PACIFIC
ENVIRONMENTAL
GROUP, INC.

AN ENSR COMPANY

Quarterly Groundwater Monitoring Report
Third Quarter 1998

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

ship 779

Prepared for

Mr. Michael Whelan
ARCO Products Company

January 13, 1999

Prepared by

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

Project 330-006.2L

Shaw Garakani
Project Engineer

Debra J. Moser
Project Manager
CEG 1293

REGISTERED GEOLOGIST
DEBRA J. MOSER
No. 1293
CERTIFIED
ENGINEERING
GEOLOGIST
9/01
STATE OF CALIFORNIA

Date: January 13, 1999
Quarter: 3Q98

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./Debra J. Moser
Consultant Project No.:	330-006.2L
Primary Agency/Regulatory ID No.:	Alameda County Health Care Services Agency
Monitoring Events Performed to Date:	38

WORK PERFORMED THIS QUARTER (Third - 1998):

1. Submitted second quarter 1998 groundwater monitoring report.
2. Performed third quarter 1998 groundwater monitoring event on September 21 and 22, 1998.
3. Prepared third quarter 1998 groundwater monitoring report.
4. Continued quarterly payments to homeowners for not using domestic irrigation wells.
5. Continued homeowner quarterly monitoring results notification program.

WORK PROPOSED FOR NEXT QUARTER (Fourth - 1998):

1. Submit third quarter 1998 groundwater monitoring report.
2. Perform fourth quarter 1998 groundwater monitoring event.
3. Prepare fourth quarter 1998 groundwater monitoring report.
4. Continue quarterly payments to homeowners for not using domestic irrigation wells.
5. Continue homeowner quarterly monitoring results notification program.

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:	9.72 to 13.77	(Measure Feet)
Groundwater Gradient:	West-Southwest	(Direction)
	0.003	(Magnitude)
Period TPPH-g/Benzene Removed:	0.0/0.0	(gallons)
Cumulative TPPH-g/Benzene Removed:	0.8/0.04	(gallons)

DISCUSSION:

- Please refer to PEG's *Quarterly Groundwater Monitoring Report - Fourth Quarter 1996*, for historical groundwater elevation and analytical data.
- In a phone message dated June 9, 1998, the ACHCSA representative indicated that the MtBE Risk Assessment had been approved and the site would be reviewed for case closure.

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

cc: Ms. Madhulla Logan, M.S., Alameda County Health Care Services Agency
Mr. Ron Sykora/Mr. Robert L. Webster, David D. Bohannon Organization
Mr. Stephen Hill, 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 (continued)
Groundwater Sampling Schedule

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

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
Domestic Irrigation Wells (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 (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-9	03/13,15/96	32.11	7.65	24.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		9.67	22.44	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28,29/96		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
	03/31-04/01/97		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
	09/09,10/97		10.87	21.24	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	11/24,25/97		10.70	21.41	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
	03/19,20/98		8.63	23.48	<50	<0.50	<0.50	<0.50	<0.50	58	4.8
	06/04/98		9.35	22.76	<50	<0.30	<0.30	<0.30	<0.60	<10	2.0
	09/21,22/98		10.55	21.56	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
MW-10 ††	03/13,14/96	31.67	7.78	23.89	870	35	<5.0	5.2	7.0	NA	NM
	05/29/96		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
	11/25,26/96		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
	06/25/97		10.99	20.68	800	4.2	1.4	1.5	1.4	170	NM
	09/09,10/97		11.08	20.59	950	<1.2	3.3	2.5	3.7	240	2.0
	09/09,10/97 a		--	--	--	--	--	--	--	210	--
	11/24,25/97		10.85	20.82	920	5.7	6.7	<5.0	<5.0	160	2.4
	11/24,25/97		--	--	--	--	--	--	--	160	--
	03/19/98		8.78	22.89	330	1.7	<0.50	<0.50	<0.50	130	1.0
	06/04/98		9.59	22.08	680	<0.30	4.8	2.3	8.6	79	0.0
	09/21,22/98		10.77	20.90	650	<0.50	<0.50	3.5	1.3	99	0.0
MW-11	03/13,14/96	32.54	8.60	23.94	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		11.75	20.79	80	<0.50	<0.50	<0.50	0.65	<2.5	2.0
	11/24,25/97		11.50	21.04	<50	<0.50	<0.50	<0.50	<0.50	3.8	2.4
	03/19/98		9.43	23.11	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	06/03/98		10.27	22.27	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.8
	09/21,22/98		11.43	21.11	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0

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)
E-1A ††	03/13,14/96	33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA	NM
(MW-12)	05/28,29/96		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
	11/25,26/96		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
	09/09,10/97		11.85	21.21	3,200	9.0	<5.0	45	<5.0	85	2.0
	09/09,10/97 a		--	--	--	--	--	--	--	70	--
	11/24,25/97		11.75	21.31	2,000	10	<2.5	42	2.8	65	1.0
	03/19,20/98		9.65	23.41	11,000	1,300	<0.50	550	380	220	6.2
	06/04/98 b		10.47	22.59	4,500	3.3	0.92	41	4.0	51	1.5
	09/21,22/98		11.60	21.46	3,300	1.7	<0.50	29	3.6	52	1.8
MW-13	03/13,15/96	35.42	10.90	24.52	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96		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
	03/31-04/01/97		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
	09/09,10/97		14.09	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97		13.90	21.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	03/19,20/98		11.80	23.62	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.8
	06/04/98		12.63	22.79	<50	<0.30	<0.30	<0.30	<0.60	<10	1.3
	09/21,22/98		13.77	21.65	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
MW-14	03/13,15/96	30.46	6.63	23.83	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		10.08	20.38	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97		9.78	20.68	<50	<0.50	<0.50	<0.50	<0.50	2.9	2.6
	03/19/98		7.92	22.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	06/03/98		8.52	21.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.1
	09/21,22/98		9.72	20.74	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.8

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	03/13,15/96	31.41	8.13	23.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96		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
	03/31-04/01/97		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
	09/09,10/97		11.50	19.91	Well Inaccessible						
	11/24,25/97		Well Inaccessible								
	03/19/98		9.15	22.26	<50	<0.50	<0.50	<0.50	<0.50	5.3	2.2
	06/04/98		Well Inaccessible								
	09/21,22/98		Well Inaccessible								
MW-16	03/13/96	31.39	8.62	22.77	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		12.03	19.36	<50	<0.50	<0.50	<0.50	<0.50	63	3.0
	09/09,10/97 a		–	--	–	–	–	–	–	86	–
	11/24,25/97		11.76	19.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	03/19/98		9.80	21.59	<50	<0.50	<0.50	<0.50	<0.50	8.4	3.0
	06/03/98		10.55	20.84	<50	<0.50	<0.50	<0.50	<0.50	22	1.6
	09/21,22/98		11.77	19.62	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.2
MW-17	Well Destroyed										
MW-18	03/13/96	29.70	7.53	22.17	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		11.00	18.70	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4.0
	11/24,25/97		10.65	19.05	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.4
	03/19/98		8.95	20.75	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	06/03/98		9.57	20.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.8
	09/21,22/98		10.80	18.90	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2

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-19	03/13/96	29.02	7.06	21.96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		10.47	18.55	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	11/24,25/97		10.35	18.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.6
	03/19/98		8.67	20.35	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/03/98		9.15	19.87	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2
	09/21,22/98		10.28	18.74	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
MW-20	----------					Well Destroyed					----------
MW-21	03/13/96	28.72	7.58	21.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96		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
	03/31-04/01/97		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
	09/09,10/97		10.90	17.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97		10.50	18.22	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98		9.08	19.64	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.08
	06/03/98		9.57	19.15	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.6
	09/21,22/98		10.75	17.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.4
MW-22	03/13/96	29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		11.45	17.84	<50	<0.50	<0.50	<0.50	<0.50	3.4	1.0
	11/24,25/97		11.08	18.21	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.6
	03/19/98		9.40	19.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	06/03/98		10.00	19.29	<50	<0.50	<0.50	<0.50	<0.50	0.87	3.2
	09/21,22/98		11.27	18.02	<50	<0.50	<0.50	<0.50	<0.50	2.1	2.8

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-23	03/13/96	30.99	9.13	21.86	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		12.53	18.46	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97		12.13	18.86	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98		10.22	20.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.4
	06/03/98		11.03	19.96	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.3
	09/21,22/98		12.31	18.68	<50	<0.50	0.54	1.9	<0.50	<2.5	2.2
MW-24	03/13,15/96	34.38	10.10	24.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		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
	03/31-04/01/97		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
	09/09,10/97		13.46	20.92	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/24,25/97		13.25	21.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0
	03/19,20/98		11.32	23.06	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/04/98		12.00	22.38	<50	<0.30	<0.30	<0.30	<0.60	<10	1.8
	09/21,22/98		13.13	21.25	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.8
MW-25	03/13,14/96	34.12	9.61	24.51	<50	<0.50	<0.50	<0.50	<0.50	NA	0.4
	05/28,29/96		11.30	22.82	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28,29/96		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
	03/31-04/01/97		11.55	22.57	<50	<0.50	<0.50	<0.50	<0.50	39	NM
	06/25/97		14.57	19.55	<50	<0.50	<0.50	<0.50	<0.50	49	NM
	09/09,10/97		12.45	21.67	<50	<0.50	<0.50	<0.50	<0.50	78	1.0
	09/09,10/97 a		--	--	--	--	--	--	--	79	--
	11/24,25/97		12.30	21.82	<50	<0.50	<0.50	<0.50	<0.50	130	0.0
	03/19,20/98		10.18	23.94	<50	<0.50	<0.50	<0.50	<0.50	96	1.8
	06/04/98		11.00	23.12	<50	<0.30	<0.30	<0.30	<0.60	44	0.8
	09/21,22/98		12.13	21.99	<50	<0.50	<0.50	<0.50	<0.50	150	0.4

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-26	03/13,15/96	33.71	9.38	24.33	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96		11.57	22.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28,29/96		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
	03/31-04/01/97		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
	09/09,10/97		12.77	20.94	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0
	11/24,25/97		12.55	21.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.6
	03/19,20/98		10.55	23.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
	06/04/98		11.22	22.49	<50	<0.30	<0.30	<0.30	<0.60	<10	2.1
	09/21,22/98		12.45	21.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8

MtBE = Methyl tert-butyl ether
MSL = Mean sea level
TOB = Top of box
ppb = Parts per billion
ppm = Parts per million
< = Less than laboratory detection limit.
† = Well sampled without purging.
†† = ORC program at well was initiated on September 21, 1995 and discontinued on May 15, 1997.

NA = Not analyzed
NM = Not measured
NS = Not sampled

a. MtBE result confirmed by EPA Method 8260.
b. Depth to water originally measured from TOC. Depth to water adjusted to reflect a TOB measurement by adding the average difference between TOB and TOC measurements over the last four gauging events.

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
	11/24/97 a	NS	NS	NS	NS	NS	NS	NM
	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.8
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.2
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	--	--	--	--	--	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
	11/24/97	110	2.0	2.1	1.0	4.2	<2.5 c	NM
	03/19/98	150	1.8	0.62	<0.50	28	77	NM
	03/19/98	--	--	--	--	--	<2.0 c	NM
	06/03/98	480	6.2	4.3	2.9	120	28	1.3
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.2
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
	11/24/97 g	NS	NS	NS	NS	NS	NS	NM
	03/19/98 e	NS	NS	NS	NS	NS	NS	NM
	06/03/98 e	NS	NS	NS	NS	NS	NS	NM
	09/21/98 e	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
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/19/98 a	NS	NS	NS	NS	NS	NS	NM
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	NM
	09/21/98 a	NS	NS	NS	NS	NS	NS	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)
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
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98 f	NS	NS	NS	NS	NS	NS	NM
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 a,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
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
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
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98	Well Dry						
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 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
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98 f	NS	NS	NS	NS	NS	NS	NM
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 f	NS	NS	NS	NS	NS	NS	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)
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 g	NS	NS	NS	NS	NS	NS	NM
	11/24/97 g	NS	NS	NS	NS	NS	NS	NM
	03/19/98 a	NS	NS	NS	NS	NS	NS	NM
	06/03/98 a	NS	NS	NS	NS	NS	NS	NM
	09/21/98 a	NS	NS	NS	NS	NS	NS	NM
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
	11/24/97	240	<1.0	1.1	<1.0	1.4	53	2.4
	11/24/97	--	--	--	--	--	33 c†	NM
	03/19/98	1,300	14	<0.50	<0.50	1.2	250	1.0
	03/19/98	--	--	--	--	--	27 c	NM
	06/03/98	860	8.7	<0.50	0.7	8.0	38	4.9
	07/29/98	860	20	2.1	<1.2	<1.2	27	NM
	07/29/98	--	--	--	--	--	25 c	NM
	09/21/98	200	<0.50	<0.50	<0.50	14	14	5.2
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
	11/24/97 e	NS	NS	NS	NS	NS	NS	NM
	03/19/98 e	NS	NS	NS	NS	NS	NS	NM
	06/03/98 e	NS	NS	NS	NS	NS	NS	NM
	09/21/98 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
	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	4.0
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0

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)
17372 VM	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	1,200	1.8
(cont.)	03/19/98	--	--	--	--	--	1,400 c	NM
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	16,000	1.8
	07/29/98	<200	<2.0	<2.0	<2.0	<2.0	940	NM
	07/29/98	--	--	--	--	--	1,100 c	NM
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	200	1.6
	09/21/98	--	--	--	--	--	360 c	NM
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
ppm = Parts per million
NA = Not analyzed
NM = Not measured
NS = Not sampled
H = Hacienda Avenue
VM = Via Magdalena
VE = Via Encinas
< = Less than laboratory detection limit stated at right.
† = Sample analyzed past hold time.
* = 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.
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.
Homeowners are contacted 1 week prior to sampling event.

N

VIA MANZANAS

MW-20

POTRERO COURT

MW-19
(18.74)

VIA MAGDALENA

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

VIA MEDIA

CHURCH
AND SCHOOL

17200

MW-17

(20.74)
MW-14

MW-24
(21.25)

MW-21
(17.97)

17197

MW-18
(18.90)

RESIDENTIAL

MW-26
(21.26)

RESTAURANT

MW-9
(21.56)

17203

17302

17372

(19.62)
MW-16

633

(20.90)
MW-10

(21.46)

(21.99)
MW-25

(21.42)

E-1A

SP-2/V-5

MW-8

SP-1/V-4

MW-5
(21.54)

MW-7
(21.92)

RESIDENTIAL

MW-22
(18.02)

17349

17371

MW-15*

MW-11
(21.11)

590

MW-13
(21.65)

VIA ENCINAS COURT

17393

17348

634

642

RESIDENTIAL

SHOPS

675

MW-23
(18.68)

18.0

HACIENDA AVENUE

19.0

20.0

21.0

VIA ALAMO

330\006\Site_Map.dwg

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

E-1A ▪ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

590 ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION

(21.11) GROUNDWATER ELEVATION IN FEET – MSL, 9-21-98

20.0 GROUNDWATER ELEVATION CONTOUR IN FEET – MSL, 9-21-98

* WELL INACCESSIBLE

APPROXIMATE DIRECTION OR GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.003

PACIFIC ENVIRONMENTAL GROUP, INC.

DRAWING SCALE:

SCALE

0 150 300 FEET

GROUNDWATER ELEVATION CONTOUR MAP

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

FIGURE:
1

PROJECT:
330-006.2L

N

VIA MANZANAS
MW-20
POTRERO COURT
APARTMENTS
VIA ARRIBA
SHOPS
HESPERIAN BOULEVARD
MW-19 ND/ND
VIA MAGDALENA
APARTMENTS
RESTAURANT
VIA MEDIA
CHURCH AND SCHOOL
17200
MW-17
MW-14 ND/ND
MW-24 ND/ND
MW-21 ND/ND
ND/ND 17197
MW-18 ND/ND
RESIDENTIAL
MW-26 ND/ND
RESTAURANT
ND/ND
MW-9
VIA FLORES
17203 NS
17302 NS
ND/ND 17372
3,300/1.7
380/ND
E-1A
MW-25 ND/ND
MW-16 ND/ND
ND/ND 633
650/ND MW-10
MW-8
SP-2/V-5
SP-1/V-4
MW-5 110/0.59
MW-7 ND/ND
RESIDENTIAL
200/ND
17349 NS
17371
MW-15*
MW-11 ND/ND
590 ND/ND
MW-22 ND/ND
MW-13 ND/ND
17393
VIA ENCINAS COURT
17348 NS
634 NS
642 NS
RESIDENTIAL
SHOPS
675 NS
MW-23 ND/ND
HACIENDA AVENUE
VIA ALAMO

APPROXIMATE DIRECTION OR 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
- E-1A ◪ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION
- 590 ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION
- 650/ND TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 9-21-98 AND 9-22-98
- ND NOT DETECTED
- NS NOT SAMPLED
- * WELL INACCESSIBLE

330\006\Site_Map.dwg

PACIFIC ENVIRONMENTAL GROUP, INC.

DRAWING SCALE:
SCALE
0 150 300 FEET

TPPH-g/BENZENE CONCENTRATION MAP

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

FIGURE: 2

PROJECT: 330-006.2L

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, temperature, pH, and electrical conductivity are monitored 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.

Analytical Procedures

Laboratory. The groundwater samples were analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline, benzene, toluene, ethylbenzene, xylenes, and methyl tert-butyl ether. The analyses were performed according to EPA Methods 8015 (modified) and 8020, utilizing a purge-and-trap extraction technique. Final detection was by gas chromatography using flame- and photo-ionization detectors. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical report, chain-of-custody documentation, and field data sheets are presented as Attachment B.

Field. Dissolved oxygen is measured in the field utilizing Hydac AccuVac test kit.

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, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

OCT 15 1998

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

Project: 3300062L/0608, 1762 Hesperian

Enclosed are the results from samples received at Sequoia Analytical on September 23, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9809C90 -01	LIQUID, MW5	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -02	LIQUID, MW7	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -03	LIQUID, MW8	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -04	LIQUID, MW9	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -05	LIQUID, MW13	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -06	LIQUID, MW24	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -07	LIQUID, MW25	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -08	LIQUID, MW26	09/22/98	Purgeable TPH/BTEX/MTBE
9809C90 -09	LIQUID, E-1A	09/22/98	Purgeable TPH/BTEX/MTBE

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, (925) 988-9600, FAX (925) 988-9673
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Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW5	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-01	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**110**
Methyl t-Butyl Ether	**2.5**	**25**
Benzene	**0.50**	**0.59**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW7	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-02	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW8	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-03	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**380**
Methyl t-Butyl Ether	**12**	**620**
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	101

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW9	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-04	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW13	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-05	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

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, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW24	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-06	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	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, (925) 988-9600, FAX (925) 988-9673
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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW25	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-07	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**150**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: MW26	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/08/98
Attention: Shaw Garakani	Lab Number: 9809C90-08	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	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
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Pacific Environmental Group	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Sampled: 09/22/98
2025 Gateway Place, Suite 440	Sample Descript: E-1A	Received: 09/23/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/30/98
Attention: Shaw Garakani	Lab Number: 9809C90-09	Reported: 10/08/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**3300**
Methyl t-Butyl Ether	**2.5**	**52**
Benzene	**0.50**	**1.7**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**29**
Xylenes (Total)	**0.50**	**3.6**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	76

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 Project ID:	3300062L/0608, 1762 Hesperian	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9809C90 01	Reported: Oct 14, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	8090499	8090499	8090499	8090499
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	N.A.	N.A.	N.A.	N.A.
MS/MSD #:	BLK093098	BLK093098	BLK093098	BLK093098
Sample Conc.:	0.590	N.D.	N.D.	N.D.
Prepared Date:	9/30/98	9/30/98	9/30/98	9/30/98
Analyzed Date:	9/30/98	9/30/98	9/30/98	9/30/98
Instrument I.D.#:	N.A.	N.A.	N.A.	N.A.
Conc. Spiked:	100 µg/L	100 µg/L	100 µg/L	300 µg/L
Result:	95.8	96.1	92.6	281
MS % Recovery:	95.2	96.1	92.6	93.7
Dup. Result:	97.7	97.9	93.6	284
MSD % Recov.:	97.1	97.9	93.6	94.7
RPD:	1.98	1.86	1.07	1.06
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	LCS093098	LCS093098	LCS093098	LCS093098
Prepared Date:	9/30/98	9/30/98	9/30/98	9/30/98
Analyzed Date:	9/30/98	9/30/98	9/30/98	9/30/98
Instrument I.D.#:	N.A.	N.A.	N.A.	N.A.
Conc. Spiked:	100 µg/L	100 µg/L	100 µg/L	300 µg/L
LCS Result:	101	98.7	97.6	295
LCS % Recov.:	101	98.7	97.6	98.3
MS/MSD	82-119	80-117	66-125	73-119
LCS	84-116	81-117	79-115	80-114
Control Limits				

SEQUOIA ANALYTICAL
ELAP #2245

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	Client Project ID:	3300062L/0608, 1762 Hesperian	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9809C90 01	Reported: Oct 14, 1998

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	80900501
Analy. Method:	EPA 8015M
Prep. Method:	EPA 5030
Analyst:	N.A.
MS/MSD #:	BLK093098
Sample Conc.:	25.3
Prepared Date:	9/30/98
Analyzed Date:	9/30/98
Instrument I.D.#:	N.A.
Conc. Spiked:	100 µg/L
Result:	119
MS % Recovery:	93.7
Dup. Result:	122
MSD % Recov.:	96.7
RPD:	3.15
RPD Limit:	0-25

LCS #:	LCS093098
Prepared Date:	9/30/98
Analyzed Date:	9/30/98
Instrument I.D.#:	N.A.
Conc. Spiked:	100 µg/L
LCS Result:	98.7
LCS % Recov.:	98.7

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

SEQUOIA ANALYTICAL
ELAP #2245

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	Client Proj. ID: 3300062L/0608, 1762 Hesperian	Received: 09/23/98
2025 Gateway Place, Suite 440		
San Jose, CA 95110	Lab Proj. ID: 9809C90	Reported: 10/08/98
Attention: Shaw Garakani		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 12 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

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

WORKORDER: 9809C90
DATE OF LOG IN: 9/23/98

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s)	Present / (Absent) Intact / Broken*
2. Custody Seal #	Put in Remarks Section
3. Chain-of-Custody	(Present) / Absent*
4. Traffic Reports or Packing List	Present / (Absent)
5. Airbill	Airbill / Sticker (Present) / Absent
6. Airbill #	
7. Sample Tags	(Present) / Absent
Sample Tags #s.	(Listed) / Not Listed on Chain-of-Custody
8. Sample Condition	(Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree?	(Yes) / No*
10. Proper Preservatives used	(Yes) / No*
11. Date Rec. at Lab.	9.23.98
12. Time Rec. at Lab:	1232
13. Temp Rec. at Lab	4°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS CONDITION (ETC.)
01	ABC	MW5	3x VOA HCl	L	9.22	
02		7				
03		8				
04		9				
05		13				
06		24				
07		25				
08		26				
09		E-1A				

JM 9.23.98

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

Revision 6/18/97

ARCO Products Company 3300062L **Task Order No.** 22340

Division of AtlanticRichfieldCompany

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17602 Hesperian Blvd San Lorenzo	Project manager (Consultant) Shaw Garakani	Laboratory name Sequoia
ARCO engineer M. Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408) 441-7500 / Fax no. (Consultant) 408) 441-7539	Contract number
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place #440 San Jose CA 95110		

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
MW5	01	3		W		Y	HCL	9-22-98	11:05		X									
MW7	02	↓		↓		↓	↓	↓	10:20		↓									
MW8	03								10:00											
MW9	04								9:50											
MW13	05								10:35											
MW24	06								9:35											
MW25	07								10:05											
MW26	08								9:25											
E-1A	09	↓		↓		↓	↓	↓	9:10		↓									

Method of shipment: 9809 CTO

Special detection Limit/reporting

SP 23 12 32

Special QA/QC

SP 23 12 32

Remarks

SP 23 12 32

Lab number

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler [signature]	9-22-98	14:00	Received by [signature]		
Relinquished by [signature]	9/23/98	1015	Received by [signature]		
Relinquished by [signature]	9.23.98		Received by laboratory [signature]	9.23.98	1232

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

APC-3292 (2-91)

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW10	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-01	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**650**
Methyl t-Butyl Ether	**2.5**	**99**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**3.5**
Xylenes (Total)	**0.50**	**1.3**
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	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW11	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-02	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW14	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-03	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	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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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW16	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-04	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	101

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

SEQUOIA ANALYTICAL - ELAP #1210

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, (925) 988-9600, FAX (925) 988-9673
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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW18	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-05	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	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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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW19	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-06	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	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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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW21	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-07	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW22	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-08	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**2.1**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: MW23	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-09	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	**0.50**	**0.54**
Ethyl Benzene	**0.50**	**1.9**
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: 590H	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-10	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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: Arco 3300062L, 22340
Sample Descript: 633H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9809C61-11

Sampled: 09/21/98
Received: 09/22/98

Analyzed: 10/01/98
Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Attention: Shaw Garakani

Client Proj. ID: Arco 3300062L, 22340
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9809C61-12

Sampled: 09/21/98
Received: 09/22/98

Analyzed: 10/01/98
Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Pacific Environmental Group	Client Proj. ID: Arco 3300062L, 22340	Sampled: 09/21/98
2025 Gateway Place, Suite 440	Sample Descript: 17349VM	Received: 09/22/98
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/01/98
Attention: Shaw Garakani	Lab Number: 9809C61-13	Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**200**
Methyl t-Butyl Ether	**2.5**	**14**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**14**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

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: Arco 3300062L, 22340
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9809C61-14

Sampled: 09/21/98
Received: 09/22/98

Analyzed: 10/05/98
Reported: 11/06/98

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	360
Surrogates	**Control Limits %**	**% Recovery**
1,2-Dichloroethane-d4	76 114	122 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

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Shaw Garakani	Client Proj. ID: Arco 3300062L, 22340 Sample Descript: 17372VM Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809C61-14	Sampled: 09/21/98 Received: 09/22/98 Analyzed: 10/01/98 Reported: 11/06/98

Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**200**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

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: Arco 3300062L, 22340

Lab Proj. ID: 9809C61

Received: 09/22/98

Reported: 11/06/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 20 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

Note: MTBE in sample 17372VM was confirmed by method EPA 8260 on 10/5/98.
Surrogate recoveries for this analysis are as follows:

Surrogate	Recovery	Control Limits
Dibromofluormethane	107%	86-118%
1,2-Dichloroethane-d4	122%	80-120%
Toluene-d8	98%	88-110%
4-Bromofluorobenzene	104%	86-115%

SEQUOIA ANALYTICAL

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: Arco 3300062L, 22340
Matrix: Liquid
Work Order #: 9809C61 01-14
Reported: Oct 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Gasoline
QC Batch#:	8100006
Analy. Method:	EPA 8015M
Prep. Method:	EPA 5030
Analyst:	N.A.
MS/MSD #:	BLK100198
Sample Conc.:	N.D.
Prepared Date:	10/1/98
Analyzed Date:	10/1/98
Instrument I.D.#:	N.A.
Conc. Spiked:	1000 µg/L
Result:	976
MS % Recovery:	97.6
Dup. Result:	942
MSD % Recov.:	94.2
RPD:	3.5
RPD Limit:	0-12

LCS #:	LCS100198
Prepared Date:	10/1/98
Analyzed Date:	10/1/98
Instrument I.D.#:	N.A.
Conc. Spiked:	1000 µg/L
LCS Result:	964
LCS % Recov.:	96.4

MS/MSD	53-146
LCS	79-127
Control Limits	

SEQUOIA ANALYTICAL
ELAP #2245

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

Client Project ID: Arco 3300062L, 22340
Matrix: Liquid
Work Order #: 9809C61 01-14

Reported: Oct 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	8100007	8100007	8100007	8100007
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	N.A.	N.A.	N.A.	N.A.
MS/MSD #:	BLK100198	BLK100198	BLK100198	BLK100198
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/1/98	10/1/98	10/1/98	10/1/98
Analyzed Date:	10/1/98	10/1/98	10/1/98	10/1/98
Instrument I.D.#:	N.A.	N.A.	N.A.	N.A.
Conc. Spiked:	100 µg/L	100 µg/L	100 µg/L	300 µg/L
Result:	89.8	91.8	92.6	257
MS % Recovery:	89.8	91.8	92.6	85.7
Dup. Result:	88.1	89.8	90.6	254
MSD % Recov.:	88.1	89.8	90.6	84.7
RPD:	1.9	2.20	2.18	1.17
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	LCS100198	LCS100198	LCS100198	LCS100198
Prepared Date:	10/1/98	10/1/98	10/1/98	10/1/98
Analyzed Date:	10/1/98	10/1/98	10/1/98	10/1/98
Instrument I.D.#:	N.A.	N.A.	N.A.	N.A.
Conc. Spiked:	100 µg/L	100 µg/L	100 µg/L	300 µg/L
LCS Result:	93.7	96.3	97.4	271
LCS % Recov.:	93.7	96.3	97.4	90.3
MS/MSD Control Limits	82-119	80-117	66-125	73-119
LCS Control Limits	84-116	81-117	79-115	80-114

SEQUOIA ANALYTICAL

Ted 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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1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

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

Client Project ID: Arco 3300062L, 22340
Matrix: Liquid
Work Order #: 9809C61 01-14
Reported: Oct 22, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene
QC Batch#:	8100059	8100059
Analy. Method:	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030
Analyst:	N.A.	N.A.
MS/MSD #:	BLK100598	BLK100598
Sample Conc.:	N.D.	N.D.
Prepared Date:	10/5/98	10/5/98
Analyzed Date:	10/5/98	10/5/98
Instrument I.D.#:	N.A.	N.A.
Conc. Spiked:	5.0 µg/L	5.0 µg/L
Result:	4.79	4.65
MS % Recovery:	95.8	93
Dup. Result:	4.78	4.69
MSD % Recov.:	95.6	93.8
RPD:	0.209	0.857
RPD Limit:	0-15	0-15
LCS #:	LCS100598	LCS100598
Prepared Date:	10/5/98	10/5/98
Analyzed Date:	10/5/98	10/5/98
Instrument I.D.#:	N.A.	N.A.
Conc. Spiked:	5.0 µg/L	5.0 µg/L
LCS Result:	4.76	4.64
LCS % Recov.:	95.2	92.8
MS/MSD LCS Control Limits	88-124	88-122

SEQUOIA ANALYTICAL
ELAP 2245

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

ARCO Products Company Division of AtlanticRichfieldCompany 33000 60L **Task Order No.** 22340 9809C61 **Chain of Custody**

ARCO Facility no. 0608 | City (Facility) 17601 Imperial Blvd Sunol | Project manager (Consultant) Sila Garakani

ARCO engineer M. 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

Laboratory name: Sequoia

Contract number:

Method of shipment:

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS Lead EPA 7420/7421 ☐		
MW10	01	3		(2)		Y	HCL	9.21.98	13:00		X											
MW11	02	↓		↓		↓	↓	↓	13:05		↓											
MW14	03								12:50													
MW16	04								12:35													
MW18	05								12:20													
MW9	06								12:05													
MW21	07								11:50													
MW22	08								11:35													
MW23	09								11:20													
*590H	10								9:10													
*633H	11								10:25													
*17199VN	12								11:05													
*17349VN	13								10:45													
*17372VN	14	↓		↓		↓	↓	↓	10:10		↓											

Special detection Limit/reporting: SEP 22 11 35

Special QA/QC:

Remarks: * Run EPA 8260 on these wells w/ 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 ☒

Condition of sample: | Temperature received:

Relinquished by	Date	Time	Received by	Date	Time
Relinquished by sampler [signature]	9.21.98	15:00	Received by [signature]		
Relinquished by [signature]	9/22/98	1020	Received by [signature]		
Relinquished by [signature]	9.22.98		Received by laboratory [signature]	9.22.98	1135

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

APPC-3292 (2-91)

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): ~~[illegible]~~ LORI

WORKORDER: 9809C61
DATE OF LOG-IN: 9/22/98

CIRCLE THE APPROPRIATE RESPONSE:

1. Custody Seal(s): Present / (Absent) Intact / Broken*
2. Custody Seal #: Put in Remarks Section
3. Chain-of-Custody: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker (Present) / Absent
6. Airbill #:
7. Sample Tags: (Present) / Absent
   Sample Tags #s: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper Preservatives used: (Yes) / No*
11. Date Rec. at Lab: 9.22.98
12. Time Rec. at Lab: 1135
13. Temp Rec. at Lab: 13°C

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC.)
01	ABC	MW10	3x VOA HCl	L	9.21	
02		MW11				
03		~~[illegible]~~ MW14				
04		MW16				
05		MW18				
06		MW19				
07		MW21				
08		MW22				
09		MW23				
10		590H				
11		633H				
12		17197VM				
13		17349VM				
14		17372VM				
15						
16						

for 9.22.98

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

SEP 23 1998

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2L

☐ 1st time visit

Station #:0608

☐ 1st ☐ 2nd ☒ 3rd ☐ 4th

Date of Request: 3Q98

Site Address:17601 Hesperian Blvd.
San Lorenzo, California

☐ Monthly

Ideal Field Date: 9/21,22

☐ Semi-Monthly

Purge water 400

County:Alameda

☐ Weekly

Budget Hrs.________

Project Manager:Shaw Garakani

☐ One time Event

Actual Hrs. 16

Requestor:Krissy Flesoras

☐ Other.______________

Mob de Mob 1

Client:Arco

Client P.O.C.: M. Whelan.

Total Wells 23

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

Field Tasks: For General Description

Quarterly Monitoring Event. Measure TOB/TOC, and DO. **Purge all wells, irrigation wells for at least 15 minutes before sampling. Also record time when purging starts and when purging is stopped.** Instruct Sequoia to run EPA 8260 on homeowner wells with MtBE greater than 35 ppb. Attempt to sample all homeowner wells and if wells are non-operational, note the problem as best as you can and what it would take to repair pump/well. Sample homeowner wells on **September 21, 1998.**

WA#22340

Comments, remarks, from Field Staff (include problems encountered

Task Completed, Home Owner Wells:
Contain water from 633H, 17197 VM, 17349 VM
Purge & sample all ground water wells
Except MW6 Car park on top of well

Completed by: [signature] Date: 9-21/22-98

Checked by:______________________________

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2L	608	17601 Hesperian San Lorenzo	3Q98	Shaw Garakani			Sequoia 22340	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	well cover by car
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	26		6"	YES	

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2L	608	17601 Hesperian San Lorenzo	3Q98	Shaw Garakani			Sequoia 22340	Mike Wheilan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Top of Screen	Well goes Dry?	Comments
Mr/Mrs Silva		590 Hacienda OK	QLY	GAS/BTEX/MtBE	TOB/TOC					SEE ATTACHED CONTACT FORM.
Mr. Dahmann		633 Hacienda OK	QLY	GAS/BTEX/MtBE	TOB/TOC					SAMPLE HOMEOWNER WELLS ON
Mrs Albright		634 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					MONDAY, SEPTEMBER 21, 1998.
Ms. Corregedor		642 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					No access/not authorized
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					No access pump is not locked up
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX/MtBE	TOB/TOC					No access
Mr. Schrag		17197 Via Magdalena OK	QLY	GAS/BTEX/MtBE	TOB/TOC					
Cavalry Church		17200 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					Well Paved Over.
Mrs Toles		17203 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					Pump not working/house empty
Mr/Mrs Johanson		17302 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					NO ACCESS
Mr. Kast		17349 Via Magdalena OK	QLY	GAS/BTEX/MtBE	TOB/TOC					OK
Mr. Manry		17371 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					NO ACCESS
Mr. Pimental		17372 Via Magdalena OK	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr. Whaley		17393 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					Well Abandoned, 7/97

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	09/14/98	operational	Knock first. Sample early-mid-morning. Well in backyard.
633 Hacienda	Mr. Dahmann (510) 276-3860	09/15/98	operational	Well redeveloped with new pump as of 10/7/94. Okay to sample anytime.
642 Hacienda No access No Contact	Ms. Corregedor (510) 481-1063	Don't Call Not authorized	operational	Message 09/14-16/98. Unable to be contacted.
675 Hacienda No access pump is not hooked up	Mr. & Mrs. Roberts (510) 276-7389	N/A	non-operational	Message 09/14-16/98. Unable to be contacted.
17348 Via Encinas — 9/21 no access	Mr. Luehrs (510)278-9059	09/16/98	non-operational	Attempt to sample in the morning on September 21st. Knock first so that the dog can be leashed.
17197 Via Magdalena	Mr. Schrag (510) 278-1904	09/16/98	operational	Okay to sample anytime.
17203 Via Magdalena Pump not working no overflow	Mrs. Toles (510)276-6797	9/14/98	non-operational	Okay to enter anytime. Pump not working 2Q98 possibly due to an obstruction. If pump does not work 3Q98, then let homeowner know so that she can get somebody to fix it.
17302 Via Magdalena No Access Pump not working overflower	Mr., Mrs. Johanson (510) 278-5987	Access Denied 09/14/98	non-operational	Pump still non-operational. Foot valve is not the problem. Has not been fixed due to lack of funds.
17349 Via Magdalena	Mr. Kast (510)278-1263	09/14/98	operational	OK to enter back yard and sample anytime
17371 Via Magdalena	Mr. Manry (510) 317-9724	Don't Call Not authorized	operational	Won't allow access (past attempts). No answer, 9/14-16/98.
17372 Via Magdalena	Mr. Pimental (510) 278-6304	09/15/98	operational	Okay to sample anytime. Sampled from hose bib in back yard.

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN DATE: 9-21-98

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: PE DAY OF WEEK: M/W

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
	MW5	8:25	-	O	-	-	-	14	12.05 / 10.05	12.45 / 10.45										
	MW7	8:29	-	-	-	-	-	19.	11.85 / 11.85	12.48 / 10.48										
	MW8	8:41	-	-	-	-	-	22	10.55 / 10.55	11.37 / 11.37										
	MW9	8:17	-	-	-	-	-	19	10.00 / 10.00	10.55 / 10.55										
	MW10	9:19	-	-	-	-	-	22	10.16 / 10.16	10.77 / 10.77										
	MW11	9:16	-	-	-	-	-	19	11.00 / 11.00	11.43 / 11.43										
	MW13	8:32	-	-	-	-	-	23.5	13.45 / 13.45	13.77 / 13.77										
	MW14	9:13	-	-	-	-	-	24	9.46 / 9.46	9.72 / 9.72										
	MW15							24												

Comments: MW15 DW pack on top of well 9.21.98 all day
9.22.98 all day

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0062 LOCATION: 1760 HESPERIAN BLVD DATE: 9-21-98

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: SAN LORENZO DAY OF WEEK: MON

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	SEPARATE-PHASE HYDROCARBONS (SPH) COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
	MW-16	9:39	-	-	-	-	-	23	11.35 / 11.35	11.77 / 11.77										/
	~~MW-17~~							—	—	—										/
	MW-18	9:36	-	-	-	-	-	22	10.50 / 10.50	10.80 / 10.80										/
	MW-19	9:34	-	-	-	-	-	22	10.15 / 10.15	10.28 / 10.28										/
	~~MW-20~~							—	—	—										/
	MW-21	9:32	-	-	-	-	-	22	10.25 / 10.25	10.75 / 10.75										/
	MW-22	9:30	-	-	-	-	-	22	11.00 / 11.00	11.27 / 11.27										/
	MW-23	9:20	-	-	-	-	-	22	12.05 / 12.05	12.31 / 12.31										/
	EI-A	8:40	-	-	-	-	-	20	10.00 / 10.00	11.60 / 11.60										/

Comments: _____

FIELD REPORT

EPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No. : 330-006.2 LOCATION: 1760 HESPERIAN BLVD (SAN LORENZO) DATE: 9.21.98

CLIENT/STATION NO. : ARCO/1605 FIELD TECHNICIAN: P.C. DAY OF WEEK: MON

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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-24	8:35	✓	✓	✓	✓	✓	20	12.83 / 12.83	13.13 / 13.13										
	MW-25	8:28	✓	✓	✓	✓	✓	21	11.60 / 11.60	12.13 / 12.13										
	MW-26	8:38	✓	✓	✓	✓	✓	20	10.00 / 10.00	10.45 / 10.45										

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-5

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 12.05 = 1.95 x Gal/Linear Foot 0.66 = 1.28 x Number of Casings 3 = Calculated Purge 3.84

DATE PURGED: 9 22 98 START: 10:52 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 11:05 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:56	1.25	7.21	1120	69.9	Cloudy	Light	Faint
10:59	2.5	7.18	1110	70.1	Cloudy	Light	Faint
11:02	3.75	7.15	1110	70.0	Cloudy	Light	Faint

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	9 22 98	1105	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO 1.8

SIGNATURE _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-7

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 11.85 = 7.15 x Gal/Linear Foot 0.38 = 2.71 x Number of Casings 3 = Calculated Purge 8.15

DATE PURGED: 9 22 98 START: 10:00 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 10:20 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:12	2.75	7.18	1050	67.8	Clear	Light	Slight
10:15	5.5	7.22	1040	67.9	Clear	Light	Slight
10:18	8.25	7.32	1050	68.1	Clear	Light	Slight

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	9 22 98	10:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 0.4

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 10.56 = 11.44 x Gal/Linear Foot 0.38 = 4.35 x Number of Casings 3 = Calculated Purge 13.05

DATE PURGED: 9/22/98 START: 10:38 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/22/98 START: 10:50 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:41	4.25	7.37	1060	69.7	CLEAR	Mod	Mod
10:44	8.5	7.24	1060	69.6	Clear	Light	Faint
10:47	12.75	7.20	1070	69.9	Clear	Light	Faint

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	9/22/98	10:50	3	40ml	VOA	HCl	BTEX

REMARKS: DO.00

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-9

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 1900 - DTW 1000 = 9 x Gal/Linear Foot 0.38 = 3.42 x Number of Casings 5 = Calculated Purge 16.26

DATE PURGED: 9 22 98 START: 9:40 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 9:50 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:43	3.5	7.37	1180	68.6	Cloudy Mod	Mod	Mod
9:45	7	7.29	1110	68.3	Cloudy Mod	Mod	Mod
9:47	10.5	7.19	1100	68.5	Cloudy Mod	Mod	Mod

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-12
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	9 22 98	950	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 20.18

PACIFIC ENVIRONMENTAL GROUP, INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 0200 DTW 10.16 = 1185 x Gal/Linear Foot 0.38 = 1.50 x Number of Casings 3 = Calculated Purge 13.00

DATE PURGED: 9/21/98 START: 13:08 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/21/98 START: 13:20 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:11	4.5	6.28	9.48	66.8	Clear	Mod	Faint
13:13	9	6.26	9.48	67.4	Clear	Faint	Faint
13:15	13.5	6.27	9.52	67.7	Clear		

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: 15-16
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	9/21/98	13:00	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 10.00

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-11

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 1900 - DTW 1100 = 8 x Gal/Linear Foot 0.38 = 304 x Number of Casings 3 = Calculated Purge 9-12

DATE PURGED: 9 01 98 START: 1253 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 01 98 START: 1305 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1256	3	6.08	1060	65.8	Cloudy	Mod	Mod
1259	6	6.23	1080	66.1	Cloudy	Mod	Mod
1302	9	6.18	1050	66.2	Cloudy	Mod	Mod

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 15-13
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	9/2/98	1305	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO-4.0

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2L LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-13

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 13.45 = 10.05 x Gal/Linear Foot 0.38 = 3.81 x Number of Casings 3 = Calculated Purge 11.43

DATE PURGED: 9 22 98 START: 10:24 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 10:35 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1027	3.75	7.19	1120	71.9	Cloudy	Mod	None
1030	7.5	7.37	1070	69.6	Cloudy	Light	None
1033	11.25	7.35	1050	68.7	Cloudy	Light	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: 15-10
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	9 22 98	10:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO - 1.8

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 24.00 - DTW 9.46 = 14.55 x Gal/Linear Foot 0.38 = 5.52 x Number of Casings 3 = Calculated Purge 16.58

DATE PURGED: 9/2/98 START: 12:38 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/2/98 START: 12:50 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:41	5.5	6.14	1100	67.7	Cloudy	Mod	None
12:44	11	6.10	1100	67.8	Cloudy	Mod	None
12:47	16.5	6.05	1100	67.9	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: 15-11
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	9/2/98	1250	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 12:38

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 11.35 = 11.65 x Gal/Linear Foot 0.38 = 4.43 x Number of Casings 3 = Calculated Purge 13.28

DATE PURGED: 9/21/98 START: 12:23 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/21/98 START: 12:35 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
12:26	4.5	6.08	1020	65.8	Cloudy	Med	Some
12:29	9	6.18	976	66.9	Cloudy	Med	Some
12:32	13.5	6.15	902	67.3	Cloudy	Med	Some

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: 159
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	9/21/98	12:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 20 : 1.0

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2L LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-1B

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 10.00 = 11.5 x Gal/Linear Foot 0.38 = 4.37 x Number of Casings 3 = Calculated Purge 13.11

DATE PURGED: 9/21/98 START: 12:08 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/21/98 START: 12:20 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:11	4.5	6.00	1100	68.9	Cloudy	Mod	Mod
12:14	9	6.15	1100	67.6	Cloudy	Light	Mod
12:17	13.5	6.13	1100	67.9	Cloudy	Light	Mod

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D.

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

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: 158
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1B	9/21/98	12:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 10:02

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-19

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 0200 DTW 10.15 = 1185 x Gal/Linear Foot 0.38 = 450 x Number of Casings 3 = Calculated Purge 1350

DATE PURGED: 9/21/98 START: 1155 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/21/98 START: 1205 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1158	4.5	6.21	1120	65.0	Clear	Light	None
1201	9	6.20	1140	65.9	Clear	Light	None
1204	13.5	6.18	1140	66.1	Clear	Light	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: B-3
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-19	9/21/98	1205	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 2.6

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.26 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-01

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 10.25 = 11.75 x Gal/Linear Foot 0.38 = 4.46 x Number of Casings 3 = Calculated Purge 13.39

DATE PURGED: 9/21/98 START: 11:38 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9/21/98 START: 11:50 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:41	4.5	6.22	1080	66.7	Cloudy	Light	Odor
11:44	9	6.13	1070	66.5	Cloudy	Light	Odor
11:47	13.5	6.18	1070	66.4	Cloudy	Light	Odor

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: 15-7
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW01	9/21/98	11:50	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 2.1

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 11.00 = 11.00 x Gal/Linear Foot 0.38 = 4.18 x Number of Casings 3 = Calculated Purge 12.54

DATE PURGED: 9/2/98 START: 11:23 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9/2/98 START: 11:35 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:26	4	6.37	1110	64.9	Clear	Trace	None
11:29	8	6.30	1100	64.7	Clear	Mod	None
11:32	12	6.20	1100	65.3	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: 15-3
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW22	9/2/98	11:35	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 2.8

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 12.05 = 9.95 x Gal/Linear Foot 0.38 = 3.78 x Number of Casings 3 = Calculated Purge 11.34

DATE PURGED: 9/21/98 START: 11:10 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/21/98 START: 11:20 END (2400 hr): _____ SAMPLED BY: RE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:13	3.75	6.59	1100	68.3	Clear	Mod	None
11:16	7.5	6.61	1080	67.3	Clear	Mod	None
11:19	11.25	6.35	1070	66.3	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: 151
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	9/21/98	11:20	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 2.2

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-24

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 12.83 = 7.17 x Gal/Linear Foot 0.17 = 1.21 x Number of Casings 3 = Calculated Purge 3.65

DATE PURGED: 9 22 98 START: 9:27 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 9:35 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
9:30	1.25	7.11	1130	67.0	BRN	Mod	Mod
9:32	2.5	7.12	1108	668	BRN	Mod	Mod
9:34	3.75	7.16	1140	676	BRN	Mod	Mod

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-24	9 22 98	9:35	3	40ml	VOA	HCl	8015/BTEX

REMARKS: D.O.=1

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.26 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-25

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 21.00 - DTW 11.60 = 9.4 x Gal/Linear Foot 0.17 = 1.09 x Number of Casings 3 = Calculated Purge 9.79

DATE PURGED: 9 22 98 START: 9:54 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9 22 98 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
9:56	10	7.30	1050	66.9	Cloudy	Light	None
9:59	3	7.31	1040	66.7	Cloudy	Light	None
10:02	10	7.28	1060	67.1	Cloudy	Light	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: 1518
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	9 22 98	10:05	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO. ORG

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.21 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-26

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 12.00 = 8 x Foot Gal/Linear 0.19 = 1.36 x Number of Casings 3 = Calculated Purge 4.08

DATE PURGED: 9 22 98 START: 9:17 END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9 22 98 START: 9:25 END (2400 hr): _____ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:17	1.25	7.15	1060	66.5	BRN	Mod	Mod
9:20	2.5	7.16	1060	66.2	BRN	Mod	Mod
9:23	3.75	7.20	1070	67.0	BRN	Mod	Mod

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 1570
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	9 22 98	9:25	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: D.I. H2O

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-4A

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E 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 26.00 DTW 10.00=16 x Gal/Linear Foot 0.38 = 6.1 x Number of Casings 3 = Calculated Purge 19.2

DATE PURGED: 9/22/98 START: 8:45 END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9/22/98 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
8:52	24	7.20	1010	68.8	Clear	Light	Mod
8:59	48	7.08	1040	67.9	Clear	Light	Mod
9:05	72	7.05	1050	67.5	Clear	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: 15-12
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4A	9/22/98	9:10	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 1.8

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 21 98 START: _____ END (2400 hr): _____ PURGED BY: RE

DATE SAMPLED: 9 21 98 START: 9-10 END (2400 hr): _____ SAMPLED BY: RE

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

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 7.11 1020 638 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-590H	92198	9:10	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 10.32 Purge 850 @ 9:07

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2L LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-033H

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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: 9/98 START: _____ END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9/98 START: 1025 END (2400 hr): _____ SAMPLED BY: PE

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

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 6.93 1070 66.9 CLEAR TRACE _____

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-033H	9/2/98	1025	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 1.0 start 10:13 => 10:25
about 150 gal. on trailer

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2L LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-17197U

CLIENT/STATION No.: ARCO/ 0608 FIELD TECHNICIAN: PEDRO E 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 98 START: ______ END (2400 hr): ______ PURGED BY: PE

DATE SAMPLED: 92198 START: 1105 END (2400 hr): ______ SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
		6.88	850	66.9	CLEAR	TRACE	NONE
						Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC ______

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17197UM	92198	1105	3	40ml	VOA	HCl	GAS/BTEX.

start 10:18 ⇒ 1100

REMARKS: DO. 30 About 60GAL on trailer

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.26 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-17349UM

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: PEDRO E 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 98 START: _____ END (2400 hr): _____ PURGED BY: PE

DATE SAMPLED: 9/21 98 START: 10:45 END (2400 hr): _____ SAMPLED BY: PE

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 6.80 1000 67.7 Clear TRACE FAINT

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-17349UM	9/21/98	10:45	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 10:50 Start at 10:20 => 10:45
About 80 GAL at Trailer

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2L LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-17372V

CLIENT/STATION No.: ARCO/ 0608 FIELD TECHNICIAN: PEDRO E 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: 9/21/98 START: ______ END (2400 hr): ______ PURGED BY: PE

DATE SAMPLED: 9/21/98 START: 10:10 END (2400 hr): ______ SAMPLED BY: PE

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 7.16 9.95 65.7 Clear Trace None

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17372VN	9/21/98	10:10	3	40ml	VOA	HCl	GAS/BTEX.
					Start	9:55 ⇒ 10:10	

REMARKS: DO. 1.6 about 500 gal OWNER USING H2O ON LAWN

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company Division of AtlanticRichfieldCompany 330000G0L **Task Order No.** 22340 **Chain of Custody**

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

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

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

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org/DHS ☐ Lead EPA 7420/7421 ☐
MW10		3		W		Y	HCL	9-21-98	13:00		X									
MW11		↓		↓		↓	↓	↓	13:05		↓									
MW14									12:50											
MW16									12:35											
MW18									12:20											
MW19									12:05											
MW21									11:50											
MW22									11:35											
MW23									11:20											
*590H									9:10											
*633H									10:25											
*17197VM									11:05											
*17347VM									10:45											
*17332VM		↓		↓		↓	↓	↓	10:10		↓									

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks
* Run EPA 8260 on this wells w/ MTBE greater than 35 ppb.

Lab number

Condition of sample: | Temperature received:

Relinquished by sampler [signature] | Date 9-21-98 | Time 1500 | Received by

Relinquished by | Date | Time | Received by

Relinquished by | Date | Time | Received by laboratory | Date | Time

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

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

ARCO Products Company Division of AtlanticRichfieldCompany 33000602L **Task Order No.** 22340

Chain of Custody

ARCO Facility no. 2608 | City (Facility) 17601 Hesperian Blvd San Lorenzo | Project manager (Consultant) Shaw Garakani

ARCO engineer M. 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 95110

Laboratory name: Sequoia

Contract number:

Method of shipment:

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW5		3		W		4	HCL	9-22-98	11:05		X											
MW7		↓		↓		↓	↓	↓	10:20		↓											
MW8		↓		↓		↓	↓	↓	10:50		↓											
MW9		↓		↓		↓	↓	↓	9:50		↓											
MW13		↓		↓		↓	↓	↓	10:35		↓											
MW24		↓		↓		↓	↓	↓	9:35		↓											
MW25		↓		↓		↓	↓	↓	10:05		↓											
MW26		↓		↓		↓	↓	↓	9:25		↓											
E-1A		↓		↓		↓	↓	↓	9:10		↓											

Special detection Limit/reporting:

Special QA/QC:

Remarks:

Lab number:

Turnaround time:
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days X

Condition of sample: | Temperature received:

Relinquished by sampler	Date	Time	Received by
[signature]	9-22-98	14:00	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

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