PACIFIC
ENVIRONMENTAL
GROUP, INC.

Quarterly Groundwater Monitoring Report and Remedial System Performance Evaluation First Quarter 1997

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

Prepared for

Mr. Michael Whelan
ARCO Products Company

July 25, 1997

Prepared by

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Project 330-006.2J

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EXP. 10/98
STATE OF CALIFORNIA

Date: July 25, 1997
Quarter: 1Q97

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.: 330-006.2J
Primary Agency/Regulatory ID No.: Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER (First - 1997):

1. Submitted fourth quarter 1996 quarterly monitoring report.
2. Performed first quarter 1997 groundwater monitoring event.
3. Prepared first quarter 1997 groundwater monitoring report.
4. Replaced depleted ORC units 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.
8. Resumed sampling Wells E-1A, MW-5, and MW-10 on a quarterly schedule.

WORK PROPOSED FOR NEXT QUARTER (Second - 1997):

1. Submit first quarter 1997 quarterly monitoring report.
2. Perform second quarter 1997 groundwater monitoring event.
3. Prepare second quarter 1997 groundwater monitoring report.
4. Perform annual intrinsic bioremediation evaluation.
5. Continue quarterly payments to homeowners for not using domestic irrigation wells.
6. Continue homeowner quarterly monitoring results notification program.
7. Discontinue the oxygen enhancement program (remove ORC units).
8. Prepare site closure summary request.
9. Pursue homeowner well abandonment.

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:	9.04 to 13.11	(Measure Feet)
Groundwater Gradient:	West	(Direction)
	0.003	(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.
- During an April 29, 1997 meeting attended by ARCO, PACIFIC, and the ACHCSA, it was decided that the oxygen enhancement pilot study should be terminated, so that the natural attenuation maybe more accurately evaluated. Additionally, it was recommended that a site closure summary be submitted for review and consideration by the ACHCSA.
- Please refer to PACIFIC's *Quarterly Groundwater Monitoring Report - Fourth Quarter 1996* for historical groundwater elevation and analytical data.

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 - Field and Laboratory Procedures
- Attachment B - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment C - 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
Dr. Charles Lapin, ARCO Products Company

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
	03/31/97	†		12.42	21.57	<50	<0.50	<0.50	<0.50	<0.50	41
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
	04/01/97	f		11.72	22.68	<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
	04/01/97	f		10.76	22.03	530	<1.0	1.7	2.0	3.8	380
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
	04/01/97	f		9.95	22.16	<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
	03/31/97	†		10.15	21.52	160	<0.50	<0.50	<0.50	<0.50	140
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
	04/01/97	f		10.88	21.66	<50	<0.50	<0.50	<0.50	<0.50	<2.5
E-1A (MW-12) ††	03/14/96	a	33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA
	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
	03/31/97	†		12.65	20.41	1,900	7.9	<2.0	62	3.5	140
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
	04/01/97	f		13.11	22.31	<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
	04/01/97	f		9.04	21.42	<50	<0.50	<0.50	<0.50	<0.50	<2.5

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-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
	04/01/97	f		10.45	20.58	<50	<0.50	<0.50	<0.50	<0.50	7.2
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
	04/01/97	f		11.06	20.33	<50	<0.50	<0.50	<0.50	<0.50	49
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
	04/01/97	f		10.14	19.56	<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
	04/01/97	f		9.65	19.37	<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
	04/01/97	f		10.03	18.69	<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
	04/01/97	f		10.56	18.73	<50	<0.50	<0.50	<0.50	<0.50	<2.5
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
	04/01/97	f		11.56	19.43	<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
	04/01/97	f		12.50	21.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5

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-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
	04/01/97	f		11.55	22.57	<50	<0.50	<0.50	<0.50	<0.50	39
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
	04/01/97	f		11.84	21.87	<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.
f. Wells gauged on March 31, 1997.
< = Less than laboratory detection limit.
NA = Not analyzed
NS = Not sampled
† = Well sampled without purging.
†† = 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
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5
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	NA	NA	NA	NA	4.9 c
	03/31/97 a	NS	NS	NS	NS	NS	NS
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 g	NS	NS	NS	NS	NS	NS
	03/31/97 g	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
	03/31/97 a	NS	NS	NS	NS	NS	NS
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
	03/31/97 g	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
	03/31/97	<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
	03/31/97 a	NS	NS	NS	NS	NS	NS

Table 3 (continued)
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)
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
	03/31/97	<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 ----------					
	03/31/97	---------- Well Dry ----------					
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 *
	03/31/97	430	<1.0	2.7	<1.0	1.0	57 c
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 e	NS	NS	NS	NS	NS	NS
	03/31/97 e	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
	03/31/97	<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
	03/31/97 a	NS	NS	NS	NS	NS	NS

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.
f. Pump on well does not work.
g. Well is blocked or sealed.
VM = Via Magdalena
VE = Via Encinas
* = MtBE data maybe anamolous; unable to confirm with EPA Method 8260.
Homeowners are contacted one week prior to sampling event.

N

VIA MANZANAS

RESIDENTIAL

MW-20 ∅

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

MW-19 (19.37)

VIA MAGDALENA

CHURCH AND SCHOOL

17200VM

MW-17 ∅

MW-14 (21.42)

MW-24 (21.88)

RESIDENTIAL

MW-26 (21.87)

RESTAURANT

MW-9 (22.16)

MW-21 (18.69)

VIA MEDIA

VIA FLORES

17197VM

MW-18 (19.56)

17203VM

17302VM

17372VM

(20.41) E-1A

(21.52) MW-10

MW-16 (20.33)

(22.03) MW-8

MW-25 (22.57)

RESIDENTIAL

633H

SP-2/V-5

SP-1/V-4

590H

MW-5 (21.57)

MW-7 (22.68)

17349VM

17371VM

MW-15 (20.58)

MW-11 (21.66)

MW-13 (22.31)

MW-22 (18.73)

VIA ENCINAS COURT

17393VM

642H

634H

RESIDENTIAL

SHOPS

17348VE

675H

MW-23 (19.43)

19.00

19.50

20.00

20.50

21.00

21.50

22.0

22.50

HACIENDA AVENUE

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

(22.57) GROUNDWATER ELEVATION IN FEET - MSL, 3-31-97

21.50 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 3-31-97

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.003

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: 330-006.2J

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-14
ND/ND

MW-24
ND/ND

RESIDENTIAL

MW-21
ND/ND

VIA MEDIA

VIA FLORES

ND/ND
MW-18
ND/ND

17197VM ■

17203VM
■ NS

MW-26
ND/ND

RESTAURANT

MW-9
ND/ND

17302VM ■
ND/ND

■ ND/ND
17372VM

1,900/7.9 E-1A

160/ND
MW-10

530/ND MW-8

MW-25
ND/ND

MW-16
ND/ND

■ NS
633H

SP-2/V-5 △
NS

SP-1/V-4 △
NS

MW-5
ND/ND

MW-7
ND/ND

RESIDENTIAL

17349VM
430/ND ■

17371VM
■ NS

MW-15
ND/ND

590H ■
ND/ND

MW-11
ND/ND

MW-22
ND/ND

VIA ENCINAS COURT

17393VM
NS ■

634H
642H ■ NS
NS

MW-13
ND/ND

(DRY)
17348VE ■

SHOPS

MW-23
ND/ND

675H ■
NS

HACIENDA AVENUE

RESIDENTIAL

VIA ALAMO

APPROXIMATE DIRECTION
OF GROUNDWATER FLOW

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

1,900/7.9 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 3-31-97 and 4-1-97

ND NOT DETECTED

NS NOT SAMPLED

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

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

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-006.2J

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A
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

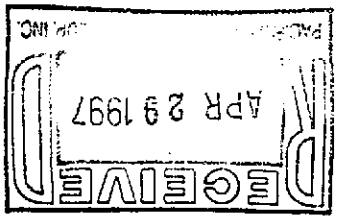
Certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment C.

ATTACHMENT B

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



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Gary Pestana

Project: 330.006.2K/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on April 1, 1997.
The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9704165 -01	LIQUID, MW-5	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -01	LIQUID, MW-5	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -02	LIQUID, MW-10	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -02	LIQUID, MW-10	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -03	LIQUID, E-1A	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -03	LIQUID, E-1A	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -04	LIQUID, 590H	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -04	LIQUID, 590H	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -05	LIQUID, 17197VM	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -05	LIQUID, 17197VM	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -06	LIQUID, 17302VM	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -06	LIQUID, 17302VM	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -07	LIQUID, 17349VM	03/31/97	MTBEMW Methyl t-Butyl Ethe

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9704165 -07	LIQUID, 17349VM	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -07	LIQUID, 17349VM	03/31/97	TPHGBW Purgeable TPH/BTEX
9704165 -08	LIQUID, 17372VM	03/31/97	MTBE_W Methyl t-Butyl Ethe
9704165 -08	LIQUID, 17372VM	03/31/97	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

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: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-01

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/09/97
Reported: 04/22/97

QC Batch Number: GC040997BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	41

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	78

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

SEQUOIA ANALYTICAL - ELAP #1210

Todd Granicher
Project Manager

Sequoia Analytical

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-01

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/09/97
Reported: 04/22/97

QC Batch Number: GC040997BTEX02A
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	78

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

Sequoia Analytical

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: MW-10
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-02

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	140

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

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

SEQUOIA ANALYTICAL - ELAP #1210

Todd Granicher
Project Manager

Sequoia Analytical

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: MW-10
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-02

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**160**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Unidentified HC		**C6-C8**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

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

SEQUOIA ANALYTICAL - ELAP #1210

Ed 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
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: E-1A
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-03

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/09/97
Reported: 04/22/97

QC Batch Number: GC040997BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	10	140

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	74

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: E-1A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-03

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/09/97
Reported: 04/22/97

QC Batch Number: GC040997BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**200**	**1900**
Benzene	**2.0**	**7.9**
Toluene	2.0	N.D.
Ethyl Benzene	**2.0**	**62**
Xylenes (Total)	**2.0**	**3.5**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	74

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

SEQUOIA ANALYTICAL - ELAP #1210

Dod 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
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 590H
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-04

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

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	86

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
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 590H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-04

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
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	86

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: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-05

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

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	86

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-05

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
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	86

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17302VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-06

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

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	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
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17302VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-06

Sampled: 03/31/97
Received: 04/01/97
Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
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	79

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

SEQUOIA ANALYTICAL - ELAP #1210

Rod Granicher
Project Manager

Sequoia Analytical

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9704165-07

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/21/97
Reported: 04/22/97

QC Batch Number: MS042197MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	57

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	97

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: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-07

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/10/97
Reported: 04/22/97

QC Batch Number: GC041097BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	5.0	82

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	129

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
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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-07

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/10/97
Reported: 04/22/97

QC Batch Number: GC041097BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**430**
Benzene	1.0	N.D.
Toluene	**1.0**	**2.7**
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	**1.0**	**1.0**
Chromatogram Pattern:		
Unidentified HC		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	129

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704165-08

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
Instrument ID: GCHP3

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	85

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704165-08

Sampled: 03/31/97
Received: 04/01/97

Analyzed: 04/08/97
Reported: 04/22/97

QC Batch Number: GC040897BTEX03A
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	85

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: Gary Pestana

Client Project ID: 330-006.2K / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9704165 01-08

Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040897BTEX03A	GC040897BTEX03A	GC040897BTEX03A	GC040897BTEX03A	GC040897BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9703E5404	9703E5404	9703E5404	9703E5404	9703E5404
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97
Analyzed Date:	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	4.4	4.3	4.6	11	26
MS % Recovery:	44	43	46	37	43
Dup. Result:	9.3	9.3	9.2	26	58
MSD % Recov.:	93	93	92	87	97
RPD:	72	74	67	81	76
RPD Limit:	0-25	0-25	0-25	0-25	0.25
LCS #:	BLK040897A	BLK040897A	BLK040897A	BLK040897A	BLK040897A
Prepared Date:	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97
Analyzed Date:	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.2	9.1	9.1	25	57
LCS % Recov.:	92	91	91	83	96
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	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: Gary Pestana

Client Project ID: 330-006.2K / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9704165 01-08

Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040997BTEX02A	GC040997BTEX02A	GC040997BTEX02A	GC040997BTEX02A	GC040997BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	9703F1403	9703F1403	9703F1403	9703F1403	9703F1403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Analyzed Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.0	9.0	9.1	29	66
MS % Recovery:	90	90	91	97	110
Dup. Result:	9.3	9.2	9.2	30	67
MSD % Recov.:	93	92	92	100	112
RPD:	3.3	2.2	1.1	3.4	1.5
RPD Limit:	0-25	0-25	0-25	0-25	0.25
LCS #:	BLK040997	BLK040997	BLK040997	BLK040997	BLK040997
Prepared Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Analyzed Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.3	9.2	9.2	29	65
LCS % Recov.:	93	92	92	97	108
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	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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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.

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Gary Pestana

Client Project ID: 330-006.2K / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9704165 01-08
Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC041097BTEX02A	GC041097BTEX02A	GC041097BTEX02A	GC041097BTEX02A	GC041097BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	970429601	970429601	970429601	970429601	970429601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Analyzed Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	8.9	8.8	8.9	28	65
MS % Recovery:	89	90	91	97	110
Dup. Result:	9.0	9.0	9.0	29	66
MSD % Recov.:	90	90	90	97	110
RPD:	1.1	2.2	1.1	3.5	1.5
RPD Limit:	0-25	0-25	0-25	0-25	0.25
LCS #:	BLK041097	BLK041097	BLK041097	BLK041097	BLK041097
Prepared Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Analyzed Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	8.5	8.4	8.5	27	61
LCS % Recov.:	85	84	85	90	102
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	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.

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Sequoia Analytical

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Pacific Environmental Group	Client Project ID:	330-006.2K / 0608, San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Gary Pestana	Work Order #:	9704165 01-08	Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS042197MTBEH6A
Analy. Method:	EPA 8260
Prep. Method:	

Analyst:	L.Zhu
MS/MSD #:	970458703
Sample Conc.:	N.D.
Prepared Date:	N.A.
Analyzed Date:	4/21/97
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
Result:	54
MS % Recovery:	108
Dup. Result:	53
MSD % Recov.:	106
RPD:	1.8
RPD Limit:	0-25

LCS #:	VMB042197S
Prepared Date:	N.A.
Analyzed Date:	4/21/97
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
LCS Result:	54
LCS % Recov.:	108

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:
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Gary Pestana

Client Proj. ID: 330.006.2K/0608,San Lorenzo
Lab Proj. ID: 9704165

Received: 04/01/97
Reported: 04/22/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 26 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Jon

Jon Granicher
Project Manager

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT) Maura

WORKORDER: 9704165
DATE OF LOG-IN: 4/4/97

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) MG
   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: 4/4/97
12. Time Rec. at Lab: 1218
13. Temp Rec. at Lab: 14°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
1	A-C	MW-5	3VOAs	L	3/31	
2		MW-10				
3		E-1A				
4		S90H				
5		17197VM				
6		17302VM				
7		17349VM				
8		17372VM				

MG 4/4/97

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

Revision 9/10/96
RCPTLOG.XLS

ARCO Products Company Division of AtlanticRichfieldCompany — 3300062K — **Task Order No.** WA 21245 — **Chain of Custody**

ARCO Facility no. 0008	City (Facility) SAN LORENZO CA	Project manager (Consultant) Gary Pestana	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408)4417500	Fax no. (Consultant) (408)4417539
Consultant name Pacific Env. Group Inc	Address (Consultant) 2025 GATEWAY Pl. Ste 440 SanJose 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 EPA M602/8020/8015 MTBE	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 ☐	MTBE by 8260
1	MW-5		3		X				3/31/97	12:54		X										
2	MW-10									13:10												
3	E-1A									12:43												
4	590H									10:45												
5	17197VM									11:50												
6	17302VM									11:36												
7	17349VM									11:29												X
8	17372VM									11:15												

Remarks: 8260 MTBE added per D. Nanstad at PEG. 4/18/97

Lab number: E 1 12 16

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler: Don Talmage	3/31/97	14:56	Received by: Julie Warner	3/31/97	1478
Relinquished by: Julie Warner	4/1/97	1057	Received by: J Wright		
Relinquished by: J Wright	4/1/97	1300	Received by laboratory: Nana Gyamfi	4/1/97	1216

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)

Sequoia Analytical

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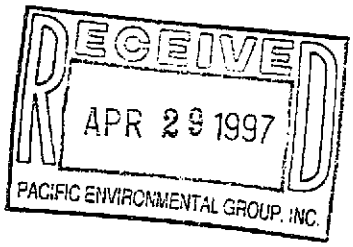

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Gary Pestana

Project: 330-006.2K/ 0608, San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on April 2, 1997. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9704225 -01	LIQUID, MW-7	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -01	LIQUID, MW-7	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -02	LIQUID, MW-8	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -02	LIQUID, MW-8	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -03	LIQUID, MW-9	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -03	LIQUID, MW-9	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -04	LIQUID, MW-11	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -04	LIQUID, MW-11	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -05	LIQUID, MW-14	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -05	LIQUID, MW-14	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -06	LIQUID, MW-15	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -06	LIQUID, MW-15	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -07	LIQUID, MW-16	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -07	LIQUID, MW-16	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -08	LIQUID, MW-18	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -08	LIQUID, MW-18	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -09	LIQUID, MW-19	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -09	LIQUID, MW-19	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -10	LIQUID, MW-21	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -10	LIQUID, MW-21	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -11	LIQUID, MW-22	04/01/97	MTBE_W Methyl t-Butyl Ethe

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9704225 -11	LIQUID, MW-22	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -12	LIQUID, MW-23	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -12	LIQUID, MW-23	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -13	LIQUID, TB-1	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -13	LIQUID, TB-1	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -14	LIQUID, MW-13	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -14	LIQUID, MW-13	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -15	LIQUID, MW-24	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -15	LIQUID, MW-24	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -16	LIQUID, MW-25	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -16	LIQUID, MW-25	04/01/97	TPHGBW Purgeable TPH/BTEX
9704225 -17	LIQUID, MW-26	04/01/97	MTBE_W Methyl t-Butyl Ethe
9704225 -17	LIQUID, MW-26	04/01/97	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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-7
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-01

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-7
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-01

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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

Tod Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-8
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-02

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/10/97
Reported: 04/18/97

QC Batch Number: GC041097BTEX02A
Instrument ID: GCHP2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	5.0	380

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

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Pacific Environmental Group
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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-8
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-02

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/10/97
Reported: 04/18/97

QC Batch Number: GC041097BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**530**
Benzene	1.0	N.D.
Toluene	**1.0**	**1.7**
Ethyl Benzene	**1.0**	**2.0**
Xylenes (Total)	**1.0**	**3.8**
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-9
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-03

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	95

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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-9
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-03

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	95

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
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-11
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-04

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-11
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-04

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-05

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

GC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	96

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

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Pacific Environmental Group
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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-05

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	96

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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-15
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-06

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	7.2

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97

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

EQUOIA 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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-15
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-06

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	97

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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-16
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-07

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	49

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-16
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-07

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	100

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
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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-18
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-08

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

GC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	101

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
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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-18
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-08

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	101

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
[redacted]025 Gateway Place, Suite 440
[redacted]an Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-19
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-09

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

[redacted] Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Methyl t-Butyl Ether (MTBE)

[redacted]nalyte	Detection Limit ug/L	Sample Results ug/L
[redacted]ethyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

S[redacted]QUOIA ANALYTICAL - ELAP #1210

Tod Granicher
P[redacted]ject Manager

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Pacific Environmental Group
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Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-19
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-09

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Ted Granicher
Project Manager

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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-21
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-10

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

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Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-21
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-10

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-22
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-11

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

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[redacted]an Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-22
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-11

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

[redacted]C Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
[redacted]PPH as Gas	50	N.D.
[redacted]enzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
[redacted]ylenes (Total)	0.50	N.D.
[redacted]hromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
[redacted]ifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

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Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-23
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-12

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

SEQUOIA ANALYTICAL - ELAP #1210

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Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-23
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-12

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

SEQUOIA ANALYTICAL - ELAP #1210

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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: TB-1
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-13

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

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Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: TB-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-13

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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.

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Pacific Environmental Group
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[redacted]an Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-13
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-14

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
[redacted]ethyl t-Butyl Ether	2.5	N.D.

Surrogates	Control Limits %		% Recovery
[redacted]rifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

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an Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-13
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-14

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
PPH as Gas	50	N.D.
enzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
lenes (Total)	0.50	N.D.
hromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
ifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-24
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-15

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	91

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

EQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-24
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-15

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	91

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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San Jose, CA 95110

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-25
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-16

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	39

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

Ted 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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-25
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-16

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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

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

Attention: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-26
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9704225-17

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	95

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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Sample Descript: MW-26
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9704225-17

Sampled: 04/01/97
Received: 04/02/97

Analyzed: 04/09/97
Reported: 04/18/97

QC Batch Number: GC040997BTEX21A
Instrument ID: GCHP21

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	95

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: Gary Pestana

Client Project ID: 330-006.2K / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9704225 01-17

Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC040997BTEX21A	GC040997BTEX21A	GC040997BTEX21A	GC040997BTEX21A	GC040997BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9703F1402	9703F1402	9703F1402	9703F1402	9703F1402
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Analyzed Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	10	10	10	30	62
MS % Recovery:	100	100	100	100	103
Dup. Result:	10	9.9	9.9	30	61
MSD % Recov.:	100	99	99	100	102
RPD:	0.0	1.0	1.0	0.0	1.6
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK040997	BLK040997	BLK040997	BLK040997	BLK040997
Prepared Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Analyzed Date:	4/9/97	4/9/97	4/9/97	4/9/97	4/9/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.4	9.5	9.6	29	57
LCS % Recov.:	94	95	96	97	95
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	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: Gary Pestana

Client Project ID: 330-006.2K / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9704225 01-17
Reported: Apr 28, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC041097BTEX02A	GC041097BTEX02A	GC041097BTEX02A	GC041097BTEX02A	GC040997BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	970429601	970429601	970429601	970429601	970429601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Analyzed Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	8.9	8.8	8.9	28	65
MS % Recovery:	89	88	89	93	108
Dup. Result:	9.0	9.0	9.0	29	66
MSD % Recov.:	90	90	90	97	110
RPD:	1.1	2.2	1.1	3.5	1.5
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK041097	BLK041097	BLK041097	BLK041097	BLK041097
Prepared Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Analyzed Date:	4/10/97	4/10/97	4/10/97	4/10/97	4/10/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	8.5	8.4	8.5	27	61
LCS % Recov.:	85	84	85	90	102
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	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: Gary Pestana

Client Proj. ID: 330-006.2K/ 0608, San Lorenzo
Lab Proj. ID: 9704225

Received: 04/02/97
Reported: 04/18/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 42 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Project Manager

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT) LDC

WORKORDER: 9704225
DATE OF LOG-IN: 4-4-97

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: 4-2-97
12. Time Rec. at Lab: 1121
13. Temp Rec. at Lab: 7°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
1	A-C	mw-7	voa (3)	liq	4-1	
2		mw-8				
3		mw-9				
4		mw-11				
5		mw-14				
6		mw-15				
7		mw-16				
8		mw-18				
9	A,B	mw-19	voa (2)			
10	A-C	mw-21	voa (3)			
11		mw-22				
12		mw-23				
13	A,B	TB-1	voa (2)			
14	A-C	mw-13	voa (3)			
15		mw-24				
16		mw-25				
17		mw-26				
		C. Cardenas	4-2-97			

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

Revision 9/10/96
RCPTLOG.XLS

ARCO Products Company — Division of AtlanticRichfieldCompany

330-006.2K **Task Order No.** WA 21245 (9704225)

Chain of Custody

ARCO Facility no. 0608	City (Facility) San Lorenzo CA.	Project manager (Consultant) Gary Pestane	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name Pacific Env. Group Inc	Address (Consultant) 2025 Gateway Pl. Suite 440 San Jose CA 95710		Contract number

Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/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 ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-7	01	3		X		X	HCl	4/1/97	11:41		X											
MW-8	02								12:15													
MW-9	03								11:05													
MW-11	04								10:32													
MW-14	05								10:12													
MW-15	06								9:50													
MW-16	07								9:24													
MW-18	08								9:02													
MW-19	09	2							8:35													
MW-21	10								8:20													
MW-22	11								7:56													
MW-23	12								7:38													
TB-1	13	2							NA													

Special detection Limit/reporting

Special QA/QC

Remarks

ER 2 11 21

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:

	Date	Time		Date	Time
Relinquished by sampler: Don Watanpaugh	4/1/97	15:09	Received by: Andie Warren	4/1/97	1509
Relinquished by: Andie Warren	4/2/97	1015	Received by: S Kemp	4/2/97	1015
Relinquished by: S Kemp	4/2/97	11:21	Received by laboratory: A Cardenas	4-2-97	1121

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

ARCO Products Company Division of Atlantic Richfield Company — 330-006.2K — **Task Order No.** WA# 21295 9700223 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) San Lorenzo CA	Project manager (Consultant) Gary Pestana	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) 408/441-7500	Fax no. (Consultant) 408/441-7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway place #440 San Jose CA.		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 MTBE	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 Semi Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW3	14	3		X		4	HCl	4-1-97	10:05		X											
MW4	15	↓		↓		↓	↓	↓	10:20		↓											
MW5	16								10:55													
MW6	17	↓		↓		↓	↓	↓	10:35		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

ER 2 11 21

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:

	Date	Time		
Relinquished by sampler	4-1-97	11:30	Received by	
Relinquished by	4/1/97	15:05	Received by	4/1/97 1505
Relinquished by	4/2/97	1015	Received by laboratory	Date 4/2/97 Time 1015

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

APPC-3292 (2-91)

Received by: L Cardenas 4-2-97 1121

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2K

☐ 1st time visit

Station #:0608

☒ 1st ☐ 2nd ☐ 3rd ☐ 4th

Date of Request: 1Q

Site Address:17601 Hesperian Blvd. San Lorenzo, California

☐ Monthly

Ideal Field Date:

☐ Semi-Monthly

Purge water 183 gallons

County: Alameda

☐ Weekly

Budget Hrs. _____ (15)

Project Manager: Gary Pestana

☐ One time Event

Actual Hrs. 14 + pedro's 1 hr Time 3 =

Requestor: David Nanstad

☐ Other._____

Mob de Mob 3+3 = (6)

Client: Arco

Client P.O.C.: Paul Supple

Total Wells 28

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

Field Tasks: For General Description

Do not purge wells E-1A, MW-10 or MW-5 (ORC containing wells) when performing sampling.

WA#21245

Comments, remarks, from Field Staff (include problems encountered

Sampling

17302 Via Magdalena - Sample faucet on side (Right) of house not on porch. ⊗

Completed by: Don Watkins Date: 3/31/92, 4/1/92

Checked by: _____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2k	608	17601 Hesperian San Lorenzo	1Q97	Gary Pestana			Sequoia 21245 00	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
~~Mr. 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		17302 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				

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2k	608	17601 Hesperian San Lorenzo	1Q97	Gary Pestana			Sequoia 21245 00	Paul Supple

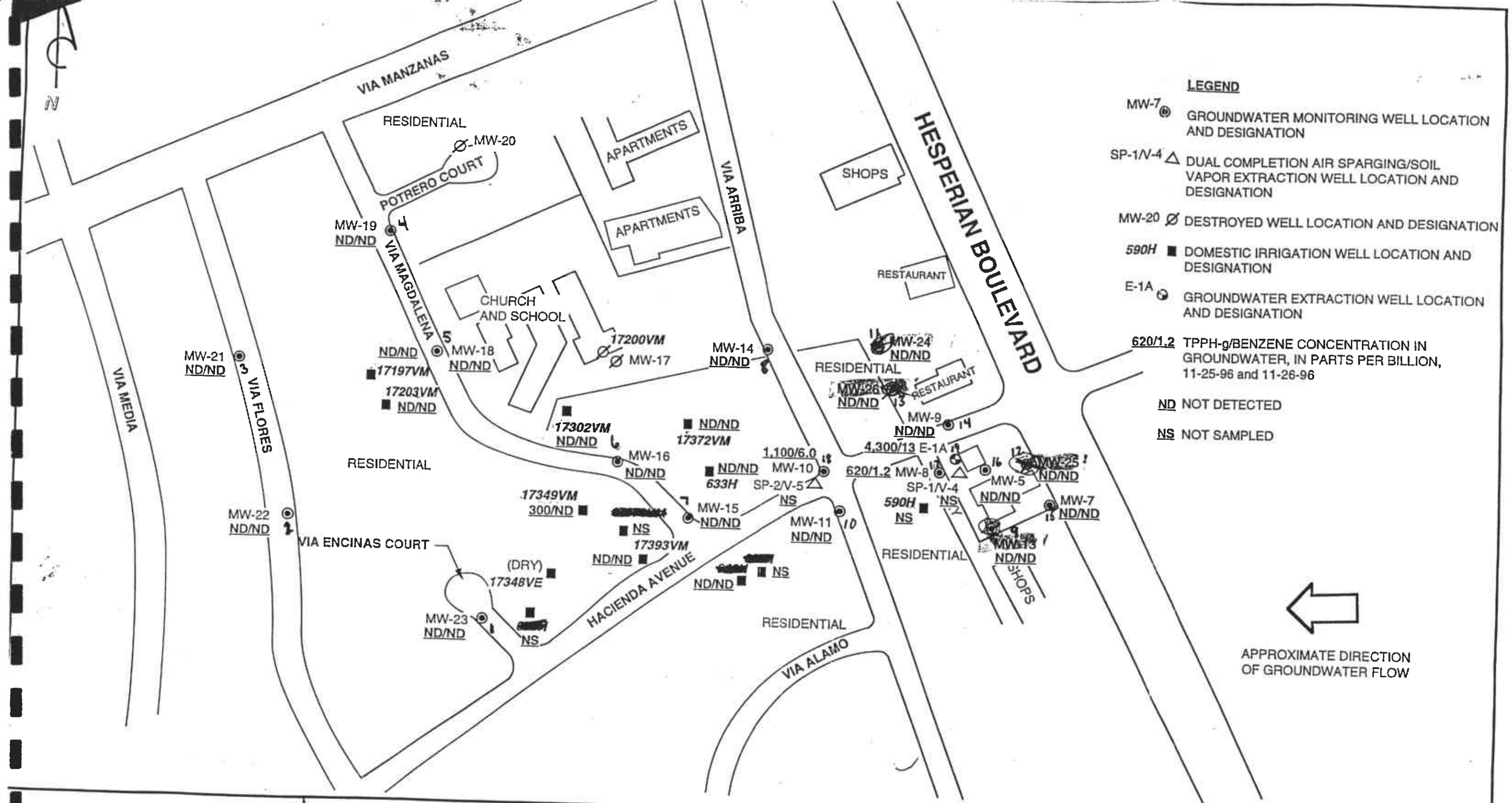
Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goes Dry?	Comments
~~MW-5~~	16		QLY	MtBE/GAS/BTEX	TOB/TOC	14	4"	YES	Please repair or replace
MW-7	15		QLY	MtBE/GAS/BTEX	TOB/TOC	19	3"	NO	missing or broken locks, j-plugs,
MW-8	17		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	NO	slip caps, lid bolts ect. Please
MW-9	14		QLY	MtBE/GAS/BTEX	TOB/TOC	19	3"	YES	note any repairs performed or that
~~MW-10~~	18		QLY	MtBE/GAS/BTEX	TOB/TOC	22	3"	YES	need to be performed.
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					

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		operational	Need homeowmer there to sample. Well in back yard
633 Hacienda Not Home	Mr. Dahmann (510) 276-3860		operational	Well redeveloped with new pump as of 10/7/94 NO ACCESS UNLESS SOMEONE HOME
~~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	~~Don't Call~~ Not authorized	operational	~~Won't allow access~~
~~675 Hacienda~~	~~Mr. & Mrs. Roberts~~ (510) 276-7389		~~non-operational~~	~~Cannot sample because of well seal~~
OK ~~17348 Via Encinas~~	~~Mr. Luehrs~~ (510)278-9059		non-operational	Ok to enter backyard and grab bailer sample if resident not home; KNOCK FIRST / WELL DESTROYED
17197 Via Magdalena	Mr. Scrag (510) 278-1904		operational	Grab sample off hose bib on front porch / CALL HIM TO PURGE WELL?
~~17200 Via Magdalena~~	~~Cavalry Church~~ (510) 278-2555		non-operational	Grab sample from well inside shed in church yard get keys from church office WELL DESTROYED
17203 Via Magdalena Pump Not working	Mrs. Toles (510)276-6797		operational	OK to enter back yard and sample if not home; KNOCK FIRST! / PUMP MOTOR OUT
17302 Via Magdalena	Mr. & Mrs. Johanson (510) 278-5987		operational	Sample from hose ~~bib on lower right of front porch~~ NO — DW Right hand Side of House
17349 Via Magdalena	Mr. Kast (510)278-1263		operational	OK to enter back yard and sample if not home; well shed in back yard; KNOCK FIRST!
~~17371 Via Magdalena~~	~~Mr. Manry~~ (510) 317-9724	~~Don't Call~~ Not autorized	~~operational~~	~~Won't allow access~~
17372 Via Magdalena	Mr. Pimental (510) 278-6304		operational	Sampled from hose bib in back yard; resident is usually using the hose when you get there
17393 Via Magdalena Not Home	Mr. Hull (510) 278-5576		non-operational	Pump disassembled. Try to bail sample from well in back yard. OK to enter if not home; KNOCK FIRST / NO ACCESS NEW FENCE

NO Access



PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

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

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE: 2
PROJECT: 330-006.2H

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN DATE: 3/31/97

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: Don Wolenpaugh DAY OF WEEK: Monday

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	SERARATE-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
18	MW5	10:02	✓	✓	✓	✓	✓	14'	12.42 / 12.02	12.42 / 12.02										
15	MW7	9:50 am	✓	✓	✓	✓	✓	19'	11.72 / 11.30	11.72 / 11.30										
17	MW8	~~10:00~~ 10:10	✓	✓	✓	✓	✓	22'	~~12.42~~ 10.76 / ~~11.20~~ 9.89	10.76 / 9.89										
14	MW9	9:44	✓	✓	✓	✓	✓	19'	9.95 / 9.43	9.95 / 9.43										
16	MW10	9:55	✓	✓	✓	✓	✓	22'	10.15 / 9.55	10.15 / 9.55										
10	MW11	9:26	✓	✓	✓	✓	✓	19'	~~10.88~~ 10.33	10.88 / 10.33										
9	MW13	9:24	✓	✓	✓	✓	✓	23.5'	13.11 / 12.88	13.11 / 12.88										
8	MW14	9:03	✓	✓	✓	✓	✓	24'	9.04 / 8.87	9.04 / 8.87										
7	MW15	8:59	✓	✓	✓	✓	✓	24'	10.45 / 10.00	10.45 / 10.00										

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0062 LOCATION: 1760 HESPERIAN BLVD, SAN LORENZO DATE: 3/3/97

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: Don Wetenpaugh DAY OF WEEK: Monday

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	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
6	MW-16	8:57	✓	✓	✓	✓	✓	23	11.06 / 10.65	11.06 / 10.65										
	~~MW-17~~							~~23~~												
5	MW-18	8:54	✓	✓	✓	✓	✓	22	10.14 / 9.82	10.14 / 9.82										
4	MW-19	8:49	✓	✓	✓	✓	✓	22	9.65 / 9.52	9.65 / 9.52										
	~~MW-20~~							22												
3	MW-21	8:45	✓	✓	✓	✓	✓	22	10.03 / 9.57	10.03 / 9.57										
2	MW-22	8:41	✓	✓	✓	✓	✓	22	10.56 / 10.23	10.56 / 10.23										
1	MW-23	8:34	✓	✓	✓	✓	✓	22	11.56 / 11.26	11.56 / 11.26										
19	EI-A	10:15							12.65 / 10:15	12.65 / 10.15										

Comments:

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 1760 HESPERIAN BLVD SAN LORENZO DATE: 3/31/97

CLIENT/STATION NO.: ARCO/9605 FIELD TECHNICIAN: Don Watenpaugh DAY OF WEEK: Monday

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	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
11	MW-24	9:31	✓	✓	✓	✓	✓	20	12.50 / 12.29	12.50 / 12.29										/
12	MW-25	9:35	✓	✓	✓	✓	✓	21	10.55 / 10.00	10.55 / 10.00										/
13	MW-26	9:38	✓	✓	✓	✓	✓	20	11.84 / 11.34	11.84 / 11.34										/
																				/
																				/
																				/
																				/
																				/
																				/

Comments:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-7

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: 11.72 TOB 11.30 TOC
Total depth: ~ TOB 19 TOC
Date: 3/31/97 Time (2400): 9:50

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 - DTW 11.30 = 7.7 x Gal/Linear Foot 0.38 = 2.92 x Number of Casings 3 = Calculated Purge 8.77 gals

DATE PURGED: 4/1/97 START: 10:28 END (2400 hr): 10:34 PURGED BY: bmm

DATE SAMPLED: 4/1/97 START: 11:41 END (2400 hr): 11:41 SAMPLED BY: bmm

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:30	3.0	7.61	1100	74.6	clear	light	none
10:32	6.0	7.70	1320	75.6	clear	trace	none
10:34	9.0	7.86	1360	76.5	clear	trace	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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	4/1/97	11:41	3	40ml	VOA	HCl	GAS/BTEX/MTBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-8

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don WATENPAUGH

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.76 TOB 9.89 TOC
Total depth: — TOB 22 TOC
Date: 3/31/97 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 22 - DTW 9.89 = 12.11 x Gal/Linear Foot 0.38 = 4.60 x Number of Casings 3 = Calculated Purge 13.80 gallons

DATE PURGED: 4/1/97 START: 11:58 END (2400 hr): 1204 PURGED BY: Don

DATE SAMPLED: 4/1/97 START: 12:15 END (2400 hr): 12:15 SAMPLED BY: Don

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
4/1/97 12:00	4.5	7.37	610	66.6	Clear	trace	Faint
4/1/97 12:02	9.5	7.28	620	66.8	Clear	trace	Faint
4/1/97 12:04	13.9	7.26	610	66.4	Clear	trace	Faint

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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	4/1/97	12:15	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-9

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Waterman

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.95 TOB 9.43 TOC
Total depth: — TOB 19 TOC
Date: 3/31/97 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 19 - DTW 9.43 = 9.57 x Gal/Linear Foot 0.38 = 3.63 x Number of Casings 3 = Calculated Purge 10.90 gal

DATE PURGED: 4/1/97 START: 10:53 END (2400 hr): 10:56 PURGED BY: Don
DATE SAMPLED: 4/1/97 START: 11:05 END (2400 hr): 11:05 SAMPLED BY: Don

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:54	3.6	7.87	710	64.8	Cloudy	light	None
10:55	7.2	7.61	690	64.5	Cloudy	light	none
10:56	11.0	7.62	680	64.4	Cloud	trace	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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	4/1/97	11:05	3	40ml	VOA	HCl	8015/BTEX/MTBE

REMARKS:

SIGNATURE: Don Waterman

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-11

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don WATTENPAUGH

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.88 TOB 10.33 TOC
Total depth: _____ TOB 19 TOC
Date: 5/31/97 Time (2400): 9:26

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 - DTW 10.33 = 8.67 x Gal/Linear Foot 0.38 = 3.29 x Number of Casings 3 = Calculated Purge 9.88 gal

DATE PURGED: 4/1/97 START: 10:25 END (2400 hr): 10:28 PURGED BY: Don
DATE SAMPLED: 4/1/97 START: 10:32 END (2400 hr): 10:32 SAMPLED BY: Don

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:26	3.3	7.55	650	62.3	cloudy	light	none
10:27	6.6	7.41	650	62.6	clear	light	none
10:28	10.0	7.36	660	63.1	clear	trace	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	4/1/97	10:32	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS: _____

SIGNATURE: Don Wattenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2.14 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-13

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO RUIZ

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 13.11 TOB 12.88 TOC
Total depth: _____ TOB 23.5 TOC
Date: 5/31/97 Time (2400): 9:34 dw

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 23.5 - DTW 12.88 = 10.62 x Gal/Linear Foot 0.38 = 4.03 x Number of Casings 3 = Calculated Purge 12.10 gal

DATE PURGED: 4/1/97 START: 9:55 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 4/1/97 START: 1005 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:58	4	7.12	1270	65.1	Cloudy	Mod	Mod
10:01	8	7.01	1200	66.5	Cloudy	Mod	Mod
10:04	12	7.03	1200	66.8	Cloudy	Mod	Mod

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: _____
- ☐ Airlift Pump: _____
- ☒ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-3
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	4/1/97	10:05	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-14

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.04 TOB 8.87 TOC
Total depth: — TOB 24 TOC
Date: 3/31/97 Time (2400): 9:03

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 24 - DTW 8.87 = 15.13 x Gal/Linear Foot 0.38 = 5.75 x Number of Casings 3 = Calculated Purge 17.25 gallons

DATE PURGED: 4/1/97 START: 10:00 END (2400 hr): 10:07 PURGED BY: DMW

DATE SAMPLED: 4/1/97 START: 10:12 END (2400 hr): 10:12 SAMPLED BY: DMW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:03	5.8	7.68	790	68.0	Clear	trace	None
10:05	11.6	7.52	790	66.3	Clear	trace	none
10:07	17.3	7.55	830	66.5	Clear	trace	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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 31-8
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	4/1/97	10:12	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-15

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

	TOB	TOC
Depth to Liquid:		
Depth to water:	10.45	10.00
Total depth:		24

Date: 5/31/97 Time (2400): 8:59

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 24 - DTW 10.00 = 14 x Gal/Linear Foot 0.38 = 5.32 x Number of Casings 3 = Calculated Purge 15.96 gallons

DATE PURGED: 4/1/97 START: 9:36 END (2400 hr): 9:42 PURGED BY: DW

DATE SAMPLED: 4/1/97 START: 9:50 END (2400 hr): 9:50 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:38	5.3	7.39	620	66.2	Cloudy	Light	None
9:40	10.6	7.45	640	67.7	Cloudy	Trace	Faint
9:42	16.0	7.30	630	66.9	Cloud	Trace	Faint

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: ☐ Airlift Pump:
☒ Centrifugal Pump: ☐ Dedicated:
☐ Other:

SAMPLING EQUIPMENT/I.D. #

☑ Bailer: 31-7
☐ Dedicated:
☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-15	4/1/97	9:50	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-16

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: Don WATENPAUGH

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 11.06 TOB 10.65 TOC
Total depth: _____ TOB 23 TOC
Date: 3/3/97 Time (2400): 8:57

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 23 - DTW 10.65 = 12.35 x Gal/Linear Foot 0.38 = 4.69 x Number of Casings 3 = Calculated Purge 14.08 gallons

DATE PURGED: 4/1/97 START: 9:10 END (2400 hr): 9:16 PURGED BY: [signature]

DATE SAMPLED: 4/1/97 START: 9:24 END (2400 hr): 9:24 SAMPLED BY: [signature]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:12	4.7	7.45	590	61.1	Cloudy	light	none
9:14	9.4	7.88	600	61.9	Cloudy	light	None
9:16	14.1	7.63	630	62.0	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: _____
- ☒ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 3/-6
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	4/1/97	9:24	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS: _____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-18

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.14 TOB 9.82 TOC
Total depth: — TOB 22 TOC
Date: 3/31/97 Time (2400): 8:54

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 - DTW 9.82 = 12.18 x Gal/Linear Foot 0.38 = 4.62 x Number of Casings 3 = Calculated Purge 13.88 gallons

DATE PURGED: 4/1/97 START: 8:45 END (2400 hr): 8:55 PURGED BY: DMW

DATE SAMPLED: 4/1/97 START: 9:02 END (2400 hr): 9:02 SAMPLED BY: DMW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:48	4.6	7.17	820	64.6	cloudy	light	none
8:51	9.2	7.31	760	66.2	cloudy	light	none
8:55	14.00	7.32	760	66.8	cloud	trace	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: 31-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-18	4/1/97	9:02	3	40ml	VOA	HCl	8015/BTEX/MtBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-19

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 9.65 TOB 9.52 TOC
Total depth: ____ TOB 22 TOC
Date: 3/31/97 Time (2400): 8:49

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 22 - DTW 9.52 = 12.48 x Gal/Linear Foot 0.38 = 4.74 x Number of Casings 3 = Calculated Purge 14.23 gallons

DATE PURGED: 4/1/97 START: 8:26 END (2400 hr): 8:32 PURGED BY: DW

DATE SAMPLED: 4/1/97 START: 8:35 END (2400 hr): 8:35 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:28	4.7	7.53	830	63.8	Cloudy	mod	None
8:30	9.4	7.49	840	65.0	Clear	light	None
8:32	14.2	7.53	850	65.5	Clear	trace	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: 3/4
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-19	4/1/97	8:35	3	40ml	VOA	HCl	GAS/BTEX/MTBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-21

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.03 TOB 9.57 TOC
Total depth: — TOB 22 TOC
Date: 3/31/97 Time (2400): 8:45

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 - DTW 9.57 = 12.43 x Gal/Linear Foot 0.38 = 4.72 x Number of Casings 3 = Calculated Purge 14.17 gallons

DATE PURGED: 4/1/97 START: 8:06 END (2400 hr): 8:12 PURGED BY: DW

DATE SAMPLED: 4/1/97 START: 8:20 END (2400 hr): 8:20 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:08	4.7	7.50	760	59.0	cloudy	light	none
8:10	9.4	7.53	780	61.8	clear	trace	none
8:12	14.2	7.43	790	62.9	clear	trace	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: 3/-3
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-21	4/1/97	8:20	3	40ml	VOA	HCl	GAS/BTEX/MTBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-22

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.56 TOB 10.23 TOC
Total depth: — TOB 22 TOC
Date: 3/31/97 Time (2400): 8:41

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 - DTW 10.23 = 11.77 x Gal/Linear Foot 0.38 = 4.47 x Number of Casings 3 = Calculated Purge 13.4 gallons

DATE PURGED: 4-1-97 START: 7:48 END (2400 hr): 7:54 PURGED BY: DW

DATE SAMPLED: 4-1-97 START: 7:56 END (2400 hr): 7:56 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
7:50	4.5	7.68	730	58.3	cloudy	mod	None
7:52	9	7.46	760	60.2	cloudy	mod	none
7:54	13.5	7.53	760	61.3	clear	light	non

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: 31-2
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-22	4-1-97	7:56	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS:

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-23

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: ~ TOB ~ TOC
Depth to water: 11.56 TOB 11.26 TOC
Total depth: TOB 22 TOC
Date: 3/31/97 Time (2400): 8:54

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 - DTW 11.26 = 10.74 x Gal/Linear Foot 0.38 = 4.08 x Number of Casings 3 = Calculated Purge 12.24 gal

DATE PURGED: 4/1/97 START: 7:28 END (2400 hr): 7:34 PURGED BY: DW

DATE SAMPLED: 4/1/97 START: 7:38 END (2400 hr): 7:38 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
7:28	4	7.26	740	57.4	Cloudy	Trace	None
7:31	8	7.43	780	60.3	Cloudy	Trace	None
7:34	12	7.33	800	61.2	Clear	Trace	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: 3/-1
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	4/1/97	7:38	3	40ml	VOA	HCl	GAS/BTEX/MtBE

REMARKS:

SIGNATURE: DonWatenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-24

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO RUIZ

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
Depth to water: 12.50 TOB 12.29 TOC
Total depth: TOB 20 TOC
Date: 9/31/97 Time (2400): 9:31

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 - DTW 12.29 = 7.71 x Gal/Linear Foot 0.17 = 1.31 x Number of Casings 3 = Calculated Purge 3.93 gallons

DATE PURGED: 4/1/97 START: 10:09 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 4/1/97 START: 10:20 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:12	1.25	7.21	1430	66.3	Cloudy	Mod	Mod
10:15	2.5	7.00	1420	66.1	Cloudy	Mod	Mod
10:18	3.75	7.21	1430	67.1	Cloudy	Mod	Mod

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:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-4
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-24	4/1/97	10:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-25

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO RUIZ

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.55 TOB 10.00 TOC
Total depth: — TOB 21 TOC
Date: 3/31/97 Time (2400): 9:35

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 - DTW 10.00 = 10 x Gal/Linear Foot 0.38 = 1.7 x Number of Casings 3 = Calculated Purge 5.1 gallons

DATE PURGED: 4/1/97 START: 10:45 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 4/1/97 START: 10:55 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:49	1.75	7.30	1250	59.4	Cloudy	Mod	Low
10:52	3.5	7.28	1220	58.8	Cloudy	Mod	Low
10:55	5.25	7.35	1250	60.1	Cloudy	Mod	Low

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:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-7.
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	4/1/97	10:55	3	40ml	VOA	HCl	GAS/BTEX.

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-26

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: Peter Reitz

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.84 TOB 11.34 TOC
Total depth: — TOB 20 TOC
Date: 3/31/97 Time (2400): 9:38

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 - DTW 11.34 = 8.66 x Gal/Linear Foot 0.17 = 1.47 x Number of Casings 3 = Calculated Purge 4.41 gal

DATE PURGED: 4/1/97 START: 10:22 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 4/1/97 START: 10:35 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:25	1.5	7.22	1250	61.2	Cloudy	Mod	None
10:28	3	7.25	1220	608	Cloudy	Mod	None
10:31	4.5	7.20	1240	60.2	Cloudy	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:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 158
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	4/1/97	10:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 Hesperian Blvd San Lorenzo CA WELL ID #: TB-1

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: Don Watanpaugh

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: NA TOB NA TOC
Total depth: _____ TOB NA TOC
Date: 4/1/97 Time (2400): NA

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: NA START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: NA START: _____ END (2400 hr): _____ SAMPLED BY: _____

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

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal 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	4/1/97		2	40ml	VOA	HCl	TPH-g/BTEX/MTBE

REMARKS: _____

SIGNATURE: Don Watanpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-5

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB 14 TOC
Date: _____ 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 14 - DTW _____ = _____ x Gal/Linear Foot 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: N/A START: N/A END (2400 hr): N/A PURGED BY: _____

DATE SAMPLED: 3/31/97 START: 12:54 END (2400 hr): 12:54 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:54		9.50	1370	67.1	~~Clear~~ Cloudy	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	3/31/97	12:54	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-10

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB 22 TOC
Date: _____ 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 22 - DTW _____ = _____ x Gal/Linear Foot .038 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/31/97 START: 13:10 END (2400 hr): 13:10 SAMPLED BY: Don

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:10		7.66	860	68.5	clear	Trace	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	3/31/97	13:10	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~-E-1A

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid:____ TOB____ TOC
Depth to water:____ TOB____ TOC
Total depth:____ TOB____ TOC
Date:____ 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 0.38 = ____ x Number of Casings 3 = Calculated Purge____

DATE PURGED: No START: NP END (2400 hr):____ PURGED BY:____

DATE SAMPLED: 3/3/97 START: 12:43 END (2400 hr): 12:43 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:43	5	8.40	920	67.5	Clear	Trace	~~Faint~~

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:____
- ☐ Airlift Pump:____
- ☐ Centrifugal Pump:____
- ☐ Dedicated:____
- ☐ Other:____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~-E1A	3/3/97	12:43	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~ 590H

CLIENT/STATION No.: ARCO/ 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: NA TOB ____ TOC
Depth to water: NA TOB ____ TOC
Total depth: NA TOB ____ TOC
Date: 3/31/97 Time (2400): 10:45

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 0.38 = ____ x Number of Casings 3 = Calculated Purge ____

DATE PURGED: ____ START: ____ END (2400 hr): ____ PURGED BY: ____

DATE SAMPLED: 3/31/97 START: 10:45 END (2400 hr): 10:45 SAMPLED BY: DonW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:45		7.54	1310	62.4	clear	trace	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: ____
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: ____
- ☐ Dedicated: ____
- ☐ Other: Faucet

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~ 590H	3/31/97	10:45	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~-6 33H

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: _____

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/3/97 START: 11:03 END (2400 hr): _____ SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
		W/O 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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
or ~~MW~~-6 33H			3	40ml	VOA	HCl	GAS/BTEX

REMARKS: N/D one at home Fence gate locked could not get into backyard

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 Hesperian Blvd SAN Lorenzo CA WELL ID #: 534H

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid:_____TOB_____TOC
Depth to water:_____TOB_____TOC
Total depth:_____TOB_____TOC
Date:_____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:_____START:_____END (2400 hr):_____PURGED BY:_____

DATE SAMPLED:_____START:_____END (2400 hr):_____SAMPLED BY:_____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
		Not Sampled					

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:_____
- ☐ Airlift Pump:_____
- ☐ Centrifugal Pump:_____
- ☐ Dedicated:_____
- ☐ Other:_____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER

REMARKS: well blocked no way to sample well

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 Hesperian Blvd SAN Lorenzo CA WELL ID #: 642H

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid:_____TOB_____TOC
Depth to water:_____TOB_____TOC
Total depth:_____TOB_____TOC
Date:_____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:_____START:_____END (2400 hr):_____PURGED BY:_____

DATE SAMPLED:_____START:_____END (2400 hr):_____SAMPLED BY:_____

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:_____
- ☐ Airlift Pump:_____
- ☐ Centrifugal Pump:_____
- ☐ Dedicated:_____
- ☐ Other:_____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER

REMARKS: Won't allow access

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 Hesperian Blvd San Lorenzo CA WELL ID #: 675H

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: Don Watanabe

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			Not Sampled				

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER

REMARKS: Well Sealed

SIGNATURE: Don Watanabe

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~AR602~~ 17197VM

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: _____

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 3/31/97 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/31/97 START: 11:30 END (2400 hr): 11:50 SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:50		7.85	800	67.5	clear	slight	slight

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~AR602~~ 17197VM	3/31/97	11:50	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: ~~MW7~~ 17200 Vm

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Waterman

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 3/31/97 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: _____

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

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW7~~ 17200Vm	3/31/97		3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Well destroyed

SIGNATURE: Don Waterman

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW-1~~ 17203 VM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: _____

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW-1~~ 17203VM			3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Pump on well doesn't work

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW-2~~ 17302 UM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/31/97 START: 11:36 END (2400 hr): 11:36 SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:36		7.31	820	69.4	clear	trace	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: Faucet

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW-2~~ 17302 UM	3/31/97	11:36	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Sample should be taken from faucet on right side of house next from porch.

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~-1734YM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/31/97 START: 11:29 END (2400 hr): 11:29 SAMPLED BY: DW

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:29		~6.98	800	68.2	Clear	Trace	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~-1734YM	3/31/97	11:29	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: _____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2K LOCATION: 17601 Hesperian Blvd San Lorenzo CA WELL ID #: 17371 VM

CLIENT/STATION No.: Arco 0608 FIELD TECHNICIAN: Don Watenpaugh

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			Not Sampled				

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER

REMARKS: Won't allow access

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~-17572 VM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: DON WATENPAUGH

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 3/3/97 START: 11:15 END (2400 hr): 11:15 SAMPLED BY: Don

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:15		6.79	840	68.0	Clear	Trace	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~-17572VM	3/3/97	11:15	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: Don Watenpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~B600~~-17393VM

CLIENT/STATION No.: ARCO/ 0608 FIELD TECHNICIAN: DON WATERPAUGH

WELL INFORMATION

Depth to Liquid:_____ TOB_____ TOC
Depth to water:_____ TOB_____ TOC
Total depth:_____ TOB_____ TOC
Date:_____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge_____

DATE PURGED:_____ START:_____ END (2400 hr):_____ PURGED BY:_____

DATE SAMPLED:_____ START:_____ END (2400 hr):_____ SAMPLED BY:_____

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:_____
- ☐ Airlift Pump:_____
- ☐ Centrifugal Pump:_____
- ☐ Dedicated:_____
- ☐ Other:_____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~B600~~-17393VM			3	40ml	VOA	HCl	GAS/BTEX

REMARKS: NO one home fence to backyard lock could not access well

SIGNATURE: Don Waterpaugh

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~-1734BVE

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: _____

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ 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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
		Well Dry / No Sample taken					

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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~-1734BVE			3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company
Division of AtlanticRichfieldCompany

330-0062K

Task Order No. WA 21245

Chain of Custody

ARCO Facility no. 0008	City (Facility) SAN Lorenzo CA	Project manager (Consultant) Gary Pestana	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no (Consultant) (408)441 7500	Fax no. (Consultant) (408)441 7539
Consultant name Pacific ENV. Group Inc	Address (Consultant) 2025 GATEWAY Pl. 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	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 MTBE	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		3		X			HCl	3/31/97	12:54		X											
MW-10		↓		↓			↓	↓	13:10		↓											
E-1A									12:43													
590H									10.45													
17197VM									11:50													
17302VM									11:36													
17349VM									11:29													
17372VM		↓		↓			↓	↓	11:15		↓											

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 ☐

Method of shipment

Condition of sample:

Temperature received:

Relinquished by sampler Don Talmage	Date 3/31/97	Time 14:56
Relinquished by	Date	Time
Relinquished by	Date	Time

Received by		
Received by		
Received by laboratory	Date	Time

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

ARCO Products Company — Division of AtlanticRichfieldCompany

330-006.2K **Task Order No.** WA # 21245

Chain of Custody

ARCO Facility no. 0608	City (Facility) San Lorenzo CA	Project manager (Consultant) Gary Pestana	Laboratory name Sobodia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) 408) 441-7500	Fax no. (Consultant) 408) 441-7539	Contract number
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway place # 440 San Jose CA			Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH 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 ☐
MW13		3		X		4	HCl	4-1-97	10:05		X									
MW24		↓		↓		↓	↓	↓	10:20		↓									
MW25									10:55											
MW26									10:35											

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 4-1-97 Time 11:30	Received by Don Waterman	
Relinquished by Don Waterman	Date 4/1/97 Time 15:05	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 — 330-006.2K — **Task Order No.** WA 2124S — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) San Lorenzo CA.	Project manager (Consultant) Gary Pestana	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name Pacific Env. Group Inc	Address (Consultant) 2025 Gateway Pl. 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	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/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 ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-7		3		X		X		4/1/97	11:41		X											
MW-8									12:15													
MW-9									11:05													
MW-11									10:32													
MW-14									10:12													
MW-15									9:50													
MW-16									9:24													
MW-18									9:02													
MW-19									8:35													
MW-21									8:20													
MW-22									7:56													
MW-23									7:38													
TB-1		2							NA													

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:

	Date	Time
Relinquished by sampler: Don Watterpaugh	4/1/97	15:09
Relinquished by		
Relinquished by		

Received by

Received by

Received by laboratory — Date — Time

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

ATTACHMENT C

REMEDIAL SYSTEM PERFORMANCE EVALUATION

ATTACHMENT C
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 C-A. Field data sheets, certified analytical reports, and chain-of-custody documentation are presented as Attachment C-B.

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 C-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.

First Quarter 1997 GWE System Data

The GWE system remained deactivated during first quarter 1997, since no evidence of further plume migration was observed and the bioremediation enhancement at the Extraction Well E-1 was in progress.

First Quarter 1997 OEPSP

Fresh ORC units were installed in Wells E-1A, MW-5, and MW-10 on March 14, 1997, 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 non-detectable in Wells MW-5 and MW-10 to 75 ppb in Well E-1A. Intrinsic bioremediation indicator parameters are presented on Table C-1.

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. During an April 29, 1997 meeting attended by PACIFIC, ARCO, and ACEHS it was decided that the OEPSP program should be terminated during the second quarter, so that natural attenuation at the site can be more accurately evaluated. Therefore, ORC units will be removed from the wells containing them prior to the second quarter 1997 monitoring event.

Attachments: Table C-1 - Intrinsic Biodegradation Indicator Parameters
Attachment C-A - Groundwater Extraction System Description and Historical Operational Data
Attachment C-B - Intrinsic Bioremediation Indicator Parameter Field Data Sheets, Certified Analytical Reports, and Chain-of-Custody Documentation

Table C-1
Intrinsic Bioremediation Indicator Parameters

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

Well	Date Sampled	Field Analyses: 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)	Laboratory Analyses: Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (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 a	06/01/95	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
	03/14/97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.00	0.17 b	2.00	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
	03/14/97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.00	1.85 b	0.03	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 C-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 (milliomhs)	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)	Methane (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	500	0.26	680	37	29
	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
	03/14/97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.00	1.30 b	2.20	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 C-1 (continued)
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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)	Methane (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	662	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 C-A

GROUNDWATER EXTRACTION SYSTEM DESCRIPTION AND HISTORICAL OPERATIONAL DATA

ATTACHMENT C-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 C-A-1 - Groundwater Extraction System Performance Data
- Table C-A-2 - Treatment System Analytical Data - Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
- Figure C-A-1 - Groundwater Extraction System Mass Removal Trend
- Figure C-A-2 - Groundwater Extraction System Concentration Trend

Table C-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 C-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: 01/01/97 - 03/31/97 (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, [ug/L] x net volume (gallon) x density of gasoline [pound/gallon]
(Net dissolved TPH-g removed is calculated by averaging influent concentrations)

Table C-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	38	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 C-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 C-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 C-A-1
Groundwater Extraction System Mass Removal Trend

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

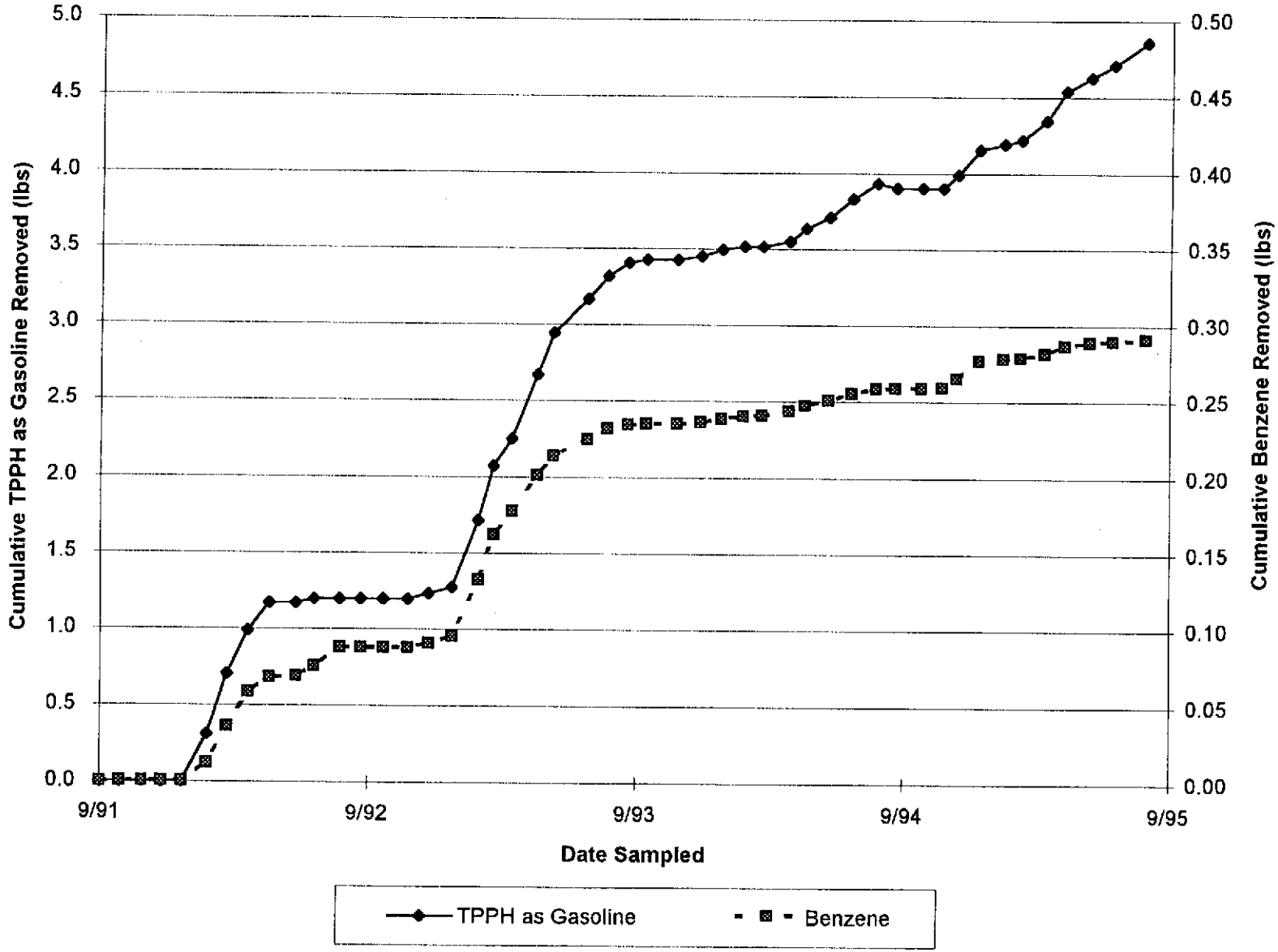
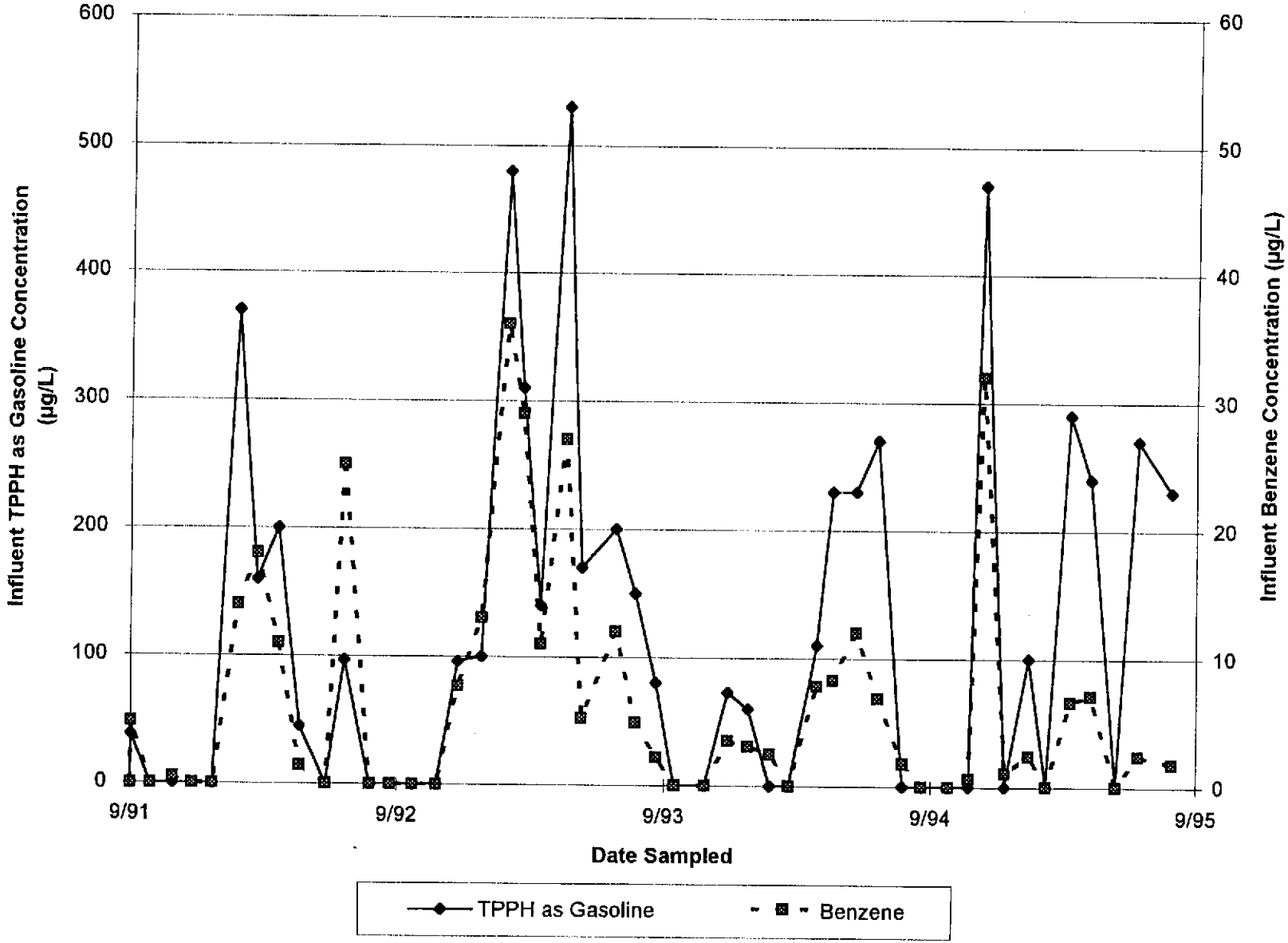


Figure C-A-2
Groundwater Extraction System Concentration Trend

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



ATTACHMENT C-B

INTRINSIC BIOREMEDIATION INDICATOR PARAMETER FIELD DATA SHEETS, CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY DOCUMENTATION

(231)

FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.5D
Station ID #0608
Site Address: 17601 Hesperian Blvd, Oakland
Lab: Sequoia 21245
County:
Project Manager: Shaw Garakani
Requester: Shaw Garakani
Client: ARCO
Client P.O.C: MIKE WHELAN
Date of Request: March 4, 1997

Project Type

- ☐ Operation & Maintenance
- ☒ Sampling
- ☐ 1st time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☒ One time event
- ☐ Other:

Ideal field date: **ASAP**

Check Appropriate Category

X In Budget Site Visit
☐ Out of Budget Site Visit

Budget Hours: 4
Actual Hours:
Mob de Mob: 5

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE: Replace ORC's in wells E-1a, MW-10, and MW-5.

1) Remove the 14, 2" ORC's from well MW-10, the 13, 4" ORC's from well E-1A and the 4 4" ORC's from well MW-5.

2) 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.

3) Obtain the DO and Ferrouse Iron measurements from each well. Complete the attached data sheet.

4) Install 14 new 2" ORC's in well MW-10, and 13 new 4" ORC's in well E-1A. Install 5 new 4" ORC's in well MW-5.
Review the attached ORC installation instructions and take great care in lacing the ORC's together.
They harden to a cement like consistancy and could be difficult to pull out if not correctly laced up.
Make sure the green sleeve is on each ORC.

5) Call engineer after installation, ext. 292.

MAR 1 1 1997

Comments, remarks from field staff

Task Complete

Completed By: _____ Date: 3-11-97

Pacific Environmental Group, Inc.

Dissolved Oxygen Meter Checklist and Data Sheet

PART A: WELL DATA
MATERIALS

DO METER	____	PROBE AND REEL	____
CALIBRATION BOTTLE	____	KCL SOLUTION	____
SPARE MEMBRANES	____	6 SPARE D BATTERIES	____
BUCKET	____	PAPER TOWEL	____
INSTRUCTION BINDER	____	SPARE O-RINGS	____
SCISSORS	____	SPARE DATA SHEETS	____
ALCONOX	____	STICK	____
WATER BOTTLE	____	WATER LEVEL INDICATOR	____

BEFORE MEASUREMENTS

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	y	WARM UP UNIT FOR 20 MINUTES?	y

CALIBRATION

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	y	CALIBRATE UNIT?	y
4a. CALIBRATION TEMPERATURE (C)	y	4b. CALIBRATION DO READING (mg/L)	y

COMPARED TO CALIBRATION DO TABLE VALUE?	y	4d. CALIBRATION BOTTLE READINING (mg/L)	y

FIELD MEASUREMENTS

WELL E-1A

DISSOLVED OXYGEN

Allow 2 minute minumum stabilization time

2` From top	meter (ppm)	chemet (mg/L)	H2O2 ADDED? (gals)	DTW	Ferrous Iron
	0.17	y	—	10.90	2

PROBE & CORD RINSED?	y
DO/ferouse iron values reasonsable?	y

Completed By: _____ Date: 3-1197

WELL MW-10

DISSOLVED OXYGEN

Allow 2 minute minumum stabilization time

2' From top	meter (ppm)	chemet (mg/L)	H2O2 ADDED? (gals)	DTW	Ferrous Iron
	1.30	0	—	9.35	2.2
PROBE & CORD RINSED?					
DO/ferouse iron values reasonsable?					

WELL MW-5

DISSOLVED OXYGEN

Allow 2 minute minumum stabilization time

2' From top	meter (ppm)	chemet (mg/L)	H2O2 ADDED? (gals)	DTW	Ferrous Iron
	1.85	0	—	11.95	.03
PROBE & CORD RINSED?		y			
DO/ferouse iron values reasonsable?		y			

Completed By: _____ Date: 3/4/97