING EVENT



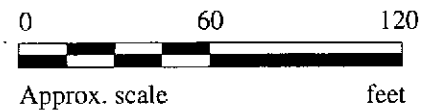
**UNOCAL SERVICE STATION #5760
376 LEWELLING BOULEVARD
SAN LORENZO, CALIFORNIA**

**FIGURE
1**



LEGEND

- ⊕ Monitoring well
- () Concentration of TPH as gasoline in $\mu\text{g/L}$
- [] Concentration of benzene in $\mu\text{g/L}$
- ND Non-detectable, NS Not sampled
- † Well was inaccessible, attached to remediation system.



PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON SEPTEMBER 24, 1996



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider	Client Project ID: Unocal #5760, 376 Llewelling Blvd, Matrix Descript: Water San Lorenzo Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 609-1794	Sampled: Sep 20, 1996 Received: Sep 24, 1996 Reported: Oct 14, 1996
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TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L	MTBE µg/L
609-1794	U-6	ND	ND	ND	ND	ND	750
609-1795	U-9	ND	ND	ND	ND	ND	ND
609-1796	ES-1	ND	ND	ND	ND	ND	-
609-1797	ES-2	ND	ND	ND	ND	ND	-
609-1798	ES-3	ND	ND	ND	ND	ND	-

Detection Limits:	50	0.50	0.50	0.50	0.50	40
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Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard.
 Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
 Project Manager





MPDS Services	Client Project ID: Unocal #5760, 376 Llewelling Blvd,	Sampled: Sep 20, 1996
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Sep 24, 1996
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Oct 14, 1996
Attention: Jarrel Crider	First Sample #: 609-1794	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
609-1794	U-6	--	1.0	10/7/96	HP-11	108
609-1795	U-9	--	1.0	10/7/96	HP-11	109
609-1796	ES-1	--	1.0	10/9/96	HP-4	95
609-1797	ES-2	--	1.0	10/9/96	HP-4	96
609-1798	ES-3	--	1.0	10/9/96	HP-4	95

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5760, 376 Llewelling Blvd, San Lorenzo
Matrix: Liquid

QC Sample Group: 6091794-798

Reported: Oct 14, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb

MS/MSD Batch#:	6091795	6091795	6091795	6091795
Date Prepared:	10/7/96	10/7/96	10/7/96	10/7/96
Date Analyzed:	10/7/96	10/7/96	10/7/96	10/7/96
Instrument I.D.#:	HP-11	HP-11	HP-11	HP-11
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	120	115	110
Matrix Spike Duplicate % Recovery:	105	120	115	115
Relative % Difference:	0.0	0.0	0.0	4.4

LCS Batch#:	11LCS100796	11LCS100796	11LCS100796	11LCS100796
Date Prepared:	10/7/96	10/7/96	10/7/96	10/7/96
Date Analyzed:	10/7/96	10/7/96	10/7/96	10/7/96
Instrument I.D.#:	HP-11	HP-11	HP-11	HP-11
LCS % Recovery:	95	105	110	108

% Recovery Control Limits:	60-140	60-140	60-140	60-140
---------------------------------------	--------	--------	--------	--------

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, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #5760, 376 Llewelling Blvd, San Lorenzo
Matrix: Liquid

QC Sample Group: 6091794-798

Reported: Oct 14, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K.Nill	K.Nill	K.Nill	K.Nill

MS/MSD Batch#:	6091997	6091997	6091997	6091997
Date Prepared:	10/9/96	10/9/96	10/9/96	10/9/96
Date Analyzed:	10/9/96	10/9/96	10/9/96	10/9/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	95	90	90	93
Matrix Spike Duplicate % Recovery:	95	90	90	93
Relative % Difference:	0.0	0.0	0.0	0.0

LCS Batch#:	4LCS100996	4LCS100996	4LCS100996	4LCS100996
Date Prepared:	10/9/96	10/9/96	10/9/96	10/9/96
Date Analyzed:	10/9/96	10/9/96	10/9/96	10/9/96
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	95	85	90	93

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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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, #1271

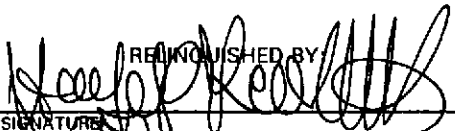
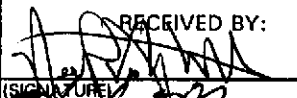
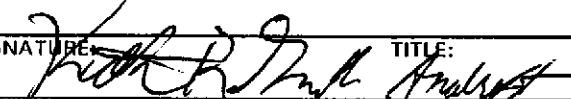
Signature on File

Alan B. Kemp
Project Manager



CHAIN OF CUSTODY

SAMPLER HAIG KEVORK			UNOCAL S/S # 5760 CITY: SAN LORENZO				ANALYSES REQUESTED						TURN AROUND TIME: REGULAR	
WITNESSING AGENCY			ADDRESS: 376 LEWELLING BLVD.				TPH-GAS BTEX	TPH-DIESEL	TOG	8010	MTBE			REMARKS
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION							
U-6	9/20/96		✓	✓		3 VOA'S	MONITORING WELL	✓				✓	6091794 AC 6091795 ✓	
U-9	9/20/96		✓	✓		3 VOA'S	MONITORING WELL	✓				✓		

REQUISITIONED BY:  (SIGNATURE)	DATE/TIME 9/24/96 12:16 (SIGNATURE)	RECEIVED BY:  (SIGNATURE)	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:
(SIGNATURE)	(SIGNATURE)	(SIGNATURE)	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Y
(SIGNATURE)	(SIGNATURE)	(SIGNATURE)	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Y
(SIGNATURE)	(SIGNATURE)	(SIGNATURE)	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? N
(SIGNATURE)	(SIGNATURE)	(SIGNATURE)	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Y
(SIGNATURE)	(SIGNATURE)	(SIGNATURE)	SIGNATURE:  TITLE: Analyst DATE: 9/24/96

9609391

M P D S Services, Inc.

CHAIN OF CUSTODY

SAMPLER HAIG KEVORK			UNOCAL S/S # 5760 CITY: SAN LORENZO					ANALYSES REQUESTED							TURN AROUND TIME: REGULAR		
WITNESSING AGENCY			ADDRESS: 376 LEWELLING BLVD					TPH-GAS BTEX	TPH-DIESEL	TOG	8010						REMARKS
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION										
ES1	9/20/96		✓			1 VOA		✓								6091796	
ES2	↓		✓			↓		✓								6091797	
ES3	↓		✓			↓		✓								6091798	

RELINQUISHED BY: <i>[Signature]</i>	DATE/TIME 9/24/96 12:10	RECEIVED BY: <i>[Signature]</i>	THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:			
(SIGNATURE)		(SIGNATURE)	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? <i>Y</i>			
(SIGNATURE)	9/24/96 12:51	(SIGNATURE)	2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? <i>Y</i>			
(SIGNATURE)		(SIGNATURE)	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? <i>N</i>			
(SIGNATURE)		(SIGNATURE)	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? <i>Y</i>			
(SIGNATURE)		(SIGNATURE)	SIGNATURE: <i>[Signature]</i>	TITLE: <i>Analyst</i>	DATE: <i>9/29/96</i>	

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: #5760 - San Lorenzo DATE & TIME SAMPLED: 9/20/96 3:00 P.M. A.M.

376 LEWELLING FIELD TECHNICIAN HAIG KEVORK

PURGE METHOD PUMP DATE(S) PURGED 9/20/96

WELL NUMBER U-6

WATER LEVEL-INITIAL 15.06 SAMPLING METHOD BAIL

WATER LEVEL-FINAL 15.29 CONTAINERS 3 VOA'S

WELL DEPTH 28.28 PRESERVATIVES HCl

WELL CASING VOLUME 2.25 †CASING DIAMETER 2"

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY (µmhos/cm)x100 (± 10% of TOTAL)	pH (± 0.2)
2:30	0	73.4	11.32	7.21
↓	2.5	72.6	8.89	7.08
↓	4.5	72.3	8.36	7.02
↓	6.5	71.7	8.12	7.02 6.96
2:45	9	71.9	7.85	6.93

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87

PURGING/SAMPLING DATA SHEET

SAMPLING LOCATION: 5760 - San Lorenzo DATE & TIME SAMPLED: 9/20/96 2:15 P.M. A.M.

376 LEWELLING FIELD TECHNICIAN: HAIG KEVORK

PURGE METHOD: PUMP DATE(S) PURGED: 9/20/96

WELL NUMBER: U-9

WATER LEVEL-INITIAL: 14.92 SAMPLING METHOD: BAIL

WATER LEVEL-FINAL: 15.10 CONTAINERS: 3 VOA'S

WELL DEPTH: 28.20 PRESERVATIVES: HCl

WELL CASING VOLUME: 2.26 †CASING DIAMETER: 2"11

TIME	GALLONS PURGED	TEMPERATURE (°F) (± 1°F)	ELECTRICAL CONDUCTIVITY ([μmhos/cm]x100) (± 10% of TOTAL)	pH (± 0.2)
1:50	0	73.8	11.83	7.21
↓	2.5	71.9	10.67	7.18
↓	4.5	71.3	10.58	7.12
↓	6.5	70.6	10.53	7.11
2:00	9	70.2	10.54	7.12

† Correction Factors:

Well Diameter	Factor
2"	0.17
3"	0.37
4"	0.65
4.5"	0.82
6"	1.46
8"	2.6
12"	5.87