PACIFIC
ENVIRONMENTAL
GROUP, INC.

97 DEC -4 PM 3:07

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

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

Prepared for

Mr. Michael Whelan
ARCO Products Company

December 2, 1997

Prepared by

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

Project 330-006.2J

Shaw Garakani
Project Engineer

Joseph Muzzio
Project Manager
CEG 1672

REGISTERED GEOLOGIST
JOSEPH J. MUZZIO
No. 1672
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Date: December 2, 1997
Quarter: 3Q97

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

WORK PERFORMED THIS QUARTER (Third - 1997):

1. Submitted second quarter 1997 quarterly monitoring report.
2. Performed third quarter 1997 groundwater monitoring event on September 9 and 10.
3. Prepared third quarter 1997 groundwater monitoring report.
4. Continued quarterly payments to homeowners for not using domestic irrigation wells.
5. Continued homeowner quarterly monitoring results notification program.
6. Attended meeting with the ACHCSA regarding MtBE risk assessment.

WORK PROPOSED FOR NEXT QUARTER (Fourth - 1997):

1. Submit third quarter 1997 quarterly monitoring report.
2. Perform fourth quarter 1997 groundwater monitoring event.
3. Prepare fourth quarter 1997 groundwater monitoring report.
4. Continue quarterly payments to homeowners for not using domestic irrigation wells.
5. Continue homeowner quarterly monitoring results notification program.
6. Prepare site closure summary request.

Current Phase of Project:	Monitoring	(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:	Natural Attenuation	(SVE/Sparge/FP Removal, etc.)
Approximate Depth to Groundwater:	10.08 to 14.09	(Measure Feet)
Groundwater Gradient:	Southwest	(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.
- Homeowner at 17393 Via Magdalena abandoned the irrigation well on his property during the second quarter 1997. The well apparently has been backfilled with gravel and capped with soil, and the area has been covered with base rock for garage construction and landscaping. Therefore, the reimbursement program for this homeowner has been discontinued as of August 1997.
- During an August 18, 1997 meeting attended by ARCO, PACIFIC, the ACHCSA, and the RWQCB - S.F. Bay Region, additional risk assessment associated with the presence of MtBE at the homeowner wells was discussed.
- 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. Madhulla Logan, M.S., 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
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

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
Domestic Irrigation Wells (cont.)					
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	----------Destroyed----------				

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)	Dissolved Oxygen (ppm)
MW-5	††	03/14/96	a	33.99	9.75	24.24	1,600	30	<10	13	<10	NA	NM
		05/29/96	b		11.48	22.51	240	2.4	<0.50	<0.50	<0.50	NA	NM
		08/28/96			12.58	21.41	250	210	8.0	<1.0	<1.0	210	NM
		11/25/96	d		12.07	21.92	<500	<5.0	<5.0	<5.0	<5.0	280	NM
		03/31/97	†		12.42	21.57	<50	<0.50	<0.50	<0.50	<0.50	41	NM
		06/25/97			12.64	21.35	NS	NS	NS	NS	NS	NS	NM
		09/10/97	g		12.75	21.24	<50	<0.50	<0.50	<0.50	<0.50	19	NM
MW-7		03/15/96	a	34.40	9.73	24.67	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		05/29/96	b		11.60	22.80	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		08/28/96	c		12.63	21.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		11/25/96	d		12.10	22.30	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		04/01/97	f		11.72	22.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		06/25/97			12.98	21.42	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		09/10/97	g		12.25	22.15	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
MW-8		03/14/96	a	32.79	8.90	23.89	670	5.1	<2.0	<2.0	<2.0	NA	NM
		05/29/96	b		10.58	22.21	490	<1.0	<1.0	0.91	0.91	NA	NM
		08/28/96			11.30	21.49	680	29	2.1	3.0	2.4	80	NM
		11/25/96			10.80	21.99	620	1.2	2.6	2.9	2.0	46	NM
		04/01/97	f		10.76	22.03	530	<1.0	1.7	2.0	3.8	380	NM
		06/25/97			11.65	21.14	480	6.7	0.69	0.8	0.71	88	NM
		09/10/97	g		11.67	21.12	570	57	<1.0	2.1	1.7	57	2.0
		09/10/97	e		--	--	--	--	--	--	--	48	--
MW-9		03/15/96	a	32.11	7.65	24.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		05/28/96	b		9.67	22.44	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		08/28/96	c		10.78	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		11/25/96			10.24	21.87	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		04/01/97	f		9.95	22.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		06/25/97			10.85	21.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		09/10/97	g		10.87	21.24	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
MW-10	††	03/14/96	a	31.67	7.78	23.89	870	35	<5.0	5.2	7.0	NA	NM
		05/29/96	b		10.00	21.67	800	<1.0	<1.0	<1.0	<1.0	NA	NM
		08/28/96			10.93	20.74	NS	NS	NS	NS	NS	NS	NM
		11/25/96	d		10.45	21.22	1,100	6.0	4.9	3.8	9.5	200	NM
		03/31/97	†		10.15	21.52	160	<0.50	<0.50	<0.50	<0.50	140	NM

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)	Dissolved Oxygen (ppm)
MW-10	06/25/97			10.99	20.68	800	4.2	1.4	1.5	1.4	170	NM
(cont.)	09/10/97	g		11.08	20.59	950	<1.2	3.3	2.5	3.7	240	2.0
	09/10/97	e		--	--	--	--	--	--	--	210	--
MW-11	03/14/96	a	32.54	8.60	23.94	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		10.55	21.99	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.52	21.02	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			11.00	21.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		10.88	21.66	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			11.65	20.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		11.75	20.79	80	<0.50	<0.50	<0.50	0.65	<2.5	2.0
E-1A ††	03/14/96	a	33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA	NM
(MW-12)	05/29/96	b		11.50	21.56	1,400	410	18	55	5.5	NA	NM
	08/28/96			11.70	21.36	NS	NS	NS	NS	NS	NS	NM
	11/25/96	d		11.18	21.88	4,300	13	<5.0	100	20	220	NM
	03/31/97	†		12.65	20.41	1,900	7.9	<2.0	62	3.5	140	NM
	06/25/97			11.82	21.24	4,900	21	<5.0	53	6.8	160	NM
	09/10/97	g		11.85	21.21	3,200	9.0	<5.0	45	<5.0	85	2.0
	09/10/97	e		--	--	--	--	--	--	--	70	--
MW-13	03/15/96	a	35.42	10.90	24.52	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/29/96	b		12.90	22.52	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			13.89	21.53	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			13.41	22.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		13.11	22.31	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			13.98	21.44	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		14.09	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
MW-14	03/15/96	a	30.46	6.63	23.83	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		8.83	21.63	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			9.83	20.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			9.33	21.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		9.04	21.42	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			9.94	20.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		10.08	20.38	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0

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)	Dissolved Oxygen (ppm)
MW-15	03/13/96	a	31.41	8.13	23.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/29/96	b		10.30	21.11	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.30	20.11	<50	<0.50	<0.50	<0.50	<0.50	5.3	NM
	11/25/96			10.83	20.58	<50	<0.50	<0.50	<0.50	<0.50	12	NM
	04/01/97	f		10.45	20.58	<50	<0.50	<0.50	<0.50	<0.50	7.2	NM
	06/25/97			11.39	20.02	<50	<0.50	<0.50	<0.50	<0.50	7.0	NM
	09/09/97			11.50	19.91	Well Inaccessible						
MW-16	03/13/96	a	31.39	8.62	22.77	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		10.90	20.49	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.84	19.55	<50	<0.50	<0.50	<0.50	<0.50	89	NM
	11/25/96			11.32	20.07	<50	<0.50	<0.50	<0.50	<0.50	66	NM
	04/01/97	f		11.06	20.33	<50	<0.50	<0.50	<0.50	<0.50	49	NM
	06/25/97			11.92	19.47	<50	<0.50	<0.50	<0.50	<0.50	59	NM
	09/10/97	g		12.03	19.36	<50	<0.50	<0.50	<0.50	<0.50	63	3.0
	09/10/97	e		--	--	--	--	--	--	--	86	--
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	NM
	05/28/96	b		9.88	19.82	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.82	18.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.18	19.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		10.14	19.56	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.94	18.76	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		11.00	18.70	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4.0
MW-19	03/13/96	a	29.02	7.06	21.96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		9.42	19.60	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.33	18.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			9.67	19.35	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		9.65	19.37	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.41	18.61	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		10.47	18.55	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
MW-20	Well Destroyed											

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)	Dissolved Oxygen (ppm)
MW-21	03/13/96	a	28.72	7.58	21.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/29/96	b		9.85	18.87	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.75	17.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.00	18.72	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		10.03	18.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.83	17.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		10.90	17.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
MW-22	03/13/96	a	29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		10.33	18.96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.28	18.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.61	18.68	<50	<0.50	<0.50	<0.50	<0.50	3.0	NM
	12/30/96			10.61	18.68	NA	NA	NA	NA	NA	3.3	NM
	04/01/97	f		10.56	18.73	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			11.51	17.78	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		11.45	17.84	<50	<0.50	<0.50	<0.50	<0.50	3.4	1.0
MW-23	03/13/96	a	30.99	9.13	21.86	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		11.37	19.62	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			12.31	18.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			11.76	19.23	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		11.56	19.43	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			12.39	18.60	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		12.53	18.46	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
MW-24	01/15/96	a	34.38	10.10	24.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		12.25	22.13	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			13.28	21.10	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			12.71	21.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		12.50	21.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			13.38	21.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		13.46	20.92	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0
MW-25	03/14/96	a	34.12	9.61	24.51	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/29/96	b		11.30	22.82	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96	c		12.32	21.80	<50	<0.50	<0.50	<0.50	<0.50	51	NM
	11/25/96			11.83	22.29	<50	<0.50	<0.50	<0.50	<0.50	110	NM
	04/01/97	f		11.55	22.57	<50	<0.50	<0.50	<0.50	<0.50	39	NM

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)	Dissolved Oxygen (ppm)
MW-25	06/25/97			14.57	19.55	<50	<0.50	<0.50	<0.50	<0.50	49	NM
(cont.)	09/10/97	g		12.45	21.67	<50	<0.50	<0.50	<0.50	<0.50	78	1.0
	09/10/97	e		--	--	--	--	--	--	--	79	--
MW-26	03/15/96	a	33.71	9.38	24.33	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96	b		11.57	22.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96	c		12.55	21.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			12.03	21.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	04/01/97	f		11.84	21.87	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			12.94	20.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/10/97	g		12.77	20.94	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0

MtBE = Methyl tert-butyl ether
MSL = Mean sea level
TOB = Top of box
ppb = Parts per billion
ppm = Parts per million
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.
g. Wells gauged on September 9, 1997.
< = Less than laboratory detection limit.
NA = Not analyzed
NM = Not measured
NS = Not sampled
† = Well sampled without purging.
†† = ORC program at well was initiated on September 21, 1995 and discontinued on May 15, 1997.

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)	Dissolved Oxygen (ppm)
590 H	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96 a	NS	NS	NS	NS	NS	NA	NM
	11/26/96	NS	NS	NS	NS	NS	NS	NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97 a	NS	NS	NS	NS	NS	NS	NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
633 H	03/14/96	480	10	11	1.8	140	NA	NM
	05/13/96 b	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	3.70	NM
	12/30/96	NA	NA	NA	NA	NA	4.9 c	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97 a	NS	NS	NS	NS	NS	NS	NM
	09/10/97	<50	<0.50	<0.50	<0.50	0.66	<2.5	1.0
634 H	03/13/96 a	NS	NS	NS	NS	NS	NA	NM
	05/27/96 a	NS	NS	NS	NS	NS	NA	NM
	08/29/96 a	NS	NS	NS	NS	NS	NA	NM
	11/26/96	NS	NS	NS	NS	NS	NS	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97 a	NS	NS	NS	NS	NS	NS	NM
	09/09/97 g	NS	NS	NS	NS	NS	NS	NM
642 H	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97	NS	NS	NS	NS	NS	NS	NM
	09/09/97 a	NS	NS	NS	NS	NS	NS	NM
675 H	03/13/96 a	NS	NS	NS	NS	NS	NA	NM
	05/27/96 a	NS	NS	NS	NS	NS	NA	NM
	08/29/96 d	NS	NS	NS	NS	NS	NA	NM
	11/26/96	NS	NS	NS	NS	NS	NS	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
17197 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0

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

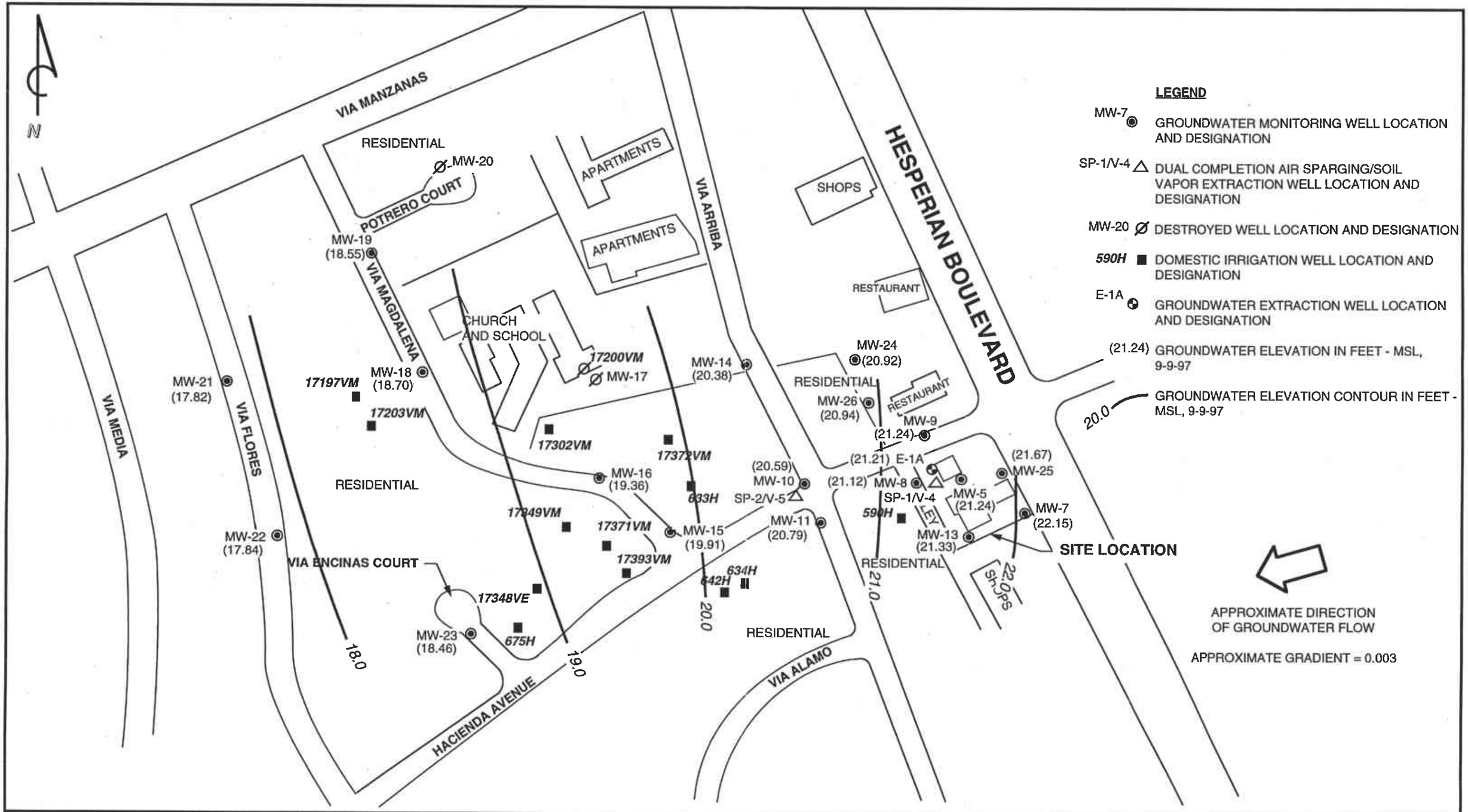
Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
17200 VM	03/15/96	730	<1.0	<1.0	1.5	1.7	NA	NM
	05/27/96	200	<0.50	<0.50	1.4	1.8	NA	NM
	08/29/96	---------- Well Destroyed ----------						
17203 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97 f	NS	NS	NS	NS	NS	NS	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
17302 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97 f	NS	NS	NS	NS	NS	NS	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
17348 VE	03/13/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	---------- Well Dry ----------						
	08/29/96	---------- Well Dry ----------						
	11/26/96	---------- Well Dry ----------						
	03/31/97	---------- Well Dry ----------						
	06/25/97	---------- Well Inaccessible ----------						
	09/09/97	---------- Blockage Within Well - Not Sampled ----------						
17349 VM	03/15/96	1,700	<2.0	<2.0	2.5	13	NA	NM
	05/27/96	320	4.2	1.3	0.95	0.71	NA	NM
	08/29/96	410	7.5	<0.50	<0.50	1.1	NA	NM
	11/26/96	300	<1.0	1.7	<1.0	2.1	55 *	NM
	03/31/97	430	<1.0	2.7	<1.0	1.0	57 c	NM
	06/25/97 **	2,100	30	<5.0	<5.0	6.7	140	NM
	08/18/97	320	2.0	<0.5	<0.5	<0.5	34	NM
	08/18/97	--	--	--	--	--	31 c	NM
	09/09/97	380	6.0	1.4	0.98	<0.50	38	3.0
	09/09/97	--	--	--	--	--	34 c	NM
17371 VM	03/13/96 e	NS	NS	NS	NS	NS	NA	NM
	05/27/96 e	NS	NS	NS	NS	NS	NA	NM
	08/29/96 e	NS	NS	NS	NS	NS	NA	NM
	11/26/96 e	NS	NS	NS	NS	NS	NS	NM
	03/31/97 e	NS	NS	NS	NS	NS	NS	NM
	06/25/97 e	NS	NS	NS	NS	NS	NS	NM
	09/09/97 e	NS	NS	NS	NS	NS	NS	NM
17372 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM

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)	Dissolved Oxygen (ppm)
17372 VM	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
(cont.)	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4.0
17393 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97 a	NS	NS	NS	NS	NS	NS	NM
	06/25/97	---------- Well Destroyed ----------						

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 blocked and pump non-operational; well cannot be sampled.
VM = Via Magdalena
VE = Via Encinas
* = MtBE data maybe anamolous; unable to confirm with EPA Method 8260.
** = Concentration data are suspect due to inadequate purging. Well resampled on August 18, 1997 for confirmation purposes.
Homeowners are contacted 1 week prior to sampling event.



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
NS ■

ND/ND ■
17372VM

3,200/9.0 E-1A

950/ND

MW-16
ND/ND

RESIDENTIAL

ND/ND ■
633H

MW-10

570/57 MW-8

SP-1/V-4
NS

MW-25
ND/ND

MW-5
ND/ND

MW-7
ND/ND

590H ■
ND/ND

17349VM
380/6.0 ■

17371VM
NS ■

MW-15 *

SP-2/V-5
NS

MW-11
80/ND

MW-22
ND/ND

VIA ENCINAS COURT

17393VM ∅

MW-13
ND/ND

SHOPS

SITE LOCATION

634H
642H ■ NS
NS ■

17348VE
NS ■

RESIDENTIAL

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

570/57 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 9-9-97 AND 9-10-97

ND NOT DETECTED

NS NOT SAMPLED

* WELL INACCESSIBLE

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 1R-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 B.

ATTACHMENT B

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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

OCT 07 1997

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

Project: 330-006.2K/0608, San Bruno

Enclosed are the results from samples received at Sequoia Analytical on September 11, 1997. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9709828 -01	LIQUID, MW5	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -01	LIQUID, MW5	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -02	LIQUID, MW7	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -02	LIQUID, MW7	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -03	LIQUID, MW8	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -03	LIQUID, MW8	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -03	LIQUID, MW8	09/10/97	MTBEMW Methyl t-Butyl Ethe
9709828 -04	LIQUID, MW9	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -04	LIQUID, MW9	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -05	LIQUID, MW10	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -05	LIQUID, MW10	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -05	LIQUID, MW10	09/10/97	MTBEMW Methyl t-Butyl Ethe
9709828 -06	LIQUID, MW11	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -06	LIQUID, MW11	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -07	LIQUID, MW13	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -07	LIQUID, MW13	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -08	LIQUID, MW14	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -08	LIQUID, MW14	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -09	LIQUID, MW16	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -09	LIQUID, MW16	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -09	LIQUID, MW16	09/10/97	MTBEMW Methyl t-Butyl Ethe

SEQUOIA ANALYTICAL

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9709828 -10	LIQUID, MW18	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -10	LIQUID, MW18	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -11	LIQUID, MW24	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -11	LIQUID, MW24	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -12	LIQUID, MW25	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -12	LIQUID, MW25	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -12	LIQUID, MW25	09/10/97	MTBEMW Methyl t-Butyl Ethe
9709828 -13	LIQUID, MW26	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -13	LIQUID, MW26	09/10/97	TPHGBW Purgeable TPH/BTEX
9709828 -14	LIQUID, MW33H	09/10/97	MTBE_W Methyl t-Butyl Ethe
9709828 -14	LIQUID, MW33H	09/10/97	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, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW5	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 09/23/97
Attention: Shaw Garakani	Lab Number: 9709828-01	Reported: 10/13/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	19

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-01

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW7
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-02

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	81

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, (650) 364-9600, FAX (650) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW7
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-02

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	81

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

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Tod Granicher
Project Manager

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW8
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-03

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	5.0	57

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW8
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-03

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**570**
Benzene	**1.0**	**57**
Toluene	1.0	N.D.
Ethyl Benzene	**1.0**	**2.1**
Xylenes (Total)	**1.0**	**1.7**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Todd Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW8	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 09/26/97
Attention: Shaw Garakani	Lab Number: 9709828-03	Reported: 09/30/97

QC Batch Number: MS0925978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	48

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
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680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW9	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 09/22/97
Attention: Shaw Garakani	Lab Number: 9709828-04	Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	75

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, (650) 364-9600, FAX (650) 364-9233
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Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW9	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/22/97
Attention: Shaw Garakani	Lab Number: 9709828-04	Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	75

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW10
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-05

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	6.2	240

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	120

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW10
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-05

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**120**	**950**
Benzene	1.2	N.D.
Toluene	**1.2**	**3.3**
Ethyl Benzene	**1.2**	**2.5**
Xylenes (Total)	**1.2**	**3.7**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	120

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW10
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9709828-05

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/26/97
Reported: 09/30/97

QC Batch Number: MS0925978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	5.0	**210**

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	106

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW11
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-06

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	83

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW11
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-06

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**80**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**0.65**
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

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

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW13	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 09/23/97
Attention: Shaw Garakani	Lab Number: 9709828-07	Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

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	97

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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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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW13
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-07

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

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

Jod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW14
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-08

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	80

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW14
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-08

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	80

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW16	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 09/23/97
Attention: Shaw Garakani	Lab Number: 9709828-09	Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	63

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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW16
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-09

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

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

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

SEQUOIA ANALYTICAL - ELAP #1210

od Granicher
roject Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW16
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9709828-09

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/26/97
Reported: 09/30/97

QC Batch Number: MS0925978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	86

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	108

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, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-006.2K/0608, San Bruno	Sampled: 09/10/97
2025 Gateway Place, Suite 440	Sample Descript: MW18	Received: 09/11/97
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8020	Analyzed: 09/22/97
Attention: Shaw Garakani	Lab Number: 9709828-10	Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	73

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW18
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-10

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX21A
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	73

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

SEQUOIA ANALYTICAL - ELAP #1210

Jod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW24
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-11

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX03A
Instrument ID: GCHP03

Methyl t-Butyl Ether (MTBE)

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW24
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-11

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW25
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-12

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	78

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW25
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-12

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX03A
Instrument ID: GCHP03

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

Sequoia Analytical

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW25
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9709828-12

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/26/97
Reported: 09/30/97

QC Batch Number: MS0925978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	79

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	109

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW26
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-13

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX03A
Instrument ID: GCHP03

Methyl t-Butyl Ether (MTBE)

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

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Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: MW26
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-13

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: 633H
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709828-14

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 10/13/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

Methyl t-Butyl Ether (MTBE)

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0608, San Bruno
Sample Descript: 633H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709828-14

Sampled: 09/10/97
Received: 09/11/97

Analyzed: 09/23/97
Reported: 10/13/97

QC Batch Number: GC092397BTEX02A
Instrument ID: GCHP02

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**	**0.66**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

Client Project ID: 330-006.2K/0608, San Bruno
Matrix: LIQUID
Work Order #: 9709828 01-14
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC092297BTEX21A	GC092297BTEX21A	GC092297BTEX21A	GC092297BTEX21A	GC092297BTEX21A
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 #:	970977702	970977702	970977702	970977702	970977702
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
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:	8.8	8.8	8.7	26	48
MS % Recovery:	88	88	87	87	80
Dup. Result:	8.5	8.5	8.5	25	51
MSD % Recov.:	85	85	85	83	85
RPD:	3.5	3.5	2.3	3.9	6.1
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK092297	BLK092297	BLK092297	BLK092297	BLK092297
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
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:	8.4	8.3	8.3	25	46
LCS % Recov.:	84	83	83	83	77
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: Shaw Garakani

Client Project ID: 330-006.2K/0608, San Bruno
Matrix: LIQUID
Work Order #: 9709828 01-14
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC092297BTEX03A	GC092297BTEX03A	GC092297BTEX03A	GC092297BTEX03A	GC092297BTEX03A
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 #:	970977702	970977702	970977702	970977702	970977702
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
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:	9.2	9.0	9.1	26	69
MS % Recovery:	92	90	91	87	115
Dup. Result:	8.9	8.7	8.8	25	44
MSD % Recov.:	89	87	88	83	73
RPD:	3.3	3.4	3.4	3.9	44
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK092297	BLK092297	BLK092297	BLK092297	BLK092297
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
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:	8.5	8.3	8.4	23	64
LCS % Recov.:	85	83	84	77	107
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

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

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

Sequoia Analytical

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

Client Project ID: 330-006.2K/0608, San Bruno
Matrix: LIQUID
Work Order #: 9709828 01-14
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC092397BTEX02A	GC092397BTEX02A	GC092397BTEX02A	GC092397BTEX02A	GC092397BTEX02A
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 #:	970980403	970980403	970980403	970980403	970980403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Analyzed Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
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:	9.8	9.6	9.8	30	64
MS % Recovery:	98	96	98	100	107
Dup. Result:	9.3	9.0	9.2	28	62
MSD % Recov.:	93	90	92	93	103
RPD:	5.2	6.5	6.3	6.9	3.2
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK092397	BLK092397	BLK092397	BLK092397	BLK092397
Prepared Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Analyzed Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
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:	9.7	9.5	9.7	29	64
LCS % Recov.:	97	95	97	97	107
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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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Project ID:	330-006.2K/0608, San Bruno	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9709828 01-14	Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene
QC Batch#:	MS0925978260F3A	MS0925978260F3A	MS0925978260F3A
Analy. Method:	EPA 8260	EPA 8260	EPA 8260
Prep. Method:			
Analyst:	L. Duong	L. Duong	L. Duong
MS/MSD #:	9709D7401	9709D7401	9709D7401
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L
Result:	43	45	44
MS % Recovery:	86	90	88
Dup. Result:	43	45	44
MSD % Recov.:	86	90	88
RPD:	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25

LCS #:	VDB092597	VDB092597	VDB092597
Prepared Date:	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L
LCS Result:	42	46	45
LCS % Recov.:	84	92	90

MS/MSD	60-140	60-140	60-140
LCS	65-135	70-130	70-130
Control Limits			

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

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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

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Pacific Environmental Group	Client Project ID:	330-006.2K/0608, San Bruno	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9709828 01-14	Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Toluene	MTBE	hlorobenzene
QC Batch#:	MS0925978260F3A	MS0925978260F3A	MS0925978260F3A
Analy. Method:	EPA 8260	EPA 8260	EPA 8260
Prep. Method:			
Analyst:	L. Duong	L. Duong	L. Duong
MS/MSD #:	9709D7401	9709D7401	9709D7401
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L
Result:	44	47	44
MS % Recovery:	88	94	88
Dup. Result:	45	47	45
MSD % Recov.:	90	94	90
RPD:	2.2	0.0	2.2
RPD Limit:	0-25	0-25	0-25
LCS #:	VDB092597	VDB092597	VDB092597
Prepared Date:	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L
LCS Result:	44	46	45
LCS % Recov.:	88	92	90
MS/MSD	60-140	60-140	60-140
LCS	65-135	70-130	70-130
Control Limits			

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

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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

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

Client Proj. ID: 330-006.2K/0608, San Bruno
Lab Proj. ID: 9709828

Received: 09/11/97
Reported: 09/30/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 41 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Jod Granicher
Project Manager

ARCO Products Company

Division of AtlanticRichfieldCompany

Chain of Custody

330006.2K Task Order No. 213400

ARCO Facility no. 0608	City (Facility) 1700 Hesperian Blvd San Lorenzo	Project manager (Consultant) Stan Gagnon	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place #440 San Jose CA		Contract number

Method of shipment: WOH970942-6

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 ☐		
MW5	1	3		X		4	HCl	9-10-97	11:35		X											
MW7	2								11:05													
MW8	3								10:00													
MW9	4								10:45													
MW10	5								10:10													
MW11	6								10:05													
MW13	7								11:00													
MW14	8								9:55													
MW16	9								9:20													
MW18	10								9:05													
MW24	11								10:20													
MW25	12								10:55													
MW26	13								10:30													
MW33H	14								9:40													

Special detection Limit/reporting

Special QA/QC

Remarks: * Run EPA 8260 on wells with MTBE greater than 35ppb

Lab number

Turnaround time: 5 11 12 2

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 9-10-97 Time 16:00	Received by Krissy Flesoras	
Relinquished by Krissy Flesoras	Date 9/11/97 Time 1050	Received by	
Relinquished by	Date 9/11/97 Time	Received by laboratory	Date 9-11-97 Time 1224

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

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OCT 07 1997

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW19
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-01

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

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.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW19
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-01

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW21
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-02

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

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	117

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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW21
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-02

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

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	117

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW22
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-03

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX07A
Instrument ID: GCHP07

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	3.4

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

Sequoia Analytical

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW22
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-03

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	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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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW23
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-04

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: MW23
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-04

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: E1A
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-05

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	25	85

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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: E1A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-05

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**3200**
Benzene	**5.0**	**9.0**
Toluene	5.0	N.D.
Ethyl Benzene	**5.0**	**45**
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		**Gas**

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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: E1A
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9709682-05

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/27/97
Reported: 09/30/97

QC Batch Number: MS0926978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	33	70

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	94

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 590H
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-06

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

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	78

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, (650) 364-9600, FAX (650) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 590H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-06

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

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

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

Attention: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-07

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-07

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHPO6

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

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-08

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	38

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	149 Q

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-08

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/23/97
Reported: 09/30/97

QC Batch Number: GC092397BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	**380**
Benzene	0.50	**6.0**
Toluene	0.50	**1.4**
Ethyl Benzene	0.50	**0.98**
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	149 Q

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

EQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9709682-08

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/26/97
Reported: 09/30/97

QC Batch Number: MS0925978260F3A
Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	34

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	113

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, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9709682-09

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.5	N.D.
Surrogates	**Control Limits %**	**% Recovery**
Trifluorotoluene	70 130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9709682-09

Sampled: 09/09/97
Received: 09/10/97

Analyzed: 09/22/97
Reported: 09/30/97

QC Batch Number: GC092297BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Project ID: 330-006.2K/0688, San Lorenzo
Matrix: Liquid
Work Order #: 9709682 -01-09
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC092297BTEX06A	GC092297BTEX06A	GC092297BTEX06A	GC092297BTEX06A	GC092297BTEX06A
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. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970983307	970983307	970983307	970983307	970983307
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.2	9.9	10	30	69
MS % Recovery:	92	99	100	100	115
Dup. Result:	9.6	10	11	31	72
MSD % Recov.:	96	100	110	103	120
RPD:	4.3	1.0	9.5	3.3	4.3
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK092297	BLK092297	BLK092297	BLK092297	BLK092297
Prepared Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Analyzed Date:	9/22/97	9/22/97	9/22/97	9/22/97	9/22/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	9.4	10	10	31	71
LCS % Recov.:	94	100	100	103	118
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

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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

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

Sequoia Analytical

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

Client Project ID: 330-006.2K/0688, San Lorenzo
Matrix: Liquid
Work Order #: 9709682 -01-09
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC092397BTEX06A	GC092397BTEX06A	GC092397BTEX06A	GC092397BTEX06A	GC092397BTEX06A
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. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970968204	970968204	970968204	970968204	970968204
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Analyzed Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	10	11	11	31	68
MS % Recovery:	100	110	110	103	113
Dup. Result:	11	11	11	33	71
MSD % Recov.:	110	110	110	110	118
RPD:	9.5	0.0	0.0	6.3	4.3
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK092397	BLK092397	BLK092397	BLK092397	BLK092397
Prepared Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Analyzed Date:	9/23/97	9/23/97	9/23/97	9/23/97	9/23/97
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	11	11	12	35	73
LCS % Recov.:	110	110	120	117	122
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					

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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** 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: Shaw Garakani

Client Project ID: 330-006.2K/0688, San Lorenzo
Matrix: Liquid
Work Order #: 9709682 -01-09
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS0925978260F3A	MS0925978260F3A	MS0925978260F3A	MS0925978260F3A	MS0925978260F3A
Analy. Method:	EPA 8260	EPA 8260	EPA 8260	EPA 8260	EPA 8260
Prep. Method:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	9709D7401	9709D7401	9709D7401	9709D7401	9709D7401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/25/97	9/25/97	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
Result:	43	45	44	44	44
MS % Recovery:	86	90	88	88	88
Dup. Result:	43	45	44	45	45
MSD % Recov.:	86	90	88	90	90
RPD:	0.0	0.0	0.0	2.2	2.2
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	VDB092597	VDB092597	VDB092597	VDB092597	VDB092597
Prepared Date:	9/25/97	9/25/97	9/25/97	9/25/97	9/25/97
Analyzed Date:	9/25/97	9/25/97	9/25/97	9/25/97	9/25/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
LCS Result:	42	46	45	44	45
LCS % Recov.:	84	92	90	88	90
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	65-135	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

Please Note:
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** 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: Shaw Garakani

Client Project ID: 330-006.2K/0688, San Lorenzo
Matrix: Liquid
Work Order #: 9709682 -01-09
Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS0927978260F3A	MS0927978260F3A	MS0927978260F3A	MS0927978260F3A	MS0927978260F3A
Analy. Method:	EPA 8260	EPA 8260	EPA 8260	EPA 8260	EPA 8260
Prep. Method:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	9709E9001	9709E9001	9709E9001	9709E9001	9709E9001
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97
Analyzed Date:	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
Result:	41	43	42	43	43
MS % Recovery:	82	86	84	86	86
Dup. Result:	40	43	42	43	44
MSD % Recov.:	80	86	84	86	88
RPD:	2.5	0.0	0.0	0.0	2.3
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	VDB092797	VDB092797	VDB092797	VDB092797	VDB092797
Prepared Date:	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97
Analyzed Date:	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
LCS Result:	44	44	43	45	44
LCS % Recov.:	88	88	86	90	88
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	65-135	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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: Shaw Garakani

Client Proj. ID: 330-006.2K/0688, San Lorenzo
Lab Proj. ID: 9709682

Received: 09/10/97
Reported: 09/30/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 21 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Jod Granicher
Project Manager

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — **Chain of Custody**

Task Order No. 213100

ARCO Facility no. 0688	City (Facility) 7601 Hopyard Blvd Pleasanton	Project manager (Consultant) Shad Graham	Laboratory name Scott's
ARCO engineer Kyle Christian	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

Method of shipment

Special detection Limit/reporting

Special QA/QC

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 ☐		
MW19	01	3		X		Y	HCl	9-9-97	14:00		X											
MW21	02								13:50													
MW22	03								13:40													
MW23	04								13:30													
E.I.A	05								13:15													
590H	06	↓							1000													
MW17 VH	07	2							11:15													
MW19 VH	08	3							10:35													
MW23 VH	09	3							11:34													
~~TRIP~~																						

Remarks

* Run EPA 8260 on this wells with MTBE greater than 35ppb

Lab number 9709682

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 9-9-97 Time 15:15	Received by Kenny Flores	
Relinquished by Kenny Flores	Date 9/10/97 Time 12:00	Received by Steve Te	
Relinquished by Steve Te	Date 9/10/97 Time	Received by laboratory Parsley	Date 9/10/97 Time 1330

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

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0062 LOCATION: 17601 HESPERIAN DATE: 9-9-97

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: RE DAY OF WEEK: TUE

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	COLOR: Weathered	COLOR: Gas	COLOR: Oil	VISCOSITY: Lite	VISCOSITY: Medium	VISCOSITY: Heavy	LIQUID REMOVED (gallons) SPH / H_2O
	MW5	12:20	~	O	✓	✓	✓	14.00	12.35 / 12.35	12.75 / 12.75										/
	MW7	12:35	✓	✓	✓	✓	✓	19.00	12.25 / 12.25	12.25 / 12.25										/
	MW8	12:38	✓	✓	✓	✓	✓	22.00	10.85 / 10.85	11.07 / 11.07										/
	MW9	12:43	✓	✓	✓	✓	✓	19.00	10.35 / 10.35	10.89 / 10.89										/
	MW10	9:52	✓	✓	✓	✓	✓	22.00	10.45 / 10.45	11.08 / 11.08										/
	MW11	12:17	✓	✓	✓	✓	✓	19.00	11.35 / 11.35	11.75 / 11.75										/
	MW13	12:35	✓	✓	✓	✓	✓	23.5	13.80 / 13.80	14.09 / 14.09										/
	MW14	9:49	✓	✓	✓	✓	✓	24.00	9.80 / 9.80	10.08 / 10.08										/
	MW15	9:46	✓	✓	✓	✓	✓	24.00	11.05 / 11.05	11.50 / 11.50										/

Comments:

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 1760 HESPERIAN BLVD, SAN LORENZO DATE: 9-9-97

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: KEO DAY OF WEEK: TUE

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
	MW-16	9:19	-	-	-	-	-	23.00	11.63 / 11.63	12.03 / 12.03										
	~~MW-17~~								NA / DA											
	MW-18	9:11	-	-	-	-		22.00	10.70 / 10.70	11.00 / 11.00										
	MW-19	9:39	-	-	-	-		19.00	10.33 / 10.33	10.47 / 10.48										
	~~MW-20~~																			
	MW-21	9:36	-	-	-	-	-	22.00	10.90 / 10.90	10.90 / 10.90										
	MW-22	9:33	-	-	-	-	-	22.00	11.00 / 11.00	11.46 / 11.46										
	MW-23	9:30	-	-	-	-	-	22.00	12.25 / 12.25	12.53 / 12.53										
	EI-A	12:46	-	-	-	-	-	26.00	10.30 / 10.30	11.85 / 11.85										

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 1760 HESPERIAN BLVD SAN LORENZO DATE: 9-9-97

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: JE DAY OF WEEK: TUE

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	COLOR: Weathered	COLOR: Gas	COLOR: Oil	VISCOSITY: Lite	VISCOSITY: Medium	VISCOSITY: Heavy	LIQUID REMOVED (gallons) SPH / H_2O
	MW-24	10:20	-	-	-	-	-	20.00	13.17 / 13.17	13.46 / 13.46										/
	MW-25	12:28	-	-	-	-	-	20.00	11.25 / 11.95	12.46 / 12.46										/
	MW-26	12:22	-	O	-	-	-	20.00	12.30 / 12.30	12.77 / 12.77										/
																				/
																				/
																				/
																				/
																				/
																				/

Comments: _____

UPDATED CONTACT LIST:
SEPTEMBER 8, 1997
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	08/27/97	operational	PLEASE NOTIFY AS EARLY AS POSSIBLE BEFORE SAMPLING EVENT! Part-time resident of Arizona & need homeowner there to sample. Well in backyard.
633 Hacienda	Mr. Dahmann (510) 276-3860	09/05/97	operational	Well redeveloped with new pump as of 10/7/94. No access unless someone is home.
634 Hacienda	Mrs. Albright (510) 278-6094	Don't Call Well Blocked	non-operational	Well blocked; No way to collect a sample
642 Hacienda	Ms. Corregedor (510) 481-1063	8/27 & 9/5 left mess on answr. mach.	operational	Previous notes specify homeowner will not allow access; verify EACH time with notification call if this is still the case. NO ACCESS
675 Hacienda	Mr. & Mrs. Roberts (510) 276-7389	08/27/97	non-operational	Okay to enter 1st shed on the right (must use entry gate @ right side of house) to obtain sample, if not home. PLEASE LOCK GATE ON YOUR WAY OUT!!! Pump Destroyed
17348 Via Encinas	Mr. Luehrs (510)278-9059	08/27/97	non-operational	Ok to enter backyard and grab bailer sample if resident not home; KNOCK FIRST PLEASE.. Destroyed at 14.10
17197 Via Magdalena	Mr. Schrag (510) 278-1904	08/27/97	operational	Grab sample off hose bib on front porch. Call him before heading to site to turn on hose bib to purge. Okay to sample if not home.
17203 Via Magdalena	Mrs. Toles (510)276-6797	08/27/97	operational	AFTER 10AM ONLY!!! OK to enter back yard and sample if not home; KNOCK FIRST! Pump not working
17302 Via Magdalena	Mr. & Mrs. Johanson (510) 278-5987	8/27/97	non-operational	Pump has been non-operational per Mrs. Johanson since July.Foot valve broken--no pressure & not holding it's prime. Call before next sampling to see if fixed.
17349 Via Magdalena	Mr. Kast (510)278-1263	08/27/97	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	Try to notify each time	operational	Won't allow access Call for notification to verify homeowner response.
17372 Via Magdalena	Mr. Pimental (510) 278-6304	08/27/97	operational	Authorization to enter & start anytime. Sampled from hose bib in back yard; resident is usually using the hose when you get there. CALL FIRST!

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	3Q97	Shaw Garakani			Sequoia 21334 00	Mike Wheilan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses ~~NO MTBE!~~	TOB TOC	Well Depth	Casing Diameter	Top of Screen	Well goes Dry?	Comments
Mr/Mrs Silva		590 Hacienda	QLY	GAS/BTEX MTBE	TOB/TOC					BEFORE 10:30AM Sample on 9/9/97 OK AFTER 12 PM
Mr. Dahmann		633 Hacienda	QLY	GAS/BTEX	TOB/TOC					
Mrs Albright		634 Hacienda	QLY	GAS/BTEX	TOB/TOC					Not authorized to enter backyard
Ms. Corregedor		642 Hacienda	QLY	GAS/BTEX	TOB/TOC					Not authorized to enter backyard
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX	TOB/TOC				Pump	Dedicated pump Inoperable
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX	TOB/TOC			obstruct Pump ~~NO WORK~~		Sample between 7:30AM and 11 AM
Mr Scrag		17197 Via Magdalena	QLY	GAS/BTEX	TOB/TOC					~~obstruct~~
Cavalry Church		~~17200 Via Magdalena~~	QLY	GAS/BTEX	TOB/TOC					WELL DESTROYED
Mrs Toles		17203 Via Magdalena	QLY	GAS/BTEX	TOB/TOC					Pump not working?
Mr/Mrs Johanson		172302 Via Magdalena	QLY	GAS/BTEX	TOB/TOC					PUMP NOT WORKING
Mr. Kast		17349 Via Magdalena	QLY	GAS/BTEX	TOB/TOC					steel pump Hd
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		~~17303 Via Magdalena~~	QLY	GAS/BTEX	TOB/TOC					NO ACCES
		Take pictures of Home owners								

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	3q97	Shaw Garakani			Sequoia 21334 00	Mike Wheilan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Top of Screen	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	

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

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

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 14.00 - DTW 10.35 = 166 x Gal/Linear Foot 0.66 = 108 x Number of Casings 3 = Calculated Purge 324

DATE PURGED: 9-10-97 START: 11:26 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 9-10-97 START: — END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:28	1	7.47	808	72.6	BRN	HEAVY	MOD

Pumped dry (Yes) / No at 1 GAL

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 7.38 | 870 | 72.8 | BRN | HEAVY | MOD

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-17
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	9/10/97	11:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ~~NOT~~ WELL DIDN'T RECOVER A LOT OF WATER.
DO: NA TOO BROWN

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 #: MW-7

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

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 19.00 DTW 12.26 = 6.76 x Gal/Linear Foot 0.38 = 2.56 x Number of Casings 3 = Calculated Purge 7.69

DATE PURGED: 9-10-97 START: 10:58 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 11:06 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:00	2.5	7.60	783	70.2	Clear	Mod	None
11:02	5	7.68	785	70.1	Clear	Mod	None
11:04	7.5	7.61	794	71.2	Clear	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	9-10-97	11:05	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

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

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 22.00 - DTW 10.86 = 11.15 x Gal/Linear Foot 0.38 = 4.23 x Number of Casings 3 = Calculated Purge 12.71

DATE PURGED: 9-10-97 START: 11:50 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 12:00 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:53	4.25	7.23	813	75.1	Clear	Mod	Faint
11:55	8.5	7.14	800	76.1	Clear	Mod	Faint
11:58	12.75	7.22	7690	73.5	Clear	Mod	Faint

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: 15-19
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	9-10-97	1200	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.24 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO (CA) WELL ID #: MW-9

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

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 19.00 DTW 10.55 = 8.65 x Gal/Linear Foot 0.38 = 3.28 x Number of Casings 3 = Calculated Purge 9.86

DATE PURGED: 9-10-97 START: 10:35 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 10:46 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:38	3.25	7.64	807	72.0	Cloudy	Mod	Mod
10:40	6.5	7.63	814	72.3	Cloudy	Light	Mod
10:42	9.75	7.60	818	72.5	Cloudy	Light	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: 15-14
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	9-10-97	10:46	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO (3)

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 #: MW-10

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

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 20.00 - DTW 10.46 = 11.55 x Gal/Linear Foot 0.38 = 4.38 x Number of Casings 3 = Calculated Purge 13.10

DATE PURGED: 9-10 97 START: 1200 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10 97 START: 12:10 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
1205	1.25	7.73	813	72.1	Clear	Mod	Hydro
1207	8.5	7.83	756	718	Clear	Light	Hydro
1209	12.75	7.96	700	72.1	Clear	Light	Hydro

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: 15-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	9/10/97	12:10	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 #: MW-11

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

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

DATE PURGED: 9-10-97 START: 9:58 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 10:05 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:00	3	7.00	785	68.8	Cloudy	Mod	None
10:02	6	7.00	779	68.9	Cloudy	Mod	None
10:04	9	7.00	776	68.8	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: 15-B
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	9-10-97	1005	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO:2

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 #: MW-13

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

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 23.5 - DTW 13.80 = 9.7 x Gal/Linear Foot 0.38 = 3.68 x Number of Casings 3 = Calculated Purge 11.05

DATE PURGED: 9-10-97 START: 11:10 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 11:20 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:12	35	7.02	806	72.9	Clear	Mod	Low
11:14	7	7.54	796	73.1	Clear	Mod	Low
11:16	10.5	7.58	803	72.8	Clear	Mod	Low

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: 15-9
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	9-10-97	11:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO2

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 #: MW-14

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

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 2400 DTW 980 = 1420 x Gal/Linear Foot .038 = 53.96 x Number of Casings 3 = Calculated Purge 161.88

DATE PURGED: 9-10-97 START: 9:45 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 9:50 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:48	5.25	7.60	795	67.1	Clear	Mod	None
9:51	10.5	7.61	788	69.7	Clear	Mod	None
9:54	15.75	7.59	792	69.9	Clear	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-10
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	9-10-97	9:55	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO:2

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 #: MW-10

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

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 23.00 DTW 11.63 = 11.37 x Gal/Linear Foot 0.38 = 4.32 x Number of Casings 3 = Calculated Purge 12.96

DATE PURGED: 9-10-97 START: 9:08 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9/10 97 START: 9:20 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:11	4.25	7.70	801	69.3	Cloudy	Mod	None
9:14	8.5	7.72	793	69.1	Cloudy	Mod	None
9:17	12.75	7.74	789	68.7	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: 15-13
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	9/10/97	9:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 003

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 #: MW-18

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

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 22.00 DTW 10.70 = 11.3 x Gal/Linear Foot 0.38 = 4.29 x Number of Casings 3 = Calculated Purge 12.88

DATE PURGED: 9-10-97 START: 8:55 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9/10 97 START: 9:05 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:59	4.25	~~4.25~~ 701	981	69.8	Clear	Mod	None
9:00	8.5	7.00	935	69.9	Clear	Mod	None
9:03	12.75	7.10	881	70.3	Clear	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: _____
- ☐ 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-18	9/097	9:05	3	40ml	VOA	HCl	G45/BTEX

REMARKS: DO 4

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 #: MW-19

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO R.S.

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 22 - DTW 10.33 = 11.67 x Gal/Linear Foot 0.38 = 4.43 x Number of Casings 3 = Calculated Purge 13.30

DATE PURGED: 9-9-97 START: 13:53 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 14:00 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:56	4.5	7.19	879	73.1	CLEAR	Mod	None
13:57	9	7.00	880	7.35	Clear	Mod	None
14:00	13.5	7.17	860	72.6	Clear	Light	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-19	9997	14:00	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO:8

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 #: MW-21

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

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 22 - DTW 10.40 = 11.6 x Gal/Linear Foot .038 = 1.40 x Number of Casings 3 = Calculated Purge 1.32

DATE PURGED: 9-9-97 START: 13:32 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 13:50 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:44	4.6	7.03	913	73.0	Clear	Mod	Low
13:46	9	7.00	846	72.3	Clear	Mod	Low
13:48	13.5	7.01	855	73.0	Clear	Mod	Low

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: 15-9
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-21	9-9-97	13:50	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: D.O.

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 #: MW-02

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

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 2200 DTW 1100 = 10.8 x Gal/Linear Foot 0.38 = 11.10 x Number of Casings 3 = Calculated Purge 22.31

DATE PURGED: 9-9-97 START: 13:33 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 9-9-97 START: 13:40 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:35	4	7.08	864	69.5	Clear	Mod	Mod
13:37	8	7.07	853	70.2	Clear	Mod	Mod
13:39	12	7.05	802	68.9	Clear	Mod	Mod

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: 15-6
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-02	9-9-97	13:40	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DUP

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 #: MW-23

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

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 2000 DTW 1225 = 9.75 x Gal/Linear Foot 038 = 3.70 x Number of Casings 3 = Calculated Purge 11.11

DATE PURGED: 9-9-97 START: 13:19 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 13:30 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:22	3.75	7.31	1000	71.7	Cloudy	Mod	None
13:25	7.5	7.32	979	73.1	Clear	Mod	None
13:28	11.25	7.35	967	73.1	Clear	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: 15-B
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	9-9-97	1330	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 0

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 #: MW-2Y

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

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 8000 DTW 13.17 = 683 x Gal/Linear Foot 0.38 = 1.66 x Number of Casings 3 = Calculated Purge 3.48

DATE PURGED: 9-10-97 START: 10:10 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 1020 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:12	1.25	7.02	816	70.8	BRN	HEAVY	NONE
10:14	2.5	7.00	802	70.7	BRN	HEAVY	NONE
10:16	3.75	7.59	814	71.1	BRN	HEAVY	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: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: 15-13
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW2Y	9/10/97	1020	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO (5')

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 #: MW-26

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO R.S.T.

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 21.00 - DTW 11.95 = 9.05 x Gal/Linear Foot 0.17 = 1.5 x Number of Casings 3 = Calculated Purge 4.61

DATE PURGED: 9-10-97 START: 10:48 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 10:55 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:50	1.5	7.51	816	69.9	Clear	Mod	None
10:52	3	7.50	794	70.0	Clear	Mod	None
10:54	4.5	7.48	792	70.2	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: 15-16
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	9-10-97	10:55	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DUP

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 #: MW-26

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

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 20.00 DTW 12.30 = 7.7 x Gal/Linear Foot 0.38 = 1.30 x Number of Casings 3 = Calculated Purge 3.90

DATE PURGED: 9-10-97 START: 10:00 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 10:30 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:21	1.25	7.73	7710	71.0	Clear	Mod	None
10:26	2.5	7.75	762	71.3	Cloudy	Mod	None
10:28	3.75	7.70	767	71.2	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: 15-102
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	9-10-97	10:30	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DUP @

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 #: EW-1

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

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 2630 DTW 10.30 15.9 x Gal/Linear Foot 0.38 = 2386 x Number of Casings 3 Calculated = Purge 7155

DATE PURGED: 9-9-97 START: 12:55 END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 13:16 END (2400 hr): — SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:00	2375	7.67	1020	73.5	Clear	Mod	Faint
13:05	4.75	7.50	904	70.9	Clear	Mod	Faint
13:10	7125	7.10	873	70.7	Clear	Mod	Faint

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: 15-2
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
EW-1A	9.9.97	13:16	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO (2)

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 #: MW-590H

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

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: 9-9-97 START: _____ END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 10:00 END (2400 hr): _____ SAMPLED BY: RE

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

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 7.67 1000 70.5 CLEAR Faint None

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW590H	9-9-97	10:00	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO @ PURGE 15 MIN
WELL ACCESIBLE

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 #: MW-633A

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

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 .038 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 9- -97 START: _____ END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9-10-97 START: 9:10 END (2400 hr): _____ SAMPLED BY: RE

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

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 7.65 8.12 6981 CLEAR light none

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-633A	9-10-97	9:10	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:
DUP Home owner not avail at 10:20 9-9-97
10:00
14:00

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 #: MW-6751

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

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: 9-__-97 START: _____ END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-__-97 START: _____ END (2400 hr): — SAMPLED BY: RE

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

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-
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-6751	9-97	—	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Pump NO operational its not working well seal

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 #: MW-17318 UE

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO R.S.T.

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: 9-__-97 START: _____ END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-__-97 START: _____ END (2400 hr): — SAMPLED BY: RE

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: 15-
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17318UE	9997		3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Well Blockage @ 14.10 from TOC ~~Flow~~
NO Home owner at 10:15.

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 #: MW-17-197UM

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

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: 9-__-97 START: _____ END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 11:15 END (2400 hr): — SAMPLED BY: RE

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

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 7.59 9.82 7.55 CLEAR TRACE NONE

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17-197UM	9-9-97	11:15	2	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO:3 PURGED FOR 10 MIN

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.24 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-17203U4

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

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: 9-__-97 START: _____ END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9-9-97 START: _____ END (2400 hr): _____ SAMPLED BY: PE

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

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: 15-
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17203U4	9-9-97	—	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: No water and pump not working
Not able to sample

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 #: MW-17800UM

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

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: 9- -97 START: _____ END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9- 97 START: _____ END (2400 hr): — SAMPLED BY: RE

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

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: 15-
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17800UM	9-97		3	40ml	VOA	HCl	GAS/BTEX

REMARKS: Pump 8 is not working per Mrs Johnson

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 #: MW-1739YUM

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

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: 9-9-97 START: _____ END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 10:35 END (2400 hr): _____ SAMPLED BY: RE

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

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 7.68 1120 77.2 Cloudy Mod Fnt

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1739YUM	9997	10:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 10:30 PURGE DRY.

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.24 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO (CA.) WELL ID #: MW-1737DUM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO R.S.T.

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: 9-9-97 START: _____ END (2400 hr): — PURGED BY: RE

DATE SAMPLED: 9-9-97 START: 11:34 END (2400 hr): — SAMPLED BY: RE

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

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 7.16 1080 75.7 Clear Blank None

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1737DUM	9.9.97	11:34	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO (1) READS FOR 20 MIN

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

[redacted] Division of AtlanticRichfieldCompany

Task Order No. 33000624 / 233400

Chain of Custody

ARCO Facility no. 0608 | City (Facility) 1720 Hesperian Blvd San Lorenzo | Project manager (Consultant) Shaw Garaghan

ARCO engineer Mike Wheilan | 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.

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 ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
MW5		3		X		4	HCl	9-10-97	11:35		X									
MW7									11:05											
MW8									10:00											
MW9									10:45											
MW10									10:10											
MW11									10:05											
MW13									11:00											
MW14									9:55											
MW16									9:00											
MW18									9:05											
MW19									10:20											
MW20									10:55											
MW16									10:30											
#633H									9:40											

Condition of sample:

Relinquished by sampler — Date 9-10-97 Time 16:00

Relinquished by — Date — Time

Relinquished by — Date — Time

Temperature received:

Received by

Received by

Received by laboratory — Date — Time

Laboratory name Seq.

Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

* Run EPA 8260 on wells with MTBE greater than 35 ppb

Lab number

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)

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 213700

Chain of Custody

ARCO Facility no. 0688	City (Facility) 7601 Edgewater Blvd Oakland	Project manager (Consultant) Stuart Hetherington	Laboratory name Sequoia
ARCO engineer Lynne Peifer	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 Pl #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 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 ☐
4@19		3		X		4	HCl	9-9-97	11:00		X									
4@21									13:50											
4@22									13:10											
4@23									13:30											
E:15									13:15											
*590H									1000											
*17172VM		2							11:15											
*17349VM		3							10:35											
*17362VM		3							11:34											
~~[illegible]~~																				

Special detection Limit/reporting

Special QA/QC

Remarks
* Run EPA 8260 on this wells with MTBE greater than 35ppb

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	9-9-97	15:45
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
APPC-3292 (2-91)

ATTACHMENT C

REMEDIAL SYSTEM PERFORMANCE SUMMARY

ATTACHMENT C
REMEDIAL SYSTEM PERFORMANCE SUMMARY

Groundwater Extraction and Treatment Program

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. 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.

Groundwater extraction (GWE) was conducted between September 25, 1991 and August 21, 1995. 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). With approval from the ACHCSA, the GWE system has been deactivated, and is expected to remain deactivated until case closure for the site has been obtained.

Please refer to PACIFIC's *Quarterly Groundwater Monitoring Report - Second Quarter 1997* for the GWE system operational and analytical data.

Oxygen Enhancement Pilot Study Program

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.

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. Based on mixed results, and approval of the ACHCSA, the OEPSP was terminated, and ORC units from removed on May 15,1997.

A detailed description and results of the OEPSP were presented in PACIFIC's fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.

Intrinsic Bioremediation Evaluation

At the request of ARCO, PACIFIC performed a second annual intrinsic bioremediation evaluation during the second quarter 1997 groundwater monitoring event. The purpose of the evaluation was to confirm that the previously documented intrinsic bioremediation continued to be active. Groundwater samples from Wells MW-8, MW-10, and MW-23 were analyzed for dissolved oxygen (DO), ferrous iron, nitrate, sulfate, total alkalinity, methane, oxidation reduction potential (ORP) and carbon dioxide (CO_2). Table C-1 displays the parameters monitored and the associated values.

It is generally recognized that depleted concentrations of electron acceptors (DO, nitrate, and sulfate) and elevated concentrations of anaerobic bioremediation byproducts (ferrous iron, carbon dioxide, and methane) within the impacted plume compared to background conditions are indicative of intrinsic bioremediation. Additionally, an increase in alkalinity and a decrease in oxidation reduction potential (ORP) within the impacted plume compared to background conditions are also know to be indicative of intrinsic bioremediation. All intrinsic bioremediation parameters evaluated, except DO, at this site followed the expected trend, which is indicative of intrinsic bioremediation within the impacted plume

Please refer to PACIFIC's *Quarterly Groundwater Monitoring Report - Second Quarter 1997* for additional details.

Attachments: Table C-1 - Intrinsic Bioremediation Indicator Parameters

Table C-1

Intrinsic Bioremediation Indicator Parameters

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

		Field Analyses										Laboratory Analyses									
Well	Date Sampled	Color	Odor	pH (units)	E.C (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)	Total Alkalinity (mg $CaCO_3$/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (percent)	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	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	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	46	68	N/A	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	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	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	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	N/A	<50	<2.0	<0.50
	06/25/97 j	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	N/A	N/A	N/A	N/A
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	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	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	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	N/A	89	<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	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	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	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	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	N/A	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	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	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	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	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	N/A
	06/25/97 k	Clear	Faint	6.92	976	N/A	23.0	Trace	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
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	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	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	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	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	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	N/A	N/A	N/A	N/A
	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	N/A	<20	N/A	N/A	1,600	63	30
	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	N/A	240	3.9	2.4
	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	250	220	210
	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	N/A	N/A	N/A	N/A
	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	<500	<20	<5.0
	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	N/A
	06/25/97 k	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	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	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	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	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	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	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	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	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	N/A	<50	<2.0	<0.50
	06/25/97	Clear	None	7.00	953	N/A	21.8	Trace	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

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 (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)	Total Alkalinity (mg $CaCO_3$/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (percent)	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	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	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	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	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	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	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	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	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	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	N/A	490	3.8	<1.0
	08/28/96	Cloudy	None	6.93	1,000	N/A	22.8	Light	1.5	N/A	1.4	N/A	N/A	N/A	N/A	N/A	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	N/A	620	8.7	1.2
	06/25/97	Clear	Faint	7.37	912	32	24.4	Trace	<1.0	0.35	0.9	<1.0	18	N/A	440	N/A	470	<0.020	480	8.9	6.7
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	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	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	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	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	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	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	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	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	N/A	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	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	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	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	N/A
	06/25/97 k	Clear	None	6.93	918	-60	21.3	Trace	1.5	2.11	1.2	<1.0	<1.0	N/A	490	N/A	520	0.26	800	8.5	4.2
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	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	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	N/A	<50	<2.0	<0.50
	06/25/97	Clear	None	6.96	999	138	21.8	Trace	1.5	1.47	0.0	38	82	N/A	420	N/A	440	<0.020	<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	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	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	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	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	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	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	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	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	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	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	N/A
	11/27/96	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	N/A	N/A	N/A	N/A
	06/25/97	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	N/A

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 (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)	Total Alkalinity (mg $CaCO_3$/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (percent)	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	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	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	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	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	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	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	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	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	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	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	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	N/A
	06/25/97	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	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 cotorometric 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.
j. Well not sampled due to lack of access from homeowner.
k. ORCs removed from all wells on May 14, 1997. Two ORCs were lodged at the bottom of Well MW-10 and could not be removed.

Turbidity measured using a Nepholemetric turbidity unit or assessed visually.
All data collected after purging well, except where noted.