PACIFIC
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PROTECTION

97 MAR 10 PM 4:42

Quarterly Groundwater Monitoring Report and Remedial System Performance Evaluation Fourth Quarter 1996

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Prepared for

Mr. Michael Whelan
ARCO Products Company

March 7, 1997

Prepared by

Pacific Environmental Group, Inc.
2025 Gateway Place, Suite 440
San Jose, California 95110

Project 330-006.2H

Shaw Garakani
Project Engineer

Michael Hurd
Senior Geologist
CHG 0068

REGISTERED GEOLOGIST
MICHAEL HURD
No. 0068
CERTIFIED
HYDROGEOLOGIST
EXP. 9/98
STATE OF CALIFORNIA

Date: March 7, 1997
Quarter: 4Q96

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 0608 Address: 17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

ARCO Environmental Engineer: Michael Whelan
Consulting Co./Contact Person: Pacific Environmental Group, Inc./Gary P. Pestana
Consultant Project No.: 330-006.2H
Primary Agency/Regulatory ID No.: Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER (Fourth - 1996):

1. Submitted third quarter 1996 quarterly monitoring report.
2. Performed fourth quarter 1996 groundwater monitoring event.
3. Prepared fourth quarter 1996 groundwater monitoring report.
4. Replaced depleted ORCs in Wells E-1A, MW-5, and MW-10.
5. Continued intrinsic bioremediation monitoring program.
6. Continued quarterly payments to homeowners for not using domestic irrigation wells.
7. Continued homeowner quarterly monitoring results notification program.

WORK PROPOSED FOR NEXT QUARTER (First - 1997):

1. Submit fourth quarter 1996 quarterly monitoring report.
2. Perform first quarter 1997 groundwater monitoring event.
3. Prepare first quarter 1997 groundwater monitoring report.
4. Continue intrinsic bioremediation monitoring program. → why?
5. Continue quarterly payments to homeowners for not using domestic irrigation wells.
6. Continue homeowner quarterly monitoring results notification program.
7. Replace depleted ORCs as necessary.
8. Resume quarterly sampling at Wells E-1A, MW-5, and MW-10.

Current Phase of Project:	Monitoring/Bioremediation Monitoring & Enhancement	(Assmnt, Remed., etc.)
Frequency of Groundwater Sampling:	Quarterly	(Quarterly, etc.)
Frequency of Groundwater Monitoring:	Quarterly	(Monthly, etc.)
Is Free Product (FP) Present On-Site:	No	(Yes/No)
FP Recovered this Quarter:	None	(gallons)
Cumulative FP Recovered to Date:	None	(gallons)
Bulk Soil Removed This Quarter:	None	(cubic yards)
Bulk Soil Removed to Date:	200	(cubic yards)
Current Remediation Techniques:	Bioremediation Enhancement	(SVE/Sparge/FP Removal, etc.)
Approximate Depth to Groundwater:	9.3 to 13.4	(Measure Feet)
Groundwater Gradient:	West	(Direction)
	0.04	(Magnitude)
TPPH-g/Benzene Removed to Date:	0.0/0.0	(gallons)
Cumulative TPPH-g/Benzene Removed:	0.8/0.04	(gallons)

DISCUSSION:

- Hydrocarbon concentrations are within historical levels.
- Intrinsic bioremediation enhancement study is in progress.
- Frequency of groundwater sampling at Wells MW-5, MW-10, and RW-1 will be changed back to quarterly, per the Alameda County Health Care Services Agency.

ATTACHMENTS:

- Table 1 - Groundwater Sampling Schedule
- Table 2 - Groundwater Elevation and Analytical Data - Groundwater Monitoring Wells
- Table 3 - Groundwater Analytical Data - Domestic Irrigation Wells
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPPH-g/Benzene Concentration Map
- Attachment A - Historical Liquid Surface Elevation and Groundwater Analytical Data Tables
- Attachment B - Field and Laboratory Procedures
- Attachment C - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment D - Remedial System Performance Evaluation

cc: Ms. Amy Leech, Alameda County Health Care Services Agency
Mr. Ron Sykora/Mr. Robert L. Webster, David D. Bohannon Organization
Mr. Kevin Graves, Regional Water Quality Control Board - San Francisco Bay Region

Table 1
Groundwater Sampling Schedule

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
MW-5	a	a	a	a	Quarterly
MW-7	a	a	a	a	Quarterly
MW-8	a	a	a	a	Quarterly
MW-9	a	a	a	a	Quarterly
MW-10	a	a	a	a	Quarterly
MW-11	a	a	a	a	Quarterly
E-1A	a	a	a	a	Quarterly
MW-13	a	a	a	a	Quarterly
MW-14	a	a	a	a	Quarterly
MW-15	a	a	a	a	Quarterly
MW-16	a	a	a	a	Quarterly
MW-17	----------Destroyed----------				
MW-18	a	a	a	a	Quarterly
MW-19	a	a	a	a	Quarterly
MW-20	----------Destroyed----------				
MW-21	a	a	a	a	Quarterly
MW-22	a	a	a	a	Quarterly
MW-23	a	a	a	a	Quarterly
MW-24	a	a	a	a	Quarterly
MW-25	a	a	a	a	Quarterly
MW-26	a	a	a	a	Quarterly

Table 1 (continued)
Groundwater Sampling Schedule

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
Domestic Irrigation Wells					
590H	a	a	a	a	Quarterly
633H	a	a	a	a	Quarterly
634H	a	a	a	a	Quarterly
642H	a	a	a	a	Quarterly
675H	a	a	a	a	Quarterly
17197 VM	a	a	a	a	Quarterly
17200 VM	----------Destroyed----------				
17203 VM	a	a	a	a	Quarterly
17302 VM	a	a	a	a	Quarterly
17348 VE	a	a	a	a	Quarterly
17349 VM	a	a	a	a	Quarterly
17371 VM	a	a	a	a	Quarterly
17372 VM	a	a	a	a	Quarterly
17393 VM	a	a	a	a	Quarterly

a. Samples analyzed for TPPH-g, BTEX compounds, and MtBE according to EPA Methods 8015 (modified) and 8020.

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MtBE)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)
MW-5 †	03/14/96	a	33.99	9.75	24.24	1,600	30	<10	13	<10	NA
	05/29/96	b		11.48	22.51	240	2.4	<0.50	<0.50	<0.50	NA
	08/28/96			12.58	21.41	250	210	8.0	<1.0	<1.0	210
	11/25/96	d		12.07	21.92	<500	<5.0	<5.0	<5.0	<5.0	280
MW-7	03/15/96	a	34.40	9.73	24.67	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	b		11.60	22.80	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96	c		12.63	21.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96	d		12.10	22.30	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-8	03/14/96	a	32.79	8.90	23.89	670	5.1	<2.0	<2.0	<2.0	NA
	05/29/96	b		10.58	22.21	490	<1.0	<1.0	0.91	0.91	NA
	08/28/96			11.30	21.49	680	29	2.1	3.0	2.4	80
	11/25/96			10.80	21.99	620	1.2	2.6	2.9	2.0	46
MW-9	03/15/96	a	32.11	7.65	24.46	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		9.67	22.44	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96	c		10.78	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			10.24	21.87	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-10 †	03/14/96	a	31.67	7.78	23.89	870	35	<5.0	5.2	7.0	NA
	05/29/96	b		10.00	21.67	800	<1.0	<1.0	<1.0	<1.0	NA
	08/28/96			10.93	20.74	NS	NS	NS	NS	NS	NS
	11/25/96	d		10.45	21.22	1,100	6.0	4.9	3.8	9.5	200
MW-11	03/14/96	a	32.54	8.60	23.94	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		10.55	21.99	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			11.52	21.02	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			11.00	21.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5
E-1A †	03/14/96	a	33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA
(MW-12)	05/29/96	b		11.50	21.56	1,400	410 √	18	55	5.5	NA
	08/28/96			11.70	21.36	NS	NS	NS	NS	NS	NS
	11/25/96	d		11.18	21.88	4,300	13	<5.0	100	20	220
MW-13	03/15/96	a	35.42	10.90	24.52	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	b		12.90	22.52	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			13.89	21.53	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			13.41	22.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-14	03/15/96	a	30.46	6.63	23.83	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		8.83	21.63	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			9.83	20.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			9.33	21.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-15	03/13/96	a	31.41	8.13	23.28	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	b		10.30	21.11	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			11.30	20.11	<50	<0.50	<0.50	<0.50	<0.50	5.3
	11/25/96			10.83	20.58	<50	<0.50	<0.50	<0.50	<0.50	12
MW-16	03/13/96	a	31.39	8.62	22.77	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		10.90	20.49	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			11.84	19.55	<50	<0.50	<0.50	<0.50	<0.50	89
	11/25/96			11.32	20.07	<50	<0.50	<0.50	<0.50	<0.50	66

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MtBE)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)
MW-17					Well Destroyed						
MW-18	03/13/96	a	29.70	7.53	22.17	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		9.88	19.82	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			10.82	18.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			10.18	19.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-19	03/13/96	a	29.02	7.06	21.96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		9.42	19.60	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			10.33	18.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			9.67	19.35	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-20					Well Destroyed						
MW-21	03/13/96	a	28.72	7.58	21.14	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	b		9.85	18.87	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			10.75	17.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			10.00	18.72	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-22	03/13/96	a	29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		10.33	18.96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			11.28	18.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			10.61	18.68	<50	<0.50	<0.50	<0.50	<0.50	3
	12/30/96			10.61	18.68	NA	NA	NA	NA	NA	3.3 e
MW-23	03/13/96	a	30.99	9.13	21.86	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		11.37	19.62	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			12.31	18.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			11.76	19.23	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-24	01/15/96	a	34.38	10.10	24.28	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		12.25	22.13	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96			13.28	21.10	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			12.71	21.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5
MW-25	03/14/96	a	34.12	9.61	24.51	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	b		11.30	22.82	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96	c		12.32	21.80	<50	<0.50	<0.50	<0.50	<0.50	51
	11/25/96			11.83	22.29	<50	<0.50	<0.50	<0.50	<0.50	110
MW-26	03/15/96	a	33.71	9.38	24.33	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/28/96	b		11.57	22.14	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/28/96	c		12.55	21.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	11/25/96			12.03	21.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5

MtBE = Methyl tert-butyl ether
MSL = Mean sea level
TOB = Top of box
ppb = Parts per billion
a. All wells gauged on March 13, 1996.
b. All wells gauged on May 28, 1996.
c. Well sampled on August 29, 1996.
d. Well sampled on November 26, 1996.
e. MtBE result confirmed by EPA Method 8260.
< = Less than laboratory detection limit.
NA = Not analyzed
NS = Not sampled
† = Wells containing ORC units

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MtBE)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)
590 H	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96 a	NS	NS	NS	NS	NS	NA
	11/26/96	NS	NS	NS	NS	NS	NS
633 H	03/14/96	480	10	11	1.8	140	NA
	05/13/96 b	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	3.70
	12/30/96	~~NA~~ ND	~~NA~~ ND	NA	NA	NA	4.9 c
634 H	03/13/96 a	NS	NS	NS	NS	NS	NA
	05/27/96 a	NS	NS	NS	NS	NS	NA
	08/29/96 a	NS	NS	NS	NS	NS	NA
	11/26/96	NS	NS	NS	NS	NS	NS
642 H	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5
675 H	03/13/96 a	NS	NS	NS	NS	NS	NA
	05/27/96 a	NS	NS	NS	NS	NS	NA
	08/29/96 d	NS	NS	NS	NS	NS	NA
	11/26/96	NS	NS	NS	NS	NS	NS
17197 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5
17200 VM	03/15/96	730	<1.0	<1.0	1.5	1.7	NA
	05/27/96	200	<0.50	<0.50	1.4	1.8	NA
	08/29/96	---------- Well Destroyed ----------					
17203 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5
17302 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5
17348 VE	03/13/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	---------- Well Dry ----------					
	08/29/96	---------- Well Dry ----------					
	11/26/96	---------- Well Dry ----------					

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MtBE)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)
17349 VM	03/15/96	1,700	<2.0	<2.0	2.5	13	NA
	05/27/96	320	4.2	1.3	0.95	0.71	NA
	08/29/96	410	7.5	<0.50	<0.50	1.1	NA
	11/26/96	300	<1.0	1.7	<1.0	2.1	55 *
17371 VM	03/13/96 e	NS	NS	NS	NS	NS	NA
	05/27/96 e	NS	NS	NS	NS	NS	NA
	08/29/96 e	NS	NS	NS	NS	NS	NA
	11/26/96	NS	NS	NS	NS	NS	NS
17372 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5
17393 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5

TPPH = Total purgeable petroleum hydrocarbons
MtBE = Methyl tert-butyl ether
ppb = Parts ber billion
H = Hacienda Avenue
< = Less than laboratory detection limit stated at right.
NA = Not analyzed
NS = Not sampled
a. Owner not available to approve sampling access; well not sampled.
b. Well resampled to confirm data of March 14, 1996.
c. MtBE result confirmed by EPA Method 8260.
d. Pumping equipment obstructing sampling access; well not sampled.
e. Access denied by owner; well not sampled.
VM = Via Magdalena
VE = Via Encinas
Homeowners are contacted one week prior to sampling event.
* = MtBE data maybe anamolous; unable to confirm with EPA Method 8260.

→ 7/22/97 - Pete Shaw - 1st Q97 got 57 ppb & confirmed w/ 8260!

N

VIA MANZANAS

RESIDENTIAL

MW-20

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

19.0

19.5

20.0

20.5

21.0

21.5

22.0

MW-19
(19.35)

VIA MAGDALENA

CHURCH
AND SCHOOL

17200VM

MW-17

MW-14
(21.13)

MW-24
(21.67)

RESIDENTIAL

MW-21
(18.72)

VIA MEDIA

VIA FLORES

17197VM

MW-18
(19.52)

17203VM

17302VM

17372VM

MW-26
(21.68)

RESTAURANT

MW-9
(21.87)

(21.88) E-1A

(21.22)
MW-10

MW-16
(20.07)

633H

SP-2/V-5

(21.99) MW-8

SP-1/V-4

590H

MW-5
(21.92)

MW-25
(22.29)

MW-7
(22.30)

17349VM

17371VM

MW-15
(20.58)

MW-11
(21.54)

MW-13
(22.01)

LEY

RESIDENTIAL

SHOPS

MW-22
(18.68)

VIA ENCINAS COURT

17393VM

634H

642H

17348VE

MW-23
(19.23)

675H

RESIDENTIAL

VIA ALAMO

HACIENDA AVENUE

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

SP-1/V-4 △ DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

MW-20 Ø DESTROYED WELL LOCATION AND DESIGNATION

590H ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION

E-1A ◉ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

(21.13) GROUNDWATER ELEVATION IN FEET - MSL, 11-25-96

20.0 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 11-25-96

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.04

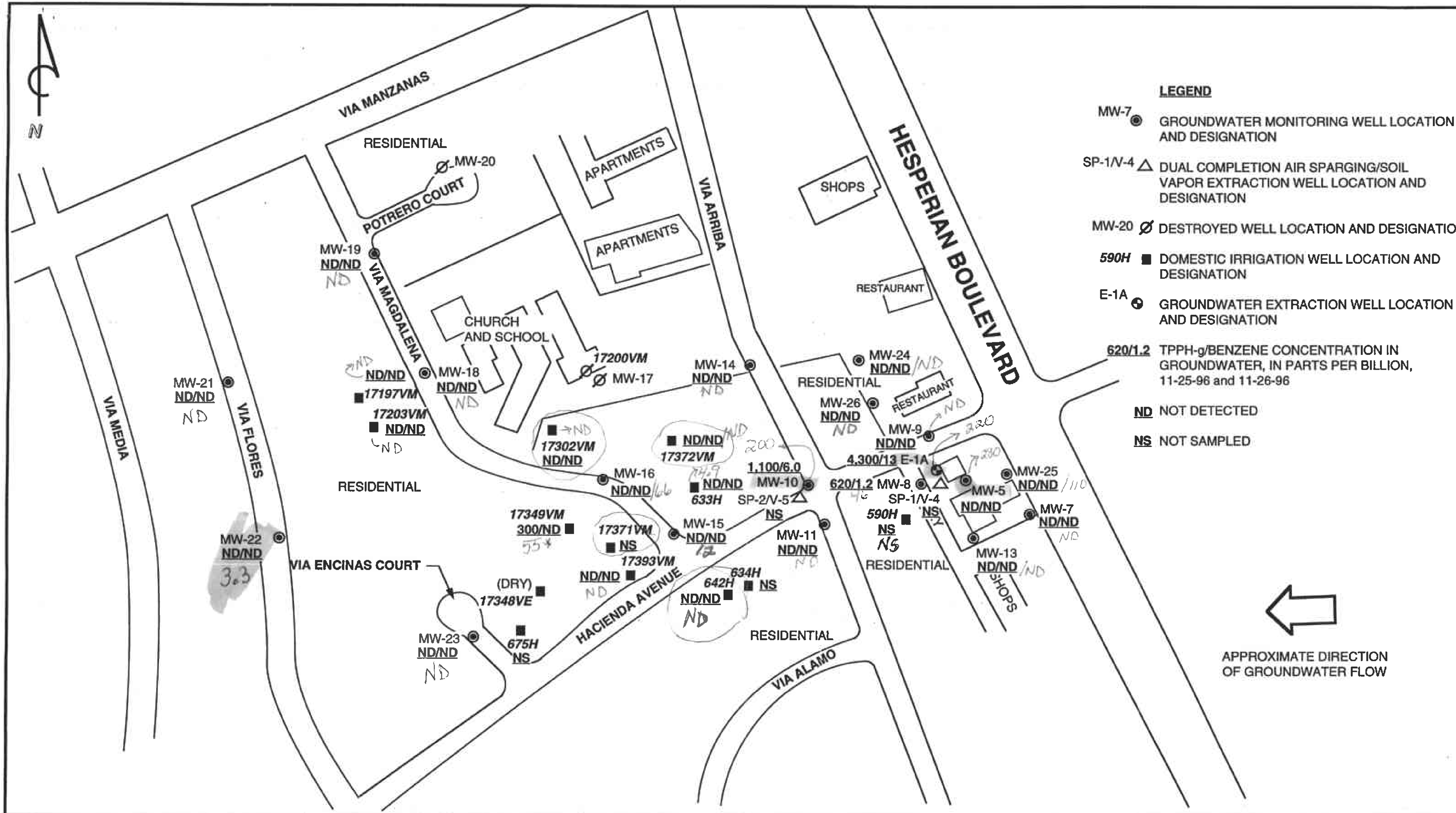
PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

ARCO SERVICE STATION 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:
1
PROJECT:
330-006.2H


N
VIA MANZANAS
RESIDENTIAL
MW-20
POTRERO COURT
APARTMENTS
APARTMENTS
VIA ARRIBA
SHOPS
HESPERIAN BOULEVARD
RESTAURANT
MW-19
ND/ND
VIA MAGDALENA
CHURCH AND SCHOOL
17200VM
MW-17
MW-18
ND/ND
ND/ND
17197VM
17203VM
ND/ND
MW-21
ND/ND
VIA MEDIA
VIA FLORES
MW-14
ND/ND
MW-24
ND/ND
RESIDENTIAL
RESTAURANT
MW-26
ND/ND
MW-9
ND/ND
17302VM
ND/ND
ND/ND
17372VM
1,100/6.0
MW-10
4,300/13 E-1A
620/1.2 MW-8
SP-1/V-4
NS
MW-5
ND/ND
MW-25
ND/ND
MW-7
ND/ND
RESIDENTIAL
MW-16
ND/ND
ND/ND
633H
SP-2/V-5
NS
590H
NS
MW-15
ND/ND
MW-11
ND/ND
MW-13
ND/ND
SHOPS
17349VM
300/ND
17371VM
NS
17393VM
ND/ND
634H
642H
NS
ND/ND
MW-22
ND/ND
VIA ENCINAS COURT
(DRY)
17348VE
HACIENDA AVENUE
RESIDENTIAL
MW-23
ND/ND
675H
NS
VIA ALAMO
LEGEND
MW-7 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
SP-1/V-4 DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
MW-20 DESTROYED WELL LOCATION AND DESIGNATION
590H DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION
E-1A GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION
620/1.2 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 11-25-96 and 11-26-96
ND NOT DETECTED
NS NOT SAMPLED
APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

ARCO SERVICE STATION 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

— MTBE
* not able to confirm

TPPH-g/BENZENE CONCENTRATION MAP w/DRC

FIGURE: 2
PROJECT: 330-006.2H

ATTACHMENT A

HISTORICAL LIQUID SURFACE ELEVATION AND GROUNDWATER ANALYTICAL DATA TABLES

Table A-1
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-1	01/11/88	N/A	N/A	--	N/A
	06/14/88	----------	Well Destroyed	----------	
MW-2	07/05/85	N/A	N/A	--	N/A
	01/11/88	N/A	N/A	--	N/A
	06/14/88	----------	Well Destroyed	----------	
MW-3	01/11/88	33.27	N/A	--	N/A
	03/07/89		11.96	--	21.31
	06/21/89		12.85	--	20.42
	12/12/89		13.46	--	19.81
	03/29/90		13.21	--	20.06
	05/08/90		13.23	--	20.04
	06/22/90		N/A	--	N/A
	07/18/90	----------	Well Destroyed	----------	
MW-4	01/11/88	32.43	N/A	--	N/A
	09/12/88		N/A	--	N/A
	03/07/89		10.76	--	21.67
	06/21/89		11.96	--	20.47
	12/12/89		N/A	--	N/A
	03/29/90		11.72	0.01	20.71
	05/08/90		12.19	--	20.24
	06/22/90		N/A	--	N/A
	07/18/90	----------	Well Destroyed	----------	
MW-5	01/16/92	----------	Well Dry	----------	
	02/19/92	33.99	13.50	--	20.49
	03/17/92		11.90	--	22.09
	04/15/92		12.18	--	21.81
	05/14/92		12.78	--	21.21
	06/15/92	----------	Well Dry	----------	
	07/14/92	----------	Well Dry	----------	
	08/18/92	----------	Well Dry	----------	
	09/15/92	----------	Well Dry	----------	
	10/16/92	----------	Well Dry	----------	
	11/18/92	----------	Well Dry	----------	
	12/17/92		12.74	--	21.25
	01/19/93		10.92	--	23.07
	02/22/93		11.10	--	22.89
	03/15/93		11.13	--	22.86
	04/09/93		11.46	--	22.53
	05/13/93		12.19	--	21.80
	06/04/93		12.51	--	21.48
	06/15/93		12.59	--	21.40
	09/13/93		13.40	--	20.59
	12/28/93		13.25	--	20.74
	03/28/94		12.22	--	21.77
	06/13/94		12.54	--	21.45
	09/19/94		13.55	--	20.44
	12/19/94		12.43	--	21.56
	03/13/95		10.72	--	23.27
	05/30/95		11.88	--	22.11
	09/15/95		12.68	--	21.31
	11/27/95		13.00	--	20.99

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-6	06/21/89	32.95	12.48	--	20.47
(E-1)	12/12/89		13.16	--	19.79
	03/29/90		12.39	--	20.56
	05/08/90		12.93	--	20.02
	06/22/90		12.94	--	20.01
	07/18/90	----------	Well Destroyed	----------	
MW-7	01/16/92	34.40	13.33	--	21.07
	02/19/92		12.16	--	N/A
	03/17/92		11.86	--	22.54
	04/15/92		12.30	--	22.10
	05/14/92		13.04	--	21.36
	06/15/92		13.78	--	20.62
	07/14/92		14.20	--	20.20
	08/18/92		14.79	--	19.61
	09/15/92		15.12	--	19.28
	10/16/92		15.38	--	19.02
	11/18/92		15.10	--	19.30
	12/17/92		13.69	--	20.71
	01/19/93		10.92	--	23.48
	02/22/93		10.91	--	23.49
	03/15/93		11.13	--	23.27
	04/09/93		11.46	--	22.94
	05/13/93		12.22	--	22.18
	06/04/93		12.51	--	21.89
	06/15/93		12.66	--	21.74
	09/13/93		13.78	--	20.62
	12/28/93		13.43	--	20.97
	03/28/94		12.32	--	22.08
	06/13/94		12.70	--	21.70
	09/19/94		14.16	--	20.24
	12/19/94		12.32	--	22.08
	03/13/95		10.72	--	23.68
	05/30/95		11.68	--	22.72
	09/15/95		12.77	--	21.63
	11/27/95		13.01	--	21.39
MW-8	01/16/92	32.79	13.40	--	19.39
	02/19/92		11.26	--	21.53
	03/17/92		10.90	--	21.89
	04/15/92		11.35	--	21.44
	05/14/92		12.06	--	20.73
	06/15/92		12.83	--	19.96
	07/14/92		12.75	--	20.04
	08/18/92		13.83	--	18.96
	09/15/92		14.17	--	18.62
	10/16/92		14.51	--	18.28
	11/18/92		14.15	--	18.64
	12/17/92		12.68	--	20.11
	01/19/93		9.79	--	23.00
	02/22/93		9.95	--	22.84
	03/15/93		10.31	--	22.48
	04/09/93		10.47	--	22.32
	05/13/93		11.18	--	21.61
	06/04/93		11.47	--	21.32

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-8	06/15/93		11.62	--	21.17
(cont.)	09/13/93		12.70	--	20.09
	12/28/93		12.23	--	20.56
	03/28/94		11.28	--	21.51
	06/13/94		11.60	--	21.19
	09/19/94		13.07	--	19.72
	12/19/94		11.22	--	21.57
	03/13/95		9.66	--	23.13
	05/30/95		10.67	--	21.92
	09/15/95		11.67	--	21.12
	11/27/95		11.88	--	20.91
MW-9	01/16/92	32.11	12.45	--	19.66
	02/19/92		10.25	--	21.86
	03/17/92		10.01	--	22.10
	04/15/92		10.49	--	21.62
	05/14/92		11.19	--	20.92
	06/15/92		11.86	--	20.25
	07/14/92		12.28	--	19.83
	08/18/92		12.89	--	19.22
	09/15/92		13.28	--	18.83
	10/16/92		13.60	--	18.51
	11/18/92		13.24	--	18.87
	12/17/92		11.76	--	20.35
	01/19/93		8.99	--	23.12
	02/22/93		9.13	--	22.98
	03/15/93		9.48	--	22.63
	04/09/93		9.63	--	22.48
	05/13/93		10.35	--	21.76
	06/04/93		10.65	--	21.46
	06/15/93		10.81	--	21.30
	09/13/93		11.87	--	20.24
	12/28/93		11.61	--	20.50
	03/28/94		10.48	--	21.63
	06/13/94		10.80	--	21.31
	09/19/94		12.25	--	19.86
	12/19/94		10.40	--	21.71
	03/13/95		8.70	--	23.41
	05/30/95		10.01	--	22.10
	09/15/95		10.88	--	21.23
	11/27/95		11.13	--	20.98
MW-10	01/16/92	31.67	12.55	--	19.12
	02/19/92		10.50	--	21.17
	03/18/92		10.12	--	21.55
	04/15/92		10.59	--	21.08
	05/14/92		11.30	--	20.37
	06/15/92		11.93	--	19.74
	07/14/92		12.42	--	19.25
	08/18/92		13.03	--	18.64
	09/15/92		13.42	--	18.25
	10/16/92		13.74	--	17.93
	11/18/92		13.42	--	18.25
	12/17/92		11.94	--	19.73
	01/19/93		9.13	--	22.54

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-10	02/22/93		9.22	--	22.45
(cont.)	03/15/93		9.64	--	22.03
	04/09/93		9.75	--	21.92
	05/13/93		10.49	--	21.18
	06/04/93		10.78	--	20.89
	06/15/93		10.93	--	20.74
	09/13/93		12.01	--	19.66
	12/28/93		11.41	--	20.26
	03/28/94		10.60	--	21.07
	06/13/94		10.95	--	20.72
	09/19/94		12.37	--	19.30
	12/19/94		10.64	--	21.03
	03/13/95		8.93	--	22.74
	05/30/95		10.18	--	21.49
	09/15/95		11.05	--	20.62
	11/27/95		12.02	--	19.65
MW-11	01/16/92	32.54	13.28	--	19.26
	02/19/92		11.29	--	21.25
	03/17/92		10.81	--	21.73
	04/15/92		11.23	--	21.31
	05/14/92		11.96	--	20.58
	06/15/92		12.64	--	19.90
	07/14/92		13.08	--	19.46
	08/18/92		13.72	--	18.82
	09/15/92		14.13	--	18.41
	10/16/92		14.45	--	18.09
	11/18/92		14.11	--	18.43
	12/17/92		12.69	--	19.85
	01/19/93		9.91	--	22.63
	02/22/93		9.95	--	22.59
	03/15/93		10.30	--	22.24
	04/09/93		10.42	--	22.12
	05/13/93		11.16	--	21.38
	06/04/93		11.44	--	21.10
	06/15/93		11.59	--	20.95
	09/13/93		12.68	--	19.86
	12/28/93		12.05	--	20.49
	03/28/94		11.23	--	21.31
	06/13/94		11.62	--	20.92
	09/19/94		13.05	--	19.49
	12/19/94		11.45	--	21.09
	03/13/95		9.70	--	22.84
	05/30/95		10.89	--	21.65
	09/15/95		11.71	--	20.83
	11/27/95		12.70	--	19.84
E-1A	01/16/92	33.06	23.68	--	9.38
(MW-12)	02/19/92		18.71	--	14.35
	03/17/92		23.10	--	9.96
	04/15/92		20.54	--	12.52
	05/14/92		23.09	--	9.97
	06/15/92		23.72	--	9.34
	07/14/92		13.25	--	19.81
	08/18/92		23.73	--	9.33

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
E-1A	09/15/92		23.62	--	9.44
(MW-12)	10/16/92		23.78	--	9.28
(cont.)	11/18/92		23.80	--	9.26
	12/17/92		22.65	--	10.41
	01/19/93		23.65	--	9.41
	02/22/93		23.70	--	9.36
	03/15/93		22.92	--	10.14
	04/09/93		22.50	--	10.56
	05/13/93		20.40	--	12.66
	06/04/93		18.74	--	14.32
	06/15/93		20.00	--	13.06
	09/13/93		19.50	--	13.56
	12/28/93		20.35	--	12.71
	03/28/94		18.13	--	14.93
	06/13/94		11.60	--	21.46
	09/19/94		19.61	--	13.45
	12/19/94		19.80	--	13.26
	03/13/95		21.75	--	11.31
	05/30/95		17.38	--	15.68
	09/15/95		11.83	--	21.23
	11/27/95		13.20	--	19.86
MW-13	01/16/92	35.42	15.70	--	19.72
	02/19/92		13.60	--	21.82
	03/17/92		13.20	--	22.22
	04/15/92		13.64	--	21.78
	05/14/92		14.34	--	21.08
	06/15/92		15.13	--	20.29
	07/14/92		15.45	--	19.97
	08/18/92		16.15	--	19.27
	09/15/92		16.51	--	18.91
	10/16/92		16.81	--	18.61
	11/18/92		16.50	--	18.92
	12/17/92		15.07	--	20.35
	01/19/93		12.40	--	23.02
	02/22/93		12.35	--	23.07
	03/15/93		12.69	--	22.73
	04/09/93		12.85	--	22.57
	05/13/93		13.55	--	21.87
	06/04/93		13.83	--	21.59
	06/15/93		13.97	--	21.45
	09/13/93		15.09	--	20.33
	12/28/93		14.47	--	20.95
	03/28/94		13.64	--	21.78
	06/13/94		13.98	--	21.44
	09/19/94		15.45	--	19.97
	12/19/94		13.60	--	21.82
	03/13/95		12.06	--	23.36
	05/30/95		13.25	--	22.17
	09/15/95		14.04	--	21.38
	11/27/95		14.31	--	21.11
MW-14	01/16/92	30.46	11.34	--	19.12
	02/19/92		9.32	--	21.14
	03/17/92		9.04	--	21.42

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-14	06/15/92		10.83	--	19.63
(cont.)	09/15/92		12.27	--	18.19
	12/17/92		10.69	--	19.77
	03/15/93		8.70	--	21.76
	06/15/93		9.90	--	20.56
	09/13/93		10.89	--	19.57
	12/28/93		10.24	--	20.22
	03/28/94		9.55	--	20.91
	06/13/94		9.92	--	20.54
	09/19/94		11.25	--	19.21
	12/19/94		9.52	--	20.94
	03/13/95		7.77	--	22.69
	05/30/95		9.18	--	21.28
	09/15/95		10.00	--	20.46
	11/27/95		10.97	--	19.49
MW-15	01/16/92	31.41	12.80	--	18.61
	02/19/92		10.85	--	20.56
	03/18/92		10.41	--	21.00
	06/15/92		12.19	--	19.22
	09/15/92		13.69	--	17.72
	12/17/92		12.26	--	19.15
	03/15/93		10.05	--	21.36
	06/15/93		11.32	--	20.09
	09/13/93		12.35	--	19.06
	12/28/93		11.76	--	19.65
	03/28/94		10.95	--	20.46
	06/13/94		11.34	--	20.07
	09/19/94		12.68	--	18.73
	12/19/94		11.03	--	20.38
	03/13/95		9.32	--	22.09
	05/30/95		10.57	--	20.84
	09/15/95		11.44	--	19.97
	11/27/95		12.32	--	19.09
MW-16	01/16/92	31.39	13.09	--	18.30
	02/19/92		10.99	--	20.40
	03/18/92		10.85	--	20.54
	06/15/92		12.64	--	18.75
	09/15/92		14.07	--	17.32
	12/17/92		12.56	--	18.83
	03/15/93		10.60	--	20.79
	06/15/93		11.86	--	19.53
	09/13/93		12.83	--	18.56
	12/28/93		12.14	--	19.25
	03/28/94		11.46	--	19.93
	06/13/94		11.87	--	19.52
	09/19/94		13.15	--	18.24
	12/19/94		11.36	--	20.03
	03/13/95		9.60	--	21.79
	05/30/95		11.17	--	20.22
	09/15/95		11.97	--	19.42
	11/27/95		12.85	--	18.54

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-17	01/16/92	32.43	13.92	--	18.51
	02/19/92		11.65	--	20.78
	03/18/92		11.71	--	20.72
	06/15/92		13.50	--	18.93
	09/15/92		14.95	--	17.48
	12/17/92		13.34	--	19.09
	03/15/93		11.47	--	20.96
	06/15/93		12.69	--	19.74
	09/13/93		13.66	--	18.77
	12/28/93		12.96	--	19.47
	03/28/94		12.33	--	20.10
	06/13/94		12.71	--	19.72
	09/19/94		14.00	--	18.43
	12/19/94		12.27	--	20.16
	03/13/95		10.64	--	21.79
	05/30/95		12.02	--	20.41
	09/15/95		12.83	--	19.60
	11/27/95		13.00	--	19.43
MW-18	03/18/92	29.70	9.73	--	19.97
	06/15/92		11.50	--	18.20
	09/15/92		12.90	--	16.80
	12/17/92		11.21	--	18.49
	03/15/93		9.62	--	20.08
	06/15/93		10.85	--	18.85
	09/13/93		11.75	--	17.95
	12/28/93		11.06	--	18.64
	03/28/94		10.43	--	19.27
	06/13/94		10.80	--	18.90
	09/19/94		12.03	--	17.67
	12/19/94		10.30	--	19.40
	03/13/95		8.52	--	21.18
	05/30/95		10.21	--	19.49
	09/15/95		10.96	--	18.74
	11/27/95		11.77	--	17.93
MW-19	03/18/92	29.02	9.22	--	19.80
	06/15/92		10.94	--	18.08
	09/15/92		12.38	--	16.64
	12/17/92		10.51	--	18.51
	03/15/93		9.23	--	19.79
	06/15/93		10.28	--	18.74
	09/13/93		11.16	--	17.86
	12/28/93		10.58	--	18.44
	03/28/94		9.92	--	19.10
	06/13/94		10.26	--	18.76
	09/19/94		11.45	--	17.57
	12/19/94		9.72	--	19.30
	03/13/95		8.04	--	20.98
	05/30/95		9.76	--	19.26
	09/15/95		10.40	--	18.62
	11/27/95		11.22	--	17.80

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-20	03/18/92	29.54	9.49	--	20.05
	06/15/92		11.11	--	18.43
	09/15/92		12.50	--	17.04
	12/17/92		10.74	--	18.80
	03/15/93		9.44	--	20.10
	06/05/93		10.45	--	19.09
	10/11/93	----------	Well Destroyed	----------	
MW-21	03/18/92	28.72	9.55	--	19.17
	06/15/92		11.30	--	17.42
	09/15/92		12.78	--	15.94
	12/17/92		10.80	--	17.92
	03/15/93		9.59	--	19.13
	06/15/93		10.77	--	17.95
	09/13/93		11.63	--	17.09
	12/28/93		11.02	--	17.70
	03/28/94		10.30	--	18.42
	06/13/94		10.69	--	18.03
	09/19/94		11.89	--	16.83
	12/19/94		10.07	--	18.65
	03/13/95		8.34	--	20.38
	05/30/95		10.15	--	18.57
	09/15/95		10.88	--	17.84
	11/27/95		11.61	--	17.11
MW-22	03/17/92	29.29	10.05	--	19.24
	06/15/92		11.84	--	17.45
	09/15/92		13.27	--	16.02
	12/17/92		11.58	--	17.71
	03/15/93		10.03	--	19.26
	06/15/93		11.22	--	18.07
	09/13/93		12.17	--	17.12
	12/28/93		11.34	--	17.95
	03/28/94		10.78	--	18.51
	06/13/94		11.24	--	18.05
	09/19/94		12.43	--	16.86
	12/19/94		10.62	--	18.67
	03/13/95		8.78	--	20.51
	05/30/95		10.61	--	18.68
	09/15/95		11.40	--	17.89
	11/27/95		12.20	--	17.09
MW-23	03/17/92	30.99	11.20	--	19.79
	06/15/92		12.94	--	18.05
	09/15/92		14.40	--	16.59
	12/17/92		13.01	--	17.98
	03/15/93		11.01	--	19.98
	06/15/93		12.26	--	18.73
	09/13/93		13.23	--	17.76
	12/28/93		12.57	--	18.42
	03/28/94		11.86	--	19.13
	06/13/94		12.26	--	18.73
	09/19/94		13.55	--	17.44
	12/19/94		11.81	--	19.18
	03/13/95		10.05	--	20.94

Table A-1 (continued)
Historical Liquid Surface Elevation Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-23	05/30/95		11.67	--	19.32
(cont.)	09/15/95		12.40	--	18.59
	11/27/95		13.24	--	17.75
MW-24	06/15/93	34.38	13.39	--	20.99
	09/13/93		14.38	--	20.00
	12/28/93		13.83	--	20.55
	03/28/94		13.02	--	21.36
	06/13/94		13.37	--	21.01
	09/19/94		14.72	--	19.66
	12/19/94		13.05	--	21.33
	03/13/95		11.10	--	23.28
	05/30/95		12.62	--	21.76
	09/15/95		13.47	--	20.91
	11/27/95		13.71	--	20.67
MW-25	04/09/93	34.12	11.18	--	22.94
	06/15/93		12.35	--	21.77
	09/13/93		13.45	--	20.67
	12/28/93		12.89	--	21.23
	03/28/94		12.02	--	22.10
	06/13/94		12.39	--	21.73
	09/19/94		13.82	--	20.30
	12/19/94		12.00	--	22.12
	03/13/95		10.30	--	23.82
	05/30/95		11.58	--	22.54
	09/15/95		12.42	--	21.70
	11/27/95		12.74	--	21.38
MW-26	06/15/93	33.71	12.66	--	21.05
	09/13/93		13.70	--	20.01
	12/28/93		13.06	--	20.65
	03/28/94		12.30	--	21.41
	06/13/94		12.65	--	21.06
	09/19/94		14.05	--	19.66
	12/19/94		12.39	--	21.32
	03/13/95		10.48	--	23.23
	05/30/95		11.93	--	21.78
	09/15/95		12.75	--	20.96
	11/27/95		13.00	--	20.71

SPH = Separate-phase hydrocarbons
MSL = Mean sea level
TOB = Top of box
N/A = Not available
Well elevations are measured from set mark at top of vault box.
For groundwater elevation data prior to January 1992, see previous groundwater monitoring reports.

Table A-2
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-1	01/11/88		300	20	10	50	80
	06/14/88		Well Destroyed				
MW-2	07/05/85	a	32,000	1,000	690	N/A	1,500
	01/11/88		3,300	804	115	168	166
	06/14/88		Well Destroyed				
MW-3	01/11/88		1,800	20	20	80	60
	03/07/89		150,000	4,600	5,200	5,600	13,000
	06/21/89		63,000	2,700	5,800	3,300	12,000
	12/12/89		Well Dry				
	03/29/90	b	1,100,000	13,000	60,000	17,000	91,000
	06/22/90		Well Dry				
	07/18/90		Well Destroyed				
MW-4	01/11/88		62,000	2,700	7,900	850	5,200
	09/12/88		Separate-Phase Hydrocarbon Sheen				
	03/07/89		84,000	2,400	3,400	2,500	7,600
	06/21/89		31,000	400	800	200	1,500
	12/12/89		Well Dry				
	03/29/90		0.01 foot of Separate-Phase Hydrocarbon				
	06/22/90		Well Dry				
	07/18/90		Well Destroyed				
MW-5	01/11/88		31,000	4,000	2,700	3,800	5,500
	03/07/89		1,300	340	ND	140	50
	06/21/89		1,100	200	ND	130	40
	12/12/89		Well Dry				
	03/29/90		Well Dry				
	06/22/90		Well Dry				
	09/19/90		Well Dry				
	12/27/90		Well Dry				
	03/21/91		Well Dry				
	06/26/91		Well Dry				
	09/24/91		Well Dry				
	12/19/91		Well Dry				
	03/18/92		11,000	110	2	410	150
	06/15/92		Well Dry				
	09/16/92		Well Dry				
	12/22/92		960	220	6.5	4	2
	03/17/93		2,600	180	1.4	28	1.2
	06/17/93		2,500	450	7.5	55	<5
	09/17/93		1,400	230	<5.0	6.7	<5.0
	12/29/93		690	38	2.1	2.7	3.8
	03/30/94		1,400	30	<5	<5	<5
	06/14/94		1,700	42	<5	<5	<5
	09/20/94		500	18	<0.5	<0.5	0.52
	12/20/94		840	19	2.2	1.1	2.3
	03/14/95		2,300	16	<5.0	8.6	<5.0
	06/01/95		750	13	<0.50	1.1	<0.50
	09/15/95		550	11	<1.0	<1.0	<1.0
	11/28/95		Well Dry				

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-6	06/21/89	1,700	170	170	85	290
(E-1)	12/12/89	500	26	7	8	18
	03/29/90	130	14	9	4	11
	06/22/90	150	15	5	4	13
	07/18/90	---------- Well Destroyed ----------				
MW-7	04/13/90	<50	<0.3	<0.3	<0.3	<0.3
	06/22/90	<50	0.5	1	0.6	3
	09/19/90	<50	<0.3	<0.3	<0.3	<0.3
	12/27/90	69	<0.3	0.3	0.4	2
	03/21/91	<30	<0.3	<0.3	<0.3	<0.3
	06/26/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/17/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
	03/30/94	<50	<0.5	<0.5	<0.5	<0.5
	06/14/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/14/95	<50	<0.50	<0.50	<0.50	<0.50
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/15/95	<50	<0.50	<0.50	<0.50	<0.50
	11/28/95	<50	<0.50	<0.50	<0.50	<0.50
MW-8	04/13/90	4,900	350	16	450	33
	06/22/90	3,700	370	12	330	28
	09/19/90	140	4	3	3	3
	12/27/90	1,200	7	0.3	53	<0.3
	03/21/91	540	8.8	<6.0	21	9.6
	06/26/91	2,100	290	<6.0	56	<6.0
	09/24/91	260	51	0.34	7.9	<0.3
	12/19/91	5,300	300	<3.0	21	4.8
	03/17/92	9,200	370	3	48	4.9
	06/17/92	3,300	460	2.7	63	6.9
	09/16/92	1,500	58	<0.5	6.1	4.5
	12/22/92	3,600	410	56	62	4.4
	03/18/93	3,800	61	<0.5	11	1.2
	06/17/93	2,400	430	<5	11	<5
	09/14/93	1,900	36	1.4	32	8.6
	12/29/93	2,100	50	0.65	2.9	4.7
	03/29/94	1,900	220	<10	<10	<10
	06/14/94	2,800	340	<5	<5	<5
	09/20/94	2,100	46	<1.0	<1.0	<1.0
	12/20/94	1,800	120	<2.5	<2.5	<2.5
	03/14/95	840	17	<2.0	<2.0	<2.0

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-8	06/01/95	c	810	5.2	<0.50	0.69	0.71
(cont.)	09/15/95	c	850	30	<1.0	<1.0	<1.0
	11/28/95	c	1,200	39	<5.0	<5.0	<5.0
MW-9	04/13/90		<50	<0.3	<0.3	<0.3	2
	06/22/90		12,000	200	3	250	180
	09/19/90		<50	<0.3	<0.3	<0.3	0.6
	12/27/90		<50	<0.3	<0.3	<0.3	<0.3
	03/21/91		<30	<0.3	<0.3	<0.3	<0.3
	06/26/91		<30	<0.3	<0.3	<0.3	<0.3
	09/24/91		<30	<0.3	<0.3	<0.3	<0.3
	12/19/91		<30	<0.3	<0.3	<0.3	<0.3
	03/17/92		<30	<0.3	<0.3	<0.3	<0.3
	06/16/92		<30	<0.3	<0.3	<0.3	<0.3
	09/16/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	c	75	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/15/93		<50	<0.5	<0.5	<0.5	<0.5
	09/14/93		<50	<0.5	<0.5	<0.5	<0.5
	12/29/93		<50	<0.5	<0.5	<0.5	<0.5
	03/29/94		<50	<0.5	<0.5	<0.5	<0.5
	06/14/94		<50	<0.5	<0.5	<0.5	<0.5
	09/20/94		<50	<0.5	<0.5	<0.5	<0.5
	12/20/94		<50	<0.5	<0.5	<0.5	<0.5
	03/14/95		<50	<0.50	<0.50	<0.50	<0.50
	06/01/95		<50	<0.50	<0.50	<0.50	<0.50
	09/15/95		<50	<0.50	<0.50	<0.50	<0.50
	11/28/95		<50	<0.50	<0.50	<0.50	<0.50
MW-10	04/13/90		10,000	150	4	280	200
	06/22/90		9,700	28	<0.3	131	210
	09/19/90		1,800	<0.3	4	0.8	10
	12/27/90		5,700	7	3	95	61
	03/21/91		6,900	22	<15	92	33
	06/26/91		9,300	51	<0.3	59	34
	09/24/91		360	8.6	5.2	14	6.2
	12/19/91		3,300	9.2	8.4	11	17
	03/18/92		4,700	14	<6.0	29	10
	06/16/92		4,800	0.46	0.34	7.4	3.8
	09/16/92		2,000	8.3	3	3.3	5.5
	12/22/92	c	2,700	6.2	<1.0	7.5	2.8
	03/16/93		4,100	340	2.4	58	54
	06/17/93		4,900	860	<10	540	92
	09/17/93		4,500	670	<10.0	240	7.2
	12/28/93	d	5,000	1,200	12	46	31
	03/29/94		4,700	470	<10	29	45
	06/14/94		3,700	370	<1.0	<1.0	<1.0
	09/20/94		2,600	79	<2.5	7.4	2.7
	12/20/94		3,000	150	<5.0	<5.0	<5.0
	03/13/95		2,500	18	<5.0	<5.0	<5.0
	06/01/95	c	1,100	<1.2	<1.2	<1.2	<1.2
	09/14/95	c	1,100	<2.0	<2.0	<2.0	<2.0
	11/28/95	c	840	<1.2	<1.2	<1.2	<1.2

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-11	04/13/90		<50	<0.3	<0.3	<0.3	<0.3
	06/22/90		63	0.4	0.9	0.7	3
	09/19/90		<50	<0.3	<0.3	<0.3	<0.3
	12/27/90		<50	<0.3	<0.3	<0.3	<0.3
	03/21/91		<30	<0.3	<0.3	<0.3	<0.3
	06/26/91		<30	<0.3	<0.3	<0.3	<0.3
	09/24/91		<30	<0.3	<0.3	<0.3	<0.3
	12/19/91		<30	<0.3	<0.3	<0.3	<0.3
	03/17/92		<30	<0.3	<0.3	<0.3	<0.3
	06/16/92		<30	<0.3	<0.3	<0.3	<0.3
	09/16/92		<50	<0.5	<0.5	<0.5	<0.5
	12/22/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/16/93		<50	<0.5	<0.5	<0.5	<0.5
	09/14/93		<50	<0.5	<0.5	<0.5	<0.5
	12/29/93		<50	<0.5	<0.5	<0.5	<0.5
	03/29/94		<50	<0.5	<0.5	<0.5	<0.5
	06/13/94		<50	<0.5	<0.5	<0.5	<0.5
	09/20/94		<50	<0.5	<0.5	<0.5	<0.5
	12/20/94		<50	<0.5	<0.5	<0.5	<0.5
	03/13/95		<50	<0.50	<0.50	<0.50	<0.50
	06/01/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/27/95		<50	<0.50	<0.50	<0.50	<0.50
E-1A	09/19/90		<50	7	0.9	1	2
(MW-12)	12/27/90		<50	3	0.5	1	1
	03/21/91		<30	4.2	<0.3	1.1	0.89
	06/26/91		41	6.3	<0.3	1.2	0.59
			---------- Converted to Extraction Well 8/91 ----------				
	03/28/94		120	4.8	<0.50	5.7	4.1
	06/14/94	e	230	12	<0.5	16	1.5
	09/20/94	e	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94		<50	2.4	<0.5	1.9	<0.5
	03/14/95		<50	<0.50	<0.50	<0.50	<0.50
	06/01/95		680	4.9	<0.50	18	2.4
	09/15/95		73	3.3	<0.50	2.3	<0.50
	09/15/95		73	3.3	<0.50	2.3	<0.50
	11/28/95		220	3.9	<0.50	6.2	<0.50
MW-13	07/03/91		<30	<0.3	<0.3	<0.3	<0.3
	09/24/91		<30	<0.3	<0.3	<0.3	<0.3
	12/19/91		<30	<0.3	<0.3	<0.3	<0.3
	03/17/92		<30	<0.3	<0.3	<0.3	<0.3
	06/17/92		<30	<0.3	<0.3	<0.3	<0.3
	09/16/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/17/93		<50	<0.5	<0.5	<0.5	<0.5
	06/15/93		<50	<0.5	<0.5	<0.5	<0.5
	09/14/93		<50	<0.5	<0.5	<0.5	<0.5
	12/29/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/14/94		<50	<0.5	<0.5	<0.5	<0.5

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-13	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
(cont.)	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/14/95 c	570	2.0	<0.50	3.9	7.9
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/15/95	<50	<0.50	<0.50	<0.50	<0.50
	11/28/95	<50	<0.50	<0.50	<0.50	<0.50
MW-14	07/03/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/16/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/15/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-15	07/03/91	570	1.8	1	1	2.2
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	360	<0.6	<0.6	0.64	<0.6
	03/18/92	730	0.74	0.98	1.8	0.68
	06/16/92	310	0.54	0.34	0.96	2.5
	09/16/92	100	1	<0.5	<0.5	<0.5
	12/22/92	130 c	<0.5	<0.5	<0.5	<0.5
	03/18/93	130 c	<0.5	<0.5	<0.5	<0.5
	06/17/93	<50	<0.5	<0.5	<0.5	<0.5
	09/17/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	52	<0.5	<0.5	<0.5	1.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/31/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-16	07/03/91	2,700	31	6.9	4.6	3.1
	09/24/91	430	1.8	1.3	1.9	1.5
	12/19/91	75	<0.3	<0.3	<0.3	<0.3
	03/18/92	1,500	4	0.73	2.2	1.3
	06/16/92	80	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-16	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
(cont.)	03/18/93	380 c	<0.5	<0.5	<0.5	<0.5
	06/17/93	<50	<0.5	<0.5	<0.5	<0.5
	09/17/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	0.72	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	52	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/31/95 c	52	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-17	07/03/91	1,200	12	1.9	28	40
	09/24/91	150	2.7	0.5	3.9	0.59
	12/19/91	370	2.6	<0.3	7.2	6.5
	03/18/92	470	3.1	<0.3	9.1	8.6
	06/16/92	310	1.7	0.56	12	9.6
	09/16/92	77	1.5	<0.5	1.2	1
	12/21/92	220	1.2	<0.5	9.8	9.4
	03/17/93	250	<0.5	<0.5	7.8	3.3
	06/17/93	90	0.92	<0.5	2.7	2.4
	09/16/93	140	<0.5	<0.5	5.4	3.9
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/15/94	62	<0.5	<0.5	1.2	<0.90
	09/19/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	77	<0.5	<0.5	1.6	0.67
	03/13/95	110	<0.50	<0.50	2.9	1.2
	05/30/95	93	1.0	<0.50	1.2	<0.50
	09/14/95	63	<0.50	<0.50	1.1	0.51
	11/28/95	83	<0.50	<0.50	<0.50	<0.50
MW-18	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/30/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-19	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/19/94	<50	<0.5	<0.5	<0.5	<0.5
	12/19/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/30/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-20	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	10/11/93	---------- Well Destroyed ----------				
MW-21	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/19/94	<50	<0.5	<0.5	<0.5	<0.5
	12/19/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/30/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-22	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-22	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
(cont.)	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/19/94	<50	<0.5	<0.5	<0.5	<0.5
	12/19/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/30/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-23	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/15/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
	03/28/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/19/94	<50	<0.5	<0.5	<0.5	<0.5
	12/19/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	05/30/95	<50	<0.50	<0.50	<0.50	<0.50
	09/14/95	<50	<0.50	<0.50	<0.50	<0.50
	11/27/95	<50	<0.50	<0.50	<0.50	<0.50
MW-24	03/29/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/15/95	<50	<0.50	<0.50	<0.50	<0.50
	11/28/95	<50	<0.50	<0.50	<0.50	<0.50
MW-25	03/29/93	<50	0.69	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5

Table A-2 (continued)
Historical Groundwater Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-25	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
(cont.)	03/14/95	<50	<0.50	<0.50	<0.50	<0.50
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/15/95	140	<0.50	<0.50	1.9	3.6
	11/28/95	<50	<0.50	<0.50	<0.50	<0.50
MW-26	03/29/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
	03/29/94	<50	<0.5	<0.5	<0.5	<0.5
	06/13/94	<50	<0.5	<0.5	<0.5	<0.5
	09/20/94	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94	<50	<0.5	<0.5	<0.5	<0.5
	03/13/95	<50	<0.50	<0.50	<0.50	<0.50
	06/01/95	<50	<0.50	<0.50	<0.50	<0.50
	09/15/95	<50	<0.50	<0.50	<0.50	<0.50
	11/28/95	<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
N/A = Not available
ND = Not detected
a. Ethylbenzene and xylenes given as a combined value.
b. Well contained slight product sheen.
c. Non-typical gasoline chromatograph pattern.
d. Anomalous data point.
e Value taken from system influent sampling.
< = Less than laboratory detection limit stated at right.
Wells MW-1 and MW-2 destroyed prior to March 7, 1989 sampling event.
Wells MW-3, MW-4, and MW-6 (E-1) destroyed June 18, 1990.
Prior to June 1995, TPPH as gasoline was reported as TPH as gasoline.

Table A-3
Historical Groundwater Analytical Data
Total MtBE

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Groundwater Monitoring Wells

Well Number	Date Sampled	MtBE (ppb)
MW-5	09/15/95	660
MW-7	09/15/95	<2.5
MW-8	09/15/95	110
MW-9	09/15/95	<2.5
MW-10	09/14/95	630
	11/28/95	720
MW-11	09/14/95	<2.5
E-1A (MW-12)	09/15/95	220
MW-13	09/15/95	<2.5
MW-14	09/14/95	<2.5
MW-15	09/14/95	9.4
MW-16	09/14/95	17
MW-17	09/14/95	<2.5
MW-18	09/14/95	<2.5
MW-19	09/14/95	<2.5
MW-21	09/14/95	<2.5
MW-22	09/14/95	<2.5
MW-23	09/14/95	<2.5
MW-24	09/15/95	<2.5
MW-25	09/15/95	<2.5
MW-26	09/15/95	<2.5

Domestic Irrigation Wells

Well Number	Date Sampled	MtBE (ppb)
590 H	09/15/95	<2.5
633 H	09/14/95	<2.5
634 H	09/14/95	NS
642 H	09/14/95	NS
675 H	09/14/95	NS
17348 VE	09/14/95	<2.5
17197 VM	09/14/95	<2.5
17200 VM	09/14/95	4.8
17203 VM	09/14/95	<2.5
17302 VM	09/14/95	<2.5
17349 VM	09/15/95	32
17371 VM	09/15/95	NS
17372 VM	09/14/95	<2.5
17393 VM	09/15/95	<2.5

MtBE = Methyl tert-butyl ether
ppb = Parts per billion
NS = Not sampled
< = Less than the detection limit stated at right.

Table A-4
Historical Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
590 H	11/13/91		<30	<0.3	<0.3	<0.3	<0.3
	10/14/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/16/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93	a	NS	NS	NS	NS	NS
	03/29/94		<50	<0.5	<0.5	<0.5	<0.5
	06/16/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94		<50	<0.5	<0.5	<0.5	<0.5
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/26/95		<50	<0.50	<0.50	<0.50	<0.50
	09/15/95		<50	<0.50	13	<0.50	<0.50
	11/29/95	a	NS	NS	NS	NS	NS
633 H	09/11/91	b,d	NS	NS	NS	NS	NS
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/15/93	b,d	NS	NS	NS	NS	NS
	12/30/93	b,d	NS	NS	NS	NS	NS
	03/29/94	b,d	NS	NS	NS	NS	NS
	06/15/94	b,d	NS	NS	NS	NS	NS
	09/21/94	b,d	NS	NS	NS	NS	NS
	10/07/94		<50	<0.5	<0.5	<0.5	<0.5
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		250	5.1	9.8	0.65	46
	03/15/95	e	<50	<0.50	<0.50	<0.50	<0.50
	05/31/95		<50	0.93	2.4	<0.50	14
	09/14/95		<50	0.64	1.2	<0.50	7.6
	11/28/95		<50	<0.50	0.89	<0.50	8.3
634 H	09/11/91	b,d	NS	NS	NS	NS	NS
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92	b,d	NS	NS	NS	NS	NS
	03/16/93	b,d	NS	NS	NS	NS	NS
	06/17/93	b,d	NS	NS	NS	NS	NS
	09/15/93	a	NS	NS	NS	NS	NS
	12/30/93	b,d	NS	NS	NS	NS	NS
	03/29/94	b,d	NS	NS	NS	NS	NS
	06/15/94		NS	NS	NS	NS	NS
	09/21/94	b,d	NS	NS	NS	NS	NS
	12/21/94	b,d	NS	NS	NS	NS	NS
	03/15/95	b,d	NS	NS	NS	NS	NS
	05/31/95	a	NS	NS	NS	NS	NS
	09/14/95	a	NS	NS	NS	NS	NS
	11/28/95	a	NS	NS	NS	NS	NS

Table A-4 (continued)
Historical Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
642 H	11/13/91		<30	<0.3	<0.3	<0.3	<0.3
	10/16/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/16/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93	a	NS	NS	NS	NS	NS
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		NS	NS	NS	NS	NS
	09/21/94	b,d	NS	NS	NS	NS	NS
	12/21/94	b,d	NS	NS	NS	NS	NS
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/31/95	a	NS	NS	NS	NS	NS
	09/14/95	a	NS	NS	NS	NS	NS
	11/28/95	a	NS	NS	NS	NS	NS
675 H	09/11/91	b,d	NS	NS	NS	NS	NS
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92	b,d	NS	NS	NS	NS	NS
	03/16/93	b,d	NS	NS	NS	NS	NS
	06/17/93	b,d	NS	NS	NS	NS	NS
	09/15/93	a	NS	NS	NS	NS	NS
	12/30/93	a	NS	NS	NS	NS	NS
	03/29/94	a	NS	NS	NS	NS	NS
	06/15/94	a	NS	NS	NS	NS	NS
	09/22/94		<50	<0.5	<0.5	<0.5	<0.5
	12/21/94	b,d	NS	NS	NS	NS	NS
	03/15/95	b,d	NS	NS	NS	NS	NS
	05/31/95	b,d	NS	NS	NS	NS	NS
	09/14/95	b,d	NS	NS	NS	NS	NS
	11/28/95	a	NS	NS	NS	NS	NS
17197 VM	11/13/91		<30	<0.3	<0.3	<0.3	<0.3
	10/14/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/16/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94	a	NS	NS	NS	NS	NS
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/31/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/29/95		<50	<0.50	<0.50	<0.50	<0.50

Table A-4 (continued)
Historical Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
17200 VM	11/13/91		440	2.7	<0.3	<0.3	12
	10/14/92	a	NS	NS	NS	NS	NS
	12/18/92		160	1.4	<0.5	<0.5	3.4
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/16/93		<50	<0.5	<0.5	<0.5	<0.5
	09/15/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/29/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94		<50	<0.5	<0.5	<0.5	<0.5
	12/20/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/30/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		510	<0.50	<0.50	3.1	3.4
	11/29/95		---------- Well Dry ----------				
17203 VM	11/13/91		<30	<0.3	<0.3	<0.3	<0.3
	10/16/92	a	NS	NS	NS	NS	NS
	12/21/92		<50	<0.5	<0.5	<0.5	1.3
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/16/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94	a	NS	NS	NS	NS	NS
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/31/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/29/95		<50	<0.50	<0.50	<0.50	<0.50
17302 VM	10/21/91		72	0.64	<0.3	0.44	<0.3
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93	b,d	NS	NS	NS	NS	NS
	09/16/93		66	<0.5	<0.5	<0.5	<0.5
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94	a	NS	NS	NS	NS	NS
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/29/95		<50	<0.50	<0.50	<0.50	<0.50

Table A-4 (continued)
Historical Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
17348 VE	11/13/91	b,d	NS	NS	NS	NS	NS
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/16/93		<50	<0.5	<0.5	<0.5	<0.5
	09/15/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93	b,d	NS	NS	NS	NS	NS
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94	a	NS	NS	NS	NS	NS
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/30/95		<50	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/29/95		<50	<0.50	<0.50	<0.50	<0.50
17349 VM	09/27/91		780	13	<3.0	<3.0	<3.0
	10/14/92		2,200	<50	<50	<50	110
	12/18/92		1,500	14	1.8	7.1	56
	03/16/93		1,100	16	4.2	1.8	1.8
	06/17/93		1,100	1.5	6.7	2.9	7.9
	09/16/93		1,200	13	21	3	10
	12/30/93	a	NS	NS	NS	NS	NS
	03/30/94		420	<1	<1	<1	5.3
	06/15/94		460	<0.5	<0.5	<0.5	1.8
	09/21/94		590	1.8	<0.5	1.1	7.6
	12/21/94		670	<0.5	<0.5	<0.5	1.8
	03/15/95		1,400	19	<5.0	7.9	48
	05/31/95		890	<2.0	<2.0	4.3	22
	09/15/95		610	3.9	<0.50	<0.50	<0.50
	11/29/95		790	<2.5	<2.5	3.8	11
17371 VM	11/13/91		870	9	1	2.1	4.5
	10/14/92		<50	<0.5	<0.5	<0.5	<0.5
	12/18/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		500	8.7	<0.5	3.9	3.1
	06/17/93	c	NS	NS	NS	NS	NS
	09/16/93	c	NS	NS	NS	NS	NS
	12/30/93	c	NS	NS	NS	NS	NS
	03/30/94	c	NS	NS	NS	NS	NS
	06/15/94	c	NS	NS	NS	NS	NS
	09/21/94	c	NS	NS	NS	NS	NS
	12/21/94	c	NS	NS	NS	NS	NS
	03/15/95	c	NS	NS	NS	NS	NS
	05/31/95	c	NS	NS	NS	NS	NS
	11/29/95	c	NS	NS	NS	NS	NS

Table A-4 (continued)
Historical Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
17372 VM	09/27/91		300	5.5	<0.60	1.3	0.72
	10/14/92		220	<1.0	<1.0	<1.0	<1.0
	12/18/92		290	3.8	0.88	0.99	1.2
	03/16/93	*	110	<0.5	<0.5	<0.5	<0.5
	06/17/93		140	<0.5	1.3	0.63	1.1
	09/15/93		120	<0.5	1.1	0.62	1.2
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/15/94		110	<0.5	<0.5	<0.5	<0.5
	09/21/94		55	<0.5	<0.5	<0.5	<0.5
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/31/95		60	<0.50	<0.50	<0.50	<0.50
	09/14/95		<50	<0.50	<0.50	<0.50	<0.50
	11/30/95		<50	<0.50	<0.50	<0.50	<0.50
17393 VM	11/13/91		31	<0.3	<0.3	<0.3	<0.3
	10/14/92	a	NS	NS	NS	NS	NS
	12/18/92		<50	<0.5	<0.5	<0.5	<0.5
	03/16/93		<50	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50	<0.5	<0.5	<0.5	<0.5
	09/15/93		<50	<0.5	<0.5	<0.5	<0.5
	12/30/93	a	NS	NS	NS	NS	NS
	12/30/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		50	<0.5	<0.5	<0.5	<0.5
	06/15/94		<50	<0.5	<0.5	<0.5	<0.5
	09/21/94	a	NS	NS	NS	NS	NS
	12/21/94		<50	<0.5	<0.5	<0.5	<0.5
	03/15/95		<50	<0.50	<0.50	<0.50	<0.50
	05/31/95		<50	<0.50	<0.50	<0.50	<0.50
	09/15/95		<50	<0.50	<0.50	<0.50	<0.50
	11/30/95		<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
H = Hacienda Avenue
< = Less than laboratory detection limit stated at right.
NS = Not sampled
VM = Via Magdalena
* = Non-typical chromatogram pattern; did not sample.
VE = Via Encinas
a. Owner not available to approve sampling access; well not sampled.
b. Pump not functioning; well not sampled.
c. Access denied by owner; well not sampled.
d. Pumping equipment obstructing sampling access; well not sampled.
e. Laboratory analyzed duplicate sample for confirmation. See certified analytical report.
Homeowners are contacted 1 week prior to sampling event.
Prior to June 1995, TPPH as gasoline was reported as TPH as gasoline.

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon® bailer or an oil-water interface probe. Wells not containing SPH are then purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, a Hydac digital tester, Catalog Number 301353, is used to monitor temperature, pH, and electrical conductivity in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Field Procedures

Parameters measured in the field include color, odor, oxidation reduction potential, turbidity, hydrogen sulfide, dissolved oxygen, and ferrous iron. Field parameters were monitored at approximately the same times samples were collected for laboratory analysis. The instruments and techniques used to monitor these parameters are listed in the table below.

PARAMETER	INSTRUMENT OR TECHNIQUE
Color	Manually
Odor	Manually
Oxidation Reduction Potential (ORP)	YSI Model 3560 water quality monitoring system with YSI Model 3540 ORP electrode assembly
Turbidity	Nepholemetric turbidity unit or manually
Hydrogen Sulfide	HACH hydrogen sulfide test kit Model HS-C, catalog No. 25378-00
Dissolved Oxygen	YSI Model 50 in-situ dissolved oxygen meter
Ferrous Iron	HACH TPTZ iron reagent method, Model IR-21, catalog No. 22993-00

Laboratory Procedures

The groundwater samples were analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX compounds), methyl tert-butyl ether (MtBE), nitrate as nitrate, sulfate, nitrogen as ammonia, and total iron according to the methods listed in the table below.

ANALYSIS	METHOD	TECHNIQUE
TPPH-g, BTEX Compounds, and MtBE	EPA Methods 8015 (modified), 8020, and 5030	Purge-and-trap extraction. Final detection by gas chromatography using flame- and photo-ionization detectors.
Nitrate as Nitrate	EPA Method 300	Ion chromatography
Sulfate	EPA Method 300	Ion chromatography
Nitrogen as Ammonia	EPA Method 350.3	Probe method
Total Iron	EPA Method 6010	Inductively coupled plasma

Certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment C.

ATTACHMENT C

CERTIFIED ANALYTICAL REPORTS, CHAIN-OF-CUSTODY DOCUMENTATION, AND FIELD DATA SHEETS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

JAN 10 1997

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2H/0608, San Lorenzo
Sample Descript: 633 H
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9612G78-01

Sampled: 12/30/96
Received: 12/30/96

Analyzed: 12/31/97
Reported: 01/02/97

QC Batch Number: MS123196MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	4.9

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2H/0608, San Lorenzo
Sample Descript: MW-22
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9612G78-02

Sampled: 12/30/96
Received: 12/30/96

Analyzed: 12/31/97
Reported: 01/02/97

QC Batch Number: MS123196MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	3.3

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Shaw Garakani

Client Proj. ID: 330-006.2H/0608, San Lorenzo

Lab Proj. ID: 9612G78

Received: 12/30/96

Reported: 01/02/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 7 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

Sequoia Analytical

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Pacific Environmental Group	Client Project ID:	330-006.2H, #0608 San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9612G78 -01, 02	Reported: Jan 3, 1997

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS123196MTBEH6A
Analy. Method:	EPA 8260
Prep. Method:	N/A
Analyst:	L. Duong
MS/MSD #:	9612A4401
Sample Conc.:	70
Prepared Date:	12/31/96
Analyzed Date:	12/31/96
Instrument I.D.#:	MS-H6
Conc. Spiked:	50 µg/L
Result:	113
MS % Recovery:	86
Dup. Result:	131
MSD % Recov.:	122
RPD:	15
RPD Limit:	0-25

LCS #:	VMB123196
Prepared Date:	12/31/96
Analyzed Date:	12/31/96
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
LCS Result:	49
LCS % Recov.:	98

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): PWL

WORKORDER: 9612G78
DATE OF LOG-IN: 12-30-96

CIRCLE THE APPROPRIATE RESPONSE

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: 12-30-96
12. Time Rec. at Lab: 11:45
13. Temp Rec. at Lab: 11°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
01	A-C	623 H	VOA (3)	liquid	12-30-96	
02	"	MW-22	"	"	"	

PWL 12-30-96

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

Revision 9/10/96
RCPTLOG.XLS

ARCO Products Company 330 006 SC
Division of AtlanticRichfieldCompany

Task Order No. ~~[illegible]~~ WP 1928100

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Blvd Oakland
ARCO engineer Mike Whelan	Telephone no. (ARCO)
Project manager (Consultant) Shaw Garakani	
Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110

Laboratory name: Sequoia

Contract number:

Method of shipment: 9612G78

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	~~BTEX 602/EPA 8020~~ EPA 8260 MTBE	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
633 H	01	3		X		X	X	12/30/96	11:00	X												
MW-22	02	3		X		X	X	12/30/96	10:00	X												

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler	Date	Time	Received by
[signature]	12/30/96	11:45	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory [signature] — Date 12-30-96 — Time 11:45

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APPC-3292 (2-91)

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Project: 330-006.2I/0608, San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on November 27, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9611I35 -01	LIQUID, MW-5	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -01	LIQUID, MW-5	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I35 -02	LIQUID, MW-7	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -02	LIQUID, MW-7	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I35 -03	LIQUID, MW-8	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -03	LIQUID, MW-8	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -04	LIQUID, MW-9	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -04	LIQUID, MW-9	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -05	LIQUID, MW-10	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -05	LIQUID, MW-10	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I35 -06	LIQUID, MW-11	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -06	LIQUID, MW-11	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -07	LIQUID, MW-13	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -07	LIQUID, MW-13	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -08	LIQUID, MW-14	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -08	LIQUID, MW-14	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -09	LIQUID, MW-15	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -09	LIQUID, MW-15	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -10	LIQUID, MW-16	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -10	LIQUID, MW-16	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -11	LIQUID, MW-18	11/25/96	MTBE_W Methyl t-Butyl Ethe

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9611I35 -11	LIQUID, MW-18	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -12	LIQUID, MW-19	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -12	LIQUID, MW-19	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -13	LIQUID, MW-21	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -13	LIQUID, MW-21	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -14	LIQUID, MW-22	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -14	LIQUID, MW-22	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -15	LIQUID, MW-23	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -15	LIQUID, MW-23	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -16	LIQUID, MW-24	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -16	LIQUID, MW-24	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -17	LIQUID, MW-25	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -17	LIQUID, MW-25	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -18	LIQUID, MW-26	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -18	LIQUID, MW-26	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I35 -19	LIQUID, E-1A	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I35 -19	LIQUID, E-1A	11/26/96	TPHGBW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager

Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Project: 330-006.2I/0608/San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on November 27, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9611I68 -01	LIQUID, TB-1	11/25/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -01	LIQUID, TB-1	11/25/96	TPHGBW Purgeable TPH/BTEX
9611I68 -02	LIQUID, 633H	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -02	LIQUID, 633H	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -03	LIQUID, 642H	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -03	LIQUID, 642H	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -04	LIQUID, 17197VM	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -04	LIQUID, 17197VM	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -05	LIQUID, 17203VM	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -05	LIQUID, 17203VM	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -06	LIQUID, 17302VM	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -06	LIQUID, 17302VM	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -07	LIQUID, 17349VM	11/26/96	MTBE_W Methyl t-Butyl Ethe

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9611I68 -07	LIQUID, 17349VM	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -08	LIQUID, 17393VM	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -08	LIQUID, 17393VM	11/26/96	TPHGBW Purgeable TPH/BTEX
9611I68 -09	LIQUID, 17372VM	11/26/96	MTBE_W Methyl t-Butyl Ethe
9611I68 -09	LIQUID, 17372VM	11/26/96	TPHGBW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager

Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-01

Sampled: 11/26/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	25	280

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	79

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: MW-5	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-01	Reported: 12/09/96

QC Batch Number: GC120596BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	79

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: MW-7	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-02	Reported: 12/09/96

QC Batch Number: GC120496BTEX07A
Instrument ID: GCHP07

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: MW-7	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-02	Reported: 12/09/96

QC Batch Number: GC120496BTEX07A
Instrument ID: GCHP07

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-8	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/09/96
Attention: Kelly Brown	Lab Number: 9611I35-03	Reported: 12/09/96

QC Batch Number: GC120996BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	46

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	118

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-8	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/09/96
Attention: Kelly Brown	Lab Number: 9611I35-03	Reported: 12/09/96

QC Batch Number: GC120996BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**620**
Benzene	**0.50**	**1.2**
Toluene	**0.50**	**2.6**
Ethyl Benzene	**0.50**	**2.9**
Xylenes (Total)	**0.50**	**2.0**
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	118

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-9	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-04	Reported: 12/09/96

QC Batch Number: GC120496BTEX07A
Instrument ID: GCHP07

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-9	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-04	Reported: 12/09/96

QC Batch Number: GC120496BTEX07A
Instrument ID: GCHP07

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: MW-10	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-05	Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	10	200

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: MW-10	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-05	Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**200**	**1100**
Benzene	**2.0**	**6.0**
Toluene	**2.0**	**4.9**
Ethyl Benzene	**2.0**	**3.8**
Xylenes (Total)	**2.0**	**9.5**
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-11
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-06

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-11
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9611I35-06

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

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Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-13
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-07

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-13
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9611I35-07

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

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Tod Granicher
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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-08

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.
Surrogates	**Control Limits %**	**% Recovery**
Trifluorotoluene	70 130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9611135-08

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-15
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-09

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/06/96
Reported: 12/09/96

QC Batch Number: GC120696BTEX07A
Instrument ID: GCHP07

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-15	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/06/96
Attention: Kelly Brown	Lab Number: 9611I35-09	Reported: 12/09/96

QC Batch Number: GC120696BTEX07A
Instrument ID: GCHP07

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-16
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-10

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	66

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-16	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-10	Reported: 12/09/96

QC Batch Number: GC120596BTEX22A
Instrument ID: GCHP22

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-18	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-11	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-18	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-11	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-19	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-12	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-19	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-12	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-21	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-13	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-21	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-13	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-22	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-14	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	3.1

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-22	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-14	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-23	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-15	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-23	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-15	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

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Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-24	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-16	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

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Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-24	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-16	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Sample Descript: MW-25
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I35-17

Sampled: 11/25/96
Received: 11/27/96

Analyzed: 12/06/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX03B
Instrument ID: GCHP3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	110

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	75

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

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Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-25	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/06/96
Attention: Kelly Brown	Lab Number: 9611I35-17	Reported: 12/09/96

QC Batch Number: GC120596BTEX03B
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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	75

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-26	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-18	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: MW-26	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-18	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

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Tod Granicher
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: E-1A	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-19	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	220

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608, San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: E-1A	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I35-19	Reported: 12/09/96

QC Batch Number: GC120596BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**4300**
Benzene	**5.0**	**13**
Toluene	5.0	N.D.
Ethyl Benzene	**5.0**	**100**
Xylenes (Total)	**5.0**	**20**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-01	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/25/96
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-01	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

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Tod Granicher
Project Manager

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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 633H	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-02	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	3.7

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 633H	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-02	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

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Tod Granicher
Project Manager

Sequoia Analytical

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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 642H	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-03	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 642H	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611168-03	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17197VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-04	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17197VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-04	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17203VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611168-05	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17203VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-05	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17302VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-06	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608/San Lorenzo
Sample Descript: 17302VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9611I68-06

Sampled: 11/26/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608/San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9611I68-07

Sampled: 11/26/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	5.0	55

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	127

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17349VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-07	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**300**
Benzene	1.0	N.D.
Toluene	**1.0**	**1.7**
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	**1.0**	**2.1**
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	127

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17393VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611168-08	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608/San Lorenzo
Sample Descript: 17393VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9611168-08

Sampled: 11/26/96
Received: 11/27/96

Analyzed: 12/05/96
Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2!/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17372VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-09	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608/San Lorenzo	Sampled: 11/26/96
2025 Gateway Place, Suite 440	Sample Descript: 17372VM	Received: 11/27/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/96
Attention: Kelly Brown	Lab Number: 9611I68-09	Reported: 12/09/96

QC Batch Number: GC120596BTEX18A
Instrument ID: GCHP18

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608, San Lorenzo
Lab Proj. ID: 9611I35

Received: 11/27/96
Reported: 12/09/96

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 69 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

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19
9611I68 01-09

Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEXEXA	GC120596BTEXEXA	GC120596BTEXEXA	GC120596BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Heider	J. Heider	J. Heider	J. Heider
MS/MSD #:	9611H3808	9611H3808	9611H3808	9611H3808
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.17	0.17	0.52
MS % Recovery:	80	85	85	87
Dup. Result:	0.15	0.16	0.16	0.49
MSD % Recov.:	75	80	80	82
RPD:	6.4	6,1	6.1	5.9
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
LCS Result:	0.16	0.17	0.17	0.52
LCS % Recov.:	80	85	85	87
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19, 9611I68 01-09

Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEX07A	GC120596BTEX07A	GC120596BTEX07A	GC120596BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	9611F1403	9611F1403	9611F1403	9611F1403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	32
MS % Recovery:	110	110	110	107
Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103
RPD:	9.5	9.5	9.5	3.2
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19, 9611I68 01-09
Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEX06A	GC120596BTEX06A	GC120596BTEX06A	GC120596BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	Porter/Heider	Porter/Heider	Porter/Heider	Porter/Heider
MS/MSD #:	9611F1402	9611F1402	9611F1402	9611F1402
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.0	8.5	8.3	26
MS % Recovery:	90	85	83	87
Dup. Result:	9.6	9.0	8.9	28
MSD % Recov.:	96	110	89	93
RPD:	6.5	5.7	7.0	7.4
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.0	8.9	8.6	27
LCS % Recov.:	90	89	86	90
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19
9611I68 01-09

Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEX02A	GC120596BTEX02A	GC120596BTEX02A	GC120596BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	Y. Arteaga	Y. Arteaga	Y. Arteaga	Y. Arteaga
MS/MSD #:	9611G1504	9611G1504	9611G1504	9611G1504
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	7.4	7.4	7.5	26
MS % Recovery:	74	74	75	87
Dup. Result:	7.2	7.2	7.2	26
MSD % Recov.:	72	72	88	87
RPD:	2.7	2.7	4.1	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	7.1	7.1	7.2	26
LCS % Recov.:	71	71	72	87

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19, 9611I68 01-09
Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEX03B	GC120596BTEX03B	GC120596BTEX03B	GC120596BTEX03B
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 #:	9611G1508	9611G1508	9611G1508	9611G1508
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.9	8.5	8.7	27
MS % Recovery:	89	85	87	90
Dup. Result:	9.4	9.0	9.3	29
MSD % Recov.:	94	90	93	97
RPD:	5.5	5.7	6.7	7.1
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.9	8.5	8.6	27
LCS % Recov.:	89	85	86	90
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Pacific Environmental Group
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Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19, 9611I68 01-09
Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120996BTEX06A	GC120996BTEX06A	GC120996BTEX06A	GC120996BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	961221503	961221503	961221503	961221503
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/9/96	12/9/96	12/9/96	12/9/96
Analyzed Date:	12/9/96	12/9/96	12/9/96	12/9/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	9.6	27
MS % Recovery:	100	100	96	90
Dup. Result:	9.9	10	10	31
MSD % Recov.:	99	110	100	103
RPD:	1.0	0.0	4.1	14
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK120996	BLK120996	BLK120996	BLK120996
Prepared Date:	12/9/96	12/9/96	12/9/96	12/9/96
Analyzed Date:	12/9/96	12/9/96	12/9/96	12/9/96
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.6	9.6	9.3	29
LCS % Recov.:	96	96	93	97

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9611I35 01-19, 9611I68 01-09
Reported: Dec 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120596BTEX18A	GC120596BTEX18A	GC120596BTEX18A	GC120596BTEX18A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	9611F1402	9611F1402	9611F1402	9611F1402
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	9.8	28
MS % Recovery:	100	100	98	93
Dup. Result:	11	11	10	30
MSD % Recov.:	110	110	100	100
RPD:	9.5	9.5	2.0	6.9
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK120596	BLK120596	BLK120596	BLK120596
Prepared Date:	12/5/96	12/5/96	12/5/96	12/5/96
Analyzed Date:	12/5/96	12/5/96	12/5/96	12/5/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.8	10	10	29
LCS % Recov.:	98	100	100	97
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): LDC
WORKORDER: 9611I35 / I68
DATE OF LOG-IN: 12/2/96

CIRCLE THE APPROPRIATE RESPONSE

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: 12-2-96
12. Time Rec. at Lab: 1314
13. Temp Rec. at Lab: 10°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
1	A-C	MW-5	VOA (3)	Liq	11/26	Brg
2		7			↓	Project
3		8			11/25	Stolf
4		9			↓	
5		10			11/26	
6		11			11/25	
7		13				
8		14				
9		15				
10		16				
11		18				
12		19				
13		21				
14		22				
15		23				
16		24				
17		25				
18		↓ 26			↓	
19	↓	E-1A	↓		11/26	
20	AB	TB-1	VOA (2)	↓	11/25	

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

Revision 9/10/96

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): LDC

WORKORDER: 9611I35/I68
DATE OF LOG-IN: 12/2/96

CIRCLE THE APPROPRIATE RESPONSE

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: 11-27-96
12. Time Rec. at Lab: 1314
13. Temp Rec. at Lab: 10°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
21	A-C	633 H	VOA(3)	liq	11/26	
22		642 H				
23		17197 VM				
24		17203 VM				
25		17302 VM				
26		17349 VM				
27		17393 VM				
28	↓	17372 VM	↓	↓	↓	

12/2/96

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

Revision 9/10/96

ARCO Facility no. 0608 | City (Facility) 17601 Hesperian Blvd. San Lorenzo | Project manager (Consultant) Kelly Brown | Laboratory name Sequoia

ARCO engineer Mike Whelan | Telephone no. (ARCO) | Telephone no. (Consultant) (408) 441 7500 | Fax no. (Consultant) (408) 441 7539 | Contract number

Consultant name Pacific Environmental Group Inc | Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110

Method of shipment: page 1 of 2

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH(G) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-5	1	3		Y		X	X	11/26/96	11:15		X											
MW-7	2							11/26/96	15:45													
MW-8	3							11/25/96	10:40													
MW-9	4							11/25/96	15:20													
MW-10	5							11/26/96	10:15													
MW-11	6							11/25/96	13:55													
MW-13	7								13:35													
MW-14	8								13:15													
MW-15	9								12:50													
MW-16	10								12:25													
MW-18	11								12:05													
MW 19	12								11:45													
MW 21	13								11:30													
MW-22	14								11:10													
MW-23	15								10:50													
MW 24	16	↓		↓		↓	↓	↓	14:20		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9611I35

Turnaround time 168

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days X

Condition of sample:

Temperature received:

	Date	Time
Relinquished by sampler: [signature]	11/26/96	15:30
Received by: D. Alarcon	11/26/96	15:30
Relinquished by: D. Alarcon	11/27/96	
Received by: [signature]	11/27/96	10:28A
Relinquished by: [signature]	11/27/96	
Received by laboratory: D. Alarcon	11-27-96	1314

White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

3-91)

Division of AtlanticRichfieldCompany

ARCO Facility no. 0608 City (Facility) 17601 Hesperian blvd San Lorenzo

ARCO engineer Mike Whelan Telephone no. (ARCO)

Consultant name Pacific Environmental Group Inc

Project manager (Consultant) Kelly Brown

Telephone no. (Consultant) (408) 441 7500 Fax no. (Consultant) (408) 441 7539

Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110

Contract number Sequoia

Method of shipment page 2 of 2

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/Gas/MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org/DHS ☐ Lead EPA 7420/7421 ☐		
MW-25	17	3		X		X	X	11/25/96	14:40		X											
MW-26	18	↓		↓		↓	↓	11/25/96	15:00		↓											
E-1A	19	↓		↓		↓	↓	11/26/96	12:10		↓											
TB-1	20	2	01	X		↓	↓	11/25/96	N/A		↓											
633 H	21	3	02	↓		↓	↓	11/26/96	12:30		↓											
642 H	22	↓	03	↓		↓	↓	↓	12:40		↓											
17197 VM	23	↓	04	↓		↓	↓	↓	13:40		↓											
17203 VM (N N)	24	↓	05	↓		↓	↓	↓	13:30		↓											
17302 VM	25	↓	06	↓		↓	↓	↓	13 20		↓											
17349 VM	26	↓	07	↓		↓	↓	↓	13:10		↓											
17393 VM	27	↓	08	↓		↓	↓	↓	12:50		↓											
17372 VM	28	↓	09	↓		↓	↓	↓	13:00		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9611735

Turnaround time I-08

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler: Walter J Ross	11/26/96	15:30	Received by: D. Alarcón	11/26/96	15:30
Relinquished by: D. Alarcón	11/27/96		Received by: [illegible]	11/27/96	10:28A
Relinquished by: [illegible]	11/27/96		Received by laboratory: LDCardenas	11-27-96	1314

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

(2-91)

11/25-26

RECEIVED
NOV 26 1996
ENVIRONMENTAL GROUP, INC.

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2I

Station #:0608

Site Address:17601 Hesperian Blvd.
San Lorenzo, California

County: Alameda

Project Manager: Kelly Brown

Requestor: Denise Alarcon

Client: Arco

☐ **1st time visit**

☐ **1st** ☐ **2nd** ☐ **3rd** ☒ **4th**

☐ **Monthly**

☐ **Semi-Monthly**

☐ **Weekly**

☐ **One time Event**

☐ **Other.**_____

Client P.O.C.: ~~Paul Supple~~ MIKE WHELAN

Date of Request:4Q

Ideal Field Date:

Purge water 272.75 Gal

Budget Hrs._____

Actual Hrs. [redacted] 10.5 hrs

Mob de Mob ~~2~~ 4 hrs

Total Wells 252.75 Gal
27 wells

Prefield contacts:All Homeowners are to be contacted 1-2 weeks in advance of arrival.

Field Tasks: For General Description

Fourth Quarter 1996 groundwater sampling event: DTW/DTL on all wells from TOB/TOC

Sample per attached protocol:

WA#1934800

Comments, remarks, from Field Staff (include problems encountered

Completed by: C) Rich Date: 11/25/26/96

Checked by:_____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2I	608	17601 Hesperian San Lorenzo	4Q96	Kelly Brown	KB ~~9/12/96~~ 9/24/96	11/25 - 11/26	Sequoia	MIKE WHELAN ~~Paul Supple~~

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goes Dry?	Comments
MW-5	18		QLY	MtBE/GAS/BTEX	TOB/TOC	14	4"	YES	
MW-7	15		QLY	MtBE/GAS/BTEX	TOB/TOC	19	3"	NO	
MW-8	17		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	NO	
MW-9	14		QLY	MtBE/GAS/BTEX	TOB/TOC	19	3"	YES	
MW-10	16		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-11	10		QLY	MtBE/GAS/BTEX	TOB/TOC	19	3"	YES	
MW-13	9		QLY	MtBE/GAS/BTEX	TOB/TOC	23.5	3"	YES	
MW-14	8		QLY	MtBE/GAS/BTEX	TOB/TOC	24	3"	YES	
MW-15	7		QLY	MtBE/GAS/BTEX	TOB/TOC	24	3"	YES	
MW-16	6		QLY	MtBE/GAS/BTEX	TOB/TOC	23	3"	YES	
MW-18	5		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-19	4		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-21	3		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-22	2		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-23	1		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	
MW-24	11		QLY	MtBE/GAS/BTEX	TOB/TOC	20	2"	YES	
MW-25	12		QLY	MtBE/GAS/BTEX	TOB/TOC	21	2"	YES	
MW-26	13		QLY	MtBE/GAS/BTEX	TOB/TOC	20	2"	YES	
E-1A	19		QLY	MtBE/GAS/BTEX	TOB/TOC	?	?	YES	
TB-1			QLY	MtBE/GAS/BTEX					

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	**Station #**	**Project Name**	**SEQUENCE**	**Project Manager** **Approval**	**Date/s**	**Laboratory:**	**Client Engineer:**
330-006.21	608	17601 Hesperian San Lorenzo	4Q96	Kelly Brown		Sequoia	MIKE WHELAN ~~Paul Supple~~

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses NO MTBE!!	TOB TOC	Well Depth	Casing Diameter	Well goes Dry?	Comments
Mr/Mrs Silva		590 Hacienda	QLY	GAS/BTEX	TOB/TOC				
Mr. Dahmann		633 Hacienda	QLY	GAS/BTEX	TOB/TOC				
Mrs Albright		634 Hacienda	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Ms. Corregedor		642 Hacienda	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX	TOB/TOC				Dedicated pump inoperable
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX	TOB/TOC				
Mr Scrag		17197 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Cavalry Church		17200 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mrs Toles		17203 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr/Mrs Johanson		172302 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Kast		17349 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Manry		17371 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Mr. Pimental		17372 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Hull		17393 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian blvd San Lorenzo DATE: 11/25/96

CLIENT/STATION NO.: Arco #0608 FIELD TECHNICIAN: W.Pech DAY OF WEEK: Mon

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ ____
- ☒ H_2O level indicator ____
- ☐ Other: ____

Casing Size	Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH): SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons): SPH / H_2O
4"	18	MW-5	10:04	Y	Y		Y	Y	13.53	12.07 / 11.68	12.07 / 11.68										
4"	15	MW-7	9:53	Y	Y		Y	Y	18.25	12.10 / 11.65	12.10 / 11.65										
4"	17	MW-8	10:00	Y	Y		Y	Y	20.85	10.80 / 10.05	10.80 / 10.05										
4"	14	MW-9	9:49	Y	Y		Y	Y	18.15	10.24 / 9.68	10.24 / 9.68										
4"	16	MW-10	9:57	Y	Y		Y	Y	22.32	10.45 / 9.80	10.45 / 9.80										
4"	10	MW-11	9:37	Y	Y		Y	Y	18.80	11.0 / 10.57	11.0 / 10.57										
4"	9	MW-13	9:33	Y	Y		Y	Y	23.15	13.41 / 13.13	13.41 / 13.13										
4"	8	MW-14	9:25	Y	Y		Y	Y	23.0	9.33 / 9.05	9.33 / 9.05										
4"	7	MW-15	9:23	Y	Y		Y	Y	23.15	10.83 / 10.37	10.83 / 10.37										

Comments: ____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo DATE: 11/25/96

CLIENT/STATION NO.: Arco #0608 FIELD TECHNICIAN: W. Peck DAY OF WEEK: Mon

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator _____
- ☐ Other: _____

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	SEPARATE-PHASE HYDROCARBONS (SPH) COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
6	MW-16	9:24	Y	Y		Y	Y	23.0	11.32 / 10.87	11.32 / 10.87										
5	MW-18	9:18	Y	Y		Y	Y	21.40	10.18 / 9.88	10.18 / 9.88										
4	MW-19	9:16	Y	Y		Y	Y	21.45	9.67 / 9.52	9.67 / 9.52										
3	MW-21	9:13	Y	Y		Y	Y	21.40	10.0 / 9.51	10.0 / 9.51										
2	MW-22	9:10	Y	Y		Y	Y	21.44	10.61 / 10.37	10.61 / 10.37										
1	MW-23	9:06	Y	Y		Y	Y	21.65	11.76 / 11.48	11.76 / 11.48										
11	MW-24	9:40	Y	Y		Y	Y	20.60	12.71 / 12.43	12.71 / 12.43										
12	MW-25	9:44	Y	Y		Y	Y	20.85	11.83 / 11.28	11.83 / 11.28										
13	MW-26	9:47	Y	Y		Y	Y		12.03 / 11.60	12.03 / 11.60										
19	E-1A	10:07	Y	Y		Y	Y		11.18 / 9.76	11.18 / 9.76										

Comments:

FIELD DATA SHEET

VATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-5

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: 12.07 TOB 11.68 TOC
Total depth: — TOB 13.53 TOC
Date: 11/25/96 Time (2400): 10:04

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 13.53 - DTW 11.68 = 1.85 x Gal/Linear Foot .66 = 1.22 x Number of Casings 3 = Calculated Purge 3.66

DATE PURGED: 11/26/96 START: 11:00 END (2400 hr): 11:12 PURGED BY: W Peck

DATE SAMPLED: 11/26/96 START: 11:12 END (2400 hr): 11:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:05	1.25	7.05	2350	62.3	Brown	Mod	None
11:09	2.50	7.37	2390	64.7	Brown	Mod	None
11:12	3.75	7.37	2040	65.8	Brown	Mod	None
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 29.2
- ☒ ~~Centrifugal Pump:~~ OP
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29.2
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	11/26/96	11:15	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Water Plus

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-7

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWR

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 12.10 TOB 11.65 TOC
Total depth: — TOB 18.25 TOC
Date: 11/25/96 Time (2400): 9:53

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☑ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 18.25 - DTW 11.65 = 6.60 x Gal/Linear Foot .38 = 2.50 x Number of Casings 3 = Calculated Purge 7.5 G

DATE PURGED: 11/25/96 START: 15:30 END (2400 hr): 15:40 PURGED BY: CWR

DATE SAMPLED: 11/25/96 START: 15:40 END (2400 hr): 15:45 SAMPLED BY: CWR

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:34	2.50	7.43	1020	66.2	Brown	Mod	None
15:37	5.0	7.26	1110	67.6	Brown	Mod	None
15:40	7.50	7.17	1120	68.2			

Pumped dry Yes (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	11/25/96	15:45	3	40ml	VOA	HCL	Ga/BTEX/MTBE

REMARKS:

Water Level

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-8

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: [illegible]

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.80 TOB 10.05 TOC
Total depth: — TOB 20.85 TOC
Date: 11/25/96 Time (2400): 10:00

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☒ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 20.85 - DTW 10.05 = 10.80 x Gal/Linear Foot .38 = 4.10 x Number of Casings 3 = Calculated Purge 12.31

DATE PURGED: 11/26/96 START: 10:20 END (2400 hr): 10:34 PURGED BY: [illegible]

DATE SAMPLED: 11/26/96 START: 10:34 END (2400 hr): 10:40 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:26	4.25	7.31	1210	62.3	Brown	Mod	None
10:30	8.50	7.00	1290	64.4	Brown	Mod	None
10:34	12.75	6.85	1230	65.2	Brown	Mod	None

Pumped dry Yes (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC —

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 23-9
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW8	11/26/96	10:40	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-9

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CW Park

WELL INFORMATION

Depth to Liquid: ___ TOB ___ TOC
Depth to water: 10.45 TOB 9.68 TOC
Total depth: ___ TOB 18.15 TOC
Date: 11/25/96 Time (2400): 9:49

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☒ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD 18.15 - DTW 9.68 = 8.47 x Gal/Linear Foot .38 = 3.21 x Number of Casings 3 = Calculated Purge 9.65

DATE PURGED: 11/25/96 START: 15:05 END (2400 hr): 15:15 PURGED BY: CW Park

DATE SAMPLED: 11/25/96 START: 15:15 END (2400 hr): 15:20 SAMPLED BY: CW Park

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:09	3.25	7.41	1060	65.6	Brown	Mod	None
15:11	6.50	7.29	1110	67.2	Brown	Mod	None
15:15	9.75	7.17	1080	67.8	Brown	Mod	None

Pumped dry Yes / (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ___ TOB/TOC ___

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	11/25/96	15:20	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Water Blue

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-10

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: G Roth

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.45 TOB 9.80 TOC
Total depth: — TOB 22.32 TOC
Date: 11/25/96 Time (2400): 9:57

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD 22.32 - DTW 9.80 = 12.52 x Gal/Linear Foot .38 = 4.75 x Number of Casings 3 = Calculated Purge 14.25

DATE PURGED: 11/26/96 START: 7:55 END (2400 hr): 10:10 PURGED BY: G Roth

DATE SAMPLED: 11/26/96 START: 10:10 END (2400 hr): 10:15 SAMPLED BY: G Roth

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:02	4.75	7.31	1470	64.1	Brown	Mod	Non
10:06	9.50	6.81	1360	66.1	Brown	Mod	None
10:10	14.25	6.71	1330	67.8	Brown	Mod	None

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-1
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	11/26/96	10:15	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-11

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Reh

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.0 TOB 10.57 TOC
Total depth: — TOB 18.80 TOC
Date: 11/25/96 Time (2400): 9:37

Probe Type and I.D. #
☐ Oil/Water interface
☒ Electronic indicator
☐ Other;

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☒ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other;

TD 18.80 - DTW 10.57 = 8.23 x Gal/Linear Foot .38 = 3.12 x Number of Casings 3 = Calculated Purge 9.36

DATE PURGED: 11/25/96 START: 13:40 END (2400 hr): 13:50 PURGED BY: W Reh

DATE SAMPLED: 11/25/96 START: 13:50 END (2400 hr): 13:55 SAMPLED BY: W Reh

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:42	3.25	7.51	1100	65.6	Brown	Mod	None
13:46	6.50	7.30	1090	66.1	Brown	Mod	None
13:50	9.75	7.19	1100	66.4	Brown	Mod	None

Pumped dry Yes / (No)

COLOR: Cobalt 0-100 Clear Cloudy Yellow Brown
TURBIDITY: NTU 0-200 Heavy Moderate Light Trace
ODOR: Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal Pump:
☐ Other:
☐ Airlift Pump:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
☒ Bailer: 29-3
☐ Dedicated:
☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	11/25/96	13:55	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Walter H[illegible]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-13

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: C. Reich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: 13.41 TOB 13.13 TOC
Total depth: ~ TOB 23.15 TOC
Date: 11/25/96 Time (2400): 9:33

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 23.15 - DTW 13.13 = 10.62 x Gal/Linear Foot .38 = 4.03 x Number of Casings 3 = Calculated Purge 12.10

DATE PURGED: 11/25/96 START: 13:20 END (2400 hr): 13:31 PURGED BY: C. Reich

DATE SAMPLED: 11/25/96 START: 13:31 END (2400 hr): 13:35 SAMPLED BY: C. Reich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:23	4.0	7.64	1138	67.8	Brown	Mod	None
13:27	8.0	7.46	1100	68.5	Brown	Mod	None
13:31	12.0	7.30	1130	69.1	Brown	Mod	None

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-1
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	11/25/96	13:35	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Water Sample

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-14

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWelch

WELL INFORMATION

Depth to Liquid:	—	TOB —	TOC
Depth to water:	9.33	TOB 9.05	TOC
Total depth:	—	TOB 23.0	TOC
Date: 11/25/96	Time (2400): 9:25		

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER / GAL/LINEAR FT.

☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD 23.0 - DTW 9.05 = 13.95 x Gal/Linear Foot .38 = 5.30 x Number of Casings 3 = Calculated Purge 15.90

DATE PURGED: 11/25/96 START: 12:55 END (2400 hr): 13:09 PURGED BY: CWelch

DATE SAMPLED: 11/25/96 START: 13:09 END (2400 hr): 13:15 SAMPLED BY: CWelch

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:01	5.50	7.09	1020	67.3	Brown	Mod	None
13:05	11.0	7.10	1110	67.6	Brown	Mod	None
13:09	16.50	7.07	1080	68.0			

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D.
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D.
- ☒ Bailer: G-7
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	11/25/96	13:15	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-15

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: G Reich

WELL INFORMATION

Depth to Liquid:		TOB	TOC
Depth to water:	10.83	TOB 10.37	TOC
Total depth:		TOB 23.15	TOC
Date: 11/25/96	Time (2400): 9:23		

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD 23.15 - DTW 10.37 = 12.78 x Gal/Linear Foot .38 = 4.85 x Number of Casings 3 = Calculated Purge 14.56

DATE PURGED: 11/25/96 START: 12:30 END (2400 hr): 12:45 PURGED BY: G Reich

DATE SAMPLED: 11/25/96 START: 12:45 END (2400 hr): 12:50 SAMPLED BY: G Reich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:36	5.0	7.33	1030	64.9	Brown	Mod	None
12:40	10.0	7.08	1040	65.3	Brown	Mod	None
12:45	15.0	7.03	1030	65.3	Cloudy	Light	None

Pumped dry Yes (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-3
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-15	11/25/96	12:50	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS:

Water Level

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-16

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Roch

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.32 TOB 10.87 TOC
Total depth: — TOB 23.0 TOC
Date: 11/25/96 Time (2400): 9:21

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☒ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 23 - DTW 10.87 = 12.13 x Gal/Linear Foot .38 = 4.60 x Number of Casings 3 = Calculated Purge 13.82

DATE PURGED: 11/25/96 START: 12:10 END (2400 hr): 12:22 PURGED BY: W Roch
DATE SAMPLED: 11/25/96 START: 12:22 END (2400 hr): 12:25 SAMPLED BY: W Roch

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:15	4.75	7.08	1050	65.4	Brown	Mod	None
12:18	9.50	7.06	1070	66.3	Brown	Mod	None
12:22	14.25	7.02	1030	66.8	Brown	Mod	None

Pumped dry Yes / No (No circled)

Color: Cobalt 0-100 Clear Cloudy Yellow Brown
Turbidity: NTU 0-200 Heavy Moderate Light Trace
Odor: Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	11/25/96	12:25	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

W Roch

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-18

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Rach

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.18 TOB 9.88 TOC
Total depth: — TOB 21.40 TOC
Date: 11/25/96 Time (2400): 9:18

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☒ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

TD 21.40 - DTW 9.88 = 11.52 x Gal/Linear Foot .38 = 4.37 x Number of Casings 3 = Calculated Purge 13.13

DATE PURGED: 11/25/96 START: 11:50 END (2400 hr): 12:02 PURGED BY: W Rach
DATE SAMPLED: 11/25/96 START: 12:02 END (2400 hr): 12:05 SAMPLED BY: W Rach

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:54	4.50	7.40	1060	65.4	Brown	Mod	None
11:58	9.0	7.27	1110	66.4	Brown	Mod	None
12:02	13.50	7.17	1112	66.7	Brown	Mod	None
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13.5
- ☐ Dedicated:
- ☐ Other:

AMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-18	11/25/96	12:05	3	40ml	VOA	HCL	Gas/Btex/MTBE

EMARKS:

Water Sler

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW19

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWR

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.67 TOB 9.52 TOC
Total depth: — TOB 21.45 TOC
Date: 11/25/96 Time (2400): 9:16

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☒ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 21.45 - DTW 9.52 = 11.93 x Gal/Linear Foot .38 = 4.53 x Number of Casings 3 = Calculated Purge 13.60

DATE PURGED: 11/25/96 START: 11:30 END (2400 hr): 11:40 PURGED BY: CWR

DATE SAMPLED: 11/25/96 START: 11:40 END (2400 hr): 11:45 SAMPLED BY: CWR

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:34	4.50	7.42	1050	67.9	Brown	Mod	None
11:37	9.0	7.27	1060	67.3	Brown	Mod	none
11:40	13.50	7.20	940	67.1	Brown	Mod	None

Pumped dry Yes (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC

PURGING EQUIPMENT/I.D.
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D.
- ☒ Bailer: 23-4
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-19	11/25/96	1145	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS:

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-21

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: G. Reich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.0 TOB 9.51 TOC
Total depth: — TOB 21.40 TOC
Date: 11/25/96 Time (2400): 9:13

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☒ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 21.40 - DTW 9.51 = 11.89 x Gal/Linear Foot .38 = 4.51 x Number of Casings 3 = Calculated Purge 13.53

DATE PURGED: 11/25/96 START: 11:15 END (2400 hr): 11:25 PURGED BY: G. Reich

DATE SAMPLED: 11/25/96 START: 11:25 END (2400 hr): 11:30 SAMPLED BY: G. Reich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:18	4.50	7.32	1250	70.2	Brown	Mod	None
11:21	9.0	7.28	1240	70.6	Brown	Mod	None
11:25	13.50	7.18	1190	69.8	Brown	Mod	None

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-12
- ☐ Dedicated:
- ☐ Other:

AMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-21	11/25/96	11:30	3	40ml	VOA	HCL	Gas/BTEX/MTBE

EMARKS:

Water after

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-22

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.21 TOB 10.37 TOC
Total depth: — TOB 21.44 TOC
Date: 11/25/96 Time (2400): 9:10

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☒ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 21.44 - DTW 10.37 = 11.07 x Gal/Linear Foot .38 = 4.20 x Number of Casings 3 = Calculated Purge 12.60

DATE PURGED: 11/25/96 START: 10:55 END (2400 hr): 11:05 PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: 11:05 END (2400 hr): 11:10 SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:58	4.25	7.66	1040	64.7	Brown	Mod	None
11:01	8.50	7.35	1140	65.1	Brown	Mod	None
11:05	12.75	7.22	1130	65.3	Cloudy	Light	None

Pumped dry Yes / No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown
NTU 0-200: Heavy, Moderate, Light, Trace
Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-6
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-22	11/25/96	11:10	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-23

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.76 TOB 11.48 TOC
Total depth: — TOB 21.65 TOC
Date: 11/25/96 Time (2400): 9:00

Probe Type and I.D. #
☐ Oil/Water interface
☒ Electronic indicator
☐ Other;

CASING DIAMETER	GAL/LINEAR FT.
☐ 2	0.17
☒ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other;

TD 21.65 - DTW 11.48 = 10.17 x Gal/Linear Foot .38 = 3.86 x Number of Casings 3 = Calculated Purge 11.58

DATE PURGED: 11/25/96 START: 10:36 END (2400 hr): 10:47 PURGED BY: W Peck

DATE SAMPLED: 11/25/96 START: 10:47 END (2400 hr): 10:50 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:40	4.0	7.03	1020	63.5	Brown	Mod	None
10:43	8.0	6.83	1030	64.7	Brown	Mod	None
10:47	12.0	6.81	1040	65.1	Brown	Mod	None
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal Pump:
☐ Other:
☐ Airlift Pump:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
☒ Bailer: G-11
☐ Dedicated:
☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	11/25/96	10:50	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Signature: [illegible]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-24

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: G. Reich

WELL INFORMATION

Depth to Liquid:	—	TOB —	TOC
Depth to water:	12.71	TOB 12.43	TOC
Total depth:	—	TOB 20.60	TOC
Date: 11/25/96	Time (2400): 9:40		

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 20.60 - DTW 12.43 = 8.17 x Gal/Linear Foot .17 = 1.38 x Number of Casings 3 = Calculated Purge 4.15

DATE PURGED: 11/25/96 START: 14:05 END (2400 hr): 14:15 PURGED BY: G. Reich

DATE SAMPLED: 11/25/96 START: 14:15 END (2400 hr): 14:20 SAMPLED BY: G. Reich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:09	1.50	7.46	1180	68.0	Brown	Mod	None
14:12	3.0	7.37	1170	68.7	Brown	Mod	None
14:15	4.50	7.27	1210	69.9	Brown	Mod	None

Pumped dry Yes (No)

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: G.R.
- ☒ ~~Centrifugal Pump~~: SP
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G.R.
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-24	11/25/96	14:20	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-25

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CW Rich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.23 TOB 11.28 TOC
Total depth: — TOB 20.85 TOC
Date: 11/25/96 Time (2400): 9:44

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 20.85 - DTW 11.28 = 9.57 x Gal/Linear Foot 17 = 1.62 x Number of Casings 3 = Calculated Purge 4.88

DATE PURGED: 11/25/96 START: 14:25 END (2400 hr): 14:35 PURGED BY: CW Rich

DATE SAMPLED: 11/25/96 START: 14:35 END (2400 hr): 14:40 SAMPLED BY: CW Rich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:28	1.75	7.51	1090	66.7	Brown	Mod	None
14:31	3.50	7.38	1120	67.2	Brown	Mod	None
14:35	5.25	7.30	1070	67.8	Brown	Mod	None

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: G-13
- ☒ ~~Centrifugal Pump:~~ SP
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-13
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	11/25/96	14:40	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-26

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWR

WELL INFORMATION

Depth to Liquid:	—	TOB	— TOC
Depth to water:	12.07	TOB	11.60 TOC
Total depth:	—	TOB	19.47 TOC
Date:	11/25/96	Time (2400):	9:47

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER		GAL/ LINEAR FT.
☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD 19.47 - DTW 11.60 = 7.87 x Gal/Linear Foot 1.17 = 1.33 x Number of Casings 3 = Calculated Purge 4.01

DATE PURGED: 11/25/96 START: 14:45 END (2400 hr): 14:55 PURGED BY: CWR

DATE SAMPLED: 11/25/96 START: 14:55 END (2400 hr): 15:00 SAMPLED BY: CWR

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:48	1.50	7.62	1070	65.7	Brown	Mod	None
14:51	3.0	7.47	1070	66.7	Brown	Mod	None
14:55	4.50	7.38	990	67.2	Brown	Mod	None

Pumped dry Yes / No

Cobalt 0-100 Clear Cloudy Yellow Brown | NTU 0-200 Heavy Moderate Light Trace | Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 29-8
- ☒ ~~Centrifugal Pump:~~ GR
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-8
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	11/25/96	15:00	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: E 1A

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Rech

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: 10.83 TOB 10.37 TOC
Total depth: — TOB 23.15 TOC
Date: 11/25/96 Time (2400): 1010?

Probe Type and I.D. #: ☐ Oil/Water interface ☒ Electronic indicator ☐ Other:

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☒ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other:

TD 23.15 - DTW 10.37 = 12.78 x Gal/Linear Foot 1.5 = 19.17 x Number of Casings 3 = Calculated Purge 57.51

DATE PURGED: 11/25/96 START: 11:35 END (2400 hr): 12:03 PURGED BY: W Rech

DATE SAMPLED: 11/25/96 START: 12:03 END (2400 hr): 12:10 SAMPLED BY: W Rech

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:43	19.25	8.18	1040	62.3	Brown	Mod	Mod
11:55	38.50	7.98	1330	63.3	Brown	Mod	Mod
12:03	57.75	7.34	1370	65.8	Brown	Mod	Faint

Pumped dry Yes / No (No circled)

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: \ TOB/TOC

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal Pump:
☐ Other:
☐ Airlift Pump:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
☒ Bailer: G/0
☐ Dedicated:
☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
E 1A	11/25/96	12:10	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Whitford(?) [signature]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: TB-1

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWelch

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 11/25/96 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER	GAL/LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ ~~Groundwater~~ (WP)
- ☐ Duplicate
- ☐ Extraction well
- ☒ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 11/25/96 START: _____ END (2400 hr): _____ PURGED BY: CWelch

DATE SAMPLED: 11/25/96 START: _____ END (2400 hr): _____ SAMPLED BY: CWelch

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			TRIP BLANK				

Pumped dry Yes / No

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	11/25/96	N/A	2	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: _____

CWelch

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 590 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Roch

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: ______ TOB ______ TOC
Total depth: ✓ TOB ______ TOC
Date: 11/25/96 Time (2400): ______

Probe Type and I.D. #
- ☐ Oil/Water interface ______
- ☒ Electronic indicator ______
- ☐ Other; ______

	CASING DIAMETER	GAL/ LINEAR FT.
☐	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ______

TD ______ - DTW ______ = ______ x Gal/Linear Foot ______ = ______ x Number of Casings 3 = Calculated Purge ______

DATE PURGED: 11/25/96 START: ______ END (2400 hr): ______ PURGED BY: W Roch

DATE SAMPLED: 11/25/96 START: ______ END (2400 hr): ______ SAMPLED BY: W Roch

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
			NO SAMPLE TAKEN				

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC ______

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ______
- ☒ Centrifugal Pump: ______
- ☐ Other: ______
- ☐ Airlift Pump: ______
- ☐ Dedicated: ______

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ______
- ☐ Dedicated: ______
- ☐ Other: ______

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
590 H	11/25/96		3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: Home owner not home

[signature]

FIELD DATA SHEET

'ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 633 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: ____ TOB ____ TOC
Total depth: ~ TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator ____
- ☐ Other; ____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: ____ END (2400 hr): ____ PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: 12:20 END (2400 hr): 12:30 SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:25	6	6.29	1300	63.2	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

Cobalt 0-100 Clear Cloudy Yellow Brown

NTU 0-200 Heavy Moderate Light Trace

Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: ____
- ☐ Airlift Pump: ____ or
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ____
- ☐ Dedicated: ____
- ☒ Other: Sampled from spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
633 H	11/26/96	12:30	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: ____

CWRich

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 634 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Rich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: ____ TOB ____ TOC
Total depth: — TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator
- ☐ Other:

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other:

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: ____ END (2400 hr): ____ PURGED BY: W Rich

DATE SAMPLED: 11/25/96 START: ____ END (2400 hr): ____ SAMPLED BY: W Rich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			NO SAMPLE TAKEN				
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer:
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
634 H	11/25/96		3	40ml	VOA	HCL	Gas/Btex/MTBE

EMARKS: No way to collect sample

Walter [illegible]

FIELD DATA SHEET

'ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 642 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Reich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: ____ TOB ____ TOC
Total depth: — TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
☐ Oil/Water interface ____
☒ Electronic indicator ____
☐ Other; ____

CASING DIAMETER	GAL/LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other; ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/26/96 START: ____ END (2400 hr): ____ PURGED BY: W Reich

DATE SAMPLED: 11/26/96 START: 12:30 END (2400 hr): 12:40 SAMPLED BY: W Reich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:35	0	7.98	1280	62.5	Clear	Trace	None
			Grab Sample				
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
☐ Bailer: ____
☒ Centrifugal Pump: ____
☐ Other: ____
☐ Airlift Pump: ____
☐ Dedicated: ____

SAMPLING EQUIPMENT/I.D. #
☒ ~~Bailer:~~ UN
☐ Dedicated: ____
☒ Other: Sampled from spicket

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
642 H	11/26/96	1240	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: ____

Walter Reich

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 675 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: ____ TOB ____ TOC
Total depth: ~ TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator ____
- ☐ Other: ____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: ____ END (2400 hr): ____ PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: ____ END (2400 hr): ____ SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
			NO Sample Taken See Remarks				

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
675H	11/26/96	N/A	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: Well is not operational or accessable

Water Flow

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17348 VE

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWR

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 11/25/96 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 11/25/96 START: _____ END (2400 hr): _____ PURGED BY: CWR

DATE SAMPLED: 11/25/96 START: _____ END (2400 hr): _____ SAMPLED BY: CWR

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			NO SAMPLE TAKEN				

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17348 VE	11/26/96	NA	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: No H2O in well

FIELD DATA SHEET

VATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17197 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Peh

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: ______ TOB ______ TOC
Total depth: — TOB ______ TOC
Date: 11/25/96 Time (2400): ______

Probe Type and I.D. #
☐ Oil/Water interface
☒ Electronic indicator
☐ Other;

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other;

TD ______ - DTW ______ = ______ x Gal/Linear Foot ______ = ______ x Number of Casings 3 = Calculated Purge ______

DATE PURGED: 11/25/96 START: ______ END (2400 hr): ______ PURGED BY: W Peh
DATE SAMPLED: 11/26/96 START: 13:30 END (2400 hr): 13:40 SAMPLED BY: W Peh

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:35	0	7.51	1290	65.8	Clear	Trace	None
			Grab	Sample			

Pumped dry Yes / No

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal Pump:
☐ Other:
☐ Airlift Pump:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
☒ Bailer:
☐ Dedicated:
☒ Other: Sampled from Spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17197 VM	11/26/96	13:40	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

[illegible]

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17200

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Roch

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: ______ TOB ______ TOC
Total depth: — TOB ______ TOC
Date: 11/25/96 Time (2400): ______

Probe Type and I.D. #
☐ Oil/Water interface ______
☒ Electronic indicator ______
☐ Other; ______

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other; ______

TD ______ - DTW ______ = ______ x Gal/Linear Foot ______ = ______ x Number of Casings 3 = Calculated Purge ______

DATE PURGED: 11/25/96 START: ______ END (2400 hr): ______ PURGED BY: W Roch
DATE SAMPLED: 11/25/96 START: ______ END (2400 hr): ______ SAMPLED BY: W Roch

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
			NO SAMPLE TAKEN				

Pumped dry Yes / No

COLOR	TURBIDITY	ODOR
Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC ______

PURGING EQUIPMENT/I.D. #
☐ Bailer: ______
☒ Centrifugal Pump: ______
☐ Other: ______
☐ Airlift Pump: ______
☐ Dedicated: ______

SAMPLING EQUIPMENT/I.D. #
☒ Bailer: ______
☐ Dedicated: ______
☐ Other: ______

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17200	11/25/96		3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: Well destroyed

Watan J M

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17203 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: _____ TOB _____ TOC
Total depth: ~ TOB _____ TOC
Date: 11/25/96 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other: _____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other: _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 11/25/96 START: _____ END (2400 hr): _____ PURGED BY: CWRich

DATE SAMPLED: 11/26/96 START: 13:20 END (2400 hr): 13 30 SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:25	0	7.41	1230	67.4	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-3
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17203 VM	11/26/96	13:30	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: _____

Water

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17302 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Rich

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: ______ TOB ______ TOC
Total depth: — TOB ______ TOC
Date: 11/25/96 Time (2400): ______

Probe Type and I.D. #
☐ Oil/Water interface
☒ Electronic indicator
☐ Other:

CASING DIAMETER	GAL/ LINEAR FT.
☐ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
☒ Groundwater
☐ Duplicate
☐ Extraction well
☐ Trip blank
☐ Field blank
☐ Equipment blank
☐ Other:

TD ______ - DTW ______ = ______ x Gal/Linear Foot ______ = ______ x Number of Casings 3 = Calculated Purge ______

DATE PURGED: 11/25/96 START: ______ END (2400 hr): ______ PURGED BY: W Rich
DATE SAMPLED: 11/25/96 START: 13:10 END (2400 hr): 13 20 SAMPLED BY: W Rich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:15	0	7.47	1290	63.2	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC

PURGING EQUIPMENT/I.D. #
☐ Bailer:
☒ Centrifugal Pump:
☐ Other:
☐ Airlift Pump:
☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
~~☒ Bailer:~~
☐ Dedicated:
☒ Other: Sampled from spicket

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17302 VM	11/25/96	13:20	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Winston Rich

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17349 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: ____ TOB ____ TOC
Total depth: ~ TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator ____
- ☐ Other; ____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: [illegible] END (2400 hr): ____ PURGED BY: CWRich

DATE SAMPLED: 11/26/96 START: 1300 END (2400 hr): 1310 SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1305	4	7.56	1260	65.1	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: ____
- ☐ Other: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ____
- ☐ Dedicated: ____
- ☒ Other: Sampled from Spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17349 VM	11/26/96	1310	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: ____

[illegible]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17371 V/M

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: ____ TOB ____ TOC
Total depth: ~ TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator ____
- ☐ Other; ____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: ____ END (2400 hr): ____ PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: ____ END (2400 hr): ____ SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			NO SAMPLE TAKEN				

Pumped dry Yes / No

COLOR: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
TURBIDITY: NTU 0-200, Heavy, Moderate, Light, Trace
ODOR: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: ____
- ☐ Other: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17371 V/M	11/25/96	N/A	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: Owner won't allow access

FIELD DATA SHEET

'ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17393 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: ____ TOB ____ TOC
Total depth: ~ TOB ____ TOC
Date: 11/25/96 Time (2400): ____

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator ____
- ☐ Other; ____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ____

TD ____ - DTW ____ = ____ x Gal/Linear Foot ____ = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: 11/25/96 START: ____ END (2400 hr): ____ PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: 1240 END (2400 hr): 1250 SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1245	0	7.65	1340	63.7	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17393 VM	11/25/96	1250	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: ____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17372 VM

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: CWRich

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: _____ TOB _____ TOC
Total depth: ~ TOB _____ TOC
Date: 11/25/96 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2		0.17
☐ 3		0.38
☐ 4		0.66
☐ 4.5		0.83
☐ 5		1.02
☐ 6		1.5
☐ 8		2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 11/25/96 START: 12:50 END (2400 hr): 13:00 PURGED BY: CWRich

DATE SAMPLED: 11/25/96 START: _____ END (2400 hr): _____ SAMPLED BY: CWRich

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:55	6	7.33	1480	67.9	Clear	Trace	None
		Grab Sample					

Pumped dry Yes / No

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sampled from spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17372 VM	11/26/96	1300	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: _____

Water Tbl

Summary of Domestic Wells Sampling Contacts
ARCO Service Station #0608
17601 Hesperian, San Lorenzo
CALL AT LEAST ONE WEEK IN ADVANCE OF EVENT EACH QUARTER
Document with copy of this log in project file
DOCUMENT EVENT WITH A SAMPLING FORM FROM ALL HOMES WHETHER SAMPLED OR NOT!!!!!!!!!!!!!!!

Address	Contact Name Phone #	Date Contacted	Pump Assessment	Notes
590 Hacienda	Mr.& Mrs. Silva (510) 276-1534	11/15/96	operational	**Won't be home, don't sample.** Well in back yard Won't use well water this year.
633 Hacienda	Mr. Dahmann (510) 276-3860	11/20/96	operational	Well redeveloped with new pump as of 10/7/94 **ok to sample**; won't use well water this year
634 Hacienda	Mrs. Albright (510) 278-6094	Don't Call Well Blocked	non-operational	No way to collect a sample
642 Hacienda	Ms. Corregedor (510) 481-1063	11/15/96	operational	**ok to sample**; won't use well water this year
675 Hacienda	Mr. & Mrs. Roberts (510) 276-7389	11/15/96	non-operational	**ok to sample**; won't use well water this year
17348 Via Encinas	Mr. Luehrs (510)278-9059	11/15/96	non-operational	Ok to enter backyard and grab bailer sample if resident not **ok to sample.**
17197 Via Magdalena	Mr. Schrag (510) 278-1904	11/15/96	operational	Grab sample off hose bib on front porch **ok to sample**; won't use well water this year
17200 Via Magdalena	Cavalry Church (510) 278-2555	**WELL DESTROYED**		
17203 Via Magdalena	Mrs. Toles (510)276-6797	11/15/96	operational	OK to enter back yard and sample if not home; knock first **ok to sample**; won't use well water this year
17302 Via Magdalena	Mr. & Mrs. Johanson (510) 278-5987	11/18/96	operational	**ok to sample per Mr. Johanson**
17349 Via Magdalena	Mr. Kast (510)278-1263	11/15/96	operational	**OK to enter back yard and sample if not home**; knock first
17371 Via Magdalena	Mr. Manry (510) 317-9724	Don't Call Not authorized	operational	Won't allow access
17372 Via Magdalena	Mr. Pimental (510) 278-6304	11/15/96	operational	Sampled from hose bib in back yard; resident is usually **ok to sample**; will use well water this year
17393 Via Magdalena	Mr. Whaley (510) 278-5576	11/15/96	non-operational	Pump disassembled. Try to bail sample from well in back yard **ok to sample**; won't use well water this year

ARCO Products Company Division of AtlanticRichfieldCompany — 336006 21 — **Task Order No.** 1934800 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Blvd. San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 1539
Consultant name Pacific Environmental Group Inc.	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH(gas) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-5		3		X		X	X	11/20/96	11:15		X											
MW-7								11/26/96	15:45													
MW-8								11/25/96	10:40													
MW-9								11/25/96	15:20													
MW-10								11/26/96	10:15													
MW-11								11/25/96	13:55													
MW-13									13:35													
MW-14									13:15													
MW-15									12:50													
MW-16									12:25													
MW-18									12:05													
MW-19									11:45													
MW-21									11:30													
MW-22									11:10													
MW-23									10:50													
MW-24		↓		↓		↓	↓	↓	14:20		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler	Date / Time: 11/26/96 15:30	Received by
Relinquished by	Date / Time	Received by
Relinquished by	Date / Time	Received by laboratory / Date / Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330 026 21 **Task Order No.** 193800

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 Hesperian blvd San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental Group Inc	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH(Gas/BTEX) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-25		3		X		X	X	11/25/96	14:40		X											
MW-26		↓		↓		↓	↓	11/25/96	15:00		↓											
E-1A		↓		↓		↓	↓	11/26/96	12:10		↓											
TB-1		2		X		↓	↓	11/25/96	N/A		↓											
633 H		3		↓		↓	↓	11/26/96	12:30		↓											
642 H		↓		↓		↓	↓	↓	12:40		↓											
17197 VM		↓		↓		↓	↓	↓	13:40		↓											
17203 VM		↓		↓		↓	↓	↓	13:30		↓											
17302 VM		↓		↓		↓	↓	↓	13 20		↓											
17349 VM		↓		↓		↓	↓	↓	13:10		↓											
17343 VM		↓		↓		↓	↓	↓	12:50		↓											
17372 VM		↓		↓		↓	↓	X	13:00		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Method of shipment

Condition of sample:

Temperature received:

Relinquished by sampler: Walter J Rose	Date 11/26/96	Time 15:30
Relinquished by	Date	Time
Relinquished by	Date	Time

Received by		
Received by		
Received by laboratory	Date	Time

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APPC-3292 (2-91)

ATTACHMENT D

REMEDIAL SYSTEM PERFORMANCE EVALUATION

ATTACHMENT D
REMEDIAL SYSTEM PERFORMANCE EVALUATION

Remedial History

Remedial action consisting of groundwater extraction (GWE) was initiated on September 25, 1991. Remedial objectives for the GWE system included migration control of the impacted groundwater plume, and petroleum hydrocarbon mass reduction. Operation of the GWE system created a small area of hydraulic influence extending no greater than 20 feet radially around the extraction well, and proved to be minimally effective in achieving the mass reduction objective (between September 1991 and August 1995, approximately 4.6 million gallons of groundwater were extracted and only 0.8 gallon of TPPH-g and 0.04 gallon of benzene were removed). A brief description and historical operational data for the GWE system are presented as Attachment D-A.

Intrinsic bioremediation parameters obtained during second quarter 1995 indicated the presence of anaerobic conditions within the impacted groundwater plume. As part of a strategy to enhance the intrinsic bioremediation process, at the request of ARCO, PACIFIC initiated an oxygen enhancement pilot study program (OEPSP) according to an Alameda County Health Care Services Agency (ACHCSA)-approved work plan. The purpose of the OEPSP was to determine if the addition of oxygen releasing compound (ORC) to groundwater would be effective in the enhancement of dissolved oxygen (DO) concentrations within the impacted groundwater plume. With the approval of the ACHCSA, GWE was temporarily deactivated on August 21, 1995, and ORC installation was performed on September 21, 1995.

The OEPSP consisted of installing ORC "socks" in Extraction Well E-1A and groundwater Monitoring Well MW-10, and monitoring intrinsic bioremediation indicator parameters (bioparameters) in those wells and existing nearby observation wells on a monthly basis during fourth quarter 1995. Bioparameters collected during the OEPSP were then compared to baseline data collected during second quarter 1995.

The results of the OEPSP were mixed. Several geochemical parameters including ferrous iron, nitrates, and sulfates, suggest that anaerobic conditions continued to exist within the ORC-containing wells. However, oxidation reduction potential (ORP) and DO data suggest

the presence of aerobic conditions in the ORC-containing wells. Total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g) and benzene concentration data further supported that the OEPSP may have increased the rate of intrinsic biodegradation locally. Considering the low permeability soils at the site, PACIFIC concluded that modification of the OEPSP consisting of longer periods of monitoring and ORC installations at Well MW-5, would be required to obtain more conclusive results. At the request of ARCO, PACIFIC expanded the OEPSP to include ORC installation at Well MW-5. Additional bioremediation indicator data collected during the second and third quarter 1996 monitoring events clearly indicates that intrinsic bioremediation remains active at the site. A summary of field and laboratory data is presented in Table D-1. A detailed description and results of the OEPSP were presented in PACIFIC's fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.

Fourth Quarter 1996 GWE System Data

The GWE system remained deactivated during fourth quarter 1996, since no evidence of further plume migration was observed and the bioremediation enhancement at the Extraction Well E-1 was in progress.

Fourth Quarter 1996 OEPSP

Fresh ORCs were installed in Wells E-1A, MW-5, and MW-10 on November 27, 1996, based on depleted concentrations of DO in these wells. The bioparameter monitoring program will be continued on an as-needed basis throughout 1997. Total BTEX compound concentrations in the ORC-containing wells ranged from less than 20 ppb in Well MW-5 to 133 ppb in Well E-1A. Intrinsic bioremediation indicator parameters are presented on Table D-1. The results of the OEPSP program remained inconclusive during the fourth quarter, 1996.

Conclusions

In light of evidence of intrinsic biodegradation and relative plume stability, PACIFIC, on behalf of ARCO, will keep the GWE system deactivated unless further plume migration is observed. The OEPSP will continue during the first quarter 1997.

Attachments: Table D-1 - Intrinsic Biodegradation Indicator Parameters
Attachment D-A - Groundwater Extraction System Description and Historical Operational Data
Attachment D-B - Intrinsic Bioremediation Indicator Parameter Field Data Sheets, Certified Analytical Reports, and Chain-of-Custody Documentation

Table D-1
Intrinsic Bioremediation Indicator Parameters

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

			Field Analyses									Laboratory Analyses								
Well	Date Sampled		Color	Odor	pH (units)	E.C (millimhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methan (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
633 H	05/31/95		Clear	None	7.09	1,295	-203	18.9	Trace	1.0	N/A +	0.2	38	61	N/A	N/A	N/A	N/A	<50	17.83	0.93
	09/12/95		Clear	None	7.36	876	N/A	20.0	Light	1.5	N/A +	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	9.94	0.64
	11/28/95		Clear	None	7.10	914	-4.7	20.4	Light	1.0	N/A +	0.1	48	68	N/A	N/A	N/A	N/A	<50	9.69	<0.50
	03/14/96		Brown	None	7.16	760	-207	18.5	Mod	2.79 b	N/A +	N/A	N/A	N/A	N/A	N/A	N/A	N/A	480	162.8	10
	05/31/96		Cloudy	None	7.06	1,000	-442	19.0	Light	1.0	N/A +	0.80	41	76	2.4	N/A	N/A	N/A	<50	<2.0	<0.50
	08/28/96		Clear	None	7.23	1,140	N/A	18.8	Trace	3.0	N/A +	0.20	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	11/26/96		Clear	None	8.29	1,360	N/A	17.3	Trace	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
E-1A	06/01/95	a	Clear	None	7.63	1,340	-155	20.4	Trace	0.0	2.0	0.1	23	54	N/A	N/A	N/A	N/A	680	25.8	4.9
	09/15/95		Clear	Mod	7.36	1,208	N/A	15.9	Light	N/A	1.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	73	6.6	3.3
	10/13/95	b,c,d	N/A	N/A	7.76	1,300	N/A	21.8	N/A	N/A	3.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<250	<10	<2.5
	11/28/95	b	Brown	Faint	9.11	1,070	40	23.1	Heavy	N/A	OS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	<2.0	<0.50
	11/28/95		Clear	None	7.40	880	-21	21.4	Light	0.0	3.06	0.15	18	74	N/A	N/A	N/A	N/A	220	66.9	3.9
	12/21/95	b	N/A	N/A	7.88	489	N/A	15.8	N/A	N/A	16.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	230	26.94	5.7
	03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96		Brown	None	7.16	800	-318	20.7	Mod	N/A	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,700	179.2	38
	05/31/96	f,g	Brown	None	7.39	1,000	-339	21.6	Mod	N/A	2.34	N/A	8.1	N/A	6.0	35	N/A	N/A	1,400	488.5	410
	08/28/96		N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0	N/A	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	09/13/96	g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/26/96		Brown	Faint	7.34	1,370	N/A	18.8	Mod	N/A	17.9 b	1.60 b	N/A	N/A	N/A	N/A	N/A	N/A	4,300	133	13
	11/27/96	g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.00 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-5	06/01/95		Brown	Faint	7.10	1,400	-119	20.2	Mod	0.0	2.0	*	19	<0.1	N/A	N/A	N/A	N/A	750	15.1	13
	09/15/95		Clear	Heavy	7.20	1,068	N/A	17.7	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	550	14	11
	10/13/95	b	N/A	N/A	7.59	1,329	N/A	25.6	N/A	N/A	1.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96		Brown	None	6.88	900	-14.3	18.7	Mod	N/A	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,600	63	30
	05/31/96	f,g	Brown	None	6.98	900	-392	23.5	Mod	N/A	3.64	N/A	<0.10	N/A	3.0	<20	N/A	N/A	240	3.9	2.4
	08/28/96		Cloudy	None	6.93	1,100	N/A	22.7	Light	N/A	2.0	3.0	N/A	N/A	N/A	N/A	N/A	N/A	250	220	210
	09/13/96	g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/26/96		Brown	None	7.37	2,040	N/A	18.8	Mod	N/A	3.41 b	1.60 b	N/A	N/A	N/A	N/A	N/A	N/A	<500	<20	<5.0
	11/27/96	g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.65 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-7	06/01/95		Brown	None	7.11	1,156	-99	20.7	Light	0.0	*	*	42	68	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	09/15/95		Brown	None	7.20	1,406	N/A	18.3	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	10/13/95	b	N/A	N/A	7.23	1,075	N/A	23.2	N/A	N/A	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95		Brown	None	7.05	832	N/A	20.7	Heavy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	03/15/96		Cloudy	None	7.69	800	N/A	17.5	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	05/29/96		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	08/28/96		Cloudy	None	7.16	1,170	N/A	19.7	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	11/25/96	h	Brown	None	7.17	1,120	N/A	20.1	Mod	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50

Table D-1 (continued)
Intrinsic Bioremediation Indicator Parameters

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

		Field Analyses									Laboratory Analyses								
Well	Date Sampled	Color	Odor	pH (units)	E.C (millimhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methan (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
MW-8	06/01/95	Brown	Strong	7.09	1,071	-199	20.4	Light	0.0	1.0	0.1	<0.10	33	N/A	N/A	N/A	N/A	810	7.1	5.2
	09/15/95	Clear	Mod	7.01	1,000	N/A	17.3	Light	N/A	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	850	33	30
	10/13/95 b,e	N/A	N/A	6.96	972	N/A	22.6	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	760	6.72	<2.5
	11/28/95 b	Clear	None	7.01	811	0	25.7	Trace	N/A	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Clear	None	6.73	846	0	22.2	Trace	0.0	0.07	0.4	<1.0	<1.0	N/A	N/A	N/A	N/A	1,200	54	39
	12/21/95 b	Clear	None	6.75	640	N/A	17.0	Trace	N/A	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95	Clear	None	6.80	652	N/A	16.7	Trace	N/A	0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	560	29.5	28
	03/14/96 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96	Cloudy	None	6.87	793	-266	19.6	Light	N/A	0.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	670	11.1	5.1
	05/31/96 f	Brown	None	6.79	800	-467	19.9	Mod	0.0	1.62	1.40	2.2	58	3.0	N/A	N/A	N/A	490	3.8	<1.0
	08/28/96	Cloudy	None	6.93	1,000	N/A	22.8	Light	1.5	N/A	1.4	N/A	N/A	N/A	N/A	N/A	N/A	500	0.26	680
	11/26/96	Brown	None	6.85	1,230	N/A	18.4	Mod	N/A	0.13	1.40	N/A	N/A	N/A	N/A	N/A	N/A	620	8.7	1.2
MW-10 a	06/01/95	Clear	Mod	7.00	1,301	-199	18.0	Trace	0.0	1.0	0.2	<0.10	8.1	N/A	N/A	N/A	N/A	1,100	<4.8	<1.2
	09/14/95	Clear	Mod	7.10	968	N/A	20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	<8	<2.0
	10/13/95 b,e	N/A	N/A	7.33	1,397	N/A	23.6	N/A	N/A	17.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	510	<2.0	<0.50
	11/28/95 b	Cloudy	None	6.43	868	16	19.2	Light	N/A	9.74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	770	<4.0	<1.0
	11/28/95	Clear	None	6.99	1,021	5	21.8	Trace	0.0	0.71	0.40	<1.0	<1.0	N/A	N/A	N/A	N/A	840	<4.8	<1.0
	12/21/95 b	N/A	N/A	7.18	787	N/A	17.1	N/A	N/A	2.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	440	6.6	5.1
	03/14/96 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96	Clear	None	6.87	830	-244	19.1	Trace	N/A	1.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	52.2	35
	05/31/96 f,g	Clear	None	6.84	900	-470	19.1	Trace	N/A	2.07	N/A	<0.10	N/A	16	46	N/A	N/A	800	<4	<1.0
	09/13/96 g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/26/96	Brown	None	6.72	1,330	N/A	19.9	Mod	N/A	6.35 b	1.80 b	N/A	N/A	N/A	N/A	N/A	N/A	1,100	24	6.0
	11/27/96 g	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.36 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-23	05/31/96 f	Cloudy	None	7.65	1,000	-328	18.5	Light	0.0	4.23	0.40	39	85	<1.0	N/A	N/A	N/A	<50	<2.0	<0.50
	08/28/96	Brown	None	6.76	1,120	N/A	19.4	Mod	2.0	N/A	0.0	N/A	N/A	N/A	N/A	420	<0.020	<50	<2.0	<0.50
	11/25/96	Brown	None	6.81	1,040	N/A	18.4	Mod	N/A	0.19	0.0	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
SP-1	09/15/95	Clear	None	6.94	1,040	N/A	18.3	Mod	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	10/13/95 b,e	N/A	N/A	7.30	1,062	N/A	22.6	N/A	N/A	0.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	11/28/95 b	Brown	None	7.37	837	88	22.7	Heavy	N/A	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Cloudy	None	6.89	956	72	21.8	Heavy	0.0	0.13	0.20	16	44	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	12/21/95 b	Clear	None	7.02	644	N/A	15.0	Trace	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95	Clear	None	7.05	710	N/A	15.7	Trace	N/A	0.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	03/14/96 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96	Cloudy	None	6.99	840	-198	21.0	Light	N/A	1.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	05/31/96	Brown	None	6.85	900	-455	20.7	Mod	N/A	1.34	0.40	18	17	3.0	N/A	N/A	N/A	N/A	N/A	N/A
	08/28/96	Cloudy	None	7.38	1,120	N/A	20.6	Light	2.0	N/A	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/26/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.19	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/27/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table D-1 (continued)
Intrinsic Bioremediation Indicator Parameters

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

		Field Analyses										Laboratory Analyses								
Well	Date Sampled	Color	Odor	pH (units)	E.C (millimhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methan (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
SP-2	09/15/95	Clear	None	7.18	1,110	N/A	20.1	Light	N/A	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94	<2.0	<0.50
	10/13/95 b,e	N/A	N/A	7.11	1,090	N/A	23.0	N/A	N/A	0.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80	<2.0	<0.50
	11/28/95 b	Brown	None	7.10	866	2	23.3	Heavy	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Brown	None	6.74	690	36	25.7	Heavy	0.0	0.72	0.6	<1.0	25	N/A	N/A	N/A	N/A	94	<2.0	<0.50
	12/21/95 b	Clear	None	7.25	862	N/A	15.6	Trace	N/A	3.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95	Clear	None	7.19	710	N/A	16.7	Trace	N/A	3.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	03/14/96 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/14/96	Brown	None	6.84	810	-231	19.8	Heavy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	0.50
	05/31/96	Brown	None	6.95	900	-388	19.8	Mod	0.0	2.63	0.60	<0.10	24	2.3	N/A	N/A	N/A	N/A	N/A	N/A
	08/28/96	Cloudy	None	7.55	1,150	N/A	21.9	Light	3.0	N/A	0.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/26/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.38	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/27/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

E.C. = Electrical conductivity
O.R.P = Oxygen reduction potential
D.O. = Dissolved oxygen
B.O.D = Biochemical oxygen demand
C.O.D = Chemical oxygen demand
Temp = Temperature
deg C = Degrees Centigrade
NTU = Nepholemetric turbidity unit
mg/L = Milligrams per liter
µg/L = Micrograms per liter
TPPH = Total purgeable petroleum hydrocarbons
N/A = Not available or not applicable
Mod = Moderate
OS = Off scale
< = Denotes sample method detection limit

† = Dissolved oxygen measured using Chemets colorometric analysis kit ampules
‡ = Dissolved oxygen measured using a YSI Model #SODB D.O. meter
* = High sample turbidity prevented colorimetric analysis
@ = Turbidity measured greater than 200 NTU's.
+ = Well was sealed; unable to lower D.O. probe into well. Obtained D.O. measurement from extracted water using Chemets dissolved oxygen test kit.
a. ORC's installed September 21, 1995 in Wells E-1A and MW-10, and replaced on May 31, 1996.
b. Measurements and samples taken before purging.
c. ORCs were jammed in Well E-1A, therefore no sampling was performed.
d. October monthly data obtained 11/01/95 following removal of jammed ORCs from Well E-1A.
e. TPPH and BTEX samples taken on October 23, 1995.
f. TPPH and BTEX samples taken on May 29, 1996 (Well MW-23 samples taken May 28, 1996).
g. Fresh ORC installed in Wells MW-5, MW-10, and E1-A following data collection.
h. Samples for analysis collected on November 26, 1996.

Turbidity measured using a Nepholemetric turbidity unit or assessed visually.
All data collected after purging well, except where noted.

ATTACHMENT D-A

GROUNDWATER EXTRACTION SYSTEM DESCRIPTION AND HISTORICAL OPERATIONAL DATA

ATTACHMENT D-A
GROUNDWATER EXTRACTION SYSTEM DESCRIPTION

GWE SYSTEM DESCRIPTION

The GWE system is comprised of an extraction well (designated E-1A) containing an electric submersible pump, and three 1,200-pound granular activated carbon vessels to treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in series, with valving to permit bed order rotation. This allows for the primary vessel to become the secondary vessel after the carbon has been renewed. The third vessel serves as a polishing vessel. Sample ports are located at the treatment system influent, effluent, the mid-point between the carbon vessels, and at each individual well head. Treatment system effluent is discharged into the sanitary sewer system in accordance with Permit Number 90-073-91, issued by the Oro Loma Sanitary District on April 4, 1991. The permit was recently renewed through April 4, 1997.

Attachments:
- Table D-A-1 - Groundwater Extraction System Performance Data
- Table D-A-2 - Treatment System Analytical Data - Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
- Figure D-A-1 - Groundwater Extraction System Mass Removal Trend
- Figure D-A-2 - Groundwater Extraction System Concentration Trend

Table D-A-1
Groundwater Extraction System Performance Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)		Net Volume (gallons)		Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	Primary Carbon Loading (%)
09/25/91	0	N/A	0		0		0.0	ND	N/A	0.0	N/A	0.00	0.00	0.0
09/26/91	N/A	N/A	1,144		1,144		N/A	38	0.0	0.0	4.8	0.00	0.00	0.0
10/22/91	26	96	12,844		11,700		7.6	ND	N/A	0.0	ND	0.00	0.00	0.0
11/22/91	77	93	52,532		39,688		13.0	ND	N/A	0.0	0.52	0.00	0.00	0.0
12/19/91	322	62	122,540		70,008		4.8	ND	N/A	0.0	ND	0.00	0.00	0.0
01/16/92	994	0	283,289		160,749		4.0	ND	N/A	0.0	ND	0.00	0.00	0.0
02/19/92	1,809	0	485,200		201,911		4.1	370	0.3	0.3	14	0.01	0.01	0.4
03/17/92	2,462	0	662,847		177,647		4.5	160	0.4	0.7	18	0.02	0.04	0.9
04/15/92	3,150	1	851,100		188,253		4.6	200	0.3	1.0	11	0.02	0.06	1.2
05/14/92	3,849	0	1,030,086		178,986		4.3	45	0.2	1.2	1.4	0.01	0.07	1.5
06/19/92	4,712	0	1,229,960		199,874		3.9	ND	N/A	1.2	ND	0.00	0.07	1.5
07/14/92	5,001	52	1,291,201		61,241		3.5	97	0.0	1.2	25.0	0.01	0.08	1.5
08/18/92	N/A	N/A	1,410,018		118,817		N/A	ND	N/A	1.2	ND	0.01	0.09	1.5
09/15/92	6,298	N/A	1,535,640		125,622		3.1	ND	N/A	1.2	ND	0.00	0.09	1.5
10/16/92	7,012	4	1,651,623		115,983		2.7	ND	N/A	1.2	ND	0.00	0.09	1.5
11/18/92	7,809	0	1,768,076		116,453		2.4	ND	N/A	1.2	ND	0.00	0.09	1.5
12/17/92	8,502	0	1,864,300		96,224		2.3	96	0.0	1.2	7.7	0.00	0.09	1.5
01/18/93	8,798	61	1,915,165		50,865		2.9	100	0.0	1.3	13	0.00	0.10	1.6
02/22/93	9,607	0	2,096,930		181,765		3.7	480	0.4	1.7	36	0.04	0.13	2.1
03/15/93	10,113	0	2,205,833		108,903		3.6	310	0.4	2.1	29	0.03	0.16	2.6
04/09/93	10,517	33	2,298,770		92,937		3.8	140	0.2	2.2	11	0.02	0.18	2.8
05/13/93	11,211	15	2,449,160		150,390		3.6	530	0.4	2.7	27	0.02	0.20	3.3
06/04/93	11,734	1	2,543,500		94,340		3.0	170	0.3	2.9	5.2	0.01	0.21	3.7
07/20/93	12,573	24	2,689,697		146,197		2.9	200	0.2	3.2	12	0.01	0.22	4.0
08/16/93	13,219	0	2,791,366		101,669		2.6	150	0.1	3.3	4.9	0.01	0.23	4.1
09/13/93	13,888	0	2,884,736		93,370		2.3	80	0.1	3.4	2.2	0.00	0.23	4.3
10/08/93	14,485	1	2,951,737		67,001		1.9	ND	0.0	3.4	ND	0.00	0.24	4.3
11/19/93	15,494	0	3,036,032		84,295		1.4	ND	0.0	3.4	ND	0.00	0.24	4.3
12/21/93	16,260	0	3,113,565		77,533		1.7	73	0.0	3.5	3.5	0.00	0.24	4.3
01/18/94	16,939	0	3,190,900		77,335		1.9	60	0.0	3.5	3.1	0.00	0.24	4.4
02/17/94	17,658	0	3,273,720		82,820		1.9	ND	0.0	3.5	2.5	0.00	0.24	4.4
03/15/94	18,235	7	3,344,249		70,529		2.0	ND	0.0	3.5	ND	0.00	0.24	4.4
04/21/94	18,849	31	3,418,537		74,288		2.0	110	0.0	3.5	7.8	0.00	0.24	4.4
05/13/94	19,351	5	3,478,910		60,373		2.0	230	0.1	3.6	8.3	0.00	0.25	4.5
06/14/94	19,680	57	3,518,608	a	39,698		2.0	230	0.1	3.7	12	0.00	0.25	4.6
07/14/94	20,145	35	3,574,408	b	55,800		2.0	270	0.1	3.8	6.9	0.00	0.26	4.8
08/17/94	20,920	5	51,260	c	91,580	c	2.0	ND	0.1	3.9	1.8	0.00	0.26	4.9
09/12/94	21,549	0	120,910		69,650		1.8	ND	0.0	3.9	ND	0.00	0.26	4.9
10/18/94	22,408	1	211,880		90,970		1.8	ND	0.0	3.9	ND	0.00	0.26	4.9
11/15/94	23,080	0	280,840		68,960		1.7	ND	0.0	3.9	0.66	0.00	0.26	4.9
12/05/94	23,489	15	325,830		44,990		1.8	470	0.1	4.0	32	0.01	0.27	5.0
01/04/95	24,205	1	408,740		82,910		1.9	ND	0.2	4.2	1.1	0.01	0.28	5.2
02/06/95	24,926	9	499,690		90,950		2.1	100	0.0	4.2	2.4	0.00	0.28	5.2
03/02/95	25,465	6	569,180		69,490		2.1	ND	0.0	4.2	ND	0.00	0.28	5.3

Table D-A-1 (continued)
Groundwater Extraction System Performance Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	Primary Carbon Loading (%)
04/04/95	26,253	1	672,510	103,330	2.2	290	0.1	4.3	6.6	0.00	0.28	5.4
05/02/95	26,924	0	760,350	87,840	2.2	240	0.2	4.5	7.1	0.01	0.29	5.7
06/05/95	27,721	2	848,810	88,460	1.9	ND	0.1	4.6	ND	0.00	0.29	5.8
07/06/95	28,464	0	921,260	72,450	1.6	270	0.1	4.7	2.4	0.00	0.29	5.9
08/21/95 d	29,568	0	993,320	72,060	1.1	230	0.2	4.9	1.8	0.00	0.29	6.1
REPORTING PERIOD: 09/30/96 - 12/31/96 (d)												
TOTAL GALLONS EXTRACTED:				**4,608,048**								
PERIOD GALLONS EXTRACTED:				**0**								
TOTAL POUNDS REMOVED:								**4.9**			**0.29**	
TOTAL GALLONS REMOVED:								**0.8**			**0.04**	
PERIOD POUNDS REMOVED:							**0.0**			**0.00**		
PERIOD GALLONS REMOVED:							**0.00**			**0.00**		
AVERAGE PERIOD FLOW RATE (gpm):												**0.0**
AVERAGE PERCENT DOWNTIME SINCE START-UP UNTIL SHUTDOWN (d):												**13.6%**
PERIOD PERCENT OPERATIONAL:												**0%**

TPPH = Total purgeable petroleum hydrocarbons
gpm = Gallons per minute
µg/L = Micrograms per liter
N/A = Not available or not applicable
ND = Not detected above detection limit
Densities: Gasoline = 6.1 lbs/gallon; Benzene = 7.34 lbs/gallon.

a. Totalizer broken; volume estimated from hourmeter and flow rate.
b. Volume estimated from hourmeter and instantaneous flow rate.
c. Sewer totalizer replaced July 28, 1994; volume discharged estimated between July 14 and 28, 1994 at 2.0 gpm.
d. GWE system temporarily shut down August 21, 1995.
Primary carbon loading estimated using isotherm of 8 percent by weight.

Equations: Net Dissolved TPH-g Removed [pounds] = TPH-g concentration, [µg/L] x net volume (gallon) x density of gasoline [pound/gallon]
(Net dissolved TPH-g removed is calculated by averaging influent concentrations)

Table D-A-2
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
INFL (influent to primary carbon)					
09/26/91	36	4.8	0.6	1.6	1.1
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	0.5	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	370	14	0.34	14	2.4
03/17/92	160	18	0.32	0.56	1.6
04/15/92	200	11	<0.3	7.3	0.77
05/14/92	45	1.4	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	97	25	<0.5	8.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	96	7.7	13	0.56	9.7
01/18/93	100	13	6.6	1.1	11
02/22/93	480	36	29	4.9	96
03/15/93	310	29	14	4.9	55
04/09/93	140	11	2.8	2.6	17
05/13/93	530	27	12	18	96
06/04/93	170	5.2	1.6	2.5	23
07/20/93	200	12	0.91	8.2	29
08/16/93	150	4.9	0.63	2.9	15
09/13/93	80	2.2	<0.5	<0.5	4.8
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	73	3.5	<0.5	1.9	8.4
01/18/94	60	3.1	<0.5	3.2	4.3
02/17/94	<50	2.5	<0.5	2.1	3.1
03/15/94	<50	<0.5	<0.5	<0.5	<0.5
04/21/94	110	7.8	<1.0	9.6	<1.0
05/13/94	230	8.3	<0.5	14	6.0
06/14/94	230	12	<0.5	16	1.5
07/14/94	270	6.9	<0.5	15	1.9
08/18/94	<50	1.8	<0.5	1.5	<0.5
09/12/94	<50	<0.5	<0.5	<0.5	<0.5
10/18/94	<50	<0.5	<0.5	<0.5	<0.5
11/05/94	<50	0.66	<0.5	2.6	<0.5
12/05/94	470	32	0.59	29	6.2
01/04/95	<50	1.1	<0.50	1.4	<0.50
02/06/95	100	2.4	1.1	1.2	2.8
03/02/95	<50	<0.50	<0.50	<0.50	<0.50
04/04/95	290	6.6	<0.50	10	1.7
05/02/95	240	7.1	<0.50	3.2	1.6
06/05/95	<50	<0.50	<0.50	<0.50	<0.50
07/06/95	270	2.4	<0.50	7.6	1.0
08/21/95	230	1.8	<0.50	1.6	0.9

Table D-A-2 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
MID-1 (between carbons)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	NS	NS	NS	NS	NS
08/18/92	NS	NS	NS	NS	NS
09/15/92	NS	NS	NS	NS	NS
10/16/92	NS	NS	NS	NS	NS
11/18/92	NS	NS	NS	NS	NS
12/17/92	NS	NS	NS	NS	NS
01/18/93	NS	NS	NS	NS	NS
02/22/93	NS	NS	NS	NS	NS
03/15/93	NS	NS	NS	NS	NS
04/09/93	NS	NS	NS	NS	NS
05/13/93	NS	NS	NS	NS	NS
06/04/93	NS	NS	NS	NS	NS
07/14/94	ND	ND	ND	ND	ND
08/17/94	NS	NS	NS	NS	NS
09/12/94	NS	NS	NS	NS	NS
10/18/94	NS	NS	NS	NS	NS
11/05/94	NS	NS	NS	NS	NS
12/05/94	NS	NS	NS	NS	NS
01/04/95	NS	NS	NS	NS	NS
02/06/95	NS	NS	NS	NS	NS
03/02/95	NS	NS	NS	NS	NS
EFFL (effluent to sewer)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	<50	<0.5	<0.5	<0.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	<50	<0.5	<0.5	<0.5	<0.5

Table D-A-2 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
EFFL (effluent to sewer) (cont.)					
01/18/93	<50	<0.5	<0.5	<0.5	<0.5
02/22/93	<50	<0.5	<0.5	<0.5	<0.5
03/15/93	<50	<0.5	<0.5	<0.5	<0.5
04/09/93	<50	<0.5	<0.5	<0.5	<0.5
05/13/93	<50	<0.5	<0.5	<0.5	<0.5
06/04/93	<50	<0.5	<0.5	<0.5	<0.5
07/20/93	<50	<0.5	<0.5	<0.5	<0.5
08/16/93	<50	<0.5	<0.5	<0.5	<0.5
09/13/93	<50	<0.5	<0.5	<0.5	<0.5
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	<50	<0.5	<0.5	<0.5	<0.5
01/18/94	<50	<0.5	<0.5	<0.5	<0.5
02/17/94	<50	<0.5	<0.5	<0.5	<0.5
03/15/94	<50	<0.5	<0.5	<0.5	<0.5
04/21/94	<50	<0.5	<0.5	<0.5	<0.5
05/13/94	<50	<0.5	<0.5	<0.5	<0.5
06/14/94	<50	<0.5	<0.5	<0.5	<0.5
07/14/94	<50	<0.5	<0.5	<0.5	<0.5
08/17/94	<50	<0.5	<0.5	<0.5	<0.5
09/12/94	<50	<0.5	<0.5	<0.5	<0.5
10/18/94	<50	<0.5	<0.5	<0.5	<0.5
11/05/94	<50	<0.5	<0.5	<0.5	<0.5
12/05/94	<50	<0.5	<0.5	<0.5	<0.5
01/04/95	<50	<0.50	<0.50	<0.50	<0.50
02/06/95	<50	<0.50	<0.50	<0.50	<0.50
03/02/95	<50	<0.50	<0.50	<0.50	<0.50
04/04/95	<50	<0.50	<0.50	<0.50	<0.50
05/02/95	<50	<0.50	<0.50	<0.50	<0.50
06/05/95	<50	<0.50	<0.50	<0.50	<0.50
07/06/95	<50	<0.50	<0.50	<0.50	<0.50
08/21/95	<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
< = Less than laboratory detection limit at right.
NS = Not sampled
ND = Not detected
Prior to June 1995, TPPH as gasoline was reported as TPH as gasoline.

Figure D-A-1
Groundwater Extraction System Mass Removal Trend

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

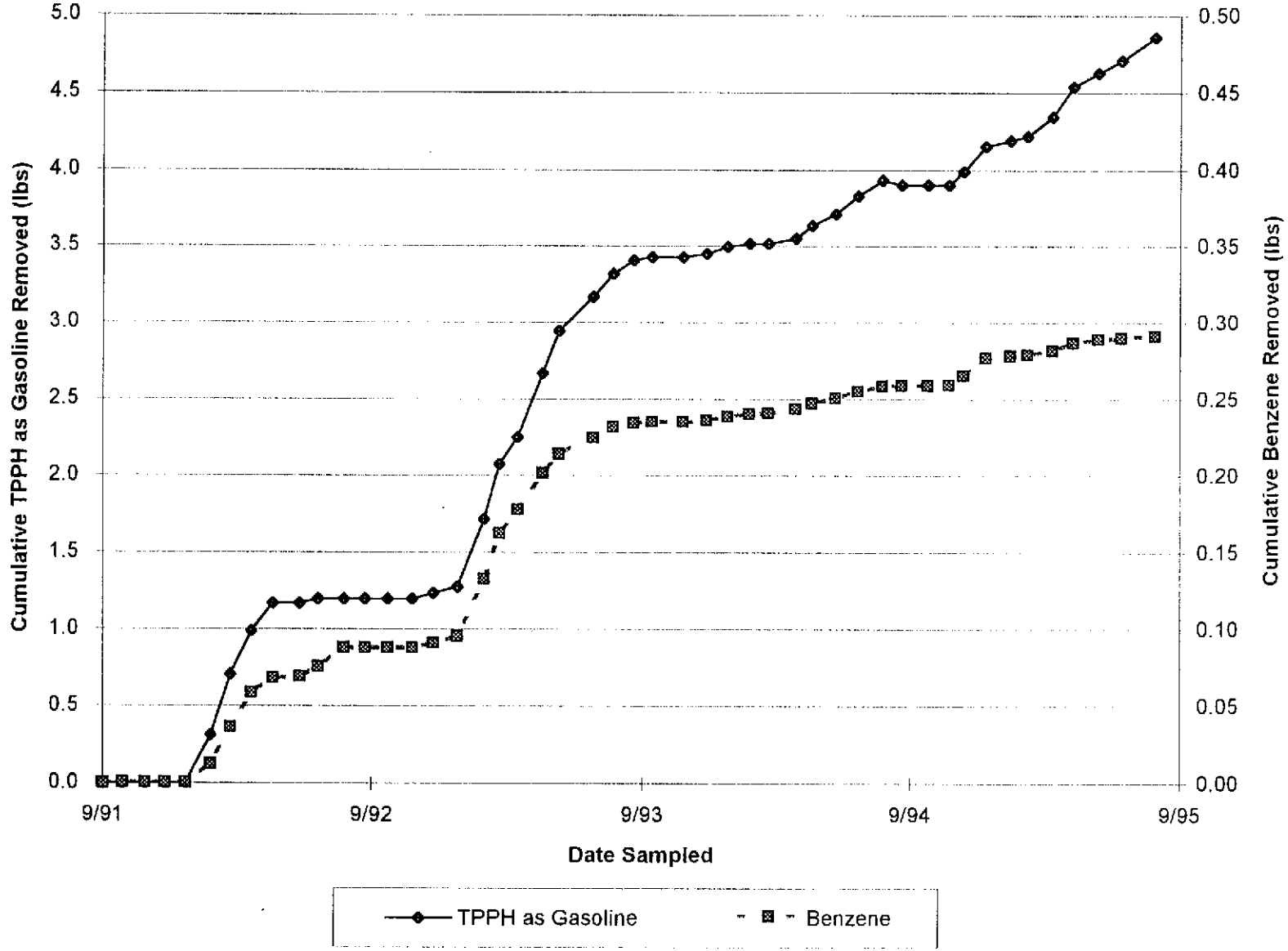
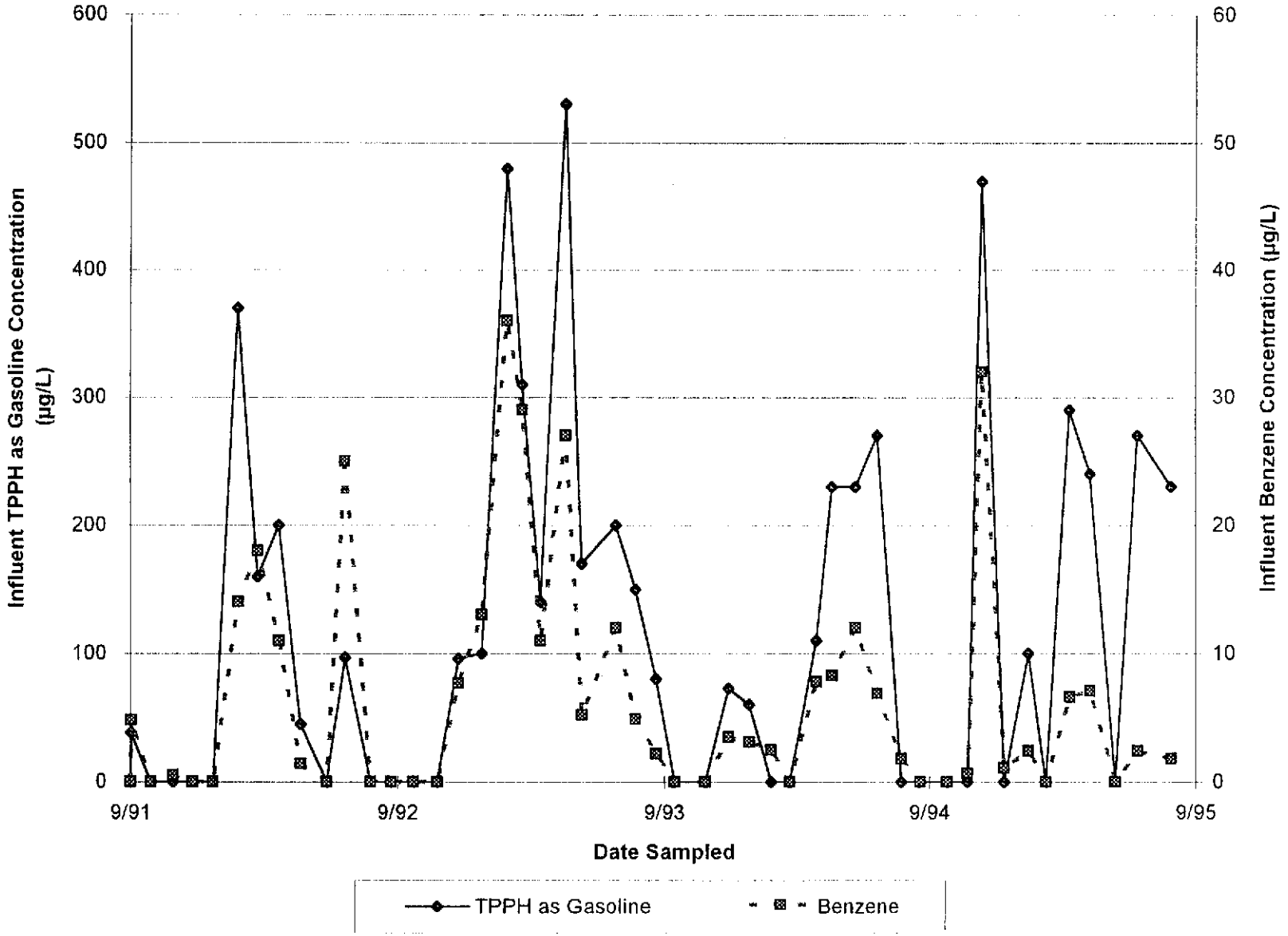


Figure D-A-2
Groundwater Extraction System Concentration Trend

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California



ATTACHMENT D-B

INTRINSIC BIOREMEDIATION INDICATOR PARAMETER FIELD DATA SHEETS, CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY DOCUMENTATION

FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.5C
Station ID #0608
Site Address: 17601 Hesperian Blvd, Oakland
Lab: Sequoia 1928100
County:
Project Manager: Shaw Garakani
Requester: Shaw Garakani
Client: ARCO
Client P.O.C: MIKE WHELAN
Date of Request: December 23, 1996

Project Type

☐ Operation & Maintenance
☒ Sampling
☐ 1st time visit
☐ Quarterly
☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
☐ Monthly
☐ Semi-Monthly
☐ Weekly
☒ One time event
☐ Other:
Ideal field date: **MUST BE IN 96**

Check Appropriate Category

X In Budget Site Visit
☐ Out of Budget Site Visit

Budget Hours: 4
Actual Hours: /
Mob de Mob: 3

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE:

Obtain groundwater samples from wells 633 H and MW-22 according to standard procedures

Submit one sample from each well to Soquia for EPA 8260 analysis for MtBE. Standard turn around time.

All other requirements are same as EPA 8020.

NOTE: DUE TO HOLIDAYS. IT WILL BE THE TECHS RESPONSIBILITY TO ARRANGE FOR THE PICK UP OR DELIVERY OF THE SAMPLES IN A TIMELY MANER TO THE LAB., SO THAT THE SAMPLE HOLD TIME IS NOT EXPIRED.

TECHNICIAN WILL ALSO BE RESPONSIBLE FOR CONTACTING AND OBTAINING PERMISSION FROM THE HOME OWNER.

Comments, remarks from field staff

Completed By: CJ Peck **Date:** 12/30/96

Pacific Environmental Group, Inc.

FIELD RE RT

PTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 320 006 5C LOCATION: 7601 Hesperian Blvd Oakland DATE: 1/30/92

CLIENT/STATION NO.: Arco #0608 FIELD TECHNICIAN: W Ree DAY OF WEEK: Mon

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☑ H_2O level indicator _____
- ☐ Other: _____

Casing 5.22

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet) TOC	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH): SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons): SPH / H_2O
3 1	MW-22	11:45						21.44	9.38 / 9.14	9.38 / 9.14										

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 5C LOCATION: 17601 Hesperian Blvd, Oakland WELL ID #: 633 H

CLIENT/STATION No.: Arco # 0608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 12/30/96 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER	GAL/ LINEAR FT.
☒ 2	0.17
☐ 3	0.38
☐ 4	0.66
☐ 4.5	0.83
☐ 5	1.02
☐ 6	1.5
☐ 8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = Calculated Purge _____

DATE PURGED: ~~12/30/96~~ START: _____ END (2400 hr): _____ PURGED BY: W Peck

DATE SAMPLED: 12/30/96 START: 10:55 END (2400 hr): 11:00 SAMPLED BY W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:55	n/a	7.18	4080	65.8	Clear	Trace	None
			Grab Sample				

Pumped dry Yes / No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown
NTU 0-200: Heavy, Moderate, Light, Trace
Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/~~TOC~~ _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Centrifugal Pump: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____
- ☒ Other: Sampled from Spigot

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sampled from spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
633 H: ~~633 H~~	12/30/96	1100	3	40ml	VOA	HCL	8260 BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 5C LOCATION: 7601 Hesperian Blvd Oakland WELL ID #: MW-22

CLIENT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 9.38 TOB ~~9.13~~ TOC
Total depth: _____ TOB ~~21.47~~ TOC
Date: 12/30/96 Time (2400): 11:15

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☒ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD 21.47 - DTW 9.14 = 12.30 x Gal/Linear Foot .38 = 4.57 x Number of Casings 3 = Calculated Purge 13.7

DATE PURGED: 12/30/96 START: 1020 END (2400 hr): 1036 PURGED BY: W Peck
DATE SAMPLED: 12/30/96 START: 1036 END (2400 hr): 1040 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1025	4.75	7.08	4260	65.7	Brown	Mod	None
1031	9.50	7.04	4280	66.1	Brown	Mod	None
1034	14.25	7.00	4200	66.8	Brown	Mod	None

Cobalt 0-100, Clear, Cloudy, Yellow, Brown | NTU 0-200, Heavy, Moderate, Light, Trace | Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
W22 ~~MW-6~~	12/30/96	1145	3	40ml	VOA	HCL	8260/MTBE

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company (Division of AtlanticRichfieldCompany) 330 006 54P **Task Order No.** WP 1928100

Chain of Custody

ARCO Facility no. 0608	City (Facility) [illegible]	Project manager (Consultant) Shaw Garakani	Laboratory name Sequoia
ARCO engineer [illegible]	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500 / Fax no. (Consultant) (408) 441-7539	Contract number
Consultant name [illegible]	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	EPA 8260 MTBE	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
[illegible]		3		X		X		[illegible]	1120	X												
[illegible]				X		X		[illegible]	10[illegible]	X												

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample: | Temperature received:

Relinquished by sampler [signature]	Date [illegible]	Time [illegible]	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory [signature] / Date 12-20-96 / Time 11:45

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APPC-3292 (2-91)

FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.5C
Station ID #0608
Site Address: 17601 Hesperian Blvd, Oakland
Lab: Sequoia 1928100
County:
Project Manager: Shaw Garakani
Requester: David S. Nanstad
Client: ARCO
Client P.O.C: MIKE WHELAN
Date of Request: November 8, 1996

Project Type

☒ Operation & Maintenance
☐ Sampling
☐ 1st time visit
☐ Quarterly
☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
X Monthly
☐ Semi-Monthly
☐ Weekly
☐ One time event
☐ Other:
Ideal field date: w/4q96 event

Check Appropriate Category

X In Budget Site Visit
☐ Out of Budget Site Visit

Budget Hours: 4
Actual Hours: 2
Mob de Mob: 1

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE:

Obtain DO values from wells MW-10, E1-A and MW-5 while the ORC's are in the well.

Perform the attached bio-monitoring schedule. Call engineer right after obtainning DO and ferrouse data.

Charge time associatted with this event to 3300065c GET D.O. W ORC CONTAINING WELLS @ IMMEDIATELY AFTER PURGE ALSO

Comments, remarks from field staff

Completed By: WRea Date: 11/26/96

Pacific Environmental Group, Inc.

Dissolved Oxygen Meter Checklist and Data Sheet

PART A: WELL DATA
MATERIALS
PLEASE CHECK OFF THE FOLLOWING BEFORE LEAVING OFFICE!

DO METER	X	PROBE AND REEL	Y
CALIBRATION BOTTLE	X	KCL SOLUTION	X
SPARE MEMBRANES	X	6 SPARE D BATTERIES	X
BUCKET	X	PAPER TOWEL	X
INSTRUCTION BINDER	X	SPARE O-RINGS	X
SCISSORS	X	SPARE DATA SHEETS	X
ALCONOX	X	STICK	X
WATER BOTTLE	X	WATER LEVEL INDICATOR	X

BEFORE MEASUREMENTS

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Yes	WARM UP UNIT FOR 20 MINUTES?	Yes

CALIBRATION

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Yes	CALIBRATE UNIT?	Yes
4a. CALIBRATION TEMPERATURE (C)	20.2	4b. CALIBRATION DO READING (mg/L)	9.06

COMPARED TO CALIBRATION DO TABLE VALUE?	Yes	4d. CALIBRATION BOTTLE READING (mg/L)	9.07

FIELD MEASUREMENTS

WELL E 1A

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabilization time	17.95 / .78	NA	1.60
PROBE & CORD RINSED?		Yes		
DO READING STABILIZED?		Yes		

WELL E-1A

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabiliza-tion time		NA	
PROBE & CORD RINSED?				
DO READING STABILIZED?				

WELL MW-5

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabiliza-tion time	Before Purge 3.41 / After Purge 1.98	NA	1.60
PROBE & CORD RINSED?		Yes		
DO READING STABILIZED?		Yes		

WELL MW-8

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabiliza-tion time	Before Purge .13 / After Purge .35	NA	1.40
PROBE & CORD RINSED?		Yes		
DO READING STABILIZED?		Yes		

WELL MW-10

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabiliza-tion time	Before 6.35 / After Purge .34	NA	1.80
PROBE & CORD RINSED?		Yes		
DO READING STABILIZED?		Yes		

WELL MW-23

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabiliza-tion time		NA	
PROBE & CORD RINSED?				
DO READING STABILIZED?				

WELL SP-1/V-4

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabilization time	.19	NA	5
PROBE & CORD RINSED?				
DO READING STABILIZED?				

WELL SP-2/V-5

DISSOLVED OXYGEN (mg/L). HYDROGEN SULFIDE and FERROUS IRON

		D.O.	Hydrogen Sulfide	Ferrous Iron
2' From top	Allow 2 minute minimum stabilization time	.39	NA	0
PROBE & CORD RINSED?		Yes		
DO READING STABILIZED?		Yes		

4th Quarter Intrinsic Groundwater Bioremediation Enhancement Program Monitoring Schedule

ARCO Service Station 0608
17601 Hesperian Blvd.
San Lorenzo, CA

Well	O.R.P. Before Purging	O.R.P. After Purging	Hydro-gen Sulfide	D.O. Before Purging	D.O. After Purging	Ferrous Iron	Laboratory Analyses: Nitrate as Nitrate	Sulfate	Nitrogen as Ammonia	Total Iron	B.O.D.	Hetero-trophic Plate Count	C.O.D.	CO2	CH4
633 H	N	N	N	N	Y/N	Y/N	N	N	N	N	N	N	N	N	N
E-1A*	N	N	N	Y/N	N/Y	N/Y	N	N	N	N	N	N	N	N	N
MW-5*	N	N	N	Y/N	N/Y	N/Y	N	N	N	N	N	N	N	N	N
MW-8	N	N	N	N	Y	Y	N	N	N	N	N	N	N	Y/N	Y/N
MW-10*	N	N	N	Y/N	N/Y	N/Y	N	N	N	N	N	N	N	N	N
MW-23	N	N	N	N	Y/N	Y/N	N	N	N	N	N	N	N	N	N
SP-1/V-4	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N
SP-2/V-5	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N

O.R.P. = Oxidation reduction potential
D.O. = Dissolved oxygen
B.O.D. = Biological oxygen demand
C.O.D. = Chemical oxygen demand
ORC = Oxygen releasing compound
Y/N = Monitor/Don't monitor
* = Wells containing ORC (Well MW-5 scheduled for ORC installation 2Q96)

Bioremediation Assessment Field and Laboratory Procedures

Field Procedures

Parameter	Instrument or Technique
Color	Manually
Odor	Manually
Oxidation Reduction Potential (ORP)	YSI Model 3560 water quality monitoring system with YSI Model 3540 ORP electrode assembly
Turbidity	Nepholemetric turbidity unit or manually
Hydrogen Sulfide	HACH hydrogen sulfide test kit Model HS-C, catalog No. 25378-00
Dissolved Oxygen	YSI Model 50 in-situ dissolved oxygen meter
Ferrous Iron	HACH TPTZ iron reagent method, Model IR-21, catalog No. 22993-00 and ferrous iron Powder Pillows Catalog No. 1037-69

Laboratory Procedures

Analysis	Method	Bottle
TPPH-g & BTEX Compounds	EPA Methods 8015 (modified), 8020, and 5030	Voa, cool, HCL; no head-space
*Nitrate as Nitrate	EPA Method 300	G or P, keep cool, 100ml, 24 hr hold:NP
*Sulfate	EPA Method 300	G or P, keep cool, 100ml, 28 day hold:NP
Nitrogen as Ammonia	EPA Method 350.3	G or P, 500 ml with H_2SO4, keep cool, 28 day hold time
B.O.D.	EPA Method 405.1	P, 1L, 48 hour hold, NP, keep cool
C.O.D.	EPA Method 410.4	VOA w/ H_2SO_4, 28 day hold time, keep cool
Heterotrophic Plate Count	SM 907	P, 100ml, $NA_2S_2O_3$, keep cool, 30 hour hold; or non-preserved: keep cool, 12 hour hold time
Total Iron	EPA Method 6010	P, G, C, 200ml, HNO_3 6 month hold, keep cool
*Alkalinity	EPA Method 310.1	P or G, 100 ml, cool, NP, 14d
*CO_2	SM406C	P or G, 100 ml, cool, NP, immediately
Methane (CH4)	fill NP air tight voa half full	Air tight VOA, NP, immediately

ese analyses can all be extracted from the same 1 liter bottle. Be sure to collect 1 backup bottle.

Bioremediation Enhancement Program
Bottle Schedule

ARCO Service Station 0608
1760 Hesperain Boulevard at Hacienda
San Lorenzo, CA

	BOTTLE TYPE (VOLUME, PRESERVATIVE)						
Well	VOA (40ml,HCL)	Plastic (1L,NP)	Plastic (500ml, H_2SO_4)	VOA (40ml, H_2SO_4)	VOA (40ml,NP)	Plastic (500ml,$NA_2S_2O_3$)	Plastic (500ml,HNO_3)
633H	0	0	0	0	0	0	0
E-1A	0	0	0	0	0	0	0
MW-5	0	0	0	0	0	0	0
MW-7	0	0	0	0	0	0	0
MW-8	0	0	0	0	0	0	0
MW-10	0	0	0	0	0	0	0
MW-23	0	0	0	0	0	0	0
SP-1/V-4	0	0	0	0			
SP-2/V-5	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.5C

Station ID #0608

Site Address: 17601 Hesperian Blvd, Oakland

Lab: Sequoia 1928100

County:

Project Manager: Shaw Garakani

Requester: David S. Nanstad

Client: ARCO

Client P.O.C: MIKE WHELAN

Date of Request: November 26, 1996

Project Type

☒ Operation & Maintenance

☐ Sampling

☐ 1st time visit

☐ Quarterly

☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

X Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time event

☐ Other:

Ideal field date: Nov 27, 1996

Check Appropriate Category

X In Budget Site Visit

☐ Out of Budget Site Visit

Budget Hours: 4

Actual Hours: 4

Mob de Mob: 1

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE:

Obtain DO values from wells MW-5, MW-10 and E1-A while the ORC's are in the wells. Remove the 14, 2" ORC's from well MW-10, the 13, 4" ORC's from well E-1A and the 5, 4" ORC's from MW-5.

Call engineer with DO values.

Place the removed ORC's in a bucket and leave on-site in the enclosure to dry out.

They are to be disposed of during the next quarterly event.

Install 14 new 2" ORC's in well MW-10, 13 new 4" ORC's in well E-1A and 5 new 4" ORC's in well MW-5.

Install ORC's per typical procedure (2" and 4" slip caps and eye bolts. 5/16" diameter rope).

Review the attached ORC installation instructions and take great care in lacing the ORC's together. Make sure the green support sleave is on each sock.

They harden to a cement like consistancy and could be difficult to pull out if not correctly laced up.

Comments, remarks from field staff

25.5°C, 7.63 (7.56 - 7.69)
DO SPIKE

Completed By:_____ **Date:**_____

Pacific Environmental Group, Inc.