PACIFIC
ENVIRONMENTAL
GROUP, INC.

March 11, 1994
Project 330-006.05

Mr. Michael Whelan
ARCO Products Company
P.O. Box 5811
San Mateo, California 94402

Re: Quarterly Report - Fourth Quarter 1993
Remedial System Performance Evaluation
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Dear Mr. Whelan:

This report, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company presents the results of the fourth quarter 1993 groundwater monitoring and remedial system performance evaluation at the site referenced above. In addition, a summary of work completed and anticipated at the site is included.

QUARTERLY GROUNDWATER MONITORING RESULTS

Depth to water data collected on December 28, 1993, indicate that groundwater elevations have increased in site groundwater monitoring wells an average of approximately 0.50 foot since September 13, 1993. **Groundwater flow was to the west with an approximate gradient of 0.003.** As discussed below, a groundwater depression has developed as a result of pumping in Extraction Well E-1A. Groundwater elevation data are presented in Table 1. A groundwater elevation contour map based on the December 28, 1993 data is shown on Figure 1.

Groundwater samples were collected on December 28 and 29, 1993, and analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). Field and laboratory procedures are presented as Attachment A.

The results of groundwater monitoring this quarter indicate that TPH-g and benzene concentrations are generally consistent with previous quarters. TPH-g

was detected at concentrations ranging from 52 parts per billion (ppb) in Well MW-15 to 5,000 ppb in Well MW-10. Benzene was detected at concentrations ranging from 38 ppb in Well MW-5 to 1,200 ppb in Well MW-10. Wells MW-7, MW-9, MW-11, MW-13, MW-14, MW-16 through MW-19, and MW-21 through MW-26 had non-detectable levels of TPH-g and BTEX compounds. The concentration of 1,200 ppb benzene in Well MW-10 is anomalous, and maybe due to either a laboratory or sampling error. Groundwater sampling to be performed during the first quarter 1994 will verify this result. Separate-phase hydrocarbons (SPH) were not observed in any site well this quarter. SPH have not been observed in any site well since March 1990. Groundwater analytical data are presented in Table 2. A TPH-g and benzene concentration map is shown on Figure 2. Certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment B.

REMEDIAL PERFORMANCE EVALUATION

The remedial action currently in progress at this site consists of groundwater extraction (GWE). The GWE system has been in operation since October 15, 1991. The objectives of the remedial action include: (1) migration control of the impacted groundwater plume, and (2) petroleum hydrocarbon mass reduction. In order to evaluate treatment system performance, PACIFIC monitored well water levels, instantaneous and average extracted water flow rates, and sampled the influent and effluent of the treatment system for TPH-g and BTEX compounds on a monthly basis. Treatment system effluent is also analyzed for chemical oxygen demand, total suspended solids, and pH as requested by the Oro Loma Sanitary District. A brief description of the GWE system and a performance evaluation of the GWE system from September 13 through December 21, 1993 are presented below.

Groundwater Extraction System Description

The GWE system is comprised of one extraction well (E-1A) containing an electric submersible pump. The treatment system includes three 1,000-pound granular activated carbon vessels to treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in series, with valving to permit bed order rotation. This allows for the primary vessel to become the secondary vessel after the carbon has been renewed. The third vessel serves as a polishing vessel. Sample ports are located at the treatment system influent, effluent, the mid-point between the carbon vessels, and at each individual well head. A sanitary sewer discharge permit was obtained from the Oro Loma Sanitary District on April 4, 1991. The updated permit is effective through April 4, 1994.

Migration Control

Progress toward meeting the migration control objective is evaluated by comparison of the groundwater elevation contour map (Figure 1) and TPH-g and benzene concentration map (Figure 2) from previous and current groundwater monitoring events. As indicated by Figures 1 and 2, the GWE system is affecting the migration of the petroleum hydrocarbon plume by creating a groundwater depression at the extraction well. **The groundwater depression extends approximately 30 feet radially from the GWE well.**

Mass Reduction

Progress toward meeting the mass reduction objective is determined by evaluating GWE system mass removal data and the TPH-g concentration trends in associated groundwater monitoring wells. GWE system operational data are collected monthly. The system flow and influent sample analysis data are used to estimate TPH-g mass removal values. During this quarter, GWE removed approximately 0.1 pound (0.02 gallon) of TPH-g from the impacted groundwater beneath the site. To date, GWE has removed approximately 3.5 pounds (0.6 gallon) of TPH-g from impacted groundwater beneath the site. Mass removal data for the GWE system are presented in Table 3. Treatment system certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment B. Progress toward site remediation is presented in the table below.

	Total Mass Removed			
	09/13/93 to 12/22/93		Cumulative	
Analyte	(lbs)	(gal)	(lbs)	(gal)
Groundwater Extraction				
TPH-g	0.1	0.02	3.5	0.6

TPH-g = Total petroleum hydrocarbons calculated as gasoline
lbs = Pounds
gal = Gallons

Groundwater Extraction System Operational Data

The GWE system was 100 percent operational during the reporting period. During this quarter, the GWE system discharged treated groundwater at an average flow rate of approximately 1.6 gallons per minute for a period discharge of 228,829 gallons. Instantaneous groundwater flow rate was measured at 3 gallons per minute.

Calculations based on 8 percent loading isotherm by weight indicate the primary carbon vessel is approximately 4.3 percent loaded. Treatment system analytical data are presented in Table 4.

During this quarter, the GWE system was in compliance with all conditions stipulated in the discharge permit. Operation and maintenance field data sheets are presented as Attachment B.

SUMMARY OF WORK

Work Completed Fourth Quarter 1993

- o Continued monitoring GWE system performance.
- o Preparation and submittal of third quarter 1993 groundwater monitoring and remedial system performance evaluation report.
- o Preparation and submittal of domestic irrigation well sampling results letters.
- o Preparation and submittal of air sparge, soil vapor extraction, aquifer and biofeasibility testing report to Alameda County Health Care Services Agency (ACHCSA).
- o Preparation and submittal of risk assessment summary letter to ACHCSA.
- o Continued domestic irrigation well owner reimbursement program with owners who have discontinued well use.
- o Sampled site wells for fourth quarter 1993 groundwater monitoring program.
- o Sampled domestic irrigation wells.

Work Anticipated First Quarter 1994

- o Continue monitoring GWE system performance.
- o Preparation and submittal of fourth quarter 1993 groundwater monitoring and remedial system performance evaluation report.
- o Sample site wells for first quarter 1994 groundwater monitoring program.
- o Preparation of first quarter 1994 groundwater monitoring and remedial system performance evaluation report.
- o Sample domestic irrigation wells.

- o Preparation and submittal of domestic irrigation well sampling result letters for first quarter 1994.
- o Continue domestic irrigation well owner reimbursement program with owners who have discontinued well use.
- o Fate and transport modelling on- and off-site.

If there are any questions regarding the contents of this report, please call.

Sincerely,

Pacific Environmental Group, Inc.

Shaw Garakani
Project Engineer

Michael Hurd
Senior Geologist
RG 5319

Attachments:
Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)
Table 3 - Estimated Total Dissolved TPH as Gasoline
Removal Data for Groundwater Extraction System
Table 4 - Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)
Figure 1 - Groundwater Elevation Contour Map
Figure 2 - TPH-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. Susan Hugo, Alameda County Health Care Services
Ms. Juliett Shin, Alameda County Health Care Services
Mr. Richard Hiett, Regional Water Quality Control Board - S.F. Bay Region

Table 1
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-1	01/11/88	NA	NA	--	NA
	06/14/88	Well Destroyed			
MW-2	07/05/85	NA	NA	--	NA
	01/11/88	NA	NA	--	NA
	06/14/88	Well Destroyed			
MW-3	01/11/88	33.27	NA	--	NA
	03/07/89		11.96	--	21.31
	06/21/89		12.85	--	20.42
	12/12/89		13.46	--	19.81
	03/29/90		13.21	--	20.06
	05/08/90		13.23	--	20.04
	06/22/90		NA	--	NA
	07/18/90	Well Destroyed			
MW-4	01/11/88	32.43	NA	--	NA
	09/12/88		NA	--	NA
	03/07/89		10.76	--	21.67
	06/21/89		11.96	--	20.47
	12/12/89		NA	--	NA
	03/29/90		11.72	0.01	20.71
	05/08/90		12.19	--	20.24
	06/22/90		NA	--	NA
	07/18/90	Well Destroyed			
MW-5	01/16/92	33.99	Dry	--	NA
	02/19/92		13.5	--	20.49
	03/17/92		11.90	--	22.09
	04/15/92		12.18	--	21.81
	05/14/92		12.78	--	21.21
	06/15/92	Well Dry			
	07/14/92	Well Dry			
	08/18/92	Well Dry			
	09/15/92	Well Dry			
	10/16/92	Well Dry			
	11/18/92	Well Dry			
	12/17/92		12.74	--	21.25
	01/19/93		10.92	--	23.07
	02/22/93		11.10	--	22.89
	03/15/93		11.13	--	22.86
	04/09/93		11.46	--	22.53

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-5 (cont.)	05/13/93		12.19	--	21.80
	06/04/93		12.51	--	21.48
	06/15/93		12.59	--	21.40
	09/13/93		13.40	--	20.59
	12/28/93		13.25	--	20.74
MW-6 (E-1)	06/21/89	32.95	12.48	--	20.47
	12/12/89		13.16	--	13.16
	03/29/90		12.39	--	12.39
	05/08/90		12.93	--	12.93
	06/22/90		12.94	--	12.94
	07/18/90	---------- Well Destroyed ----------			
MW-7	01/16/92	34.40	13.33	--	21.83
	02/19/92		12.16	--	NA
	03/17/92		11.86	--	22.54
	04/15/92		12.30	--	22.10
	05/14/92		13.04	--	21.36
	06/15/92		13.78	--	20.62
	07/14/92		14.20	--	20.20
	08/18/92		14.79	--	19.61
	09/15/92		15.12	--	19.28
	10/16/92		15.38	--	19.02
	11/18/92		15.10	--	19.30
	12/17/92		13.69	--	20.71
	01/19/93		10.92	--	23.48
	02/22/93		10.91	--	23.49
	03/15/93		11.13	--	23.03
	04/09/93		11.46	--	22.94
	05/13/93		12.22	--	22.18
	06/04/93		12.51	--	21.89
	06/15/93		12.66	--	21.74
	09/13/93		13.78	--	20.62
	12/28/93		13.43	--	20.97
MW-8	01/16/92	32.79	13.40	--	19.39
	02/19/92		11.26	--	21.53
	03/17/92		10.90	--	21.89
	04/15/92		11.35	--	21.44
	05/14/92		12.06	--	20.73
	06/15/92		12.83	--	19.96
	07/14/92		12.75	--	20.04

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-8 (cont.)	08/18/92		13.83	--	18.96
	09/15/92		14.17	--	18.62
	10/16/92		14.51	--	18.28
	11/18/92		14.15	--	18.64
	12/17/92		12.68	--	20.11
	01/19/93		9.79	--	23.00
	02/22/93		9.95	--	22.84
	03/15/93		10.31	--	22.48
	04/09/93		10.47	--	22.32
	05/13/93		11.18	--	21.61
	06/04/93		11.47	--	21.32
	06/15/93		11.62	--	21.17
	09/13/93		12.70	--	20.09
	12/28/93		12.23	--	20.56
MW-9	01/16/92	32.11	12.45	--	19.66
	02/19/92		10.25	--	21.86
	03/17/92		10.01	--	22.10
	04/15/92		10.49	--	21.62
	05/14/92		11.19	--	20.92
	06/15/92		11.86	--	20.25
	07/14/92		12.28	--	19.83
	08/18/92		12.89	--	19.22
	09/15/92		13.28	--	18.83
	10/16/92		13.60	--	18.51
	11/18/92		13.24	--	18.87
	12/17/92		11.76	--	20.35
	01/19/93		8.99	--	23.12
	02/22/93		9.13	--	22.98
	03/15/93		9.48	--	22.63
	04/09/93		9.63	--	22.48
	05/13/93		10.35	--	21.76
	06/04/93		10.65	--	21.46
	06/15/93		10.81	--	21.30
	09/13/93		11.87	--	20.24
	12/28/93		11.61	--	20.50
MW-10	01/16/92	31.67	12.55	--	19.12
	02/19/92		10.50	--	21.17
	03/18/92		10.12	--	21.55
	04/15/92		10.59	--	21.08
	05/14/92		11.30	--	20.37

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-10 (cont.)	06/15/92		11.93	--	19.74
	07/14/92		12.42	--	19.25
	08/18/92		13.03	--	18.64
	09/15/92		13.42	--	18.25
	10/16/92		13.74	--	17.93
	11/18/92		13.42	--	18.25
	12/17/92		11.94	--	19.73
	01/19/93		9.13	--	22.54
	02/22/93		9.22	--	22.45
	03/15/93		9.64	--	22.03
	04/09/93		9.75	--	21.92
	05/13/93		10.49	--	21.18
	06/04/93		10.78	--	20.89
	06/15/93		10.93	--	20.74
	09/13/93		12.01	--	19.66
	12/28/93		11.41	--	20.26
MW-11	01/16/92	32.54	13.28	--	19.26
	02/19/92		11.29	--	21.25
	03/17/92		10.81	--	21.73
	04/15/92		11.23	--	21.31
	05/14/92		11.96	--	20.58
	06/15/92		12.64	--	19.90
	07/14/92		13.08	--	19.46
	08/18/92		13.72	--	18.82
	09/15/92		14.13	--	18.41
	10/16/92		14.45	--	18.09
	11/18/92		14.11	--	18.43
	12/17/92		12.69	--	19.85
	01/19/93		9.91	--	22.63
	02/22/93		9.95	--	22.59
	03/15/93		10.30	--	22.24
	04/09/93		10.42	--	22.12
	05/13/93		11.16	--	21.38
	06/04/93		11.44	--	21.10
	06/15/93		11.59	--	20.95
	09/13/93		12.68	--	19.86
	12/28/93		12.05	--	20.49

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
E-1A	01/16/92	33.06	23.68	--	9.38
(MW-12)	02/19/92		18.71	--	14.35
	03/17/92		23.10	--	9.96
	04/15/92		20.54	--	12.52
	05/14/92		23.09	--	9.97
	06/15/92		23.72	--	9.34
	07/14/92		13.25	--	19.81
	08/18/92		23.73	--	9.33
	09/15/92		23.62	--	9.44
	10/16/92		23.78	--	9.28
	11/18/92		23.80	--	9.26
	12/17/92		22.65	--	10.41
	01/19/93		23.65	--	9.41
	02/22/93		23.70	--	9.36
	03/15/93		22.92	--	10.14
	04/09/93		22.50	--	10.56
	05/13/93		20.40	--	12.66
	06/04/93		18.74	--	14.32
	06/15/93		20.00	--	13.06
	09/13/93		19.50	--	13.56
	12/28/93		20.35	--	12.71
MW-13	01/16/92	35.42	15.70	--	19.72
	02/19/92		13.60	--	21.82
	03/17/92		13.20	--	22.22
	04/15/92		13.64	--	21.78
	05/14/92		14.34	--	21.08
	06/15/92		15.13	--	20.29
	07/14/92		15.45	--	19.97
	08/18/92		16.15	--	19.27
	09/15/92		16.51	--	18.91
	10/16/92		16.81	--	18.61
	11/18/92		16.50	--	18.92
	12/17/92		15.07	--	20.35
	01/19/93		12.40	--	23.02
	02/22/93		12.35	--	23.07
	03/15/93		12.69	--	22.73
	04/09/93		12.85	--	22.57
	05/13/93		13.55	--	21.87
	06/04/93		13.83	--	21.59
	06/15/93		13.97	--	21.45
	09/13/93		15.09	--	20.33
	12/28/93		14.47	--	20.95

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-14	01/16/92	30.46	11.34	--	19.12
	02/19/92		9.32	--	21.14
	03/17/92		9.04	--	21.42
	06/15/92		10.83	--	19.63
	09/15/92		12.27	--	18.19
	12/17/92		10.69	--	19.77
	03/15/93		8.70	--	21.76
	06/15/93		9.90	--	20.56
	09/13/93		10.89	--	19.57
	12/28/93		10.24	--	20.22
MW-15	01/16/92	31.41	12.80	--	18.61
	02/19/92		10.85	--	20.56
	03/18/92		10.41	--	21.00
	06/15/92		12.19	--	19.22
	09/15/92		13.69	--	17.72
	12/17/92		12.26	--	19.15
	03/15/93		10.05	--	21.36
	06/15/93		11.32	--	20.09
	09/13/93		12.35	--	19.06
	12/28/93		11.76	--	19.65
MW-16	01/16/92	31.39	13.09	--	18.30
	02/19/92		10.99	--	20.40
	03/18/92		10.85	--	20.54
	06/15/92		12.64	--	18.75
	09/15/92		14.07	--	17.32
	12/17/92		12.56	--	18.83
	03/15/93		10.60	--	20.79
	06/15/93		11.86	--	19.53
	09/13/93		12.83	--	18.56
	12/28/93		12.14	--	19.25
MW-17	01/16/92	32.43	13.92	--	18.51
	02/19/92		11.65	--	20.78
	03/18/92		11.71	--	20.72
	06/15/92		13.50	--	18.93
	09/15/92		14.95	--	17.48
	12/17/92		13.34	--	19.09
	03/15/93		11.47	--	20.96
	06/15/93		12.69	--	19.74
	09/13/93		13.66	--	18.77
	12/28/93		12.96	--	19.47

Table 1 (continued)
Groundwater Elevation Data

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San Lorenzo, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-18	03/18/92	29.70	9.73	--	19.97
	06/15/92		11.50	--	18.20
	09/15/92		12.90	--	16.80
	12/17/92		11.21	--	18.49
	03/15/93		9.62	--	20.08
	06/15/93		10.85	--	18.85
	09/13/93		11.75	--	17.95
	12/28/93		11.06	--	18.64
MW-19	03/18/92	29.02	9.22	--	19.80
	06/15/92		10.94	--	18.08
	09/15/92		12.38	--	16.64
	12/17/92		10.51	--	18.51
	03/15/93		9.23	--	19.79
	06/15/93		10.28	--	18.74
	09/13/93		11.16	--	17.86
	12/28/93		10.58	--	18.44
MW-20	03/18/92	29.54	9.49	--	20.05
	06/15/92		11.11	--	18.43
	09/15/92		12.50	--	17.04
	12/17/92		10.74	--	18.80
	03/15/93		9.44	--	20.10
	06/05/93		10.45	--	19.09
	10/11/93	---------- Well Destroyed ----------			
MW-21	03/18/92	28.72	9.55	--	19.17
	06/15/92		11.30	--	17.42
	09/15/92		12.78	--	15.94
	12/17/92		10.80	--	17.92
	03/15/93		9.59	--	19.13
	06/15/93		10.77	--	17.95
	09/13/93		11.63	--	17.09
	12/28/93		11.02	--	17.70
MW-22	03/17/92	29.29	10.05	--	19.24
	06/15/92		11.84	--	17.45
	09/15/92		13.27	--	16.02
	12/17/92		11.58	--	17.71
	03/15/93		10.03	--	19.26
	06/15/93		11.22	--	18.07
	09/13/93		12.17	--	17.12
	12/28/93		11.34	--	17.95

Table 1 (continued)
Groundwater Elevation Data

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

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Liquid (feet, TOB)	Separate-Phase Hydrocarbon Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-23	03/17/92	30.99	11.20	--	19.79
	06/15/92		12.94	--	18.05
	09/15/92		14.40	--	16.59
	12/17/92		13.01	--	17.98
	03/15/93		11.01	--	19.98
	06/15/93		12.26	--	18.73
	09/13/93		13.23	--	17.76
	12/28/93		12.57	--	18.42
MW-24	06/15/93	34.38	13.39	--	20.99
	09/13/93		14.38	--	20.00
	12/28/93		13.83	--	20.55
MW-25	04/09/93	34.12	11.18	--	22.94
	06/15/93		12.35	--	21.77
	09/13/93		13.45	--	20.67
	12/28/93		12.89	--	21.23
MW-26	06/15/93	33.71	12.66	--	21.05
	09/13/93		13.70	--	20.01
	12/28/93		13.06	--	20.65

MSL = Mean sea level
TOB = Top of box
NA = Not available
Well elevations are measured from set mark at top of vault box.
For groundwater elevation data prior to January 1992, see previous groundwater monitoring reports.

Table 2
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-1	01/11/88	300	20	10	50	80
	06/14/88	Well Destroyed				
MW-2	07/05/85	32,000	1,000	690	NA*	1,500*
	01/11/88	3,300	804	115	168	166
	06/14/88	Well Destroyed				
MW-3	01/11/88	1,800	20	20	80	60
	03/07/89	150,000	4,600	5,200	5,600	13,000
	06/21/89	63,000	2,700	5,800	3,300	12,000
	12/12/89	Well Dry				
	03/29/90	1,100,000**	13,000	60,000	17,000	91,000
	06/22/90	Well Dry				
	07/18/90	Well Destroyed				
MW-4	01/11/88	62,000	2,700	7,900	850	5,200
	09/12/88	Separate-Phase Hydrocarbon Sheen				
	03/07/89	84,000	2,400	3,400	2,500	7,600
	06/21/89	31,000	400	800	200	1,500
	12/12/89	Well Dry				
	03/29/90	0.01 foot of Separate-Phase Hydrocarbon				
	06/22/90	Well Dry				
	07/18/90	Well Destroyed				
MW-5	01/11/88	31,000	4,000	2,700	3,800	5,500
	03/07/89	1,300	340	ND	140	50
	06/21/89	1,100	200	ND	130	40
	12/12/89	Well Dry				
	03/29/90	Well Dry				
	06/22/90	Well Dry				
	09/19/90	Well Dry				
	12/27/90	Well Dry				
	03/21/91	Well Dry				
	06/26/91	Well Dry				
	09/24/91	Well Dry				
	12/19/91	Well Dry				
	03/18/92	11,000	110	2.0	410	150
	06/15/92	Well Dry				
	09/16/92	Well Dry				
	12/22/92	960	220	6.5	4.0	2.0
	03/17/93	2,600	180	1.4	28	1.2
	06/17/93	2,500	450	7.5	55	<5

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-5 (cont.)	09/17/93	1,400	230	<5.0	6.7	<5.0
	12/29/93	690	38	2.1	2.7	3.8
MW-6 (E-1)	06/21/89	1,700	170	170	85	290
	12/12/89	500	26	7	8	18
	03/29/90	130	14	9	4	11
	06/22/90	150	15	5	4	13
	07/18/90	Well Destroyed				
MW-7	04/13/90	<50	<0.3	<0.3	<0.3	<0.3
	06/22/90	<50	0.5	1	0.6	3
	09/19/90	<50	<0.3	<0.3	<0.3	<0.3
	12/27/90	69	<0.3	0.3	0.4	2
	03/21/91	<30	<0.3	<0.3	<0.3	<0.3
	06/26/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/17/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-8	04/13/90	4,900	350	16	450	33
	06/22/90	3,700	370	12	330	28
	09/19/90	140	4	3	3	3
	12/27/90	1,200	7	0.3	53	<0.3
	03/21/91	540	8.8	<6.0	21	9.6
	06/26/91	2,100	290	<6.0	56	<6.0
	09/24/91	260	51	0.34	7.9	<0.3
	12/19/91	5,300	300	<3.0	21	4.8
	03/17/92	9,200	370	3.0	48	4.9
	06/17/92	3,300	460	2.7	63	6.9
	09/16/92	1,500	58	<0.5	6.1	4.5
	12/22/92	3,600	410	56	62	4.4
	03/18/93	3,800	61	<0.5	11	1.2
	06/17/93	2,400	430	<5	11	<5
	09/14/93	1,900	36	1.4	32	8.6
	12/29/93	2,100	50	0.65	2.9	4.7

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-9	04/13/90	<50	<0.3	<0.3	<0.3	2
	06/22/90	12,000	200	3	250	180
	09/19/90	<50	<0.3	<0.3	<0.3	0.6
	12/27/90	<50	<0.3	<0.3	<0.3	<0.3
	03/21/91	<30	<0.3	<0.3	<0.3	<0.3
	06/26/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/16/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	75***	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-10	04/13/90	10,000	150	4	280	200
	06/22/90	9,700	28	<0.3	131	210
	09/19/90	1,800	<0.3	4	0.8	10
	12/27/90	5,700	7	3	95	61
	03/21/91	6,900	22	<15	92	33
	06/26/91	9,300	51	<0.3	59	34
	09/24/91	360	8.6	5.2	14	6.2
	12/19/91	3,300	9.2	8.4	11	17
	03/18/92	4,700	14	<6.0	29	10
	06/16/92	4,800	0.46	0.34	7.4	3.8
	09/16/92	2,000	8.3	3.0	3.3	5.5
	12/22/92	2,700***	6.2	<1.0	7.5	2.8
	03/16/93	4,100	340	2.4	58	54
	06/17/93	4,900	860	<10	540	92
	09/17/93	4,500	670	<10.0	240	7.2
	12/28/93	**5,000**	**1,200**	**12**	**46**	**31**
MW-11	04/13/90	<50	<0.3	<0.3	<0.3	<0.3
	06/22/90	63	0.4	0.9	0.7	3
	09/19/90	<50	<0.3	<0.3	<0.3	<0.3
	12/27/90	<50	<0.3	<0.3	<0.3	<0.3
	03/21/91	<30	<0.3	<0.3	<0.3	<0.3
	06/26/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-11 (cont.)	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/16/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
E-1A (MW-12)	09/19/90	<50	7	0.9	1	2
	12/27/90	<50	3	0.5	1	1
	03/21/91	<30	4.2	<0.3	1.1	0.89
	06/26/91	41	6.3	<0.3	1.2	0.59
		---------- Converted to Extraction Well 8/91 ----------				
MW-13	07/03/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/17/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-14	07/03/91	<30	<0.3	<0.3	<0.3	<0.3
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/16/92	<30	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/15/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
MW-15	07/03/91	570	1.8	1.0	1.0	2.2
	09/24/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	360	<0.6	<0.6	0.64	<0.6

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-15 (cont.)	03/18/92	730	0.74	0.98	1.8	0.68
	06/16/92	310	0.54	0.34	0.96	2.5
	09/16/92	100	1.0	<0.5	<0.5	<0.5
	12/22/92	130***	<0.5	<0.5	<0.5	<0.5
	03/18/93	130***	<0.5	<0.5	<0.5	<0.5
	06/17/93	<50	<0.5	<0.5	<0.5	<0.5
	09/17/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	52	<0.5	<0.5	<0.5	1.5
MW-16	07/03/91	2,700	31	6.9	4.6	3.1
	09/24/91	430	1.8	1.3	1.9	1.5
	12/19/91	75	<0.3	<0.3	<0.3	<0.3
	03/18/92	1,500	4.0	0.73	2.2	1.3
	06/16/92	80	<0.3	<0.3	<0.3	<0.3
	09/16/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/18/93	380***	<0.5	<0.5	<0.5	<0.5
	06/17/93	<50	<0.5	<0.5	<0.5	<0.5
	09/17/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	0.72	<0.5
MW-17	07/03/91	1,200	12	1.9	28	40
	09/24/91	150	2.7	0.5	3.9	0.59
	12/19/91	370	2.6	<0.3	7.2	6.5
	03/18/92	470	3.1	<0.3	9.1	8.6
	06/16/92	310	1.7	0.56	12	9.6
	09/16/92	77	1.5	<0.5	1.2	1.0
	12/21/92	220	1.2	<0.5	9.8	9.4
	03/17/93	250	<0.5	<0.5	7.8	3.3
	06/17/93	90	0.92	<0.5	2.7	2.4
	09/16/93	140	<0.5	<0.5	5.4	3.9
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-18	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-19	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
MW-20	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	10/11/93	---------- Well Destroyed ----------				
MW-21	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/18/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
MW-22	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/17/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/16/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-23	10/04/91	<30	<0.3	<0.3	<0.3	<0.3
	12/19/91	<30	<0.3	<0.3	<0.3	<0.3
	03/17/92	<30	<0.3	<0.3	<0.3	<0.3
	06/15/92	<30	<0.3	<0.3	<0.3	<0.3
	09/15/92	<50	<0.5	<0.5	<0.5	<0.5
	12/22/92	<50	<0.5	<0.5	<0.5	<0.5
	03/16/93	<50	<0.5	<0.5	<0.5	<0.5
	06/16/93	<50	<0.5	<0.5	<0.5	<0.5
	09/15/93	<50	<0.5	<0.5	<0.5	<0.5
	12/28/93	<50	<0.5	<0.5	<0.5	<0.5
MW-24	03/29/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-25	03/29/93	<50	0.69	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5
MW-26	03/29/93	<50	<0.5	<0.5	<0.5	<0.5
	06/15/93	<50	<0.5	<0.5	<0.5	<0.5
	09/14/93	<50	<0.5	<0.5	<0.5	<0.5
	12/29/93	<50	<0.5	<0.5	<0.5	<0.5

ppb = Parts per billion
NA = Not available
* = Ethylbenzene and xylenes given as a combined value.
** = Well contained slight product sheen.
*** = Non-typical gasoline chromatograph pattern.
< = Denotes minimum laboratory detection limits. See attached certified analytical reports.
MW-1 and MW-2 destroyed prior to March 7, 1989 sampling event.
MW-3, MW-4, and MW-6 (E-1) destroyed June 18, 1990.

Table 3
Estimated Total Dissolved TPH as Gasoline Removal Data for Groundwater Extraction System

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

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallon)	Net Volume (gallon)	Average Flow (gpm)	Dissolved TPH as Gasoline: Influent Concentration (µg/L)	Dissolved TPH as Gasoline: Net Removed (pound)	Dissolved TPH as Gasoline: Removed To Date (pound)	Primary Carbon Loading (%)
09/25/91	0.0	NA	0	0	0.0	ND	NA	0.0	0.0
09/26/91	NA	NA	1,144	1,144	NA	38	0.0	0.0	0.0
10/22/91	25.6	95.9	12,844	11,700	7.6	ND	NA	0.0	0.0
11/22/91	76.6	93.1	52,532	39,688	13.0	ND	NA	0.0	0.0
12/19/91	322.0	62.1	122,540	70,008	4.8	ND	NA	0.0	0.0
01/16/92	994.2	0.0	283,289	160,749	4.0	ND	NA	0.0	0.0
02/19/92	1,808.6	0.2	485,200	201,911	4.1	370	0.3	0.3	0.4
03/17/92	2,461.7	0.0	662,847	177,647	4.5	160	0.4	0.7	0.9
04/15/92	3,150.3	1.1	851,100	188,253	4.6	200	0.3	1.0	1.2
05/14/92	3,849.1	0.0	1,030,086	178,986	4.3	45	0.2	1.2	1.5
06/19/92	4,712.1	0.1	1,229,960	199,874	3.9	ND	NA	1.2	1.5
07/14/92	5,001.4	51.8	1,291,201	61,241	3.5	97	0.0	1.2	1.5
08/18/92	NA	NA	1,410,018	118,817	NA	ND	NA	1.2	1.5
09/15/92	6,298.2	NA	1,535,640	125,622	3.1	ND	NA	1.2	1.5
10/16/92	7,011.7	4.1	1,651,623	115,983	2.7	ND	NA	1.2	1.5
11/18/92	7,808.5	0.0	1,768,076	116,453	2.4	ND	NA	1.2	1.5
12/17/92	8,501.7	0.4	1,864,300	96,224	2.3	96	0.0	1.2	1.5
01/18/93	8,797.5	61.5	1,915,165	50,865	2.9	100	0.0	1.3	1.6
02/22/93	9,606.6	0.0	2,096,930	181,765	3.7	480	0.4	1.7	2.1
03/15/93	10,113.4	0.0	2,205,833	108,903	3.6	310	0.4	2.1	2.6
04/09/93	10,516.8	32.8	2,298,770	92,937	3.8	140	0.2	2.2	2.8
05/13/93	11,211.2	14.9	2,449,160	150,390	3.6	530	0.4	2.7	3.3
06/04/93	11,733.7	1.0	2,543,500	94,340	3.0	170	0.3	2.9	3.7
07/20/93	12,572.9	24.0	2,689,697	146,197	2.9	200	0.2	3.2	4.0
08/16/93	13,218.8	0.3	2,791,366	101,669	2.6	150	0.1	3.3	4.1
09/13/93	13,887.9	0.4	2,884,736	93,370	2.3	80	0.1	3.4	4.3
10/08/93	14,484.8	0.5	2,951,737	67,001	1.9	ND	0.0	3.4	4.3
11/19/93	15,493.6	0.0	3,036,032	84,295	1.4	ND	0.0	3.4	4.3
12/21/93	16,259.6	0.3	3,113,565	77,533	1.7	73	0.0	3.5	4.3

REPORTING PERIOD: 09/13/93 TO 12/22/93
AVERAGE PERCENT OF SYSTEM DOWN TIME SINCE START-UP: 17.2
TOTAL POUNDS OF TPH AS GASOLINE REMOVED: 3.5
TOTAL GALLONS OF TPH AS GASOLINE REMOVED: 0.6

µg/L = Micrograms per liter
NA = Not available or not applicable
ND = Non detectable (concentration detected were below the laboratory detection µg/L and has bee assumed to be zero in mass removal calculation).

1. Net dissolved TPH as gasoline removed data are approximate.
2. Density of Gasoline = 5.63 pounds per gallon.
3. Primary carbon loading is estimated using an isotherm of 8 percent by weight.

Equations:
Net Dissolved TPH-g Removed [pounds] = Averaged TPH-g concentration, [µg/L] x net volume (gallon) x density of gasoline [pound/gallon]

Table 4
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
INFL (influent to primary carbon)					
09/26/91	38	4.8	0.6	1.6	1.1
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	0.52	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	370	14	0.34	14	2.4
03/17/92	160	18	0.32	0.56	1.6
04/15/92	200	11	<0.3	7.3	0.77
05/14/92	45	1.4	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	97	25	<0.5	8.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	96	7.7	13	0.56	9.7
01/18/93	100	13	6.6	1.1	11
02/22/93	480	36	29	4.9	96
03/15/93	310	29	14	4.9	55
04/09/93	140	11	2.8	2.6	17
05/13/93	530	27	12	18	96
06/04/93	170	5.2	1.6	2.5	23
07/20/93	200	12	0.91	8.2	29
08/16/93	150	4.9	0.63	2.9	15
09/13/93	80	2.2	<0.5	<0.5	4.8
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	73	3.5	<0.5	1.9	8.4
MID-1 (between carbons)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	NS	NS	NS	NS	NS

Table 4 (continued)
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MID-1 (between carbons) (continued)					
08/18/92	NS	NS	NS	NS	NS
09/15/92	NS	NS	NS	NS	NS
10/16/92	NS	NS	NS	NS	NS
11/18/92	NS	NS	NS	NS	NS
12/17/92	NS	NS	NS	NS	NS
01/18/93	NS	NS	NS	NS	NS
02/22/93	NS	NS	NS	NS	NS
03/15/93	NS	NS	NS	NS	NS
04/09/93	NS	NS	NS	NS	NS
05/13/93	NS	NS	NS	NS	NS
06/04/93	NS	NS	NS	NS	NS
EFFL (effluent to sewer)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	<50	<0.5	<0.5	<0.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	<50	<0.5	<0.5	<0.5	<0.5
01/18/93	<50	<0.5	<0.5	<0.5	<0.5
02/22/93	<50	<0.5	<0.5	<0.5	<0.5
03/15/93	<50	<0.5	<0.5	<0.5	<0.5
04/09/93	<50	<0.5	<0.5	<0.5	<0.5
05/13/93	<50	<0.5	<0.5	<0.5	<0.5
06/04/93	<50	<0.5	<0.5	<0.5	<0.5
07/20/93	<50	<0.5	<0.5	<0.5	<0.5

Table 4 (continued)
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
EFFL (effluent to sewer) (continued)					
08/16/93	<50	<0.5	<0.5	<0.5	<0.5
09/13/93	<50	<0.5	<0.5	<0.5	<0.5
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	<50	<0.5	<0.5	<0.5	<0.5

ppb = Parts per billion
< = Denotes minimum laboratory detection limit.
NS = Not sampled

N

VIA MANZANAS

RESIDENTIAL

MW-20 (destroyed)

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

MW-19 (18.44)

VIA MAGDALENA

CHURCH AND SCHOOL

MW-18 (18.64)

MW-17 (19.47)

MW-14 (20.22)

MW-24 (20.55)

RESIDENTIAL

MW-26 (20.65)

RESTAURANT

20.50

MW-9 (20.50)

E-1A (12.71)

MW-25 (21.23)

MW-8 (20.56)

MW-5 (20.74)

MW-21 (17.70)

VIA MEDIA

VIA FLORES

MW-16 (19.25)

RESIDENTIAL

MW-10 (20.26)

MW-15 (19.65)

MW-11 (20.49)

MW-13 (20.95)

MW-7 (20.97)

21.00

MW-22 (17.95)

VIA ENCINAS COURT

18.00

19.50

20.00

20.50

SHOPS

MW-23 (18.42)

18.50

19.00

RESIDENTIAL

HACIENDA AVENUE

VIA ALAMO

LEGEND

MW-7 — GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

E-1A — GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

MW-20 (destroyed) — DESTROYED WELL LOCATION AND DESIGNATION

(21.23) — GROUNDWATER ELEVATION IN FEET - MSL, 12-28-93

19.50 — GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 12-28-93

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.003

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE

0 150 300 FEET

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

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 1

PROJECT: 330-006.05

03/10/94

N

VIA MANZANAS

RESIDENTIAL

MW-20 ∅

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

MW-19 ND/ND

VIA MAGDALENA

CHURCH AND SCHOOL

MW-18 ND/ND

MW-17 ND/ND

MW-14 ND/ND

MW-24 ND/ND

RESIDENTIAL

MW-26 ND/ND

RESTAURANT

MW-9 ND/ND

MW-21 ND/ND

VIA MEDIA

VIA FLORES

RESIDENTIAL

MW-16 ND/ND

MW-10 5,000/1,200

NS E-1A

MW-8 2,100/50

ALLEY

MW-5 690/38

MW-25 ND/ND

MW-7 ND/ND

MW-22 ND/ND

MW-15 52/ND

MW-11 ND/ND

MW-13 ND/ND

RESIDENTIAL

SHOPS

VIA ENCINAS COURT

HACIENDA AVENUE

MW-23 ND/ND

RESIDENTIAL

VIA ALAMO

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

E-1A ◉ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

MW-20 ∅ DESTROYED WELL LOCATION AND DESIGNATION

690/38 TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 12-28-93 to 12-29-93

ND NOT DETECTED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE

0 150 300 FEET

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

TPH-g/BENZENE CONCENTRATION MAP

FIGURE: 2

PROJECT: 330-006.05

03/10/94

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 four 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.

Laboratory Procedures

The groundwater samples were analyzed for the presence of total petroleum hydrocarbons calculated as gasoline, benzene, toluene, ethylbenzene, and xylenes. The analyses were performed according to EPA Methods 8015 (modified), 8020, and 5030 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.

ATTACHMENT B

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

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

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

Project: 330-0612/Arco 0608, San Lorenzo

Enclosed are the results from 2 water samples received at Sequoia Analytical on December 22,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3LC5601	Water, Infl	12/21/93	EPA 5030/8015/8020
3LC5602	Water, Effl	12/21/93	EPA 5030/8015/8020

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

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-0612/Arco 0608, San Lorenzo	Sampled:	Dec 21, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received:	Dec 22, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Jan 4, 1994
Attention: Kelly Brown	First Sample #:	3LC5601		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3LC5601 Infl	Sample I.D. 3LC5602 Effl
Purgeable Hydrocarbons	50	73	N.D.
Benzene	0.50	3.5	N.D.
Toluene	0.50	N.D.	N.D.
Ethyl Benzene	0.50	1.9	N.D.
Total Xylenes	0.50	8.4	N.D.
Chromatogram Pattern:		Gas	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	12/29/93	12/29/93
Instrument Identification:	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	99	101

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-0612/Arco 0608, San Lorenzo
2025 Gateway Place, Suite 440	Matrix:	Liquid
San Jose, CA 95110		
Attention: Kelly Brown	QC Sample Group: 3LC5601-02	Reported: Jan 4, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
MS/MSD Batch#:	G3LB8702	G3LB8702	G3LB8702	G3LB8702
Date Prepared:	N.A.	N.A.	N.A.	N.A.
Date Analyzed:	12/29/93	12/29/93	12/29/93	12/29/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Matrix Spike % Recovery:	100	99	99	100
Matrix Spike Duplicate % Recovery:	100	100	100	100
Relative % Difference:	0.0	1.0	1.0	0.0
LCS Batch#:				
Date Prepared:				
Date Analyzed:				
Instrument I.D.#:				
LCS % Recovery:				
% Recovery Control Limits:	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
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.

SEQUOIA ANALYTICA[L] [SA]MPLE RECEIPT LOG

CLIENT NAME: ARCO - PACIFIC ENV. GRP
REC. BY (PRINT): S.V.K

MASTER LOG NO. / PAGE: 9312C56
DATE OF LOG-IN: 12-23-93

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent) — Intact / Broken*
2. Custody Seal Nos.: —
3. Chain-of-Custody Records: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker — Present / (Absent)
6. Airbill No.: —
7. Sample Tags: (Present) / Absent* — Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper Preservatives Used: (Yes) / No*
11. Date Rec. at Lab: 12/22
12. Time Rec. at Lab: 11:00

* If checked, contact Project Manager and attach record of resolution

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
01	AC	INEL	3 VOA	W	12/21	
02	↓	EFFL	3 VOA	W	12/21	

Chain of Custody

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330612 — Task Order No. 60W-91-5

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD SAN LORENZO	Project manager (Consultant) KELLY BROWN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-9102
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE #440 SAN JOSE, CA 95110		Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020 / 8015 GAS	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
INFL	01	3		W		YES	HCL	12-21-93	945	X										
EFFL	02	3		W		YES	HCL	12-21-93	1000	X										

Remarks DEC 22 11 01

Lab number 9312C56

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	12-21-93	1230	Received by	12/21/93	
Relinquished by	12/22/93	1020	Received by	12/22	
Relinquished by	12/22	11:00	Received by laboratory	12/22	11:00

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

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

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

Project: 330-06.12/Arco 0608, San Lorenzo

Enclosed are the results from 2 water samples received at Sequoia Analytical on November 19,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3KC3601	Water, Infl	11/19/93	EPA 5030/8015/8020
3KC3602	Water, Effl	11/19/93	Chemical Oxygen Demand pH Total Suspended Solids EPA 5030/8015/8020

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

Very truly yours,

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.12/Arco 0608, San Lorenzo	Sampled:	Nov 19, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received:	Nov 19, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Dec 6, 1993
Attention: Kelly Brown	First Sample #:	3KC3601		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3KC3601 Infl	Sample I.D. 3KC3602 Effl
Purgeable Hydrocarbons	50	N.D.	N.D.
Benzene	0.50	N.D.	N.D.
Toluene	0.50	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.
Chromatogram Pattern:		--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	12/3/93	12/3/93
Instrument Identification:	GCHP-4	GCHP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	100	100

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.12/Arco 0608, San Lorenzo	Sampled:	Nov 19, 1993
2025 Gateway Place, Suite 440	Sample Descript:	Water, Effl	Received:	Nov 19, 1993
San Jose, CA 95110			Analyzed:	see below
Attention: Kelly Brown	Lab Number:	3KC3602	Reported:	Dec 6, 1993

LABORATORY ANALYSIS

Analyte	Date Analyzed	Detection Limit mg/L	Sample Result mg/L
Chemical Oxygen Demand	12/1/93	20	N.D.
pH, pH units	11/19/93	N/A	6.6
Total Suspended Solids	11/24/93	1.0	N.D.

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.12/Arco 0608, San Lorenzo
2025 Gateway Place, Suite 440	Matrix:	Water
San Jose, CA 95110		
Attention: Kelly Brown	QC Sample Group: 3KC3602	Reported: Dec 6, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Chemical Oxygen Demand
Method:	EPA 410.4
Analyst:	J. Dearth

MS/MSD Batch#:	3KB1001
Date Prepared:	12/1/93
Date Analyzed:	12/1/93
Instrument I.D.#:	N.A.
Conc. Spiked:	100 mg/L
Matrix Spike % Recovery:	100
Matrix Spike Duplicate % Recovery:	97
Relative % Difference:	3.0

LCS Batch#:	LCS120193
Date Prepared:	12/1/93
Date Analyzed:	12/1/93
Instrument I.D.#:	N.A.
LCS % Recovery:	100
% Recovery Control Limits:	80-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
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.

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.12/Arco 0608, San Lorenzo
2025 Gateway Place, Suite 440	Matrix:	Water
San Jose, CA 95110		
Attention: Kelly Brown	QC Sample Group: 3KC3601	Reported: Dec 6, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Total Suspended Solids	pH
Method:	EPA 160.2	EPA 9040
Analyst:	Y. Arteaga	Y. Arteaga
Date Analyzed:	11/24/93	11/19/93
Sample #:	3KC1309	3KB7602
Sample Concentration:	97	7.0
Sample Duplicate Concentration:	92	7.0
% RPD:	5.3	0.0
% RPD: Control Limits:	0-30	0-30

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.12/Arco 0608, San Lorenzo
2025 Gateway Place, Suite 440	Matrix:	Water
San Jose, CA 95110		
Attention: Kelly Brown	QC Sample Group: 3KC3601-02	Reported: Dec 6, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill
MS/MSD Batch#:	3112280	3112280	3112280	3112280
Date Prepared:	12/3/93	12/3/93	12/3/93	12/3/93
Date Analyzed:	12/3/93	12/3/93	12/3/93	12/3/93
Instrument I.D.#:	GCHP-4	GCHP-4	GCHP-4	GCHP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	99	98	98	97
Matrix Spike Duplicate % Recovery:	100	98	98	98
Relative % Difference:	1.0	0.0	0.0	1.1
LCS Batch#:	LCS120293	LCS120293	LCS120293	LCS120293
Date Prepared:	12/2/93	12/2/93	12/2/93	12/2/93
Date Analyzed:	12/2/93	12/2/93	12/2/93	12/2/93
Instrument I.D.#:	GCHP-4	GCHP-4	GCHP-4	GCHP-4
LCS % Recovery:	90	93	96	96
% Recovery Control Limits:	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
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.

ARCO Products Company
Division of AtlanticRichfieldCompany

330-06.12 Task Order No. 608-91-5

ARCO Facility no. 0608	City (Facility) 1101 HAMPTON BLVD SAN LORENZO	Project manager (Consultant) KELLY BROWN	Lab SEQ
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) 408 441-9102
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE #440 SAN JOSE 95110		Contract number 07-01

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX GAS 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 8010/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	CHEMICAL OXYGEN DEMAND	PH (Total) (separate for solids)
INFL	01	3		X		YES	HCl	11-19-93	1130	X												
EFFL	02	3		X		YES	HCl	11-19-93	1145	X												
EFFL	02	2		X		YES	H_2SO_4	11-19-93	1145												X	
EFFL	02	1		X		YES	NP.	11-19-93	1145													X

Condition of sample: Good

Temperature received: Cool

	Date	Time		Date	Time
Relinquished by sampler	11-19-93	1315	Received by		
Relinquished by			Received by		
Relinquished by			Received by laboratory	11/19	1315

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9311C3

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

Method of shipment

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APPC-329 (.)

SEQUOIA ANALYTICAL — SAMPLE RECEIPT LOG

CLIENT NAME: PEG
RECEIVED BY (PRINT): KR

MASTER LOG NO. / PAGE: 9311C36
DATE OF LOG-IN: 11-19-93

CIRCLE THE APPROPRIATE RESPONSE

Custody Seal(s): Present / (Absent) Intact / Broken*

Custody Seal Nos.:

Chain-of-Custody Records: (Present) / Absent*

Traffic Reports or Packing List: Present (Absent)

Airbill: Airbill / Sticker Present / (Absent)

Airbill No.:

Sample Tags: (Present) / Absent*
Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody

Sample Condition: (Intact) / Broken*/Leaking*

Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*

0. Proper Preservatives Used: (Yes) / No*

1. Date Rec. at Lab: 11-19-93

Time Rec. at Lab: 1315

Contact Project Manager and attach record of resolution

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
01	AC	INFL	(3) voas	W	11/19	
02	AF	EFFL	"	"	"	
		"	(2) Ambers			
			(1) ½ Pl.			

SEQUOIA ANALYTICAL
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

acific Environmental Group	Client Project ID:	Arco #608-91-5/330-06-12	Sampled: Oct 8, 1993
2025 Gateway Place, Ste. 440	Sample Matrix:	Water	Received: Oct 8, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported: Oct 21, 1993
Attention: Kelly Brown	First Sample #:	310-0335	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 310-0335 INFL	Sample I.D. 310-0336 EFFL
Purgeable Hydrocarbons	50	N.D.	N.D.
Benzene	0.5	N.D.	N.D.
Toluene	0.5	N.D.	N.D.
Ethyl Benzene	0.5	N.D.	N.D.
Total Xylenes	0.5	N.D.	N.D.
Chromatogram Pattern:		--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	10/13/93	10/13/93
Instrument Identification:	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	104	105

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

acific Environmental Group	Client Project ID:	Arco #608-91-5/330-06-12	Sampled:	Oct 8, 1993
2025 Gateway Place, Ste. 440	Sample Descript:	Water, EFFL	Received:	Oct 8, 1993
San Jose, CA 95110			Analyzed:	10/11-10/14/93
Attention: Kelly Brown	Lab Number:	310-0336	Reported:	Oct 21, 1993

LABORATORY ANALYSIS

Analyte	Detection Limit mg/L	Sample Results mg/L
Chemical Oxygen Demand	20	N.D.
Total Suspended Solids	1.0	1.0

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

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Pacific Environmental Group	Client Project ID:	Arco #608-91-5/330-06-12	Sampled:	Oct 8, 1993
2025 Gateway Place, Ste. 440	Sample Descript:	Water	Received:	Oct 8, 1993
San Jose, CA 95110	Analysis for:	pH		
Attention: Kelly Brown	First Sample #:	310-0336	Analyzed:	Oct 8, 1993
			Reported:	Oct 21, 1993

LABORATORY ANALYSIS FOR: pH

Sample Number	Sample Description	Detection Limit	Sample Result pH Units
310-0336	EFFL	N/A	6.9

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

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

SEQUOIA ANALYTICAL
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

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

Client Project ID: Arco #608-91-5/330-06-12
Matrix: Water
QC Sample Group: 3100335-336

Reported: Oct 21, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.F.	J.F.	J.F.	J.F.
Conc. Spiked:	20	20	20	60
Units:	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	1LCS101393	1LCS101393	1LCS101393	1LCS101393
Date Prepared:	10/13/93	10/13/93	10/13/93	10/13/93
Date Analyzed:	10/13/93	10/13/93	10/13/93	10/13/93
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	104	100	100	102
Control Limits:	70-130	70-130	70-130	70-130
MS/MSD Batch #:	3100432	3100432	3100432	3100432
Date Prepared:	10/13/93	10/13/93	10/13/93	10/13/93
Date Analyzed:	10/13/93	10/13/93	10/13/93	10/13/93
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Matrix Spike % Recovery:	110	105	105	105
Matrix Spike Duplicate % Recovery:	110	105	105	105
Relative % Difference:	0.0	0.0	0.0	0.0

SEQUOIA ANALYTICAL

Karen L. Enstrom
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 LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

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

Client Project ID: Arco #608-91-5/330-06-12
Matrix: Water
QC Sample Group: 310-0336

Reported: Oct 21, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Chemical Oxygen Demand

Method:	EPA 410.4
Analyst:	A.P.
Conc. Spiked:	500
Units:	mg/L
LCS Batch#:	410.4AP10E-1
Date Prepared:	10/11/93
Date Analyzed:	10/11/93
Instrument I.D.#:	Spectrometer 340
LCS % Recovery:	96
Control Limits:	90-110

MS/MSD Batch #:	3100336
Date Prepared:	10/11/93
Date Analyzed:	10/11/93
Instrument I.D.#:	Spectrometer 340
Matrix Spike % Recovery:	116
Matrix Spike Duplicate % Recovery:	110
Relative % Difference:	5.3

SEQUOIA ANALYTICAL

Karen L. Enstrom
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 LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

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

Client Project ID: Arco #608-91-5/330-06-12

QC Sample Group: 310-0336

Reported: Oct 21, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Total Suspended Solids	pH
Method:	EPA 160.2	EPA 150.1
Analyst:	A.P.	A.P.
Date:	Oct 14, 1993	Oct 8, 1993
Sample #:	310-0336	310-0336
Sample Conc.:	1.0	6.9
Sample Duplicate Concentration:	1.0	6.9
% RPD:	0.0	0.0
Control Limits:	±20	±20

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330-06.12 — Task Order No. 608-91-5 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Blvd. San Lorenzo	Project manager (Consultant) Kelly Brown.	Laboratory name Sequoia.
ARCO engineer Mike Whelan.	Telephone no. (ARCO) —	Telephone no. (Consultant) 408-441-7500	Fax no. (Consultant) 408-441-9102
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place #440 San Jose, 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH (Gas) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐	Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	C.O.D.	pH / T.S.S.
INFL		3		W		Yes	HCl	10-8-93	10:10		X				3	10	335	A-C					
EFFL		3		↓		↓	HCl	↓	10:00		X					1	336	A-F					
EFFL		2		↓		↓	H_2SO_4	↓	↓													X	
EFFL		1		↓		↓	N.P.	↓	↓														X

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks
C.O.D. is chemical Oxygen Demand.
T.S.S. is Total Suspended Solids

Lab number

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 10-8-93 Time 14:50	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date 10/8/93 Time 14:50

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

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

Project: 330-06.15/Arco 0608, San Leandro

Enclosed are the results from 19 water samples received at Sequoia Analytical on December 30,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3LE8801	Water, MW-5	12/29/93	EPA 5030/8015/8020
3LE8802	Water, MW-7	12/29/93	EPA 5030/8015/8020
3LE8803	Water, MW-8	12/29/93	EPA 5030/8015/8020
3LE8804	Water, MW-9	12/29/93	EPA 5030/8015/8020
3LE8805	Water, MW-10	12/28/93	EPA 5030/8015/8020
3LE8806	Water, MW-11	12/29/93	EPA 5030/8015/8020
3LE8807	Water, MW-13	12/29/93	EPA 5030/8015/8020
3LE8808	Water, MW-14	12/28/93	EPA 5030/8015/8020
3LE8809	Water, MW-15	12/28/93	EPA 5030/8015/802(
3LE8810	Water, MW-16	12/28/93	EPA 5030/8015/8020
3LE8811	Water, MW-17	12/29/93	EPA 5030/8015/8020
3LE8812	Water, MW-18	12/28/93	EPA 5030/8015/8020
3LE8813	Water, MW-19	12/28/93	EPA 5030/8015/8020
3LE8814	Water, MW-21	12/28/93	EPA 5030/8015/8020
3LE8815	Water, MW-22	12/28/93	EPA 5030/8015/8020
3LE8816	Water, MW-23	12/28/93	EPA 5030/8015/8020
3LE8817	Water, MW-24	12/29/93	EPA 5030/8015/8020
3LE8818	Water, MW-25	12/29/93	EPA 5030/8015/8020
3LE8819	Water, MW-26	12/29/93	EPA 5030/8015/8020

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

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

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.15/Arco 0608, San Leandro	Sampled: Dec 28-29, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received: Dec 30, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported: Jan 11, 1994
Attention: Kelly Brown	First Sample #:	3LE8801	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3LE8801 MW-6	Sample I.D. 3LE8802 MW-7	Sample I.D. 3LE8803 MW-8	Sample I.D. 3LE8804 MW-9	Sample I.D. 3LE8805 MW-10	Sample I.D. 3LE8806 MW-11
Purgeable Hydrocarbons	50	690	N.D.	2,100	N.D.	6,000	N.D.
Benzene	0.50	38	N.D.	50	N.D.	1,200	N.D.
Toluene	0.50	2.1	N.D.	0.65	N.D.	12	N.D.
Ethyl Benzene	0.50	2.7	N.D.	2.9	N.D.	46	N.D.
Total Xylenes	0.50	3.8	N.D.	4.7	N.D.	31	N.D.
Chromatogram Pattern:		Gas	--	Gas	--	Gas	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	10	1.0
Date Analyzed:	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	117	95	119	99	99	99

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.15/Arco 0608, San Leandro	Sampled: Dec 28-29, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received: Dec 30, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported: Jan 11, 1994
Attention: Kelly Brown	First Sample #:	3LE8807	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3LE8807 MW-13	Sample I.D. 3LE8808 MW-14	Sample I.D. 3LE8809 MW-15	Sample I.D. 3LE8810 MW-16	Sample I.D. 3LE8811 MW-17	Sample I.D. 3LE8812 MW-18
Purgeable Hydrocarbons	50	N.D.	N.D.	52	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	0.72	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	1.5	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	Gas	Discrete Peak	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	106	105	98	99	99	103

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.15/Arco 0608, San Leandro	Sampled: Dec 28-29, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received: Dec 30, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported: Jan 11, 1994
Attention: Kelly Brown	First Sample #:	3LE8813	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3LE8813 MW-19	Sample I.D. 3LE8814 MW-21	Sample I.D. 3LE8815 MW-22	Sample I.D. 3LE8816 MW-23	Sample I.D. 3LE8817 MW-24	Sample I.D. 3LE8818 MW-25
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94	1/7/94
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	107	107	104	103	97	87

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.15/Arco 0608, San Leandro	Sampled:	Dec 29, 1993
2025 Gateway Place, Suite 440	Sample Matrix:	Water	Received:	Dec 30, 1993
San Jose, CA 95110	Analysis Method:	EPA 5030/8015/8020	Reported:	Jan 11, 1994
Attention: Kelly Brown	First Sample #:	3LE8819		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3LE8819 MW-26
Purgeable Hydrocarbons	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Total Xylenes	0.50	N.D.
Chromatogram Pattern:		--

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	1/7/94
Instrument Identification:	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	97

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Pacific Environmental Group	Client Project ID:	330-06.15/Arco 0608, San Leandro
2025 Gateway Place, Suite 440	Matrix:	Liquid
San Jose, CA 95110		
Attention: Kelly Brown	QC Sample Group: 3LE8801-19	Reported: Jan 11, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Dinsay	J. Dinsay	J. Dinsay	J. Dinsay
MS/MSD Batch#:	4010116	4010116	4010116	4010116
Date Prepared:	1/7/94	1/7/94	1/7/94	1/7/94
Date Analyzed:	1/7/94	1/7/94	1/7/94	1/7/94
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	114	110	119	118
Matrix Spike Duplicate % Recovery:	115	112	120	120
Relative % Difference:	1.0	1.8	1.0	1.7
LCS Batch#:	LCS010794	LCS010794	LCS010794	LCS010794
Date Prepared:	1/7/94	1/7/94	1/7/94	1/7/94
Date Analyzed:	1/7/94	1/7/94	1/7/94	1/7/94
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2
LCS % Recovery:	115	111	115	116
% Recovery Control Limits:	71-133	72-128	72-130	71-120

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

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

SEQUOIA ANALYTICA[illegible] [illegible]MPLE RECEIPT LOG

CLIENT NAME: ARCO - ~~[illegible]~~ PACIFIC ENV. GR.

MASTER LOG NO. / PAGE: 9312E88'd

REC. BY (PRINT): SJK

DATE OF LOG-IN: 1-4-93

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / **Absent** — Intact / Broken*
2. Custody Seal Nos.:
3. Chain-of-Custody Records: **Present** / Absent*
4. Traffic Reports or Packing List: Present / **Absent**
5. Airbill: Airbill / Sticker — Present / **Absent**
6. Airbill No.:
7. Sample Tags: **Present** / Absent* — Sample Tag Nos.: **Listed** / Not Listed on Chain-of-Custody
8. Sample Condition: **Intact** / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? **Yes** / No*
10. Proper Preservatives Used: **Yes** / No*
11. Date Rec. at Lab: 12/30/93
12. Time Rec. at Lab: 1050

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION (ETC)
01		MW-5	3 VOA	W	12/29	
02		MW-7	↓	↓	↓	
03		MW-8	↓	↓	↓	
04		MW-9	↓	↓		
05		MW-10	↓	↓	12/28	
06		MW-11	↓	↓	12/29	
07		MW-13	↓	↓	12/29	
08		MW-14	↓	↓	12/28	
09		MW-15	↓	↓	↓	
10		MW-16	↓	↓	↓	
11		MW-17	↓	↓		
12		MW-18	↓	↓	12/28	
13		MW-19	↓	↓	↓	
14		MW-21	↓	↓	↓	
15		MW-22	↓	↓	↓	
16		MW-23	↓	↓	12/29	
17		MW-24	↓	↓	↓	
18		MW-25	↓	↓	↓	
19		MW-26		↓	12/28	
9312F		TB-1		↓	12/29	
		EA-1				

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

ARCO Products Company ◆ 330-06.15 **Task Order No.** 608-92-5 1 of 2 **Chain of Custody**
Division of AtlanticRichfieldCompany

ARCO Facility no. 0608	City (Facility) SAN LORENZO	Project manager (Consultant) KELLY BROWN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408-441-7500	Fax no. (Consultant) 408-441-7539
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE SUITE 440 S.J. CA.		Contract number 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 GAS	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-5		3		X		X	HCL	12-29-93	0935		X				9312E88				01			
MW-7									1040										02			
MW-8									1145										03			
MW-9								↓	1435										04			
MW-10								12-28-93	1645										05			
MW-11								12-29-93	1510										06			
MW-13								↓	1010										07			
MW-14								12-28-93	1530										08			
MW-15									1455										09			
MW-16								↓	1330										10			
MW-17								12-29-93	1250										11			
MW-18								12-28-93	1235										12			
MW-19		↓		↓		↓	↓	↓	1200		↓								13			
~~MW-20~~																						
MW-21		3		X		X	HCL	12-28-93	1130		X								14			
MW-22		3		4		X	HCL	↓	1055		X								15			

Special detection Limit/reporting

Special QA/QC

Remarks
* MW-20 IS ABANDONED & WAS NOT SAMPLED 1055

Lab number 9312E884 F28

Method of shipment

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	12-30-93	0800	Received by	12/30/93	0800
Relinquished by	12/30/93	10:15	Received by	12/30	10:15
Relinquished by	12/30	1050	Received by laboratory	12/30	1050

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

ARCO Products Company — Division of AtlanticRichfieldCompany

330-0615 **Task Order No.** 6085925 Lot L **Chain of Custody**

ARCO Facility no. 0608	City (Facility) SAN LORENZO	Project manager (Consultant) KELLY BROWN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408-441-7500	Fax no. (Consultant) 408-441-7539
Consultant name PACIFIC ENVIRONMENTAL GROUP INC.	Address (Consultant) 2025 GATEWAY PLACE SUITE 440 S.J. CA.		Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC 12-29-93
**HOLD
EA-1 FOR ANALYSIS UNTIL FURTHER NOTICE.

Remarks

DEC 30 1

Lab number 9312 E88 + F28

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 Gas EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
MW-23		3		X		X	HCL	12-28-93	1025		X			9312-E88					16	
MW-24		↓		↓		↓	↓	12-29-93	1400		↓								17	
MW-25								↓	1110										18	
MW-26		↓		↓		↓	↓	↓	1330										19	
TB-1		2		↓		↓	↓	12-28-93	NA		↓			9312-F28				01		
* EA-1		3		X		X	HCL	12-~~29~~-93	0920		X							02		

Lab number 9312 E88 + F28

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	12-30-93	0800	Received by	12/30/93	0800
Relinquished by	12/30/93		Received by	12/30	10:15
Relinquished by	12/30	1050	Received by laboratory	12/30	10:50

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

APPC-3292 (2-91)

WELL SAMPLING REQUEST

SITE INFORMATION FORM

Identification

Project # 330-06.15

Station # 0608

Site Address: 17601 Hesperian Blvd San Lorenzo Ca.

County: Alameda.

Project Manager: Kelly Brown

Requestor: Roger Hoffmore.

Client: ARCO

Client P.O.C.: Mike Whelan.

Date of request: 9-93

Project Type

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

Ideal field date(s):

Fefield Contacts/Permits

- ☐ Cal Trans
- ☐ County
- ☐ City
- ☒ ARCO Private District Mgr 1wk notice
- ☐ Multi-Consultant Scheduling Date(s):

Purge Water Containment:

- ☐ Drums
- ☒ Treatment System use in line filter
- ☐ Other Describe:

Field Tasks

- ☒ H_2O levels E-1A, MW-5, MW-7 to MW-11, MW-13 to MW26
- ☒ H_2O Sampling Gas/BTEX analysis for MW-5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, MW-18, 19, 20, 21, 22, 23, 24, 25, 26. (E-1A is the INFL sample from 06M)
- ☐ Well Development
- ☐ Other: Task # for COC. 608-93-5
  ⇒ E-1A already sampled.

Bring additional # centrifugal hose for transfer of H_2O to System.

Bring a Female 1" quick disconnect coupler.

Describe task (i.e: Well groups and analytical parameters)

Site Safety

Wells	Concerns

- ☐ Flash Safety
- ☐ Flagman
- ☒ Cones
- ☐ Barricades
- ☐ No Turn/Lane Closed sign

Other:

Activities occuring on site
(ie: remedial system construction, ongoing projects, etc.)

Comments, remarks, etc. from Field Staff
(include problems encountered and out-of-scope work)

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To Ed Buskirk	From Scott P.
Co. PEG	Co. PEG.
Dept. FSG.	Phone # PH
Fax # Ed call me and I can elaborate on some important issues	Fax #

608-92.5 SEQUOIA
SWEPT AROUND TREATMENT PAD

(Please attach: Site Map, Well Information Data, Site Safety Plan, Well logs as appropriate)

Budgeted hours:

Actual hours; On-Site: 17

Mob-de-Mob: 4.5

☐ All Wells secured

Completed by: _____ Date: _____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL

Project No.	Project Name	Project Manager	Approval	Date/s	Prepared by:
330-06-05	San Lorenzo	KB/JC			

Well No.	Ideal Sampling Order	Sample I.D. / Lab	Duplicate I.D. / Lab	Analyses	Dedicated System	Approximate Gallons to be Evacuated	Well Depth (ft.)	Screened Interval (ft.)	Casing Diameter (in.)	Does Well Go Dry?	Comments / Health & Safety Concerns
MW-5				gas/BTEX		DRY	14		4	I	
MW-7						6	19		3	N	
MW-8						12	22		3	N	
MW-9						9	19		3	N	
MW-10						15	23		3	N	
MW-11						7	20		3	N	
MW-13						9	24		3	N	
MW-14						15	23		3	N	
MW-15						15	23 1/2		3	N	
MW-16						12	23		3	N	

WELL SAMPLING REQUEST

SAMPLING PROTOCOL

Project No.	Project Name	Project Manager	Approval	Date/s	Prepared by:
330-06-15	San Lorenzo	KB/JC			

Well No.	Ideal Sampling Order	Sample I.D. / Lab	Duplicate I.D. / Lab	Analyses	Dedicated System	Approximate Gallons to be Evacuated	Well Depth (ft.)	Screened Interval (ft.)	Casing Diameter (in.)	Does Well Go Dry?	Comments / Health & Safety Concerns
MW-17				gas/BTEX		12	24			3	
MW-18				↓		12	21 1/2			3	
MW-19						14	21 1/2			3	
MW-20						14	21 1/2			3	
MW-21						14	22			3	
MW-22						13	21 1/2			3	
MW 23						12	22			3	
EI-A				↓ INFL w/O&M monthly			25			6	

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-06.15 LOCATION: 17609 HESPERIAN BLVD. SAN LORENZO CA DATE: 12-28-93

CLIENT/STATION NO.: ARCO/6608 FIELD TECHNICIAN: [illegible] DAY OF WEEK: TUES.

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator 13
- ☐ 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
19	E-1A	0945	✓	✓					20.35	20.35											
14	MW-5	0915	✓	✓		✓	✓		13.25	13.25											
17	MW-7	0930	✓	✓		✓	✓		13.43	13.43											
15	MW-8	0920	✓	✓		✓	✓		12.23	12.23											
18	MW-9	0855	✓	✓		✓	✓		11.61	11.61											
9	MW-10	0850	✓	✓		✓	✓		11.41	11.41											
10	MW-11	0855	✓	✓		✓	✓		12.05	12.05											
16	MW-13	0925	✓	✓		✓	✓		14.47	14.47											
8	MW-14	0845	✓	✓		✓	✓		10.24	10.24											

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-06.5 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA DATE: 12-29-93

CLIENT/STATION NO.: ARCO/0008 FIELD TECHNICIAN: CC DAY OF WEEK: TUES

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ ____
- ☒ H_2O level indicator 13
- ☐ 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
7	MW-5	0590	✓	✓		✓	✓		11.76	11.76										
6	MW-16	0835	✓	✓		✓	✓		12.14	12.14										
20	MW-17	0955	✓	✓		✓	✓		12.96	12.96										
5	MW-18	0825	✓	✓		✓	✓		11.06	11.06										
4	MW-19	0820	✓	✓		✓	✓		10.58	10.58										
*	MW-20	—							—	—										
3	MW-21	0810	✓	✓		✓	✓		11.02	11.02										
2	MW-22	0805	✓	✓		✓	✓		11.34	11.34										
1	MW-23	0800	✓	✓		✓	✓		12.57	12.57										

Comments: * ABANDONED - NOT GUAGED

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0015 LOCATION: 7609 HESPERIAN BLVD SAN LORENZO CA DATE: 12-28-93

CLIENT/STATION NO.: ARCO 0608 FIELD TECHNICIAN: [illegible] DAY OF WEEK: TUES.

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator 13
- ☐ 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
13	MW-2	0910	✓	✓		✓	✓		13.83	13.83										
18	MW-5	0935	✓	✓		✓	✓		12.89	12.89										
12	MW-6	0905	✓	✓	✓	✓	✓		13.06	13.06										

Comments: _____

WATER SAMPLE FIELD DATA SHEET

PROJECT No. 350-06.15 LOCATION: 17001 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-5

CLIENT/STATION No.: ARCO 0609 FIELD TECHNICIAN: CL

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 13.25 (TOB) ____ TOC
Total depth: 14.0 TOB ____ TOC
Date: 12-28-93 Time (2400): 0916

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 14.0 - DTW 13.25 = 0.75 x Gal/Linear Foot 0.66 = .5 x Number of Casings 5 = Calculated Purge 2.5

DATE PURGED: 12-29-93 START: 0900 END (2400 hr): 0904 PURGED BY: CL

DATE SAMPLED: 12-29-93 START: 0935 END (2400 hr): ____ SAMPLED BY: ____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
0904	.5	7.10	2550	63.1	CLR.	TRC.	FNT.

Pumped dry (Yes) / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 13.3 (TOB) TOC 6.93 2380 60.9 CLR. TRC. FNT.

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 13-1
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-1
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	12-29-93	0935	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-7

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 13.43 TOB ____ TOC
Total depth: 18.9 TOB ____ TOC
Date: 12-28-93 Time (2400): 0930

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ Other; ____

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

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

TD 18.9 - DTW 13.43 = 5.47 x Gal/Linear Foot 0.38 = 2.08 x Number of Casings 5 = Calculated Purge 10.4

DATE PURGED: 12-29-93 START: 1020 END (2400 hr): 1035 PURGED BY:

DATE SAMPLED: 12-29-93 START: 1035 END (2400 hr): 1040 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1025	3.5	7.26	2440	62.1	CLR	TRC	MOD
1030	7	7.21	2,510	63.9	"	"	"
1035	10.5	"	2,490	64.2	"	"	"

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: B-3
- ☐ 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-7	12-29-93	1040	3	40ml	VOA	HCl	BTEX

REMARKS: ____

SIGNATURE: ____

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-8

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 12.23 TOP / TOC
Total depth: 21.7 TOB / TOC
Date: 12-28-93 Time (2400): 0920

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 21.7 - DTW 12.23 = 9.47 x Gal/Linear Foot 0.38 = 3.6 x Number of Casings 5 = Calculated Purge 18

DATE PURGED: 12-29-93 START: 1120 END (2400 hr): 1135 PURGED BY:

DATE SAMPLED 12-29-93 START: 1135 END (2400 hr): 1145 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1125	6	7.07	2480	61.7	CLR.	TRC.	FNT.
1130	12	7.01	2400	62.1	"	"	"
1135	18	6.88	2,380	"	"	"	"

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	12-29-93	1145	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-9

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 11.61 TOB ____ TOC
Total depth: 18.7 TOB ____ TOC
Date: 12-28-93 Time (2400): 0855

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ Other: ____

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

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

TD 18.7 - DTW 11.61 = 7.09 x Gal/Linear Foot 0.38 = 2.7 x Number of Casings 5 = Calculated Purge 13.5

DATE PURGED: 12-29-93 START: 1410 END (2400 hr): 1428 PURGED BY:

DATE SAMPLED 12-29-93 START: 1428 END (2400 hr): 1435 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1416	4.5	7.06	2420	66.5	CLR.	TRC.	NONE
1422	9	7.01	2470	"	"	"	"
1428	13.5	6.95	2520	66.9	"	"	"

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: 13-10
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-10
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	12-29-93	1435	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-10

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 11.41 TOB / TOC
Total depth: 23.0 TOB / TOC
Date: 12-28-93 Time (2400): 0850

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ Other;

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

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

TD 23.0 - DTW 11.41 = 11.59 x Gal/Linear Foot 0.38 = 4.41 x Number of Casings 5 = Calculated Purge 22.05

DATE PURGED: 12-28-93 START: 1620 END (2400 hr): 1635 PURGED BY: [illegible]

DATE SAMPLED 12-28-93 START: 1635 END (2400 hr): 1645 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1625	7.5	7.02	2570	59.8	CLR.	TRC.	FNT
1630	15	6.92	2,610	61.6	"	"	"
1635	22.25	"	2,620	63.3	"	"	"

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: [illegible] TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: 1
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-5
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	12-28-93	1645	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17600 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-11

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 12.05 TOB / TOC
Total depth: 19.20 TOB / TOC
Date: 12-28-93 Time (2400): 0955

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator #3
- ☐ 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 19.2 - DTW 12.05 = 7.15 x Gal/Linear Foot 0.38 = 2.72 x Number of Casings 5 = Calculated Purge 13.6

DATE PURGED: 12-29-93 START: 1445 END (2400 hr): 1503 PURGED BY: [illegible]

DATE SAMPLED 12-29-93 START: 1503 END (2400 hr): 1510 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1451	4.75	7.10	2080	64.3	CLR	TRC	NONE
1457	9.5	6.99	2,430	"	"	"	"
1503	13.75	6.89	2,450	63.3	"	"	"

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: T-9
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	12-29-93	1510	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17600 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-13

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 14.47 TOB ____ TOC
Total depth: 23.4 TOB ____ TOC
Date: 12-28-93 Time (2400): 0925

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 23.4 - DTW 14.47 = 8.93 x Gal/Linear Foot 0.38 = 3.4 x Number of Casings 5 = Calculated Purge 17

DATE PURGED: 12-29-93 START: 0950 END (2400 hr): 1005 PURGED BY: [illegible]

DATE SAMPLED 12-29-93 START: 1005 END (2400 hr): 1010 SAMPLED BY: V

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
0955	5.75	7.28	2530	67.7	CLR	IRC.	None
1000	11.5	7.25	2400	64.1	"	"	"
1005	17	7.24	2370	64.5	"	"	"

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: 1
- ☐ Other: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-2
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	12-29-93	1010	3	40ml	VOA	HCl	Gas/BTEX

REMARKS: ____

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-14

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 10.24 TOB / TOC
Total depth: 23.1 TOB / TOC
Date: 12-28-93 Time (2400): 10.24 0945

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 23.1 - DTW 10.24 = 12.86 x Gal/Linear Foot 0.38 = 4.89 x Number of Casings 5 = Calculated Purge 24.45

DATE PURGED: 12-28-93 START: 1505 END (2400 hr): 1521 PURGED BY: [illegible]

DATE SAMPLED: 12-28-93 START: 1521 END (2400 hr): 1530 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1510	8.25	7.27	2,420	61.2	BRN	MOD	NONE
1516	16.5	7.20	2,460	63.8	CLR	TRC.	"
1521	24.5	7.18	2,480	64.5	"	"	"

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

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: 1
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-6
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	12-28-93	1530	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-15

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 11.76 TOB ____ TOC
Total depth: 23.6 TOB ____ TOC
Date: 12-28-93 Time (2400): 0840

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 23.6 - DTW 11.76 = 11.84 x Gal/Linear Foot 0.38 = 4.5 x Number of Casings 5 = Calculated Purge 22.5

DATE PURGED: 12-28-93 START: 1430 END (2400 hr): 1446 PURGED BY: [illegible]

DATE SAMPLED: 12-28-93 START: 1446 END (2400 hr): 1455 SAMPLED BY: V

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1436	7.5	7.22	2500	61.0	CLR	TRC	NONE
1441	15	7.09	2,470	61.8	"	"	"
1446	22.5	6.96	2,550	62.0	"	"	"

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 127
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-15	12-29-93	1455	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-16

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

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 12.14 TOB _____ TOC
Total depth: 22.5 TOB _____ TOC
Date: 12-28-93 Time (2400): 0935

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 13
- ☐ 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 22.5 - DTW 12.14 = 10.36 x Gal/Linear Foot 0.38 = 3.94 x Number of Casings 5 = Calculated Purge 19.7

DATE PURGED: 12-28-93 START: 1245 END (2400 hr): 1252 PURGED BY: [illegible]

DATE SAMPLED: 12-28-93 START: 1320 END (2400 hr): 1330 SAMPLED BY: V

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1250	6.75	7.56	2320	65.1	CLOY	LT.	MOD.
1252	8	7.41	2400	67.8	BRN	MOD	H

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: 14.20 (TOB) TOC 7.38 2,410 68.8 CLR TRC NONE

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☒ Centrifugal Pump: 1
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 15-8
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	12-28-93	1330	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: _____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-17

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 12.96 TOP ____ TOC
Total depth: 23.6 TOB ____ TOC
Date: 12-28-93 Time (2400): 0955

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 23.6 - DTW 12.96 = 10.64 x Gal/Linear Foot 0.38 = 4.05 x Number of Casings 5 = Calculated Purge 20.25

DATE PURGED: 12-29-93 START: 1215 END (2400 hr): 1240 PURGED BY: [illegible]

DATE SAMPLED 12-29-93 START: 1240 END (2400 hr): 1250 SAMPLED BY: V

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1230	6.75	7.22	2,960	62.4	CLR.	TRC.	NONE
1235	13.5	7.16	2,230	"	"	"	"
1240	20.25	"	2,280	62.9	"	"	"

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

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☒ Centrifugal Pump: 1
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-6
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-17	12-29-93	1250	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-18

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 11.06 TOB / TOC
Total depth: 21.7 TOB / TOC
Date: 12-28-93 Time (2400): 0825

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 blan
- ☐ Other;

TD 21.7 - DTW 11.06 = 10.64 x Gal/Linear Foot 0.38 = 4.05 x Number of Casings 5 = Calculated Purge 20.25

DATE PURGED: 12-28-93 START: 1210 END (2400 hr): 1225 PURGED BY: [illegible]

DATE SAMPLED: 12-28-93 START: 1225 END (2400 hr): 1235 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1215	6.75	7.20	2540	68.1	CLR	TRC	NONE
1220	13.5	7.07	2520	67.6	"	"	"
1225	20.25	6.99	2530	67.3	"	"	"

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

Pumped dry Yes / (NO)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: 1
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-9
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-18	12-28-93	1235	3	40ml	VOA	HCl	BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-19

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 10.58 TOP / TOC
Total depth: 21.6 TOB / TOC
Date: 12-28-93 Time (2400): 0820

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 21.6 - DTW 10.58 = 11.02 x Gal/Linear Foot 0.38 = 4.19 x Number of Casings 5 = Calculated Purge 20.95

DATE PURGED: 12-28-93 START: 1140 END (2400 hr): 1155 PURGED BY: [illegible]

DATE SAMPLED 12-28-93 START: 1155 END (2400 hr): 1200 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1145	7	7.08	2490	59.1	CLR	TRC	NONE
1150	14	7.07	2540	62.2	"	"	"
1155	21	7.04	2530	62.3	"	"	"

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: [illegible] TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: 1
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-10
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-19	12-28-93	1200	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-20

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

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: TOP _____ TOC
Total depth: 21.9 TOB _____ TOC
Date: 12-28-93 Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 13
- ☐ 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 21.9 - DTW _____ = _____ x Gal/Linear Foot 0.38 = _____ x Number of Casings 5 = Calculated Purge _____

DATE PURGED: 12- -93 START: _____ END (2400 hr): _____ PURGED BY: [illegible]

DATE SAMPLED 12- -93 START: _____ END (2400 hr): _____ SAMPLED BY: _____

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/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 _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-20	12- -93		3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ABANDONED - NOT SAMPLED

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-21

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.02 TOB — TOC
Total depth: 22.0 TOB — TOC
Date: 12-28-93 Time (2400): 0810

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 22.0 - DTW 11.02 = 10.98 x Gal/Linear Foot 0.38 = 4.18 x Number of Casings 5 = Calculated Purge 20.9

DATE PURGED: 12-28-93 START: 1105 END (2400 hr): 1120 PURGED BY: [illegible]

DATE SAMPLED: 12-28-93 START: 1120 END (2400 hr): 1130 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1110	7	7.15	2480	62.1	CLR	TRC	NONE
1115	14	7.16	2530	63.9	"	"	"
1120	21	"	2540	64.7	"	"	"

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: 1
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-21	12-28-93	1130	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-46.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-22

CLIENT/STATION No.: ARCO/1608 FIELD TECHNICIAN:

WELL INFORMATION

Depth to Liquid: ~~—~~ TOB ~~—~~ TOC
Depth to water: 11.34 TOB ~~—~~ TOC
Total depth: 21.8 TOB ~~—~~ TOC
Date: 12-28-93 Time (2400): 08:08

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 21.8 - DTW 11.34 = 10.46 x Gal/Linear Foot 0.38 = 3.98 x Number of Casings 5 = Calculated Purge 19.9

DATE PURGED: 12-28-93 START: 1035 END (2400 hr): 1048 PURGED BY:

DATE SAMPLED 12-28-93 START: 1048 END (2400 hr): 1055 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1040	6.75	7.18	2960	60.6	CLR	TRC	NONE
1044	13.5	7.15	2,440	62.0	"	"	"
1048	20	7.12	2,460	62.6	"	"	"

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: 1
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-22	12-28-93	1055	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-23

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 12.57 TOB ____ TOC
Total depth: 22.0 TOB ____ TOC
Date: 12-28-93 Time (2400): 0800

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ 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 blan
- ☐ Other;

TD 22.0 - DTW 12.57 = 9.43 x Gal/Linear Foot 0.38 = 3.59 x Number of Casings 5 = Calculated Purge 17.95

DATE PURGED: 12-28-93 START: 1000 END (2400 hr): 1014 PURGED BY:

DATE SAMPLED 12-28-93 START: 1014 END (2400 hr): 1025 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1005	6	7.22	2590	56.9	CLR.	TRC.	NONE
1009	12	7.15	"	59.8	"	"	"
1014	18	"	2,620	60.3	"	"	"

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: 1
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	12-28-93	1025	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17609 HESPERIAN BLVD. SAN LORENZO CA WELL ID #: MW-24

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

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 13.83 TOB ____ TOC
Total depth: 20.1 TOB ____ TOC
Date: 12-29-93 Time (2400): 0910

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 20.1 - DTW 13.83 = 6.27 x Gal/Linear Foot 0.17 = 1.07 x Number of Casings 5 = Calculated Purge 5.35

DATE PURGED 12-29-93 START: 1340 END (2400 hr): 13:51 PURGED BY: [illegible]

DATE SAMPLED 12-29-93 START: 1351 END (2400 hr): 1400 SAMPLED BY: [illegible]

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1344	2	7.08	2510	68.0	BRN.	HVY.	NONE
1348	4	6.91	2550	68.6	"	"	"
1351	5.50						

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: 13-7
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-7
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-24	12-29-93	1400	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: [illegible]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD. SAN LORENZO CA WELL ID #: MW-25

CLIENT/STATION No.: ARCO 0008 FIELD TECHNICIAN: JC

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 12.89 TOB ____ TOC
Total depth: 21.4 TOB ____ TOC
Date: 12-29-93 Time (2400): 0935

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 21.4 - DTW 12.89 = 8.51 x Gal/Linear Foot 0.17 = 1.45 x Number of Casings 5 = Calculated Purge 7.25

DATE PURGED 12-29-93 START: 1048 END (2400 hr): 1102 PURGED BY: JC

DATE SAMPLED 12-29-93 START: 1102 END (2400 hr): 1110 SAMPLED BY: JC

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1053	2.5	7.17	2520	62.7	Clr	TR	None
1058	5	7.10	2570	64.1	"	"	"
1102	7.25	"	2580	64.3	"	"	"

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: 13-4
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-4
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	12-29-93	1110	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-0615 LOCATION: 17609 HESPERIAN BLVD. SAN LORENZO CA WELL ID #: MW-26

CLIENT/STATION No.: ARCO 0608 FIELD TECHNICIAN:

WELL INFORMATION

Depth to Liquid: ____ TOB ____ TOC
Depth to water: 13.06 TOB ____ TOC
Total depth: 19.8 TOB ____ TOC
Date: 12-29-93 Time (2400): 0905

Probe Type and I.D. #
- ☐ Oil/Water interface ____
- ☒ Electronic indicator 13
- ☐ 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 19.8 - DTW 13.06 = 6.74 x Gal/Linear Foot 0.17 = 1.15 x Number of Casings 5 = Calculated Purge 5.75

DATE PURGED 12-29-93 START: 1318 END (2400 hr): 1322 PURGED BY:

DATE SAMPLED 12-29-93 START: 1322 END (2400 hr): 1330 SAMPLED BY:

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1314	2	7.44	2310	69.8	BRN	HVY	NONE
1318	4	7.21	2490	68.9	"	"	"
1322	5.75				"	"	"

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: 13-8
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-8
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	12-29-93	1330	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: ____

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-06.15 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: EA-1

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

WELL INFORMATION

Depth to Liquid: / TOB / TOC
Depth to water: 29.35 TOB / TOC
Total depth: / TOB / TOC
Date: 12-28-93 Time (2400): 0945

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator 13
- ☐ Other;

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

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

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

DATE PURGED: 12-28-93 START: / END (2400 hr): / PURGED BY: E-WELL

DATE SAMPLED: " START: / END (2400 hr): / SAMPLED BY: CC

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
0920	/	7.49	2490	62.1	CLR	TRC	NONE

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
EA-1	12-30-93	0920	3	40ml	VOA	HCl	GAS/BTEX

REMARKS:

SIGNATURE: Chris Matthews

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD SERVICES/O and M REQUEST

SITE INFORMATION FORM

Identification

Project # 330-06.12

n # 0608

Site Address: 17601 Hesperian Blvd. San Lorenzo

County: Alameda

Project Manager: Kelly Brown.

Requestor: Roger Hoffmore

Client: Arco

Client P.O.C.: Mike Whelan.

Date of request: 9-93

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): 2nd week of Month

Prefield Contacts/Permits

- ☐ Cal Trans _____
- ☐ County _____
- ☐ City _____
- ☐ Private _____
- ☐ Multi-Consultant Scheduling
  Date(s): _____

Site Safety Concerns

_____

_____

_____

Field Tasks

☒ System Sampling ☐ System Start-up ☐ System Repair ☐ System Modification ☐ System Resample ☐ System Shut-down

☐ Tank Pull ☐ Soil Sampling ☐ Subcontractor Observation ☐ SPH Bailing

☐ Report required for: _____ ☐ Data summary required for: _____

1.) DTW in wells MW-5, 7, 8, 9, 10, 11, 13, 25, E-1A

2.) Change Filter

3.) Sample System (Monthly = M. Quarterly = Q)

	INFL	EFFL
Gas/BTEX	M	M
C.O.D. (H_2SO_4 vial)		Q
TSS (1 liter plastic)		&
pH		Q

Note: Quarterly O&M work occurs January, April, July, October

M.I.D. samples will be taken when breakthrough is expected in the future.

(Please attach: Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other information as appropriate)

Budgeted hours: 6 | Actual hours; On-Site: 4.5 Mob-de-Mob: 1.5

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

CLEANED TOTALIZER

REPLACED BAG FILTER

SAMPLED - MONTHLY

PACIFIC ENVIRONMENTAL GROUP, INC.

Completed by: S. Monnier Date: 12-21-93

Checked by: _____

ARCO Products Company
Division of AtlanticRichfieldCompany

Chain of Custody

330612 **Task Order No.** 608-91-5

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD SAN LORENZO	Project manager (Consultant) KELLY BROWN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-9102
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE #440 SAN JOSE, CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020 GAS/BTEX	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
INFL		3		W		YES	HCL	12-21-93	945	X												
EFFL		3		W		YES	HCL	12-21-93	1000	X												

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Method of shipment

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	12-21-93	1730	Received by	12/21/93	
Relinquished by	12/22/93	1020	Received by	12/22	
Relinquished by			Received by laboratory		

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

Groundwater Extraction System
San Lorenzo ARCO 608
17601 Hesperian Boulevard
San Lorenzo, California
330-06.12
Revised: October 12, 1992

Name: JAMES C. MONNIER Date/Time: 12-21-93/845

Treatment System Readings

Effluent Totalizer (gallons)	03113565	Bag Filter INFL Pressure (psi)	6.5psi
Effluent Flowrate (gpm)	3GPM	Carbon 1 INFL Pressure (psi)	6.0 psi
E-1A Hourmeter (hours)	16259.6	MID-1 Pressure Pressure (psi)	6.0psi
Electric meter (kw-hrs)	09195	MID-2 Pressure (psi)	1.0psi
Sewer Level Overflowing?	No	EFFL Pressure (psi)	0psi
E-1A DTW (TOB) (feet)	19.50/19.72	Spare Bag Filters On-site	NONE
Does Autodialer Call Office?	YES	Does Pressure Switch Work?	YES

Sample groundwater at E-1A, MID-1, and EFFL.

Temperature (F)	E-1A	59.0	MID-1	60.5	MID-2	59.4	EFFL 58.0
pH (units)	E-1A	6.86	MID-1	6.84	MID-2	6.78	EFFL 6.72

1. Check all fittings and piping for leaks. (Initials) MM
2. Check control panel for discrepancies. (Initials) MM
3. Take DTW/DTL from all on-site wells. (Initials) MM
4. Inspect the condition of the secondary containment (Initials) MM

Comments - REPLACED BAG FILTERS
- UNIT ON UPON ARRIVAL
- E-1A FLUCTUATING DTW
- 77,533 GALLONS DISCHARGED SINCE 11-19-93
- 766.05
- CONTAIN
- 8psi H
- CLEANED

16259.6
15493.6
766.0
32 days

19-93
F WATER UPON ARRIVAL (RAIN)
-1A
ALING. (MAY SHOW A LOW DISCHARGE NUMBER

Distribute a copy of t visor.
ALL OTHER CO

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

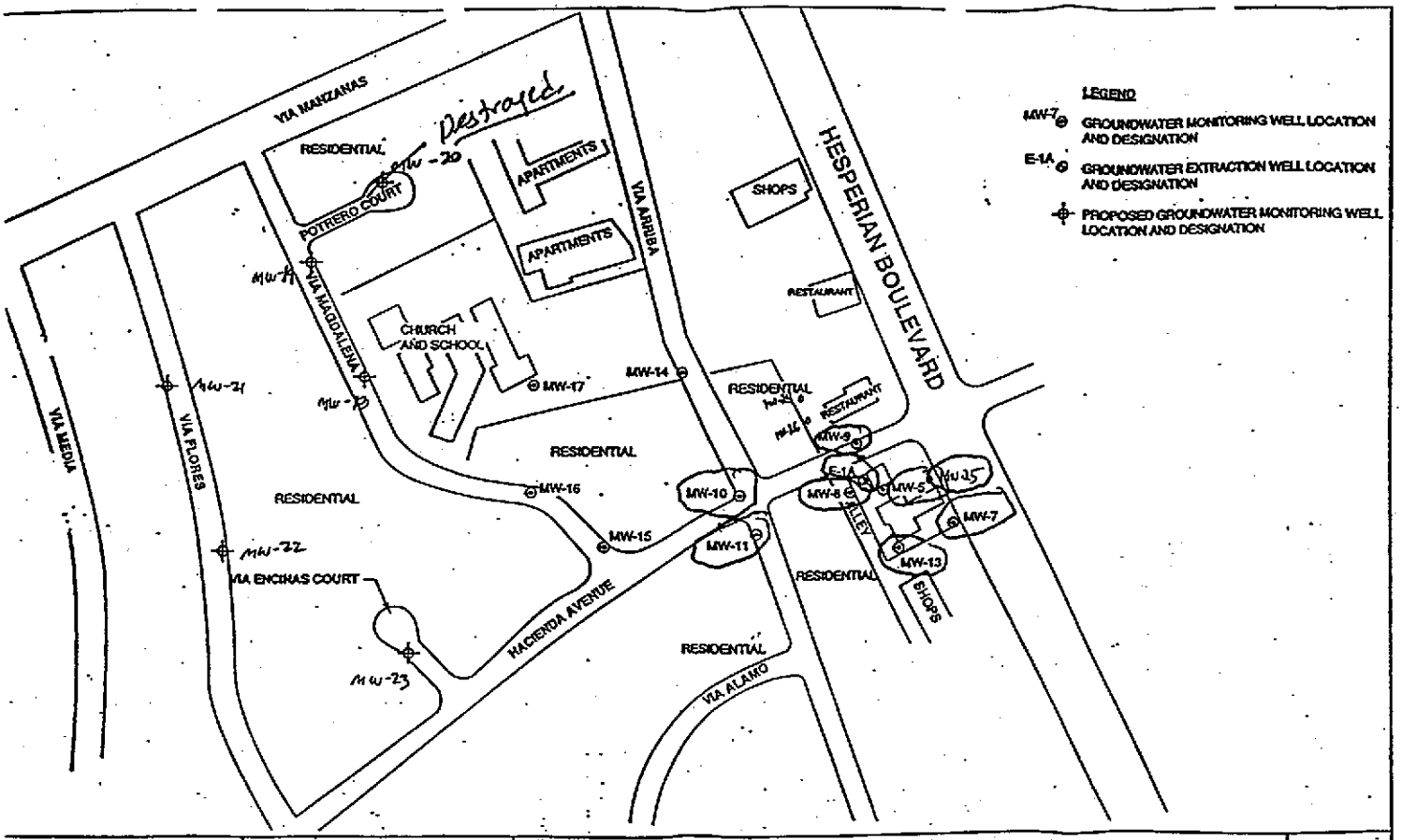
PROJECT No.: 330612 LOCATION: 1760 HESPERIAN BLVD SAN LORENZO DATE: 12-21-93

CLIENT/STATION NO.: ARCO/0668 FIELD TECHNICIAN: J. Manniek DAY OF WEEK: TUES. SUNNY

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator #3
- ☐ 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
1	MW5	754	✓	✓		✓	✓		13.28 / 13.28	12.90 / 12.90										
3	MW7	802	✓	✓		✓	✓		13.09 / 13.09	12.58 / 12.58										
5	MW8	810	✓	✓		✓	✓		12.03 / 12.03	11.26 / 11.25										
8	MW9	822	✓	✓		✓	✓		11.14 / 11.13	10.63 / 10.63										
6	MW10	814	✓	✓		✓	✓		11.20 / 11.21	10.68 / 10.68										
7	MW11	819	✓	✓		✓	✓		12.03 / 12.03	11.59 / 11.60										
4	MW13	806	✓	✓		✓	✓		14.39 / 14.40	14.10 / 14.10										
2	MW15	757	✓	✓		✓	✓		12.73 / 12.73	12.22 / 12.22										
9	E-1A	828	✓	✓					19.50 / 19.92	17.86 / 17.22										

Comments: _____



PACIFIC ENVIRONMENTAL GROUP, INC.	APPROXIMATE SCALE: 1" = 150'	ARCO SERVICE STATION #0608 17601 Hesperian Boulevard at Hacienda Avenue San Lorenzo, California PROPOSED WELL LOCATION MAP	FIGURE: 1 PROJECT: 330-06.13

376-4711

FIELD SERVICES/O and M REQUEST

SITE INFORMATION FORM

FILE COPY

Identification

Project # 330-06.12

Station # 0608

Site Address: 17601 Hesperian Blvd. San Lorenzo

County: Alameda

Project Manager: Kelly Brown

Requestor: Roger Hoffmore

Client: Arco

Client P.O.C.: Mike Whelan

Date of request: 9-93

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: ______

Ideal field date(s): 2nd week of Month

Prefield Contacts/Permits

- ☐ Cal Trans ______
- ☐ County ______
- ☐ City ______
- ☐ Private ______
- ☐ Multi-Consultant Scheduling Date(s): ______

Site Safety

Concerns

Field Tasks

☒ System Sampling ☐ System Start-up ☐ System Repair ☐ System Modification ☐ System Resample ☐ System Shut-down
☐ Tank Pull ☐ Soil Sampling ☐ Subcontractor Observation ☐ SPH Bailing
☐ Report required for: ______ ☐ Data summary required for: ______

1.) DTW in wells MW-5, 7, 8, 9, 10, 11, 13, 25, E-1A
2.) Change Filter
3.) Sample system (Monthly = M. Quarterly = Q)

	INFL	EFF'L
Gas/BTEX	M	M
C.O.D. (H_2SO_4 Cor)		Q
TSS (1 liter)		Q
pH (plastic)		Q

Note: Quarterly O&M work occurs January, April, July, October

MID. samples will be taken when breakthrough is expected in the future.

(Please attach: Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other information as appropriate)

Budgeted hours: 6

Actual hours; On-Site: 4.5 Mob-de-Mob: 1.5

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

Completed by: F. Monnier Date: 11-19-93

Chain of Custody

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330.06.12 — Task Order No. 608.91.5

ARCO Facility no. 0608	City (Facility) 1710 HESPERIAN BLVD SAN LORENZO	Project manager (Consultant) Kelly Brown	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) 408 441-9102
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE #440 SAN JOSE 95110		Contract number 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX GAS 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	CHEMICAL OXYGEN DEMAND	PH TOTAL (specify solid)
INFL		3		X		Yes	HCL	11-19-93	1130	X												
EFFL		3		X		YES	HCL	11-19-93	1145	X												
EFFL		2		X		YES	H_2SO_4	11-19-93	1145												X	
EFFL		1		X		YES	N.P.	11-19-93	1145													X

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler	11-19-93	1315	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory — Date 11/19 — Time 1315

Distribution: copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Cr ant

Groundwater Extraction System
San Lorenzo ARCO 608
17601 Hesperian Boulevard
San Lorenzo, California
330-06.12
Revised: October 12, 1992

Name: JAMES MONNIER Date/Time: 11-19-93 / 1020

Treatment System Readings

Effluent Totalizer (gallons)	03036032	Bag Filter INFL Pressure (psi)	6.5psi
Effluent Flowrate (gpm)	36gpm	Carbon 1 INFL Pressure (psi)	5.25psi
E-1A Hourmeter (hours)	15493.55	MID-1 Pressure Pressure (psi)	6.0psi
Electric meter (kw-hrs)	08754	MID-2 Pressure (psi)	1.0psi
Sewer Level Overflowing?	No	EFFL Pressure (psi)	0psi
E-1A DTW (TOB) (feet)	TOC 19.20 – 20.13	Spare Bag Filters On-site	No - USED LAST ONE
Does Autodialer Call Office?	YES	Does Pressure Switch Work?	YES

Sample groundwater at E-1A, MID-1, and EFFL

Temperature (F)	E-1A 65.3	MID-1 59.8	MID-2 64.6	EFFL 65.6
pH (units)	E-1A 6.88	MID-1 6.89	MID-2 6.79	EFFL 6.79

1. Check all fittings and piping for leaks. (Initials) JM
2. Check control panel for discrepancies. (Initials) JM
3. Take DTW/DTL from all on-site wells. (Initials) JM
4. Inspect the condition of the secondary containment (Initials) JM

Comments (1) REPLACED BAG FILTER - NONE LEFT ON SITE
(2) SWEPT UP LEAVES AS WELL AS POSSIBLE
(3) E-1-A-FLUCTUATING DTW

Distribute a copy of this form to the project supervisor.

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

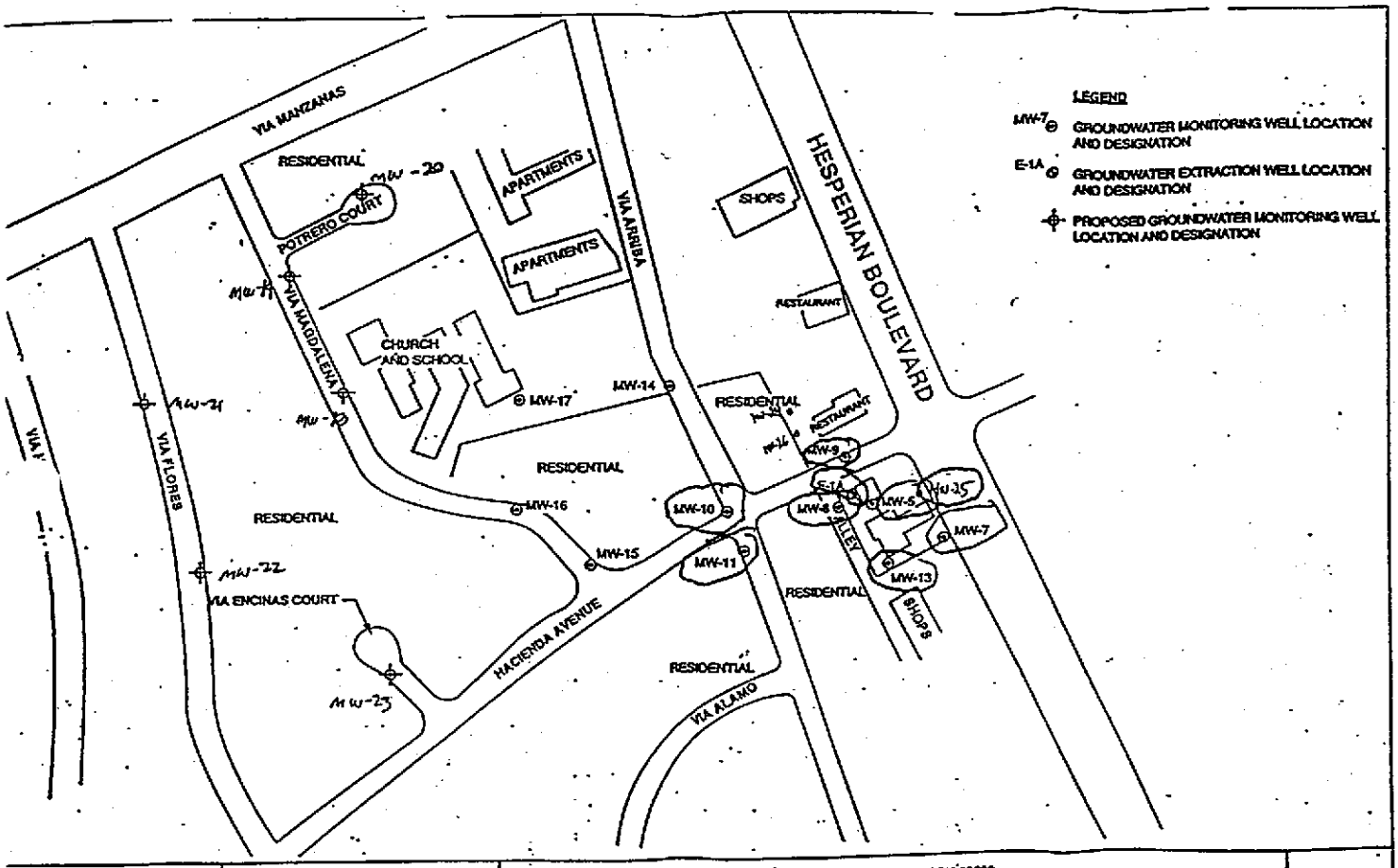
PROJECT No.: 330 0612 LOCATION: 1760 HESPERIAN SAN LORENZO DATE: 11-19-93

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: JAMES MORROW DAY OF WEEK: FRIDAY

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator #3
- ☐ 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	929	✓	✓		✓	✓		13.33	12.95										
	MW7	938	✓	✓		✓	✓		14.42	13.89										
	MW8	944	✓	✓		✓	✓		13.40	12.62										
	MW9	955	✓	✓		✓	✓		12.48	11.97										
	MW10	951	✓	✓		✓	✓		12.66	12.05										
	MW11	948	✓	✓		✓	✓		13.36	12.94										
	MW13	940	✓	✓		✓	✓		15.75	15.44										
	MW25	933	✓	✓		✓	✓		14.11	13.59										
	EIA	1000	✓	✓					21.19/21.36	19.20/20.13										

Comments: ALL DTW'S CHECKED 2x.



PACIFIC ENVIRONMENTAL GROUP, INC.	APPROXIMATE SCALE: 1" = 150'	ARCO SERVICE STATION #0606 17601 Hesperian Boulevard at Hacienda Avenue San Lorenzo, California PROPOSED WELL LOCATION MAP	FIGURE: 1 PROJECT: 330-06.13

32L-421

PACIFIC ENVIRONMENTAL GROUP, INC.
Inventory / Materials Form
Page 1

Serts # _____

Project # 330612
Client HLA00
Field Dates 11-19-93
Name [illegible]

EQUIPMENT

Description/Unit	Units	Days	Unit Cost	Total
Barricades w/o lights			5.00/ea./day	
Cones	3	1	2.00/ea./day	6.00
Road Signs			10.00/ea./day	
Photo Ionization Detector			100.00/day	
Flame Ionization Detector			150.00/day	
Measuring Wheel			5.00/day	
Water Level Indicator	1	1	10.00/day	10.00
LEL Meter			100.00/day	
Turbidity Meter			25.00/day	
Surge Block			10.00/day	
Cover Plates			5.00/ea./day	
Stainless Steel Auger			10.00/day	
Soil Sleeve Sampler			10.00/day	
Dissolved Oxygen Meter			25.00/test	
Bailers			6.50/well	
Auto-Bailer			50.00/month	
Data Logger and Transducer			150.00/day	
Data Logger			100/day	
Soil-Gas Probes			15.00/ea.	
60 CFH Blower, Magnehelics, Flow Meter			150.00/day	
120 CFM Blower, Magnehelics, Flow Meter			250.00/day	
Pipe Cutter/Threader			10.00/day	
Submersible Electric Pump			80.00/day	
pH/EC/Temp Meter	1	1	20.00/day	20.00
Positive Displacement Pump with Air Compressor			80.00/day	
Positive Displacement Pump with Air Compressor			25.00/day	
Oil/Water Interface Probe			50.00/day	
Gas Displacement Pump with Air Compressor			50.00/day	
Steam Cleaner with Generator			40.00/day	
Generator			25.00/day	
Gas Chromatograph with Support Equipment			500.00/day	
Field Phone			40.00/day	
500' Sounder			20.00/day	
Vacuum Test Hose & Ptgs.			50.00/day	
Vapor Phase Carbon			300.00/day	
Air Sampling Pump			25.00/day	
Water wagon			100.00/day	
Anemometer			50.00/day	
			Equipment Total	36.00

SAFETY EQUIPMENT

Description/Unit	Days	People	Unit Cost	Total
Level D:	1	1	40.00	40.00
Level C:			75.00	
Tyvek Suit (additional)			12.00	
Gloves (additional) Neoprone			4.00	
Respirator w/cartridge			23.00day	
			Safety Equipment Total	40.00

FIELD SERVICES/O and M REQUEST

SITE INFORMATION FORM

Identification

Project # 330-06.12
Location # 0608
Site Address: 17601 Hesperian Blvd. San Lorenzo
County: Alameda
Project Manager: Kelly Brown
Requestor: Roger Hoffmore
Client: Arco
Client P.O.C.: Mike Whelan
Date of request: 9-93

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): 2nd week of Month

Prefield Contacts/Permits

- ☐ Cal Trans _____
- ☐ County _____
- ☐ City _____
- ☐ Private _____
- ☐ Multi-Consultant Scheduling
  Date(s): _____

Site Safety Concerns

_____

Field Tasks

☒ System Sampling ☐ System Start-up ☐ System Repair ☐ System Modification ☐ System Resample ☐ System Shut-down
☐ Tank Pull ☐ Soil Sampling ☐ Subcontractor Observation ☐ SPH Bailing
☐ Report required for: _____ ☐ Data summary required for: _____

1.) DTW in wells MW-5, 7, 8, 9, 10, 11, 13, 25, E-1A
2.) Change Filter
3.) Sample system (Monthly = M, Quarterly = Q)

	INFL	EFFL
Gas/BTEX	M	M
C.O.D. (H2SO4 vial)		Q
TSS (1 liter plastic)		Q
pH		Q

Note: Quarterly O&M work occurs January, April, July, October

M.D. samples will be taken when breakthrough is expected in the future.

(Please attach: Site Map, Process and Instrumentation Diagram, Site Safety Plan, Well logs, Other information as appropriate)

Budgeted hours: 6 | Actual hours; On-Site: 4.5 Mob-de-Mob: 1.5

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

Completed by: Scott Pitre Date: 10-8-93

ARCO Products Company ✦ 330-06.12 Task Order No. 608-91-5 — Chain of Custody

ARCO Facility no.	0608
City (Facility)	17601 Hesperian Blvd San Lorenzo
Project manager (Consultant)	Kelly Brown
Laboratory name	Sequoia
ARCO engineer	Mike Whelan
Telephone no. (ARCO)	—
Telephone no. (Consultant)	408-441-7500
Fax no. (Consultant)	408-441-9102
Contract number	
Consultant name	Pacific Environmental Group
Address (Consultant)	2025 Gateway Place #440 San Jose. 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 Gas EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	C.O.D.	pH/T.S.S.
INFL		3		W		Yes	HCl	10-8-93	10:10		X											
EFFL		3		↓		↓	HCl	↓	10:00		X											
EFFL		2					H_2SO_4														X	
EFFL		1					N.P.		↓													X

Method of shipment:

Special detection Limit/reporting:

Special QA/QC:

Remarks: C.O.D. is chemical Oxygen Demand. T.S.S. is Total Suspended Solids

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
Relinquished by sampler: [illegible signature]	10-8-93	14:50	
Relinquished by			
Relinquished by			Received by laboratory: [illegible signature] — Date 10/8/93 — Time 14:50

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

Groundwater Extraction System
San Lorenzo ARCO 608
17601 Hesperian Boulevard
San Lorenzo, California
330-06.12
Revised: October 12, 1992

Name: Scott Pisk Date/Time: 10-8-93 09:00 a.m.

Treatment System Readings

Effluent Totalizer (gallons)	02951737	Bag Filter INFL Pressure (psi)	7 psi
Effluent Flowrate (gpm)	3 gpm.	Carbon 1 INFL Pressure (psi)	5.25 psi
E-1A Hourmeter (hours)	144848	MID-1 Pressure Pressure (psi)	6.25 psi
Electric meter (kw-hrs)	08173	MID-2 Pressure (psi)	1 psi
Sewer Level Overflowing?	NO	EFFL Pressure (psi)	0 psi
E-1A DTW (TOB) (feet)	See Comment #(1) 19' - 20' 10:20a.m.	Spare Bag Filters On-site	Yes (1 Bag)
Does Autodialer Call Office?	Yes.	Does Pressure Switch Work?	Yes.

Sample groundwater at E-1A, MID-1, and EFFL

Temperature (F)	E-1A	67.8	MID-1	68.1	MID-2	67.3	EFFL 67.1
pH (units)	E-1A	6.97	MID-1	6.95	MID-2	6.97	EFFL 6.78

1. Check all fittings and piping for leaks. (Initials) SP
2. Check control panel for discrepancies. (Initials) SP
3. Take DTW/DTL from all on-site wells. (Initials) SP
4. Inspect the condition of the secondary containment (Initials) SP

Comments (1) E-1A water level was fluctuating between 20' and 22' during the initial reading. The last reading taken prior to leaving the site at 10:00 a.m. showed the water level fluctuating between 19'-20'. This final level was the result of a slight decrease in the pumping rate.
(2) Removed leaf debris from secondary containment.
(3) Changed bag filter.

Distribute a copy of this form to the project supervisor.