PACIFIC
ENVIRONMENTAL
GROUP, INC.

May 15, 1996
Project 330-006.2B

Mr. Michael Whelan
ARCO Products Company
P.O. Box 612530
San Jose, California 95161

Re: Quarterly Report - Fourth Quarter 1995
Remedial System Performance Evaluation
Intrinsic Bioremediation Enhancement Evaluation
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Dear Mr. Whelan:

This letter, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company (ARCO), presents the results of fourth quarter 1995 groundwater monitoring, a remedial system performance evaluation, and an oxygen enhancement pilot study program (OEPSP). In addition, a summary of work performed and anticipated at the site is included.

QUARTERLY GROUNDWATER MONITORING RESULTS

Groundwater samples were collected from site groundwater monitoring and domestic irrigation wells on November 27 through 30, 1995, and analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). Additionally, analysis of one groundwater sample (Well MW-10) for methyl t-butyl ether (MtBE), as requested by the Alameda County Health Care Services Agency (ACHCSA), was performed this quarter. Field and laboratory procedures are presented as Attachment A. Certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment B.

Depth to water data collected on November 27, 1995 indicate that groundwater elevations have decreased in site groundwater monitoring wells an average of approximately 0.62 foot since September 15, 1995. Groundwater flow was to the west with an approximate gradient of 0.01. Groundwater elevation data are presented in Table 1. A

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groundwater elevation contour map based on the November 27, 1995 data is shown on Figure 1.

The results of groundwater monitoring this quarter for site groundwater monitoring wells indicate that TPPH-g and benzene concentrations are generally consistent with previous quarters. TPPH-g and BTEX compounds were not detected in Wells MW-7, MW-9, MW-11, MW-13 through MW-16, MW-18, MW-19, MW-21 through MW-26. Benzene was not detected in Wells MW-10 and MW-17. In the remaining sampled wells, TPPH-g was detected at concentrations ranging from 83 to 1,200 parts per billion (ppb); benzene was detected at concentrations ranging from 3.9 to 39 ppb. A groundwater sample from Well MW-10 was also analyzed for methyl t-butyl ether (MtBE) this quarter. Separate-phase hydrocarbons (SPH) were not observed in any site well this quarter and have not been observed in any site well since August 29, 1990. Groundwater analytical data are presented in Tables 2 and 3. A TPPH-g and benzene concentration map is shown on Figure 2.

DOMESTIC IRRIGATION SUPPLY WELLS

The results of sampling this quarter for domestic irrigation wells indicate that TPPH-g and benzene concentrations are generally within historical range. Wells 590 H, 634 H, 642 H, and 675 H were not sampled because the homeowners were not available to allow access; Well 17200 VM was not sampled because the well was dry; and Well 17371 VM was not sampled as access was denied by the owner. TPPH-g and benzene were not detected in Wells 633 H, 17197 VM, 17203 VM, 17302 VM, 17348 VE, 17372 VM, and 17393 VM. TPPH-g was detected at 790 ppb in Well 17349 VM; benzene was not detected. Groundwater analytical data for domestic irrigation wells are presented in Tables 3 and 4.

GROUNDWATER EXTRACTION SYSTEM PERFORMANCE EVALUATION

Remedial action consisting of groundwater extraction (GWE) was initiated at the site on September 25, 1991. Remedial objectives at this site included: (1) migration control of the impacted groundwater plume, and (2) petroleum hydrocarbon mass reduction. Operation of the GWE system created a small area of hydraulic influence extending no greater than 20 feet radially around the extraction well. **GWE proved to be minimally effective in achieving the mass reduction objective; to date, 4,608,048 gallons of groundwater have been extracted and only 0.8 gallon of TPPH-g and 0.04 gallon of benzene has been removed.** Therefore, as indicated in PACIFIC's third quarter 1995 remedial system performance evaluation report, and as approved by the ACHCSA, GWE at the site was temporarily deactivated on August 21, 1995 in preparation for the dissolved oxygen enhancement pilot program described later in this report.

Description

The GWE system is comprised of an extraction well (E-1A) containing an electric submersible pump, and three 1,200-pound granular activated carbon vessels to treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in series, with valving to permit bed order rotation. This allows for the primary vessel to become the secondary vessel after the carbon has been renewed. The third vessel serves as a polishing vessel. Sample ports are located at the treatment system influent, effluent, the mid-point between the carbon vessels, and at each individual well head. Treatment system effluent is discharged into the sanitary sewer system in accordance with Permit No. 90-073-91, issued by the Oro Loma Sanitary District on April 4, 1991. The permit was recently renewed and will be effective through April 4, 1997.

Migration Control

Progress toward meeting the migration control objective is evaluated by comparison of the groundwater elevation contour map (Figure 1) and TPPH-g and benzene concentration map (Figure 2) from previous and current groundwater monitoring events. The GWE system was not operational during the quarterly monitoring event, therefore the migration control objective could not be fully evaluated. However, TPPH-g and benzene concentrations in downgradient wells are consistent with historical concentrations.

Mass Reduction

Progress toward meeting the mass reduction objective is determined by evaluating GWE system mass removal data and the TPPH-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 TPPH-g mass removal values. During this quarter, the GWE system was not operated; therefore, TPPH-g and benzene mass was not removed. To date, GWE has removed approximately 4.9 pounds (0.8 gallon) of TPPH-g and 0.29 pound (0.04 gallon) of benzene from impacted groundwater beneath the site. Mass removal data for the GWE system are presented in Table 5. Current period and cumulative mass removal data are presented in the following table.

	08/21/95 to 12/31/95		Cumulative	
	(lbs)	(gal)	(lbs)	(gal)
Groundwater Extracted	N/A	0.0	N/A	4,608,048
TPPH-g Removed	0.0	0.0	4.9	0.8
Benzene Removed	0.0	0.0	0.29	0.04

lbs = Pounds
gal = Gallons
TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline
N/A = Not available

A graphical presentation of TPPH-g and benzene mass removal rate and concentrations versus time have been shown on Figures 4 and 5, respectively.

Groundwater Extraction System Operational Data

As indicated in PACIFIC's third quarter remedial system performance evaluation report, the GWE system was temporarily deactivated on August 21, 1995, in preparation for the dissolved oxygen (DO) enhancement and monitoring program as discussed below. Therefore, the GWE system was not operational during the reporting period. To date, the GWE system has discharged 4,608,048 gallons of treated groundwater into the sanitary sewer system. Calculations based on 8 percent loading isotherm by weight indicate the primary carbon vessel is approximately 6.1 percent loaded. Treatment system analytical data are presented in Table 6.

INTRINSIC BIOREMEDIATION ENHANCEMENT PILOT STUDY

Background

As part of a strategy to enhance the intrinsic bioremediation process at the site, PACIFIC prepared and submitted an OEPSP Work Plan (Attachment C) to the ACHCSA on June 28, 1995. Following minor modifications consisting of the selection of different wells for the OEPSP, the Work Plan was approved by the ACHCSA.

For the purposes of this pilot study, GWE from Well E-1A was temporarily halted as of August 21, 1995.

Purpose

As indicated in PACIFIC's June 28, 1995 work plan (Attachment C), intrinsic bioremediation parameters obtained during the second quarter 1995 indicated the presence of anaerobic (low DO) conditions within the impacted groundwater plume. The purpose of the OEPSP was to determine if oxygen releasing compounds (ORCs) would be effective in the enhancement of DO concentrations within the impacted groundwater plume. Based on the results, a recommendation whether to continue, modify, or discontinue the program would be provided.

Description

The OEPSP consisted of installing ORCs in Extraction Well E-1A and groundwater Monitoring Well MW-10, and monitoring intrinsic bioremediation indicator parameters in existing nearby observation wells. Wells MW-8 and SP-1 served as downgradient observation wells for the ORC-containing Well E-1A. Wells SP-2 and Well 633 H serve

as downgradient observation wells for the ORC-containing Well MW-10. Wells MW-5 and MW-25 were utilized as upgradient observation wells (Figures 1 and 3).

ORC is a trade name for a formulation of very fine, insoluble magnesium peroxide that releases oxygen at a slow controlled rate when hydrated. ORC is packaged in various sized fabric bags known as socks, and distributed by Regenesis Bioremediation Products. Field installation consists of suspending an appropriate number of the ORC socks which have been strung together on a nylon cord from the well cap. ORC product literature is presented as Attachment D.

ORC installation at the site was performed on September 21, 1995. Based on depth to groundwater measurement data and manufacturer's installation guidelines, thirteen 6-inch diameter and fifteen 2-inch diameter ORC socks were installed in Wells E-1A and MW-10, respectively.

Following the installation of the ORCs, groundwater samples were collected for field and laboratory analysis according to the schedule presented in Table 7. Groundwater samples from Wells E1-A, MW-10, SP-1, SP-2, and MW-8 were analyzed by PACIFIC in the field for color, odor, pH, electrical conductivity, temperature, turbidity, ferrous iron, and DO. Groundwater samples were also submitted to Sequoia Analytical Laboratories for TPPH-g, BTEX compounds, sulfates, and nitrate calculated as nitrate analyses.

A Hydac digital conductance, temperature, and pH tester, catalog No. 301353, was used to measure electrical conductivity, temperature and pH. Hydrogen sulfide was measured using an HACH hydrogen sulfide test kit, Model HS-C. The oxidation reduction potential was measured using a Flo Thru Cell rented from Environmental Instruments. Prior to the November 28, 1995 monitoring event, DO was measured using a CHEMets DO test kit Model 0-1. From the November 28, 1995 event on, DO was measured using a YSI Model 50B down-well DO meter. Independent of the method used, DO data were collected prior to and following three well volume purgings at each well during most events. Ferrous iron was measured using an HACH Iron Test Kit Model IR-18A.

The results of field and laboratory data are presented in Table 8. The certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment E.

Data Evaluation and Discussion

To evaluate the effectiveness of the OEPSP, PACIFIC compared the field and laboratory intrinsic bioremediation indicators data collected during the OEPSP to the baseline data collected during the second quarter 1995 (Table 8). All evaluated data were collected following standard purging protocol. Currently published literature regarding evaluation of intrinsic bioremediation in groundwater was used to evaluate the results as summarized below.

- There were no significant changes in pH values observed in Wells E-1A, MW-8, MW-10, SP-1, SP-2, or 633 H resulting from the OEPSP.
- The oxidation reduction potential in Wells E-1A and MW-10 was significantly more positive during the OEPSP. **Positive oxidation reduction potential is considered an indicator of an oxidative (aerobic) environment.** Similar results were observed in selected downgradient observation wells.
- Results of DO sampling indicated that DO concentrations increased in ORC-containing Wells E1-A and MW-10. The results for the observation wells were mixed. Data analysis was complicated by modification of the DO sampling protocols after beginning the pilot study. As described above, the modifications consisted of using a down-well DO probe rather than the test kit to obtain more accurate data. Additional DO data will be required before any conclusions can be made.
- Ferrous iron data indicated increases in ferrous iron concentrations in the ORC-containing wells. This suggests that anaerobic biodegradation was occurring. However, the DO concentrations in the ORC-containing wells support aerobic, not anaerobic conditions.
- Nitrate concentrations generally remained unchanged or decreased (Well E-1A). The decrease in nitrate concentrations in Well E-1A suggest that anaerobic biodegradation is occurring. However, the DO concentration in Well E-1A support aerobic, not anaerobic conditions.
- No comparison of ammonia concentrations was made since ammonia was not analyzed during the baseline groundwater sampling.
- Sulfate concentrations increased and decreased in ORC-containing Wells MW-10 and E-1A, respectively. This suggests that aerobic conditions were present in Well MW-10 and anaerobic conditions were present in Well E-1A. Given DO concentrations, aerobic conditions are supported in both wells.
- Results of hydrogen sulfide sampling suggest that aerobic, not anaerobic conditions were present in all wells sampled.
- The results of TPPH-g and benzene sampling indicated lower concentrations in the ORC-containing and downgradient observation wells following the implementation of the OEPSP. These changes in concentrations suggest that the oxygen enhancement program may be locally effective in increasing the rate of intrinsic biodegradation.

Difficulties Using ORC Socks

PACIFIC encountered difficulties trying to remove the 6-inch diameter ORC socks from Well E1-A, for monitoring purposes. Although the ORCs were properly sized for the well casing diameter, some ORC sock distortion occurred following hydration resulting in the blockage of the ORC socks in the well casing. Mechanical measures were used to dislodge the ORC socks from the well. Following the removal of the thirteen 6-inch diameter ORC socks from the well, PACIFIC installed ten 4-inch diameter ORC socks in the well. To prevent future blockage, the replacement ORC socks were installed inside a slotted stiffening sleeve.

CONCLUSIONS

The results of the OEPSP are mixed. Several geochemical parameters including ferrous iron, nitrates, and sulfates, suggest that anaerobic conditions continued to exist within the ORC-containing wells. However, oxidation reduction potential and DO data suggest the presence of aerobic conditions in the ORC-containing wells. TPPH-g and benzene concentration data further support that the oxygen enhancement program may have increased the rate of intrinsic biodegradation locally.

A summary of field and laboratory data is presented in Table 8. Graphical presentation of DO versus TPPH-g and benzene data for Wells 633H, E1-A, MW-8, MW-10, SP-1, and SP-2 are shown on Figures 6 through 11, respectively.

Considering the low permeability soils at the site, PACIFIC concludes that modification to the OEPSP will be required to obtain conclusive results. PACIFIC, on behalf of ARCO, will include details of a modified OEPSP with the first quarter 1996 groundwater monitoring and remedial performance evaluation report during the second quarter of 1996.

In light of evidence of intrinsic biodegradation, and relative plume stability at this site, PACIFIC proposes to maintain the inoperative status of the GWE system during the modified OEPSP.

SUMMARY OF WORK

Work Performed Fourth Quarter 1995

- Prepared and submitted third quarter 1995 groundwater monitoring and remedial system performance evaluation report.
- Initiated the DO enhancement and monitoring program.
- Continued domestic irrigation well owner reimbursement program with owners who have discontinued well use.

- Sampled site groundwater monitoring and domestic irrigation wells for fourth quarter 1995 groundwater monitoring program.
- Prepared fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.
- Included result of DO enhancement and monitoring program in fourth quarter 1995 groundwater monitoring report.

Work Anticipated First Quarter 1996

- Prepare and submit fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.
- Sample site groundwater monitoring and domestic irrigation wells for first quarter 1996 groundwater monitoring program.
- Prepare first quarter 1996 groundwater monitoring and remedial system performance evaluation report.
- Continue domestic irrigation well owner reimbursement program with owners who have discontinued well use.

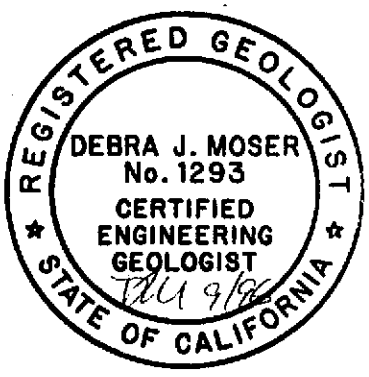
If there are any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Shaw Garakani
Project Engineer

Debra J. Moser
Senior Geologist
CEG 1293



REFERENCES

Burden, Robert C., Gomez, Carlos A., Becker, Mark T., *Geochemical Indicators of Intrinsic.Bioremediation*, Groundwater, March - April 1995.

Buscheck P.E., Tim, O'Reilly Ph.D., Kirk, *Protocol for Monitoring Intrinsic Bioremediation in Groundwater*, Chevron Research and Technology Company, March 1995.

Attachments:

Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data - Groundwater Monitoring Wells, Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
Table 3 - Groundwater Analytical Data - Total Methyl t-Butyl Ether
Table 4 - Groundwater Analytical Data - Domestic Irrigation Wells Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
Table 5 - Groundwater Extraction System Performance Data
Table 6 - Treatment System Analytical Data - Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
Table 7 - Intrinsic Groundwater Bioremediation Enhancement Pilot Study Program Monitoring Schedule
Table 8 - Intrinsic Groundwater Bioremediation Pilot Study Program Field and Laboratory Data
Figure 1 - Groundwater Elevation Contour Map
Figure 2 - TPPH-g/Benzene Concentration Map
Figure 3 - On-Site Well Location Map
Figure 4 - Groundwater Extraction System Mass Removal Trend
Figure 5 - Groundwater Extraction System Concentration Trend
Figure 6A - Well 633 H: Dissolved Oxygen vs TPPH as Gasoline
Figure 6B - Well 633 H: Dissolved Oxygen vs Benzene
Figure 7A - Well E-1A: Dissolved Oxygen vs TPPH as Gasoline
Figure 7B - Well E-1A: Dissolved Oxygen vs Benzene
Figure 8A - Well MW-8: Dissolved Oxygen vs TPPH as Gasoline
Figure 8B - Well MW-8: Dissolved Oxygen vs Benzene
Figure 9A - Well MW-10: Dissolved Oxygen vs TPPH as Gasoline
Figure 9B - Well MW-10: Dissolved Oxygen vs Benzene
Figure 10A - Well SP-1: Dissolved Oxygen vs TPPH as Gasoline
Figure 10B - Well SP-1: Dissolved Oxygen vs Benzene
Figure 11A- Well SP-2: Dissolved Oxygen vs TPPH as Gasoline
Figure 11B - Well SP-2: Dissolved Oxygen vs Benzene
Attachment A - Field and Laboratory Procedures
Attachment B - Quarterly Groundwater Monitoring Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
Attachment C - Enhanced Intrinsic Bioremediation Work Plan and RI/FS Supplemental Information
Attachment D - ORC Product Literature
Attachment E - Intrinsic Bioremediation Enhancement Program Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets

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

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

Table 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)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-8	06/15/93		11.62	--	21.17
(cont.)	09/13/93		12.70	--	20.09
	12/28/93		12.23	--	20.56
	03/28/94		11.28	--	21.51
	06/13/94		11.60	--	21.19
	09/19/94		13.07	--	19.72
	12/19/94		11.22	--	21.57
	03/13/95		9.66	--	23.13
	05/30/95		10.87	--	21.92
	09/15/95		11.67	--	21.12
	11/27/95		11.88	--	20.91
MW-9	01/16/92	32.11	12.45	--	19.66
	02/19/92		10.25	--	21.86
	03/17/92		10.01	--	22.10
	04/15/92		10.49	--	21.62
	05/14/92		11.19	--	20.92
	06/15/92		11.86	--	20.25
	07/14/92		12.28	--	19.83
	08/18/92		12.89	--	19.22
	09/15/92		13.28	--	18.83
	10/16/92		13.60	--	18.51
	11/18/92		13.24	--	18.87
	12/17/92		11.76	--	20.35
	01/19/93		8.99	--	23.12
	02/22/93		9.13	--	22.98
	03/15/93		9.48	--	22.63
	04/09/93		9.63	--	22.48
	05/13/93		10.35	--	21.76
	06/04/93		10.65	--	21.46
	06/15/93		10.81	--	21.30
	09/13/93		11.87	--	20.24
	12/28/93		11.61	--	20.50
	03/28/94		10.48	--	21.63
	06/13/94		10.80	--	21.31
	09/19/94		12.25	--	19.86
	12/19/94		10.40	--	21.71
	03/13/95		8.70	--	23.41
	05/30/95		10.01	--	22.10
	09/15/95		10.88	--	21.23
	11/27/95		11.13	--	20.98
MW-10	01/16/92	31.67	12.55	--	19.12
	02/19/92		10.50	--	21.17
	03/18/92		10.12	--	21.55
	04/15/92		10.59	--	21.08
	05/14/92		11.30	--	20.37
	06/15/92		11.93	--	19.74
	07/14/92		12.42	--	19.25
	08/18/92		13.03	--	18.64
	09/15/92		13.42	--	18.25
	10/16/92		13.74	--	17.93
	11/18/92		13.42	--	18.25
	12/17/92		11.94	--	19.73
	01/19/93		9.13	--	22.54

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 3
Groundwater Analytical Data
Total Methyl t-Butyl Ether

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

Groundwater Monitoring Wells

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

Domestic Irrigation Wells

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

Methyl t-butyl ether analyzed according to EPA Method 8020.
* = Result confirmed by EPA Method 8240.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 5
Groundwater Extraction System Performance Data

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

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	Primary Carbon Loading (%)
09/25/91	0	N/A	0	0	0.0	ND	N/A	0.0	N/A	0.00	0.00	0.0
09/26/91	N/A	N/A	1,144	1,144	N/A	38	0.0	0.0	4.8	0.00	0.00	0.0
10/22/91	26	96	12,844	11,700	7.6	ND	N/A	0.0	ND	0.00	0.00	0.0
11/22/91	77	93	52,532	39,688	13.0	ND	N/A	0.0	0.52	0.00	0.00	0.0
12/19/91	322	62	122,540	70,008	4.8	ND	N/A	0.0	ND	0.00	0.00	0.0
01/16/92	994	0	283,289	160,749	4.0	ND	N/A	0.0	ND	0.00	0.00	0.0
02/19/92	1,809	0	485,200	201,911	4.1	370	0.3	0.3	14	0.01	0.01	0.4
03/17/92	2,462	0	662,847	177,647	4.5	160	0.4	0.7	18	0.02	0.04	0.9
04/15/92	3,150	1	851,100	188,253	4.6	200	0.3	1.0	11	0.02	0.06	1.2
05/14/92	3,849	0	1,030,086	178,986	4.3	45	0.2	1.2	1.4	0.01	0.07	1.5
06/19/92	4,712	0	1,229,960	199,874	3.9	ND	N/A	1.2	ND	0.00	0.07	1.5
07/14/92	5,001	52	1,291,201	61,241	3.5	97	0.0	1.2	25.0	0.01	0.08	1.5
08/18/92	N/A	N/A	1,410,018	118,817	N/A	ND	N/A	1.2	ND	0.01	0.09	1.5
09/15/92	6,298	N/A	1,535,640	125,622	3.1	ND	N/A	1.2	ND	0.00	0.09	1.5
10/16/92	7,012	4	1,651,623	115,983	2.7	ND	N/A	1.2	ND	0.00	0.09	1.5
11/18/92	7,809	0	1,768,076	116,453	2.4	ND	N/A	1.2	ND	0.00	0.09	1.5
12/17/92	8,502	0	1,864,300	96,224	2.3	96	0.0	1.2	7.7	0.00	0.09	1.5
01/18/93	8,798	61	1,915,165	50,865	2.9	100	0.0	1.3	13	0.00	0.10	1.6
02/22/93	9,607	0	2,096,930	181,765	3.7	480	0.4	1.7	36	0.04	0.13	2.1
03/15/93	10,113	0	2,205,833	108,903	3.6	310	0.4	2.1	29	0.03	0.16	2.6
04/09/93	10,517	33	2,298,770	92,937	3.8	140	0.2	2.2	11	0.02	0.18	2.8
05/13/93	11,211	15	2,449,160	150,390	3.6	530	0.4	2.7	27	0.02	0.20	3.3
06/04/93	11,734	1	2,543,500	94,340	3.0	170	0.3	2.9	5.2	0.01	0.21	3.7
07/20/93	12,573	24	2,689,697	146,197	2.9	200	0.2	3.2	12	0.01	0.22	4.0
08/16/93	13,219	0	2,791,366	101,669	2.6	150	0.1	3.3	4.9	0.01	0.23	4.1
09/13/93	13,888	0	2,884,736	93,370	2.3	80	0.1	3.4	2.2	0.00	0.23	4.3
10/08/93	14,485	1	2,951,737	67,001	1.9	ND	0.0	3.4	ND	0.00	0.24	4.3
11/19/93	15,494	0	3,036,032	84,295	1.4	ND	0.0	3.4	ND	0.00	0.24	4.3
12/21/93	16,260	0	3,113,565	77,533	1.7	73	0.0	3.5	3.5	0.00	0.24	4.3
01/18/94	16,939	0	3,190,900	77,335	1.9	60	0.0	3.5	3.1	0.00	0.24	4.4
02/17/94	17,658	0	3,273,720	82,820	1.9	ND	0.0	3.5	2.5	0.00	0.24	4.4
03/15/94	18,235	7	3,344,249	70,529	2.0	ND	0.0	3.5	ND	0.00	0.24	4.4
04/21/94	18,849	31	3,418,537	74,288	2.0	110	0.0	3.5	7.8	0.00	0.24	4.4
05/13/94	19,351	5	3,478,910	60,373	2.0	230	0.1	3.6	8.3	0.00	0.25	4.5
06/14/94	19,680	57	3,518,608 a	39,698	2.0	230	0.1	3.7	12	0.00	0.25	4.6
07/14/94	20,145	35	3,574,408 b	55,800	2.0	270	0.1	3.8	6.9	0.00	0.26	4.8
08/17/94	20,920	5	51,260 c	91,580 c	2.0	ND	0.1	3.9	1.8	0.00	0.26	4.9
09/12/94	21,549	0	120,910	69,650	1.8	ND	0.0	3.9	ND	0.00	0.26	4.9
10/18/94	22,408	1	211,880	90,970	1.8	ND	0.0	3.9	ND	0.00	0.26	4.9
11/15/94	23,080	0	280,840	68,960	1.7	ND	0.0	3.9	0.66	0.00	0.26	4.9
12/05/94	23,489	15	325,830	44,990	1.8	470	0.1	4.0	32	0.01	0.27	5.0
01/04/95	24,205	1	408,740	82,910	1.9	ND	0.2	4.2	1.1	0.01	0.28	5.2
02/06/95	24,926	9	499,690	90,950	2.1	100	0.0	4.2	2.4	0.00	0.28	5.2
03/02/95	25,465	6	569,180	69,490	2.1	ND	0.0	4.2	ND	0.00	0.28	5.3

Table 5 (continued)
Groundwater Extraction System Performance Data

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

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	Primary Carbon Loading (%)
04/04/95	26,253	1	672,510	103,330	2.2	290	0.1	4.3	6.6	0.00	0.28	5.4
05/02/95	26,924	0	760,350	87,840	2.2	240	0.2	4.5	7.1	0.01	0.29	5.7
06/05/95	27,721	2	848,810	88,460	1.9	ND	0.1	4.6	ND	0.00	0.29	5.8
07/06/95	28,464	0	921,260	72,450	1.6	270	0.1	4.7	2.4	0.00	0.29	5.9
08/21/95 d	29,568	0	993,320	72,060	1.1	230	0.2	4.9	1.8	0.00	0.29	6.1
REPORTING PERIOD: 09/30/95 - 12/31/95 (d)												
TOTAL GALLONS EXTRACTED:				**4,608,048**								
PERIOD GALLONS EXTRACTED:				**0**								
TOTAL POUNDS REMOVED:								**4.9**			**0.29**	
TOTAL GALLONS REMOVED:								**0.8**			**0.04**	
PERIOD POUNDS REMOVED:							**0.0**			**0.00**		
PERIOD GALLONS REMOVED:							**0.00**			**0.00**		
AVERAGE PERIOD FLOW RATE (gpm):												**0.0**
AVERAGE PERCENT DOWNTIME SINCE START-UP UNTIL SHUTDOWN (d):												**13.6%**
PERIOD PERCENT OPERATIONAL:												**0%**

TPPH = Total purgeable petroleum hydrocarbons
gpm = Gallons per minute
µg/L = Micrograms per liter
N/A = Not available or not applicable
ND = Not detected above detection limit

Densities: Gasoline = 6.1 lbs/gallon; Benzene = 7.34 lbs/gallon.

a. Totalizer broken; volume estimated from hourmeter and flow rate.
b. Volume estimated from hourmeter and instantaneous flow rate.
c. Sewer totalizer replaced July 28, 1994; volume discharged estimated between July 14 and 28, 1994 at 2.0 gpm.
d. GWE system temporarily shut down August 21, 1995 for oxygen enhancement feasibility testing.

Primary carbon loading estimated using isotherm of 8 percent by weight.

Equations: Net Dissolved TPH-g Removed [pounds] = TPH-g concentration, [ug/L] x net volume (gallon) x density of gasoline [pound/gallon]
(Net dissolved TPH-g removed is calculated by averaging influent concentrations)

Table 6
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
INFL (influent to primary carbon)					
09/26/91	38	4.8	0.6	1.6	1.1
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	0.5	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	370	14	0.34	14	2.4
03/17/92	160	18	0.32	0.56	1.6
04/15/92	200	11	<0.3	7.3	0.77
05/14/92	45	1.4	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	97	25	<0.5	8.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	96	7.7	13	0.56	9.7
01/18/93	100	13	6.6	1.1	11
02/22/93	480	36	29	4.9	96
03/15/93	310	29	14	4.9	55
04/09/93	140	11	2.8	2.6	17
05/13/93	530	27	12	18	96
06/04/93	170	5.2	1.6	2.5	23
07/20/93	200	12	0.91	8.2	29
08/16/93	150	4.9	0.63	2.9	15
09/13/93	80	2.2	<0.5	<0.5	4.8
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	73	3.5	<0.5	1.9	8.4
01/18/94	60	3.1	<0.5	3.2	4.3
02/17/94	<50	2.5	<0.5	2.1	3.1
03/15/94	<50	<0.5	<0.5	<0.5	<0.5
04/21/94	110	7.8	<1.0	9.6	<1.0
05/13/94	230	8.3	<0.5	14	6.0
06/14/94	230	12	<0.5	16	1.5
07/14/94	270	6.9	<0.5	15	1.9
08/18/94	<50	1.8	<0.5	1.5	<0.5
09/12/94	<50	<0.5	<0.5	<0.5	<0.5
10/18/94	<50	<0.5	<0.5	<0.5	<0.5
11/05/94	<50	0.66	<0.5	2.6	<0.5
12/05/94	470	32	0.59	29	6.2
01/04/95	<50	1.1	<0.50	1.4	<0.50
02/06/95	100	2.4	1.1	1.2	2.8
03/02/95	<50	<0.50	<0.50	<0.50	<0.50
04/04/95	290	6.6	<0.50	10	1.7
05/02/95	240	7.1	<0.50	3.2	1.6
06/05/95	<50	<0.50	<0.50	<0.50	<0.50
07/06/95	270	2.4	<0.50	7.6	1.0
08/21/95	230	1.8	<0.50	1.6	0.9

Table 6 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
MID-1 (between carbons)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	NS	NS	NS	NS	NS
08/18/92	NS	NS	NS	NS	NS
09/15/92	NS	NS	NS	NS	NS
10/16/92	NS	NS	NS	NS	NS
11/18/92	NS	NS	NS	NS	NS
12/17/92	NS	NS	NS	NS	NS
01/18/93	NS	NS	NS	NS	NS
02/22/93	NS	NS	NS	NS	NS
03/15/93	NS	NS	NS	NS	NS
04/09/93	NS	NS	NS	NS	NS
05/13/93	NS	NS	NS	NS	NS
06/04/93	NS	NS	NS	NS	NS
07/14/94	ND	ND	ND	ND	ND
08/17/94	NS	NS	NS	NS	NS
09/12/94	NS	NS	NS	NS	NS
10/18/94	NS	NS	NS	NS	NS
11/05/94	NS	NS	NS	NS	NS
12/05/94	NS	NS	NS	NS	NS
01/04/95	NS	NS	NS	NS	NS
02/06/95	NS	NS	NS	NS	NS
03/02/95 a	NS	NS	NS	NS	NS
EFFL (effluent to sewer)					
09/26/91	<30	<0.3	<0.3	<0.3	<0.3
10/22/91	<30	<0.3	<0.3	<0.3	<0.3
11/22/91	<30	<0.3	<0.3	<0.3	<0.3
12/19/91	<30	<0.3	<0.3	<0.3	<0.3
01/16/91	<30	<0.3	<0.3	<0.3	<0.3
02/19/92	<30	<0.3	<0.3	<0.3	<0.3
03/17/92	<30	<0.3	<0.3	<0.3	<0.3
04/15/92	<30	<0.3	<0.3	<0.3	<0.3
05/14/92	<30	<0.3	<0.3	<0.3	<0.3
06/19/92	<30	<0.3	<0.3	<0.3	<0.3
07/14/92	<50	<0.5	<0.5	<0.5	<0.5
08/18/92	<50	<0.5	<0.5	<0.5	<0.5
09/15/92	<50	<0.5	<0.5	<0.5	<0.5
10/16/92	<50	<0.5	<0.5	<0.5	<0.5
11/18/92	<50	<0.5	<0.5	<0.5	<0.5
12/17/92	<50	<0.5	<0.5	<0.5	<0.5

Table 6 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
EFFL (effluent to sewer) (cont.)					
01/18/93	<50	<0.5	<0.5	<0.5	<0.5
02/22/93	<50	<0.5	<0.5	<0.5	<0.5
03/15/93	<50	<0.5	<0.5	<0.5	<0.5
04/09/93	<50	<0.5	<0.5	<0.5	<0.5
05/13/93	<50	<0.5	<0.5	<0.5	<0.5
06/04/93	<50	<0.5	<0.5	<0.5	<0.5
07/20/93	<50	<0.5	<0.5	<0.5	<0.5
08/16/93	<50	<0.5	<0.5	<0.5	<0.5
09/13/93	<50	<0.5	<0.5	<0.5	<0.5
10/08/93	<50	<0.5	<0.5	<0.5	<0.5
11/19/93	<50	<0.5	<0.5	<0.5	<0.5
12/21/93	<50	<0.5	<0.5	<0.5	<0.5
01/18/94	<50	<0.5	<0.5	<0.5	<0.5
02/17/94	<50	<0.5	<0.5	<0.5	<0.5
03/15/94	<50	<0.5	<0.5	<0.5	<0.5
04/21/94	<50	<0.5	<0.5	<0.5	<0.5
05/13/94	<50	<0.5	<0.5	<0.5	<0.5
06/14/94	<50	<0.5	<0.5	<0.5	<0.5
07/14/94	<50	<0.5	<0.5	<0.5	<0.5
08/17/94	<50	<0.5	<0.5	<0.5	<0.5
09/12/94	<50	<0.5	<0.5	<0.5	<0.5
10/18/94	<50	<0.5	<0.5	<0.5	<0.5
11/05/94	<50	<0.5	<0.5	<0.5	<0.5
12/05/94	<50	<0.5	<0.5	<0.5	<0.5
01/04/95	<50	<0.50	<0.50	<0.50	<0.50
02/06/95	<50	<0.50	<0.50	<0.50	<0.50
03/02/95	<50	<0.50	<0.50	<0.50	<0.50
04/04/95	<50	<0.50	<0.50	<0.50	<0.50
05/02/95	<50	<0.50	<0.50	<0.50	<0.50
06/05/95	<50	<0.50	<0.50	<0.50	<0.50
07/06/95	<50	<0.50	<0.50	<0.50	<0.50
08/21/95 a	<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
< = Denotes minimum laboratory detection limit.
NS = Not sampled
ND = Not detected
a. GWE system temporarily shut down for oxygen enhancement pilot study on this date.
Prior to June 1995, TPPH as gasoline was reported as TPH as gasoline.

Table 7

Intrinsic Groundwater Bioremediation Enhancement Pilot Study Program Monitoring Schedule

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

	Field Analyses											Laboratory Analyses					
Well	Color	Odor	pH	E.C.	O.R.P.	Temp	Turbidity	Hydrogen Sulfide	D.O. Before Purging	D.O. After Purging	Ferrous Iron	Nitrate as Nitrate	Sulfate	Nitrogen as Ammonia	Total Iron	TPPH-g BTEX before Purging	TPPH-g BTEX after Purging
633 H	Q	Q	Q	Q	q	Q	Q	q	--	Q	q	q	q	O	O	--	Q
E-1A	@,M	@,M	Q,M	Q,M	q	Q,M	Q,M	q	M	Q	q	q	q	O	O	Q,O	Q,M
MW-5	Q,M	Q,M	Q,M	Q,M	q	Q,M	Q,M	q	M	Q	q	q	q	--	--	--	Q
MW-8	Q,M	Q,M	Q,M	Q,M	q	Q,M	Q,M	q	M	Q	Q	q	q	O	O	--	Q,M
MW-10	Q,M	Q,M	Q,M	Q,M	q	Q,M	Q,M	q	M	Q	q	q	q	O	O	O	Q,M
MW-25	Q	Q	Q	Q	q	Q	Q	Q	--	Q	q	q	q	O	O	--	Q
SP-1	M+	M+	M+	M+	O	M+	M+	O	M+	M+	O	O	O	O	O	--	M+
SP-2	M+	M+	M+	M+	O	M+	M+	O	M+	M+	O	O	O	O	O	--	M+

E.C. = Electrical conductivity
O.R.P. = Oxidation reduction potential
Temp = Temperature
D.O. = Dissolved oxygen
TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline
BTEX = Benzene, toluene, ethylbenzene, and xylenes
M = Monthly analysis during 4th quarter 1996
Q = 2nd, 3rd, and 4th quarter 1995 groundwater monitoring event
q = 2nd and 4th quarter 1995 groundwater monitoring event
O = One-time event, 11/28/95
@ = Monthly schedule
+ = Also 3rd quarter 1995 groundwater monitoring event

Table 8

Groundwater Biodegradation Study
Field and Laboratory Data

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

Well	Date Sampled	Color	Odor	pH (units)	Electrical Conductivity (millimhs)	Oxidation Reduction Potential (millivolts)		Temp (deg C)	Turbidity	Hydrogen Sulfide (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	Nitrogen as Ammonia (mg/L)	Total Iron (mg/L)	TPPH as Gasoline (µg/L)	Benzene (µg/L)
		Field Analyses											**Laboratory Analyses**					
Background Range (Approximate)		N/A	N/A	6.5 to 8.0	<1,000	-400 to +200		10.0 to 20.0	Heavy	~0	>1.0	>0	>1.0	>5.0	N/A	N/A	<50	<0.50
Approximate Range Indicating Biodegradation		N/A	N/A	6.5 to 8.0	<1,000	-400 to +200		10.0 to 20.0	Heavy	~0	< 1.0	~0	<1.0	< 5.0	N/A	N/A	>50	>0.50
633 H	05/31/95	Clear	None	7.09	1,295	-203	‡	18.9	Trace	0.0	1.0	0.2	38	61	N/A	N/A	<50	0.93
	09/12/95	Clear	None	7.36	876	N/A		20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	<50	0.64
	11/28/95	Clear	None	7.10	914	-4.7	‡	20.4	Light	0.0	1.0 +	0.1	48	68	<0.10	0.52	<50	<0.50
E-1A a	06/01/95	Clear	None	7.63	1,340	-155	‡	20.4	Trace	0.0	2.0	0.1	23	54	N/A	N/A	680	4.9
	09/15/95	Clear	Mod	7.36	1,208	N/A		15.9	Light	N/A	1.25	N/A	N/A	N/A	N/A	N/A	73	3.3
	10/13/95 b,c	N/A	N/A	7.76	1,300	N/A		21.8	N/A	N/A	3.36	N/A	N/A	N/A	N/A	N/A	<250 *	<2.5 *
	11/28/95 b	Brown	Faint	9.11	1,070	40		23.1	Heavy †	N/A	OS	N/A	N/A	N/A	N/A	N/A	69	<0.50
	11/28/95	Clear	None	7.40	880	-21		21.4	Light	0.0	3.06	0.15	18	74	0.18	0.92	220	3.9
	12/21/95 b	N/A	N/A	7.88	489	N/A		15.8	N/A	N/A	16.8	N/A	N/A	N/A	N/A	N/A	230	5.7
MW-5	06/01/95	Brown	Faint	7.10	1,400	-119	‡	20.2	Mod	0.0	2.0	*	19	<0.1	N/A	N/A	750	13
	09/15/95	Clear	Heavy	7.20	1,068	N/A		17.7	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	550	11
	10/13/95 b	N/A	N/A	7.59	1,329	N/A		25.6	N/A	N/A	1.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry	Dry	Dry	N/A	N/A	N/A	N/A	N/A	N/A
MW-7	06/01/95	Brown	None	7.11	1,156	-99	‡	20.7	Light	0.0	*	*	42	68	N/A	N/A	<50	<0.50
	09/15/95	Brown	None	7.20	1,406	N/A		18.3	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<0.50
	10/13/95 b	N/A	N/A	7.23	1,075	N/A		23.2	N/A	N/A	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Brown	None	7.05	832	N/A		20.7	Heavy †	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<0.50
MW-8	06/01/95	Brown	Strong	7.09	1,071	-199	‡	20.4	Light	0.0	1.0	0.1	<0.10	33	N/A	N/A	810	5.2
	09/15/95	Clear	Mod	7.01	1,000	N/A		17.3	Light	N/A	1.0	N/A	N/A	N/A	N/A	N/A	850	30
	10/13/95 b,d	N/A	N/A	6.96	972	N/A		22.6	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	760	<2.5
	11/28/95 b	Clear	None	7.01	811	0		25.7	Trace	N/A	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Clear	None	6.73	846	0		22.2	Trace	0.0	0.07	0.4	<1.0	<1.0	<0.10	3.4	1,200	39
	12/21/95 b	Clear	None	6.75	640	N/A		17.0	Trace	N/A	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95	Clear	None	6.80	652	N/A		16.7	Trace	N/A	0.08	N/A	N/A	N/A	N/A	N/A	560	28

Table 8 (continued)

Groundwater Biodegradation Study

Field and Laboratory Data

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

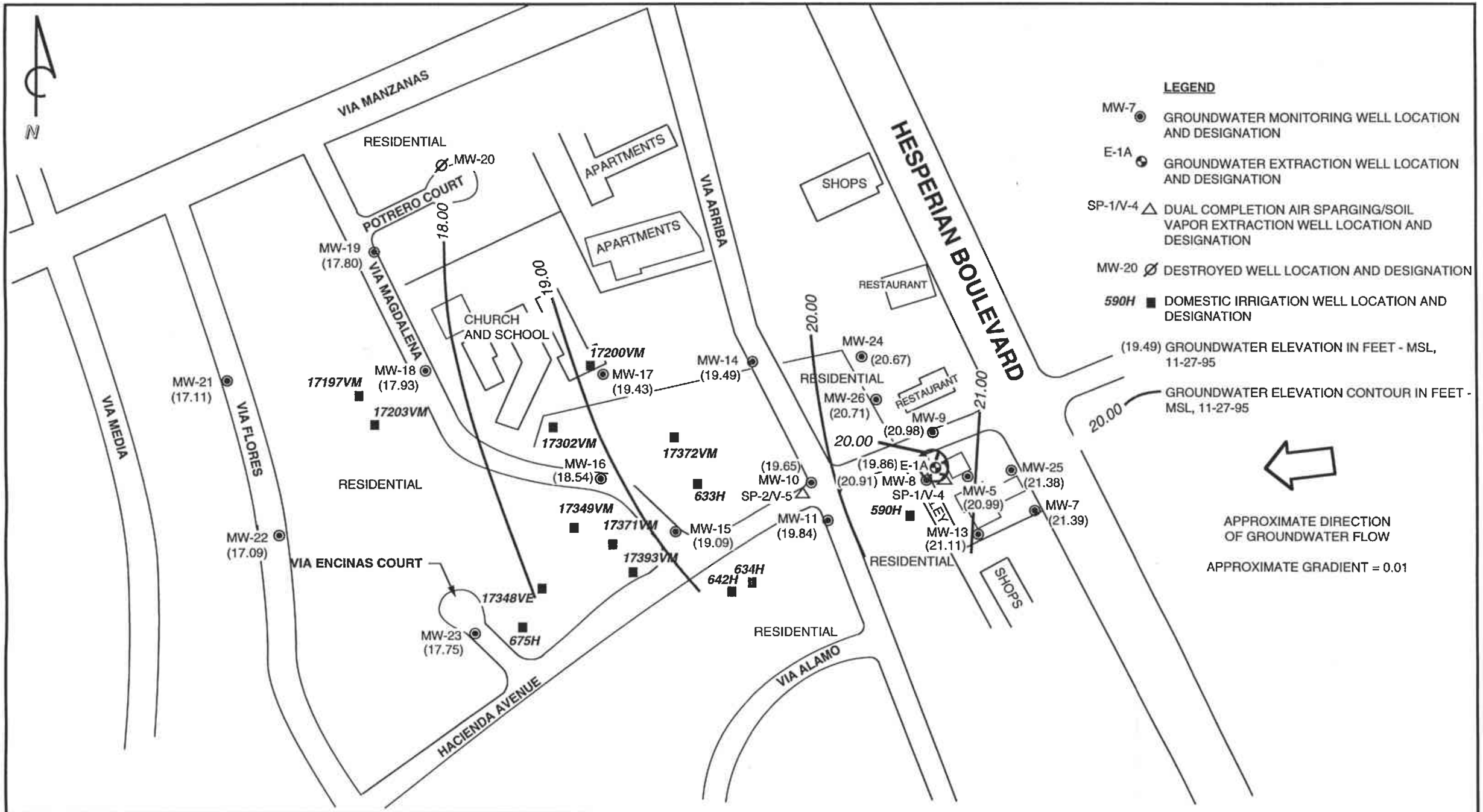
Well		Date Sampled		Color	Odor	pH (units)	Electrical Conductivity (millionmhs)	Oxidation Reduction Potential (millivolts)		Temp (deg C)	Turbidity	Hydrogen Sulfide (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	Nitrogen as Ammonia (mg/L)	Total Iron (mg/L)	TPPH as Gasoline (µg/L)	Benzene (µg/L)
				Field Analyses											**Laboratory Analyses**					
MW-10	a	06/01/95		Clear	Mod	7.00	1,301	-199	‡	18.0	Trace	0.0	1.0	0.2	<0.10	8.1	N/A	N/A	1,100	<1.2
		09/14/95		Clear	Mod	7.10	968	N/A		20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	1,100	<2.0
		10/13/95	b,d	N/A	N/A	7.33	1,397	N/A		23.6	N/A	N/A	17.6	N/A	N/A	N/A	N/A	N/A	510	<0.50
		11/28/95	b	Cloudy	None	6.43	868	16		19.2	Light	N/A	9.74	N/A	N/A	N/A	N/A	N/A	770	<1.0
		11/28/95		Clear	None	6.99	1,021	5		21.8	Trace	0.0	0.71	0.40	<1.0	<1.0	0.10	2.0	840	<1.0
		12/21/95	b	N/A	N/A	7.18	787	N/A		17.1	N/A	N/A	2.16	N/A	N/A	N/A	N/A	N/A	440	5.1
SP-1		09/15/95		Clear	None	6.94	1,040	N/A		18.3	Mod	N/A	1.5	N/A	N/A	N/A	N/A	N/A	<50	<0.50
		10/13/95	b,d	N/A	N/A	7.30	1,062	N/A		22.6	N/A	N/A	0.37	N/A	N/A	N/A	N/A	N/A	<50	<0.50
		11/28/95	b	Brown	None	7.37	837	88		22.7	Heavy †	N/A	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		11/28/95		Cloudy	None	6.89	956	72		21.8	Heavy †	0.0	0.13	0.20	16	44	<0.10	12	<50	<0.50
		12/21/95	b	Clear	None	7.02	644	N/A		15.0	Trace	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		12/21/95		Clear	None	7.05	710	N/A		15.7	Trace	N/A	0.16	N/A	N/A	N/A	N/A	N/A	<50	<0.50
SP-2		09/15/95		Clear	None	7.18	1,110	N/A		20.1	Light	N/A	2.0	N/A	N/A	N/A	N/A	N/A	94	<0.50
		10/13/95	b,d	N/A	N/A	7.11	1,090	N/A		23.0	N/A	N/A	0.53	N/A	N/A	N/A	N/A	N/A	80	<0.50
		11/28/95	b	Brown	None	7.10	866	2		23.3	Heavy †	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		11/28/95		Brown	None	6.74	690	36		25.7	Heavy †	0.0	0.72	0.6	<1.0	25	<0.10	68	94	<0.50
		12/21/95	b	Clear	None	7.25	662	N/A		15.6	Trace	N/A	3.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		12/21/95		Clear	None	7.19	710	N/A		16.7	Trace	N/A	3.49	N/A	N/A	N/A	N/A	N/A	<50	<0.50

Temp = Temperature
deg C = Degrees Centigrade
mg/L = Milligrams per liter
µg/L = Micrograms per liter
TPPH = Total purgeable petroleum hydrocarbons
N/A = Not available or not applicable
Mod = Moderate
OS = Off scale
< = Denotes sample method detection limit

‡ = The ORP value is an average of three measurements.
* = High sample turbidity prevented colorimetric analysis
† = Turbidity measured greater than 200 NTU's.

a. ORCs installed September 21, 1995 in Wells E-1A and MW-10.
b. Measurements/samples taken before purging.
c. October monthly data was collected on 11/01/95 following removal of jammed ORCs from Well E-1A.
d. TPPH and BTEX samples taken on October 23, 1995.
e. High detection limits due to foaming of the sample.

Turbidity measured using a Nepholemetric turbidity unit or assessed visually.
All D.O. measurements prior to 10/13/95 taken using a Chemets dissolved oxygen test kit; all D.O. measurements taken on and after 10/13/95 taken using a YSI Model 50B D.O. meter.
All data collected after purging the well, except where noted.



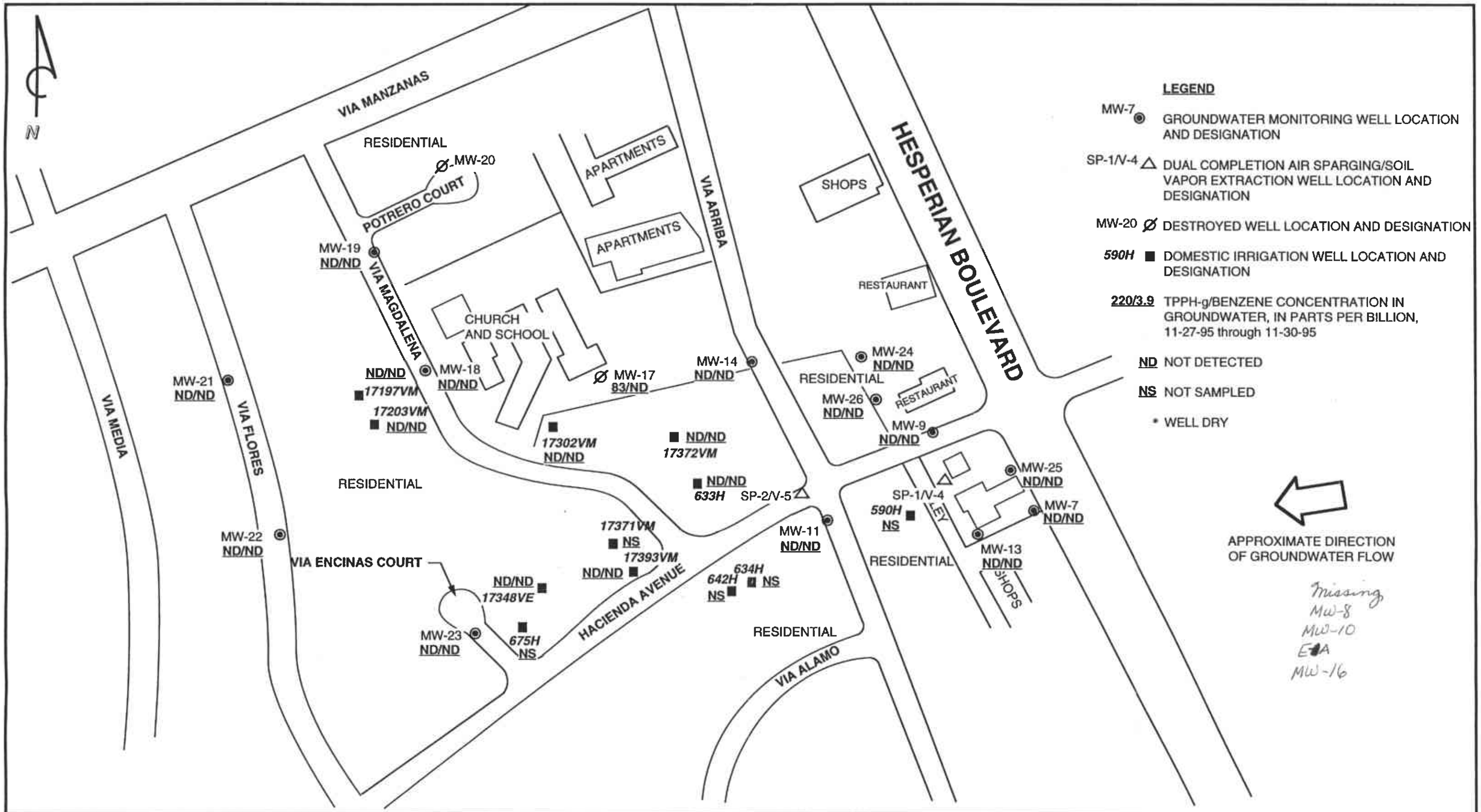
PACIFIC ENVIRONMENTAL GROUP, INC.

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: 330-006.2B



LEGEND

- MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- SP-1/V-4 △ DUAL COMPLETION AIR SPARGING/SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- MW-20 ⌀ DESTROYED WELL LOCATION AND DESIGNATION
- *590H* ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION
- **220/3.9** TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 11-27-95 through 11-30-95
- **ND** NOT DETECTED
- **NS** NOT SAMPLED
- • WELL DRY

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE

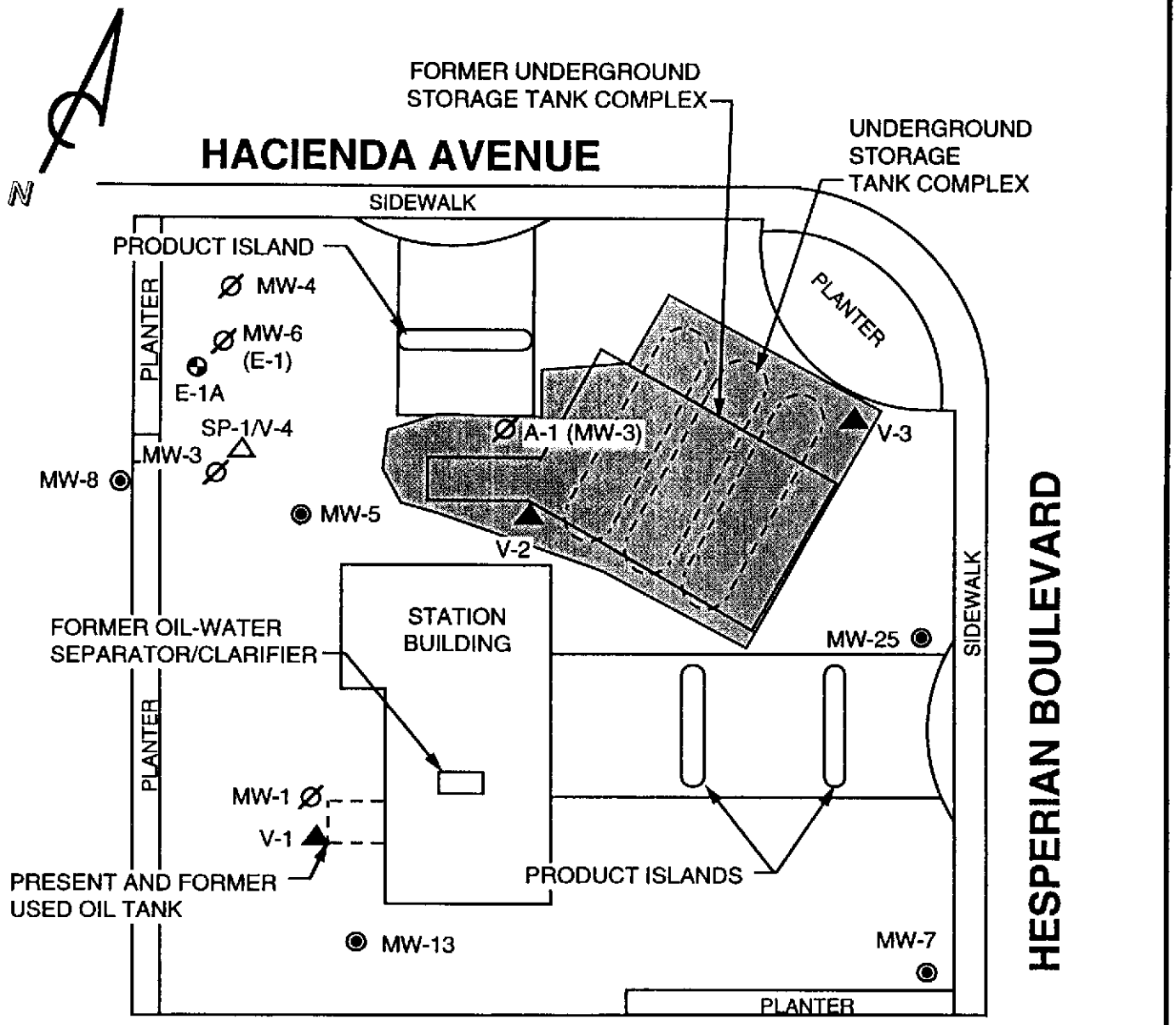
0 150 300 FEET

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

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE: **2**

PROJECT: 330-006.2B



LEGEND

MW-25 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

E-1A ◔ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

MW-3 ∅ DESTROYED WELL LOCATION AND DESIGNATON

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

V-1 ▲ SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATON

SCALE

0 30 60 FEET

PACIFIC ENVIRONMENTAL GROUP, INC.

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

ON-SITE WELL LOCATION MAP

FIGURE: **3**

PROJECT: 330-006.5B

Figure 4
Groundwater Extraction System Mass Removal Trend

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

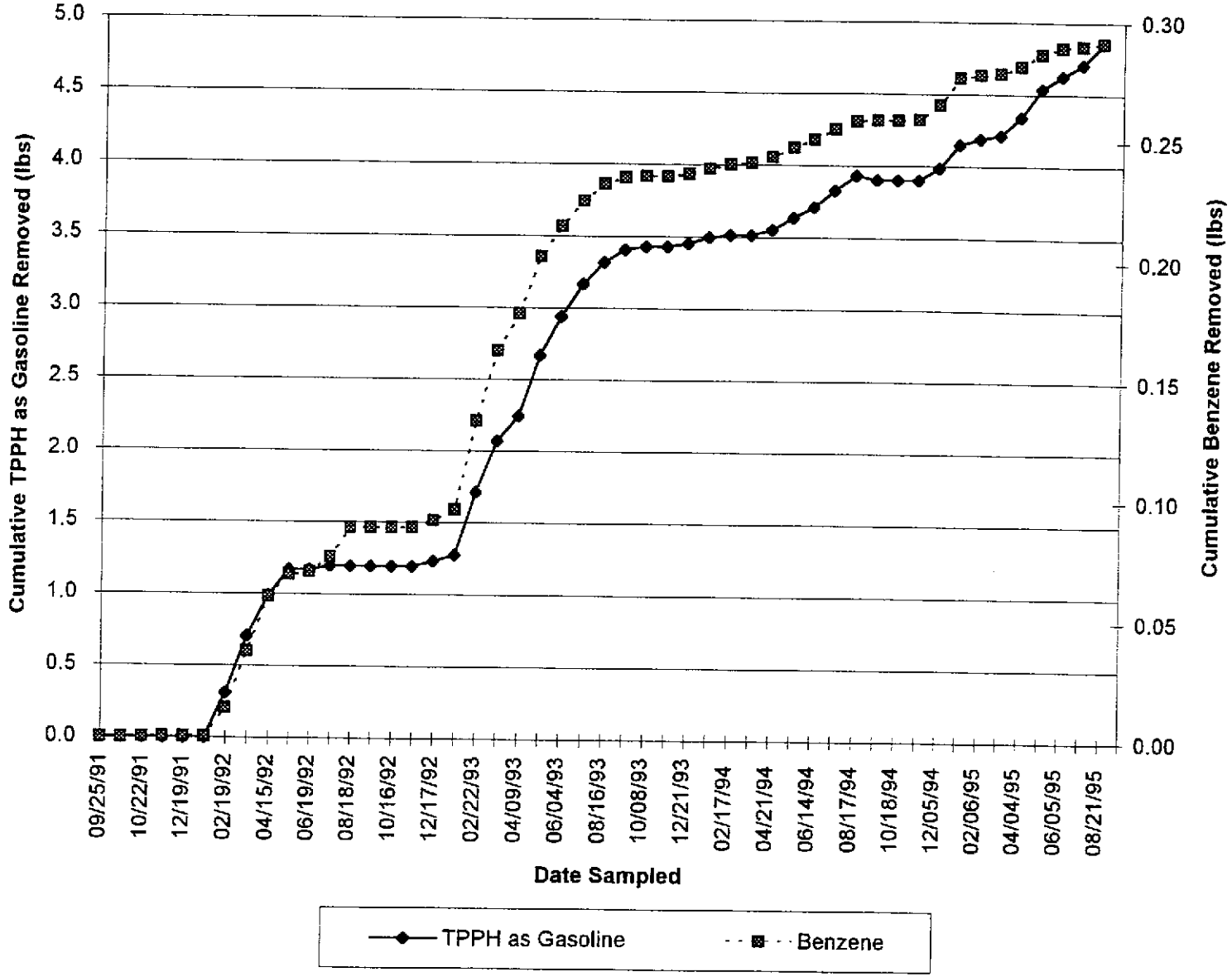
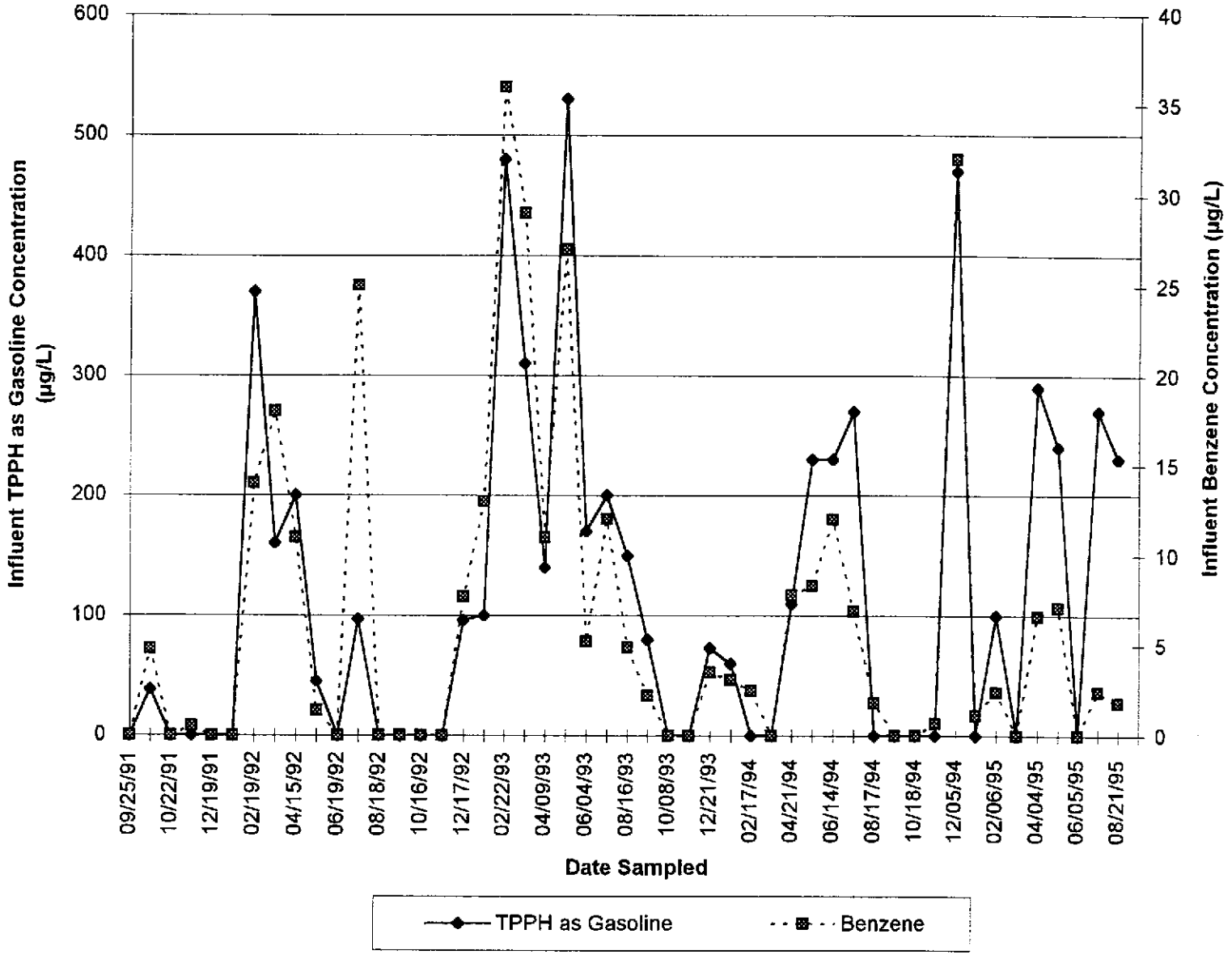


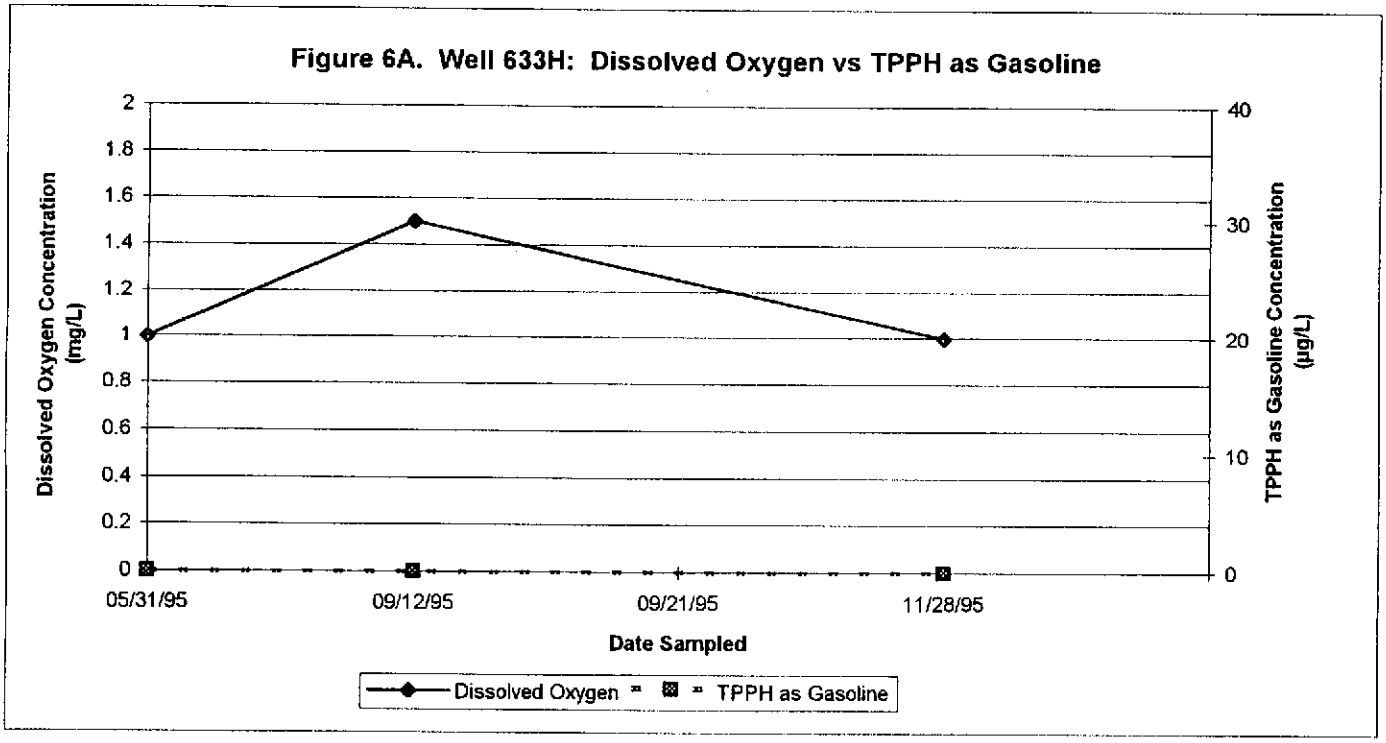
Figure 5
Groundwater Extraction System Concentration Trend

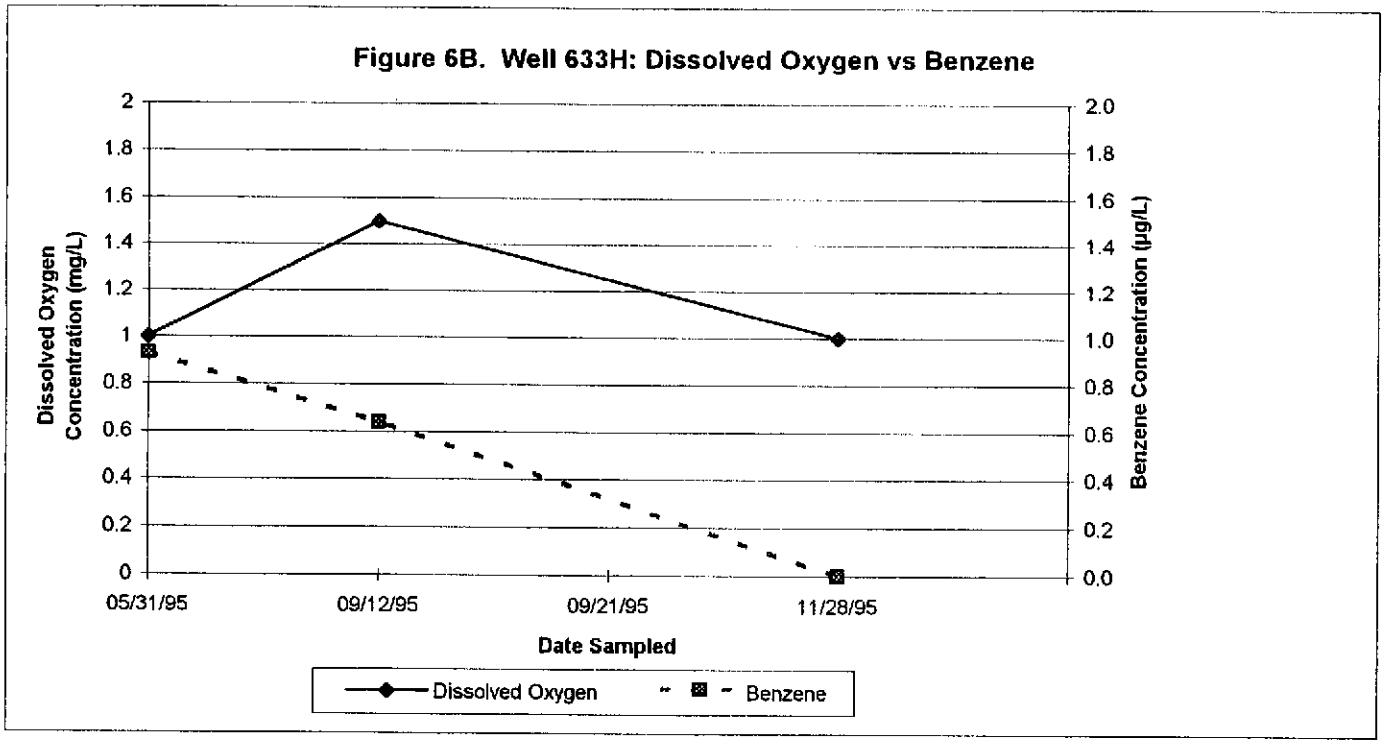
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California



Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

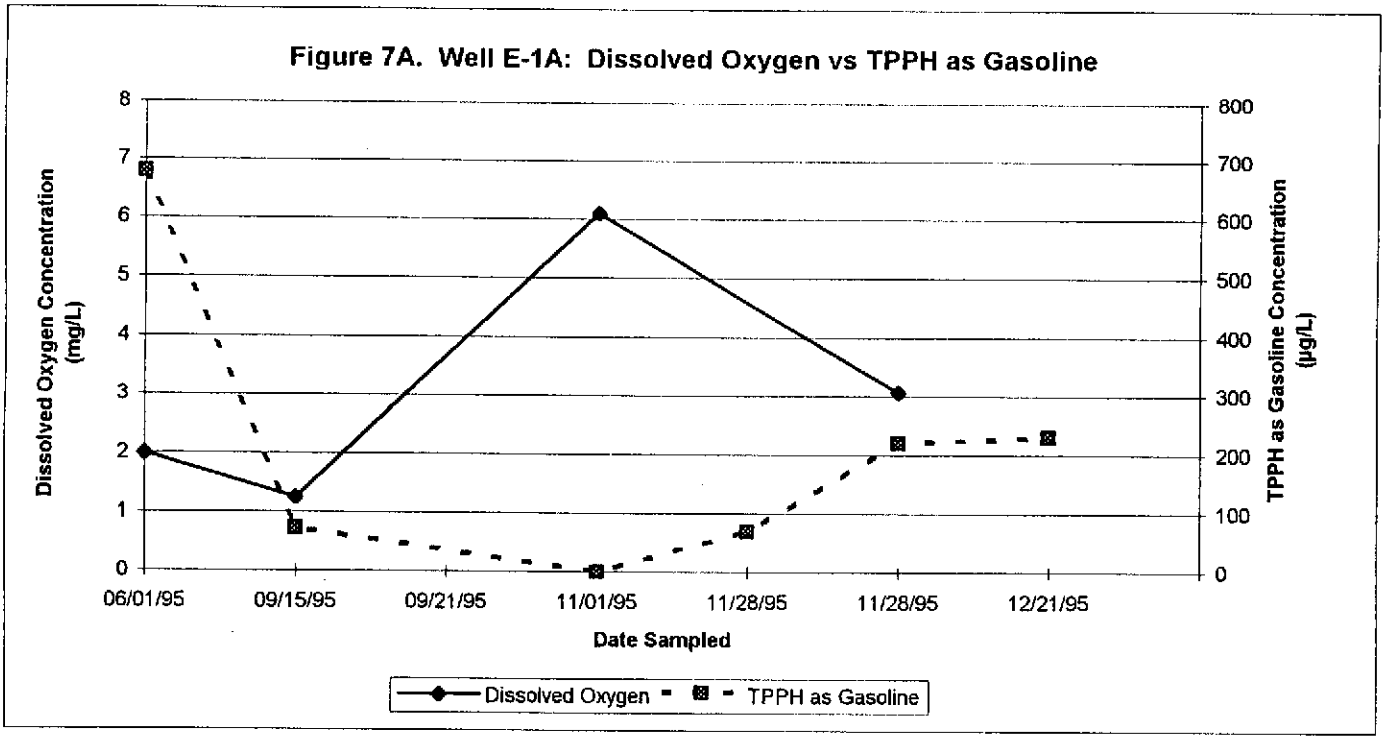
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

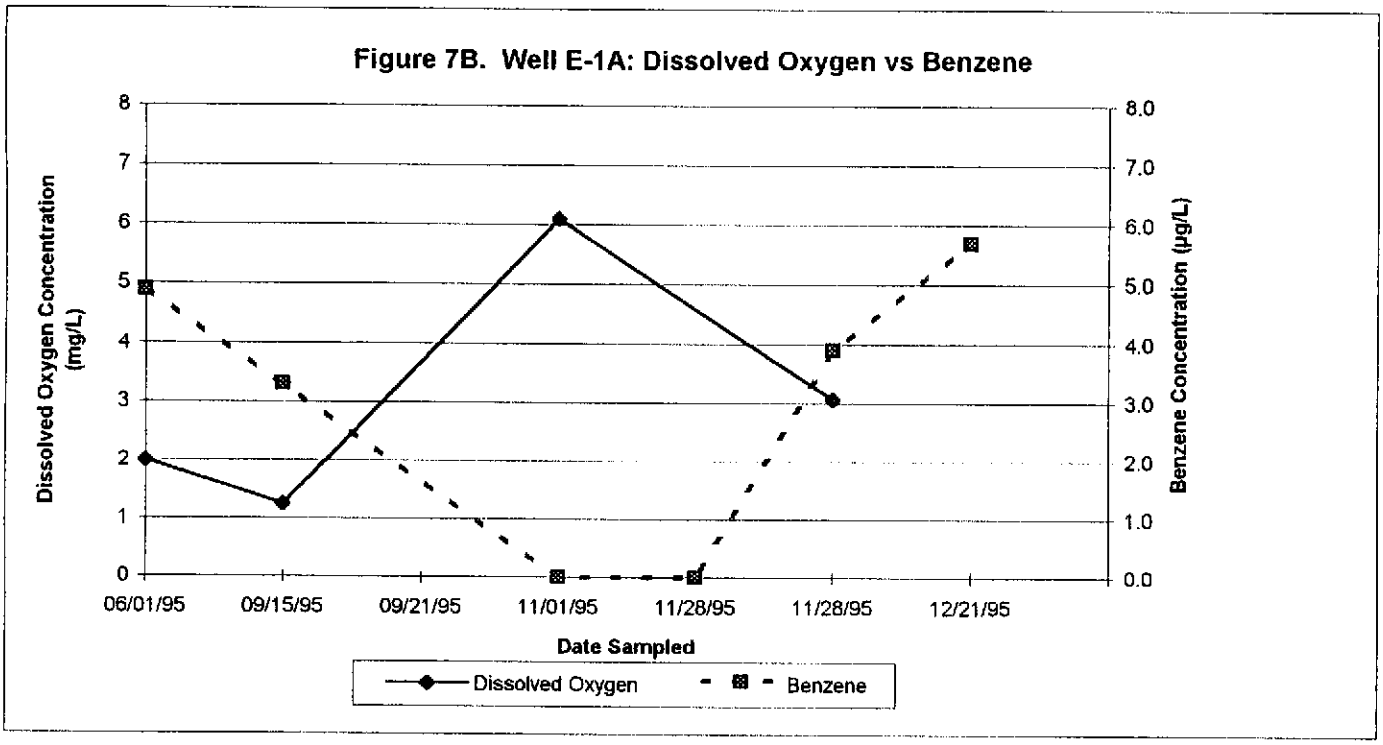




Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

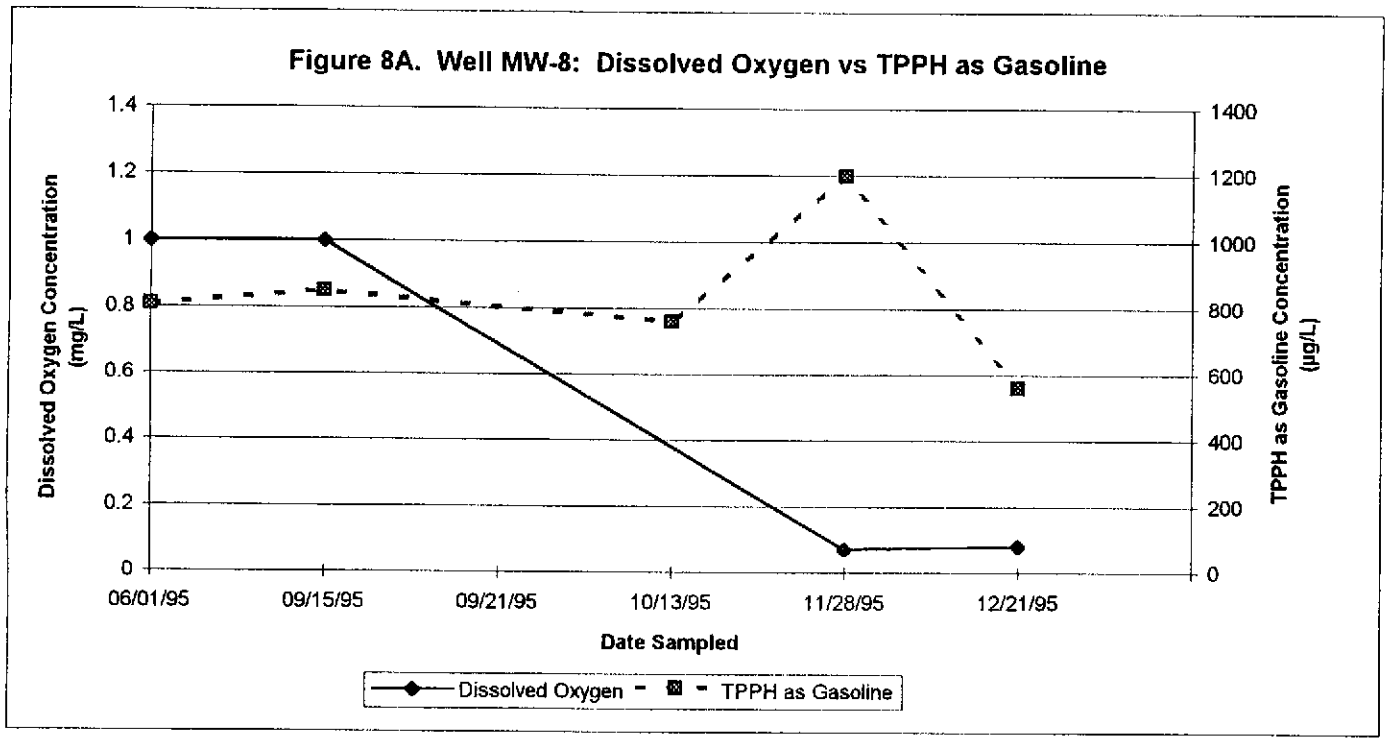
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

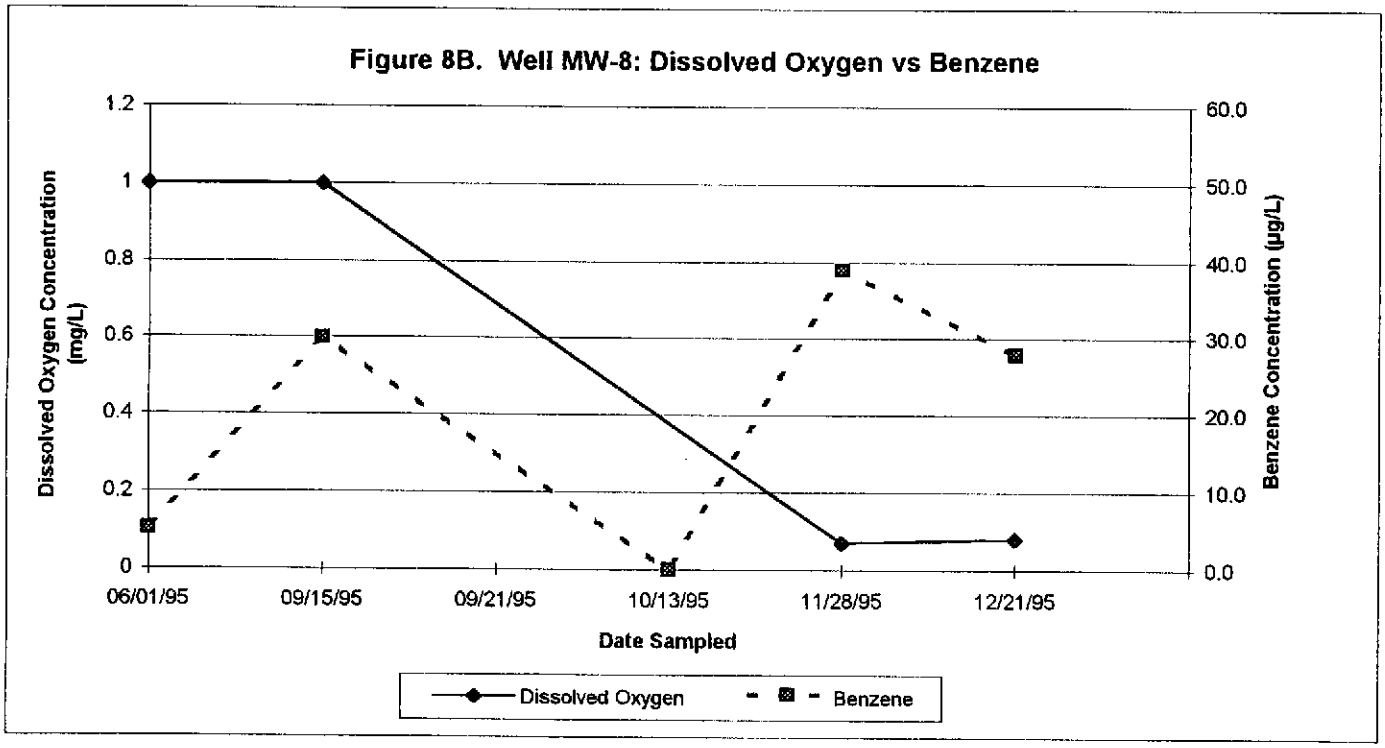




Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

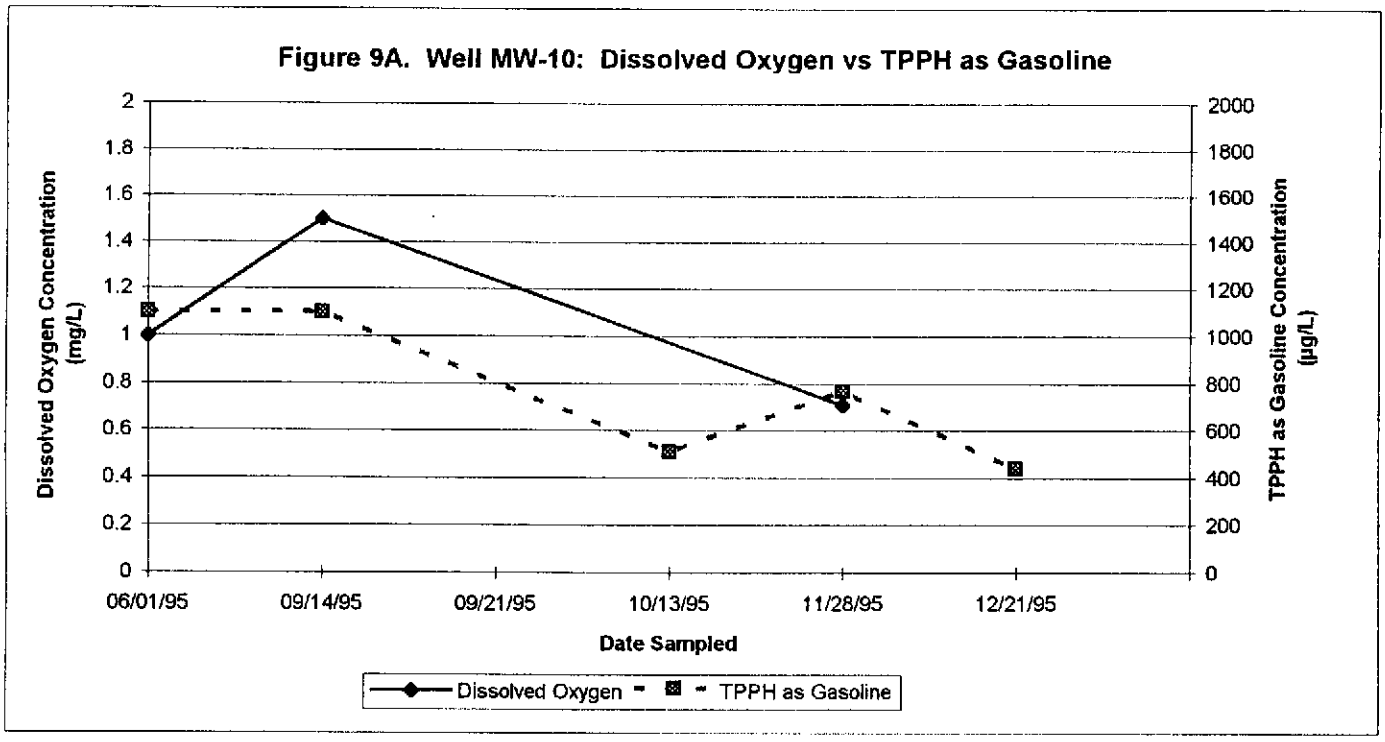
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

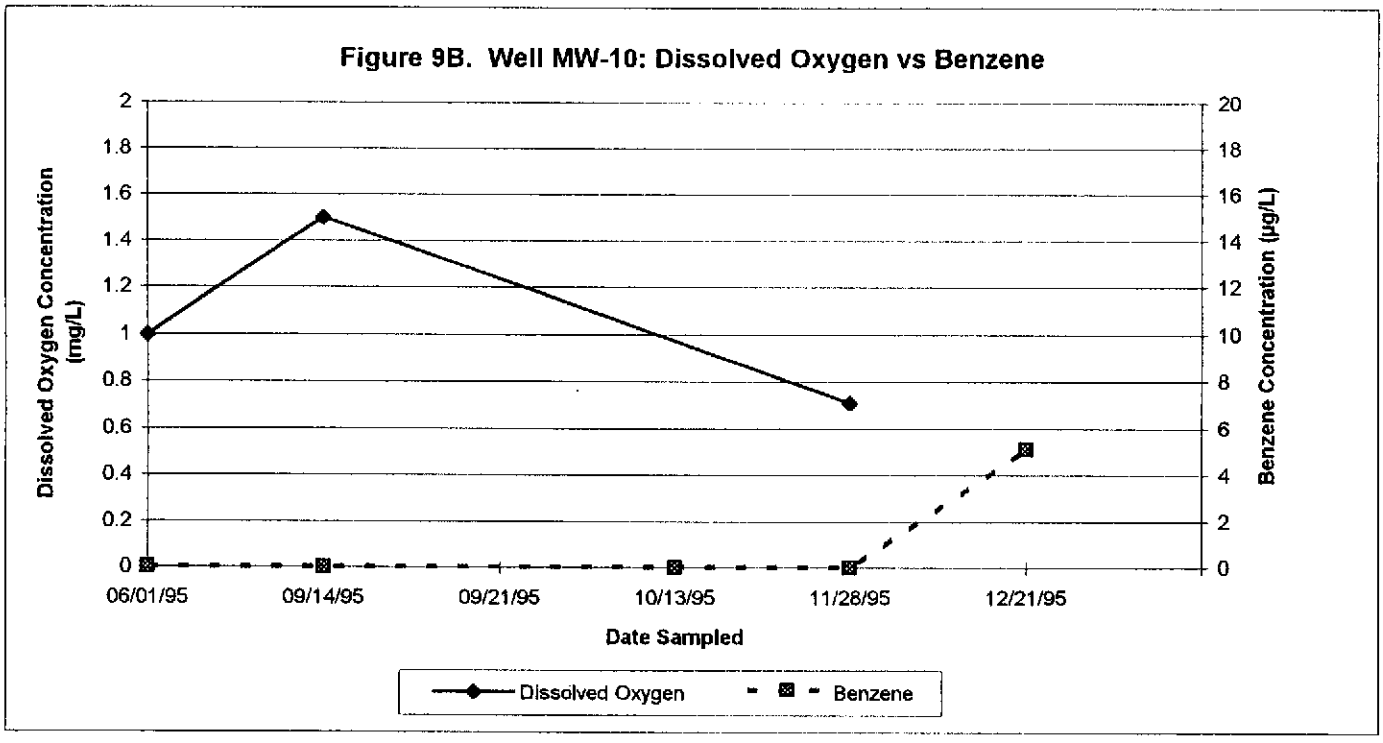




Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

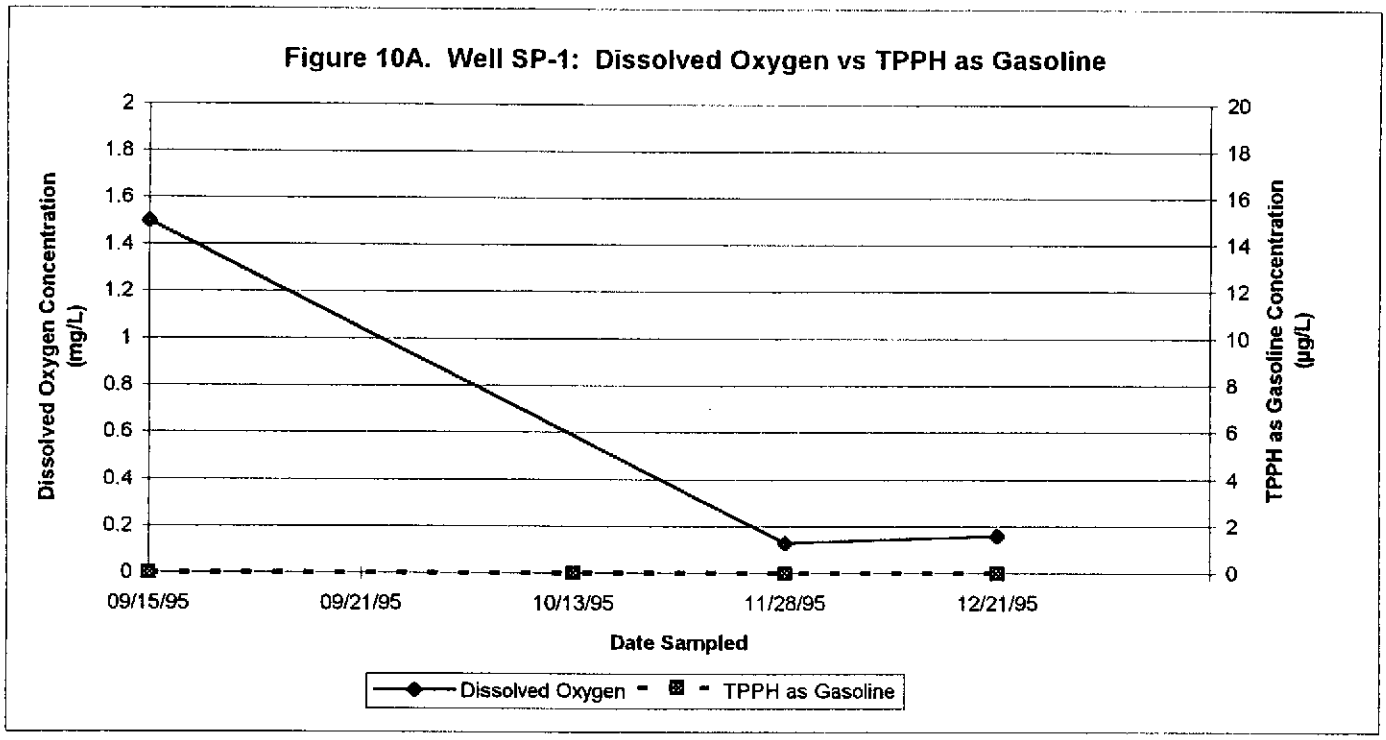
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

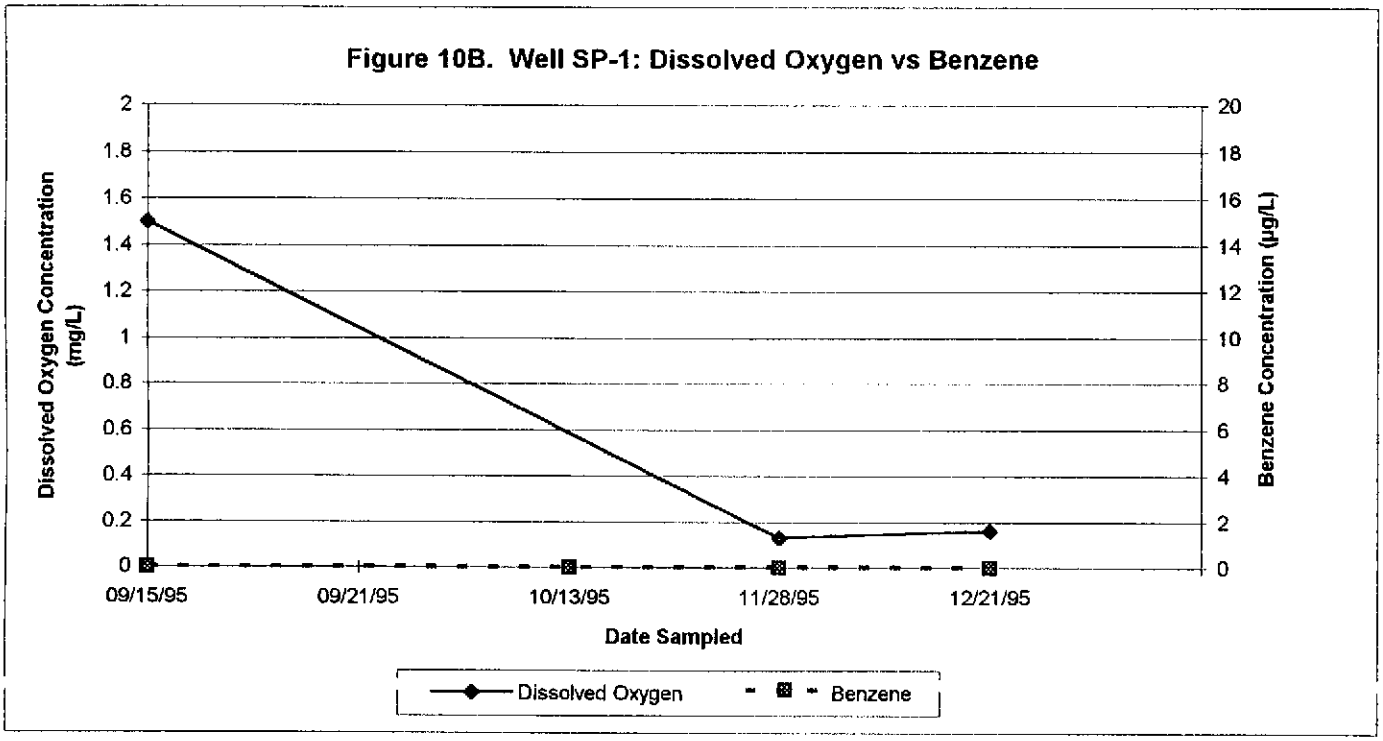




Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

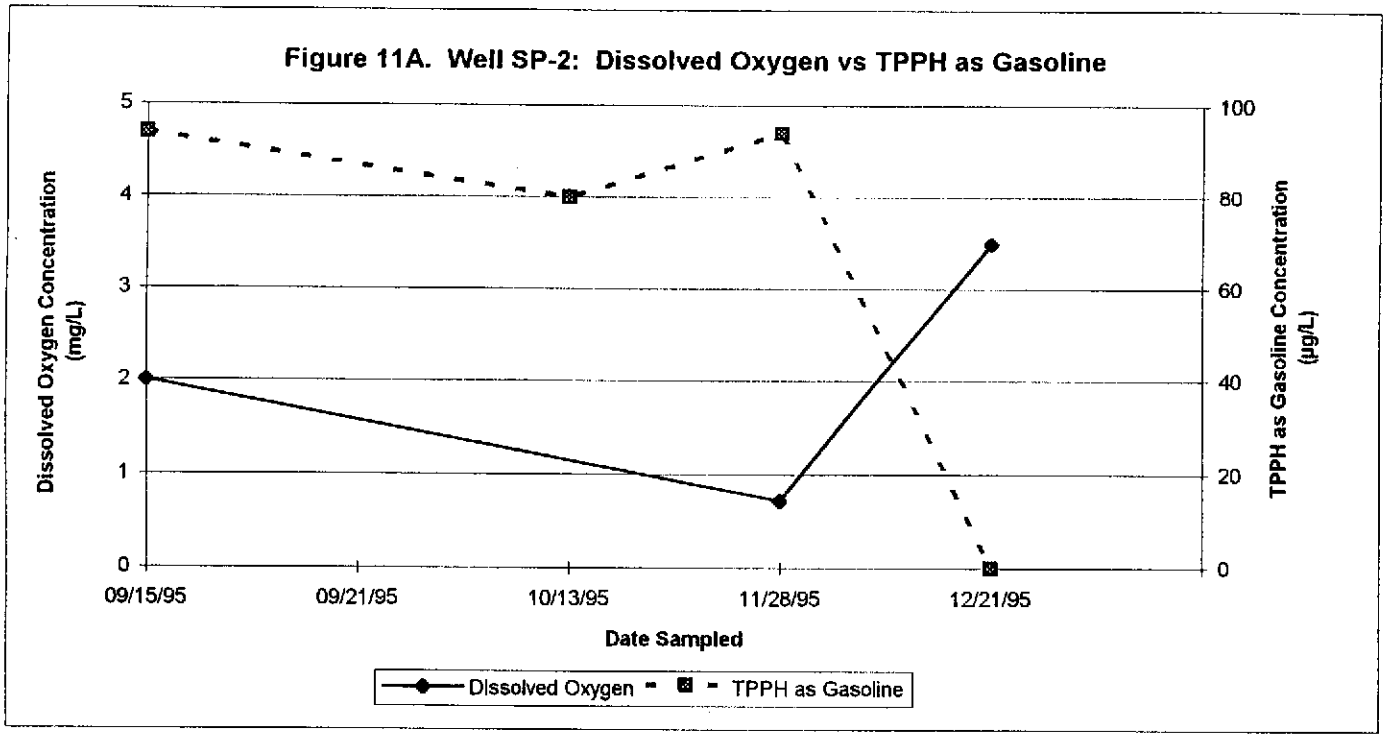
ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

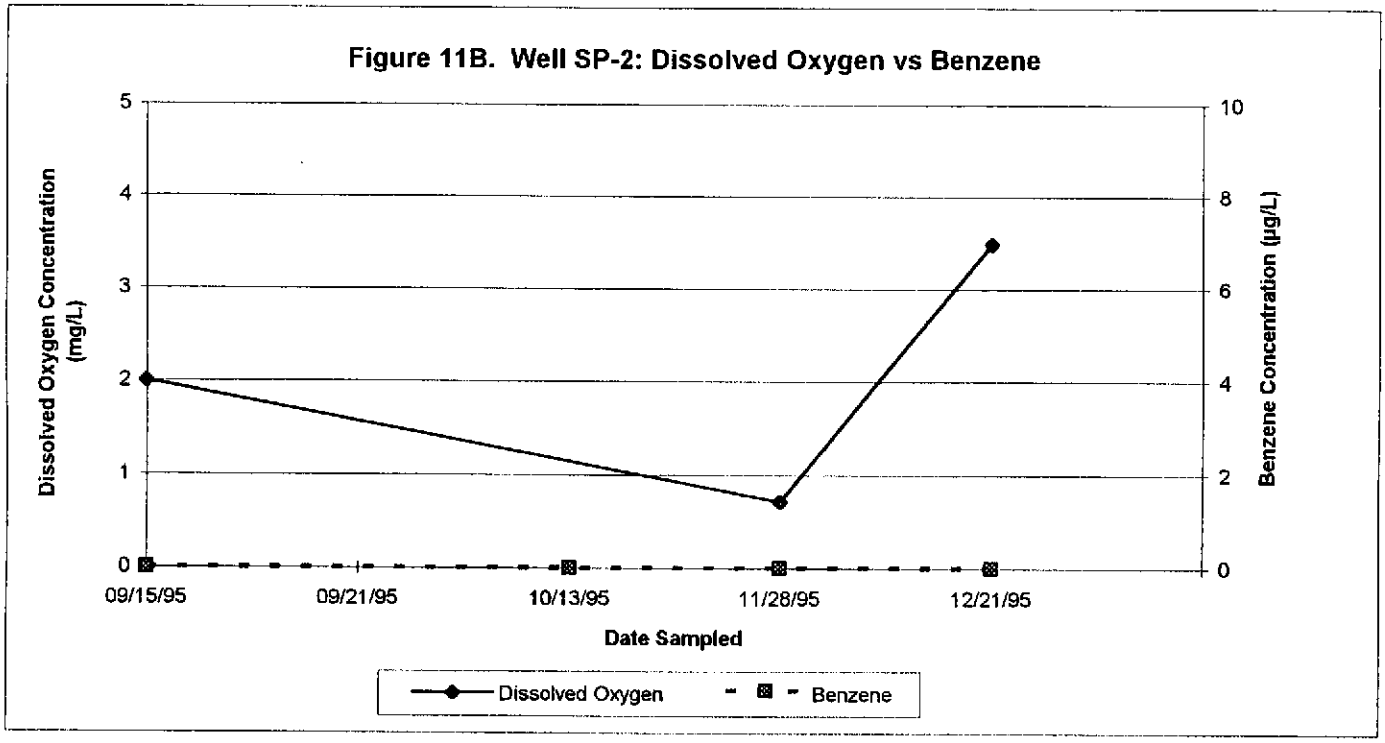




Figures 6 through 11
Dissolved Oxygen vs TPPH as Gasoline

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





ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon® bailer or an oil-water interface probe. Wells not containing SPH are then purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, a Hydac digital tester, catalog No. 301353, is used to monitor temperature, pH, and electrical conductivity in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover, groundwater samples are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, appropriately preserved, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Field Procedures

Parameters observed or measured in the field include color, odor, oxidation reduction potential, turbidity, hydrogen sulfide, dissolved oxygen, and ferrous iron. Parameters measured in the field are monitored at approximately the same time samples are collected for laboratory analysis. The instruments and techniques used to monitor these parameters are listed in the table below. Manufacturer-supplied literature, and instrument instructions will be included for specific equipment to be used with the sampling request.

Parameter	Instrument or Technique
Color	Manually
Odor	Manually
Oxidation Reduction Potential	YSI Model 3560 water quality monitoring system with YSI Model 3540 oxidation reduction potential electrode assembly
Turbidity	Nepholemetric turbidity unit or manually
Hydrogen Sulfide	HACH hydrogen sulfide test kit Model HS-C, catalog No. 25378-00
Dissolved Oxygen	YSI Model 50 in-situ dissolved oxygen meter
Ferrous Iron	HACH TPTZ iron reagent method, Model 1R-21, catalog No. 22993-00 and ferrous iron Powder Pillows Catalog No. 1037-69

Laboratory Procedures

Groundwater samples are analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX compounds), nitrate as nitrate, sulfate, nitrogen as ammonia, and total iron according to the EPA methods listed in the table below.

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

ATTACHMENT B

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

Sequoia Analytical

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

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DEC 12 1995
PACIFIC ENVIRONMENTAL GROUP, INC.

cific Environmental Group
25 Gateway Place, Suite 440
n Jose, CA 95110
tention: Maree Doden

oject: 330-006.2G/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on November 28, 1995.
e requested analyses are listed below:

MPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
11151 -01	LIQUID, MW-11	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -02	LIQUID, MW-14	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -03	LIQUID, MW-15	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -04	LIQUID, MW-16	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -05	LIQUID, MW-18	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -06	LIQUID, MW-19	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -07	LIQUID, MW-21	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -08	LIQUID, MW-22	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -09	LIQUID, MW-23	11/27/95	TPHGBW Purgeable TPH/BTEX
11151 -10	LIQUID, TB-1	11/27/95	TPHGBW Purgeable TPH/BTEX

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

y truly yours,

EQUOIA ANALYTICAL

cie Fletcher

Quality Assurance Department

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-11
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-01

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

D Fletcher

Dacie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-02

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	101

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

SEQUOIA ANALYTICAL - ELAP #1210

Stacie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
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San Jose, CA 95110

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-15
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-03

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	120

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Lucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-16
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-04

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Stacie Fletcher
Project Manager

Sequoia Analytical

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acific Environmental Group
025 Gateway Place, Suite 440
an Jose, CA 95110

ttention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-18
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-05

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

C Batch Number: GC112995BTEX22A
strument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
PPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
thyl Benzene	0.50	N.D.
ylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

urrogates	Control Limits %		% Recovery
ifluorotoluene	70	130	106

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

EQUOIA ANALYTICAL - ELAP #1210

cie Fletcher
ect Manager

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Pacific Environmental Group
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Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-19
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-06

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Stacie Fletcher
Project Manager

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Pacific Environmental Group
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Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-21
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511I51-07

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Lucie Fletcher
Project Manager

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Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-22
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-08

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Lucie Fletcher
Project Manager

Sequoia Analytical

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acific Environmental Group
025 Gateway Place, Suite 440
an Jose, CA 95110

ttention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW-23
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-09

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

Batch Number: GC112995BTEX22A
strument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

urrogates	Control Limits %		% Recovery
ifluorotoluene	70	130	103

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

EQUOIA ANALYTICAL - ELAP #1210

B Fletcher

cie Fletcher
ect Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: TB-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511151-10

Sampled: 11/27/95
Received: 11/28/95

Analyzed: 11/29/95
Reported: 12/08/95

QC Batch Number: GC112995BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

D Fletcher

Lucie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.2G/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9511I51 01-09
Reported: Dec 8, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC112995BTEX22A	GC112995BTEX22A	GC112995BTEX22A	GC112995BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Lee	R. Lee	R. Lee	R. Lee
MS/MSD #:	9511G1505	9511G1505	9511G1505	9511G1505
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/29/95	11/29/95	11/29/95	11/29/95
Analyzed Date:	11/29/95	11/29/95	11/29/95	11/29/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	10	10	10	33
MSD % Recov.:	100	100	100	110
RPD:	0.0	0.0	0.0	6.3
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK112995	BLK112995	BLK112995	BLK112995
Prepared Date:	11/29/95	11/29/95	11/29/95	11/29/95
Analyzed Date:	11/29/95	11/29/95	11/29/95	11/29/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.6	9.7	9.7	30
LCS % Recov.:	96	97	97	100
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

CLIENT NAME: PEG/Arco
REC. BY (PRINT): RI

WORKORDER: 9511751 / 9511753
DATE OF LOG-IN: 11/28/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s) Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
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: 11/28/95
12. Temp. Rec. at Lab: 11°C
13. Time Rec. at Lab: 1135

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1		mw 11	6 Voa's	Liq	11/27/95	
2		14				
3		15				
4		16				
5		18				
6		19				
7		21				
8		22				
9		23				
10		TB	2 Voa's			

11/28/95

* if Circled, contact Project manager and attach record of resolution

ARCO Products Company Division of AtlanticRichfieldCompany — 330-006.2G — **Task Order No.** 1707600 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Bl 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 Pl #440 San Jose		Contract number 1707600

	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 ☐	MTBE*	
X	MW11		6		✓		✓	HCL	11/27/95	10:55		✓										X	1
X	MW14		|		✓		✓	|	|	11:05		✓										|	2
X	MW15		|		✓		✓	|	|	1130		✓										|	3
X	MW16		|		✓		✓	|	|	1145		✓										|	4
X	MW18		|		✓		✓	|	|	1200		✓										|	5
X	MW19		|		✓		✓	|	|	1210		✓										|	6
X	MW21		|		✓		✓	|	|	1230		✓										|	7
X	MW22		|		✓		✓	|	|	1240		✓										|	8
X	MW23		✓		✓		✓	✓	✓	1255		✓										✓	9
X	TB-1		2		✓		✓	HCL	11/27/95	—		✓											10

Cancel MTBE per Dodder 11/27/95

Special detection Limit/reporting

* Lab: Please Follow Remarks WSPA Protocol for MTBE Confirm highest hit (1) by 8240 Report MTBE results on sep. Report.

Special QA/QC

Lab number 9511I51 / 9511I52

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	11/27/95	1450	Received by N Dodder	11/27/95	1455
Relinquished by N Dodder	11/28/95		Received by S Rose	11-28-95	10:20
Relinquished by S Rose	11/28/95	11:35	Received by laboratory	11/28/95	1135

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

Sequoia Analytical

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'acific Environmental Group
025 Gateway Place, Suite 440
an Jose, CA 95110
ttention: Maree Doden

roject: 330-006.2G/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on November 30, 1995.
he requested analyses are listed below:

AMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
511K57 -01	LIQUID, SP-1-B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -02	LIQUID, SP-2-B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -03	LIQUID, E-IA-B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -04	LIQUID, MW7	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -05	LIQUID, MW8B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -06	LIQUID, MW9	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -07	LIQUID, MW10B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -07	LIQUID, MW10B	11/28/95	MTBEMW Methyl t-Butyl Ethe
511K57 -08	LIQUID, MW13	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -09	LIQUID, MW17	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -10	LIQUID, MW24	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -11	LIQUID, MW25B	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -12	LIQUID, MW26	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -13	LIQUID, 633H	11/28/95	TPHGBW Purgeable TPH/BTEX
511K57 -14	LIQUID, TB-1	11/28/95	TPHGBW Purgeable TPH/BTEX

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

ery truly yours,

SEQUOIA ANALYTICAL

ucie Fletcher
oject Manager

Quality Assurance Department

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: SP-1-B
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-01

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: SP-2-B
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-02

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
nstrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**94**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: E-IA-B
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-03

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
nstrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**220**
Benzene	**0.50**	**3.9**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**6.2**
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

rucie Fletcher
roject Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW7
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-04

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW8B
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-05

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**1200**
Benzene	**5.0**	**39**
Toluene	5.0	N.D.
Ethyl Benzene	5.0	N.D.
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	78

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

SEQUOIA ANALYTICAL - ELAP #1210

Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2G/0608,San Lorenzo	Sampled: 11/28/95
2025 Gateway Place, Suite 440	Sample Descript: MW9	Received: 11/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/04/95
Attention: Maree Doden	Lab Number: 9511K57-06	Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.2G/0608,San Lorenzo	Sampled: 11/28/95
2025 Gateway Place, Suite 440	Sample Descript: MW10B	Received: 11/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/05/95
Attention: Maree Doden	Lab Number: 9511K57-07	Reported: 12/15/95

QC Batch Number: GC120595BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**125**	**840**
Benzene	1.2	N.D.
Toluene	1.2	N.D.
Ethyl Benzene	1.2	N.D.
Xylenes (Total)	1.2	N.D.
Chromatogram Pattern:		**Gas**
Unidentified HC		**>C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2G/0608,San Lorenzo	Sampled: 11/28/95
2025 Gateway Place, Suite 440	Sample Descript: MW10B	Received: 11/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 12/08/95
Attention: Maree Doden	Lab Number: 9511K57-07	Reported: 12/15/95

nstrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	25	720

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	103
Toluene-d8	88	110	95
4-Bromofluorobenzene	86	115	98

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

SEQUOIA ANALYTICAL - ELAP #1210

rucie Fletcher
roject Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW13
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-08

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW17
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-09

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
nstrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**83**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.2G/0608,San Lorenzo	Sampled: 11/28/95
2025 Gateway Place, Suite 440	Sample Descript: MW24	Received: 11/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/04/95
Attention: Maree Doden	Lab Number: 9511K57-10	Reported: 12/15/95

QC Batch Number: GC120495BTEX03A
nstrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW25B
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-11

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW26
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-12

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 633H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-13

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX02A
nstrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	**0.50**	**0.89**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**8.3**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

rucie Fletcher
oject Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: TB-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511K57-14

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/04/95
Reported: 12/15/95

QC Batch Number: GC120495BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	87

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

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Pletcher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Project ID:	330-006.2G/0608, San Lorenzo		
2025 Gateway Place, Suite 440	Matrix:	LIQUID		
San Jose, CA 95110				
Attention: Maree Doden	Work Order #:	9511K57	01-06, 08-10	Reported: Dec 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120495BTEX03A	GC120495BTEX03A	GC120495BTEX03A	GC120495BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511F7701	9511F7701	9511F7701	9511F7701
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/4/95	12/4/95	12/4/95	12/4/95
Analyzed Date:	12/4/95	12/4/95	12/4/95	12/4/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.7	8.7	8.5	26
MS % Recovery:	87	87	85	87
Dup. Result:	9.0	9.0	8.9	27
MSD % Recov.:	90	90	89	90
RPD:	3.4	3.4	4.6	3.8
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK120495	BLK120495	BLK120495	BLK120495
Prepared Date:	12/4/95	12/4/95	12/4/95	12/4/95
Analyzed Date:	12/4/95	12/4/95	12/4/95	12/4/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.8	8.8	8.8	26
LCS % Recov.:	88	88	88	87
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.2G/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9511K57 07

Reported: Dec 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120595BTEX17A	GC120595BTEX17A	GC120595BTEX17A	GC120595BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511H7002	9511H7002	9511H7002	9511H7002
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	33
MS % Recovery:	110	110	110	110
Dup. Result:	11	11	11	31
MSD % Recov.:	110	110	110	103
RPD:	0.0	0.0	0.0	6.3
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK120595	BLK120595	BLK120595	BLK120595
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	12	12	36
LCS % Recov.:	110	120	120	120
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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Pacific Environmental Group	Client Project ID:	330-006.2G/0608, San Lorenzo
2025 Gateway Place, Suite 440	Matrix:	LIQUID
San Jose, CA 95110		
Attention: Maree Doden	Work Order #:	9511K57 11-14 Reported: Dec 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120495BTEX02A	GC120495BTEX02A	GC120495BTEX02A	GC120495BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511F7701	9511F7701	9511F7701	9511F7701
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/4/95	12/4/95	12/4/95	12/4/95
Analyzed Date:	12/4/95	12/4/95	12/4/95	12/4/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.3	9.2	9.5	28
MS % Recovery:	93	92	95	93
Dup. Result:	10	10	10	30
MSD % Recov.:	100	100	100	100
RPD:	7.3	8.3	5.1	6.9
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK120495	BLK120495	BLK120495	BLK120495
Prepared Date:	12/4/95	12/4/95	12/4/95	12/4/95
Analyzed Date:	12/4/95	12/4/95	12/4/95	12/4/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	30
LCS % Recov.:	100	100	100	100
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PE6 / Arco
REC. BY (PRINT): TONY McMAHON

WORKORDER: 9511K57
DATE OF LOG-IN: 12/01/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s) Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
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: 11-30-95
12. Temp. Rec. at Lab: 12°C
13. Time Rec. at Lab: 11:51

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1		SP-1-B	VOA(4)	LIQ	11/28/95	
2		SP-2-B				
3		EA-1A-B				
4		MW 7				
5		MW 8-B				
6		MW 9				
7		MW 10 B				
8		MW 13				
9		MW 17				
10		MW 24				
11		MW 25B				
12		MW 26				
13		633H				
14		TB-1	VOA(2)			

Tony McMahon 11-30-95

* if Circled, contact Project manager and attach record of resolution

[redacted] Products Company
Division of AtlanticRichfieldCompany

330-006.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 Hesperian BL 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 PL #440 San Jose, CA		Contract number 1707600

Method of shipment: Lab!

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 ☐	* MTBE	* MTBE by 8240
SP-1-B	1	4		✓		✓	HCL	11/28/95	14:40		✓										✓	-
SP-2-B	2								11:50		✓										✓	
E-1A-B	3								14:00		✓										✓	
MW7	4								9:30		✓										✓	
MW8-B	5								12:55		✓										✓	
MW9	6								9:05		✓										✓	
MW10B	7								10:50		✓										✓	✓
MW13	8								9:20		✓										✓	
MW17	9								9:55		✓										✓	
MW24	10								8:50		✓										✓	
MW25B	11								15:20		✓										✓	
MW26	12								8:40		✓										✓	
633H	13	↓							16:00		✓										✓	
TB-1	14	2		↓		↓	↓	↓	—		✓										✓	
																					CG	

Special detection limit/reporting: Please report MTBE on sep. Report

Special QA/QC: extra bottles (VOAs) given

Remarks: * LAB: Please Follow WSPA Protocol for MTBE Report Results on Separate Report

Lab number: 9511K57

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	11/28/95	1800	Received by M Doden	11/29/95	0730
Relinquished by M Doden	11/30/95	11:05	Received by S Ross	11-30-95	11:05
Relinquished by S Ross	11/30/95		Received by laboratory Tony Mandolon Segni	11-30-95	11:51

Turnaround time

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

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

APC-3292 (2-91)

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: MW10B
Matrix: LIQUID
Analysis Method: EPA 8240
Lab Number: 9511K57-07

Sampled: 11/28/95
Received: 11/30/95

Analyzed: 12/08/95
Reported: 12/15/95

Instrument ID: F3

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	25	720

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	103
Toluene-d8	88	110	95
4-Bromofluorobenzene	86	115	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Lucie Fletcher
Project Manager

ARCO Products Company
Division of AtlanticRichfieldCompany

330-0026.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. 0008	City (Facility) 17601 Hesperian BL 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 1707600
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway PL #440 SAN JOSE, CA		Method of shipment Lab!

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 8010/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 8010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	* MTBE	* MTBE by 8240
SP-1-B	1	4		✓		✓	HCL	11/28/95	14:40		✓										✓	-
SP-2-B	2								11:50		✓										✓	
E-1A-B	3								14:00		✓										✓	
MW7	4								9:30		✓										✓	
MW8-B	5								12:55		✓										✓	
MW9	6								9:05		✓										✓	
MW10B	7								10:50		✓										✓	✓
MW13	8								9:20		✓										✓	
MW17	9								9:55		✓										✓	
MW24	10								8:50		✓										✓	
MW25B	11								15:20		✓										✓	
MW26	12								8:40		✓										✓	
6331H	13	↓							16:00		✓										✓	
TB-1	14	2		↓		↓	↓	↓	—		✓										✓	
																					CG	

Special detection Limit/reporting: * Please report MTBE on sep. Report

Special QA/QC: (extra bottle(voas) given)

Remarks: * LAB: Please Follow WSPA Protocol FOR MTBE Report Results on Separate Report

Lab number: 9511K57

Condition of sample:

Temperature received:

	Date	Time			
Relinquished by sampler	11/28/95	1800	Received by		11/29/95 0730
Relinquished by	11/30/95	11:05	Received by		11-30-95 11:05
Relinquished by	11/30/95		Received by laboratory		Date 11-30-95 Time 11:51

Turnaround time

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

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

APC-3292 (2-91)

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 330-006.2G/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on December 1, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9512155 -01	LIQUID, 17197VM	11/29/95	TPHGBW Purgeable TPH/BTEX
9512155 -02	LIQUID, 17203VM	11/29/95	TPHGBW Purgeable TPH/BTEX
9512155 -03	LIQUID, 17302VM	11/29/95	TPHGBW Purgeable TPH/BTEX
9512155 -04	LIQUID, 17349VM	11/29/95	TPHGBW Purgeable TPH/BTEX
9512155 -05	LIQUID, 17348VE	11/29/95	TPHGBW Purgeable TPH/BTEX
9512155 -06	LIQUID, 17372VM	11/30/95	TPHGBW Purgeable TPH/BTEX
9512155 -07	LIQUID, 17393VM	11/30/95	TPHGBW Purgeable TPH/BTEX
9512155 -08	LIQUID, TB-2	11/30/95	TPHGBW Purgeable TPH/BTEX

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

Very truly yours,

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17197VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-01

Sampled: 11/29/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17203VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-02

Sampled: 11/29/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17302VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-03

Sampled: 11/29/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17349VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-04

Sampled: 11/29/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**790**
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	**2.5**	**3.8**
Xylenes (Total)	**2.5**	**18**
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17348VE
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-05

Sampled: 11/29/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	80

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17372VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-06

Sampled: 11/30/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: 17393VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-07

Sampled: 11/30/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	76

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.2G/0608,San Lorenzo
Sample Descript: TB-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512155-08

Sampled: 11/30/95
Received: 12/01/95

Analyzed: 12/06/95
Reported: 12/14/95

QC Batch Number: GC120695BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Client Project ID: 330-006.2G/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9512155 01-03, 05-08

Reported: Dec 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120695BTEX03A	GC120695BTEX03A	GC120695BTEX03A	GC120695BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511l1701	9511l1701	9511l1701	9511l1701
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/6/95	12/6/95	12/6/95	12/6/95
Analyzed Date:	12/6/95	12/6/95	12/6/95	12/6/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.9	9.7	9.6	29
MS % Recovery:	99	97	96	97
Dup. Result:	9.6	9.6	9.4	28
MSD % Recov.:	96	96	94	93
RPD:	3.1	1.0	2.1	3.5
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK120695	BLK120695	BLK120695	BLK120695
Prepared Date:	12/6/95	12/6/95	12/6/95	12/6/95
Analyzed Date:	12/6/95	12/6/95	12/6/95	12/6/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.9	9.8	9.7	29
LCS % Recov.:	99	98	97	97
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.2G/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9512155 04

Reported: Dec 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120695BTEX02A	GC120695BTEX02A	GC120695BTEX02A	GC120695BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511l1701	9511l1701	9511l1701	9511l1701
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/6/95	12/6/95	12/6/95	12/6/95
Analyzed Date:	12/6/95	12/6/95	12/6/95	12/6/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.9	10	30
MS % Recovery:	100	99	100	100
Dup. Result:	9.9	9.9	9.8	29
MSD % Recov.:	99	99	98	97
RPD:	1.0	0.0	2.0	3.4
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK120695	BLK120695	BLK120695	BLK120695
Prepared Date:	12/6/95	12/6/95	12/6/95	12/6/95
Analyzed Date:	12/6/95	12/6/95	12/6/95	12/6/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.6	9.6	9.6	29
LCS % Recov.:	96	96	96	97
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG/Arco
REC. BY (PRINT): NI

WORKORDER: 95 12155
DATE OF LOG-IN: 12/5/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s) Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
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: 12/1/95
12. Temp. Rec. at Lab: 16°C
13. Time Rec. at Lab: 1236

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	a-c	17197 VM	3 VOA's	Liq	11/29/95	
2		17203				
3		17302				
4		17349				
5		17348				
6		17372			11/30/95	
7		17393				
8	a-b	TB-2	2 VOA's			

12/1/95

* if Circled, contact Project manager and attach record of resolution

ARCO Products Company Division of AtlanticRichfieldCompany — 330-0006.2G — **Task Order No.** 1707600 — **Chain of Custody**

ARCO Facility no. 0008	City (Facility) 17601 HESPERIAN BL 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 1707600
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PL #440 SAN JOSE, CA		Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH 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 ☐		
17197VM	1	3		✓		✓	HCL	11/29/95	1255		✓											
17203VM	2	↓		↓		↓	↓	↓	1300		✓											
17302VM	3								1320		✓											
17349VM	4								1330		✓											
17348VE	5							↓	1240		✓											
17372VM	6							11/30/95	930		✓											
17393VM	7	↓						↓	940		✓											
TB-2	8	2		↓		↓	↓	↓	—		✓											

Special detection Limit/reporting

Special QA/QC

Remarks

m 1236

Lab number 95/12155

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: Chad M.	11/30/95	1445	Received by: M Doden	11/30/95	1445
Relinquished by: M Doden	12/1/95	11:45	Received by: S Ross	12-1-95	11:45
Relinquished by: S Ross	12/1/95		Received by laboratory:	Date 12/1/95	Time 1236

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

12/B H W/O# 953949 (CA)

Initials Date

F/S RJ 12/6/95

Copy/Dist. RJ ↓

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2G

Station #:0608

Site Address:17601 Hesperian Bl
San Lorenzo, California

County:Alameda

Project Manager:Kelly Brown

Requestor:Chuck Graves

Client:Arco

☐ 1st time visit

☐ 1st ☐ 2nd ☐ 3rd ☒ 4th

☐ Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time Event

☐ Other._____

Client P.O.C.:Mike Whelan

Date of Request:11/22/95

Ideal Field Date:11/22/95

Purge water_____

Budget Hrs._____

Actual Hrs. PW 9.0 HRS · 160 CG

Mob de Mob 4 CG

Total Wells_____

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

FILE COPY

Field Tasks: For General Description

Fourth Quarter groundwater sampling event: DTW/DTL on all wells from TOB/TOC
Sample per attached protocol: **During the Fourth Quarter 95' only, note the following on the Chain of Custody: Follow "WSPA" MTBE protocol. Sample with highest MTBE concentration needs to be verified by Method EPA 8240. MTBE samples must go on a separate Chain of custody and need a separate set of bottles. (3 voas MTBE + regular 3 voas for GAS/BTXE)**

Comments, remarks, from Field Staff (include problems encountered

Completed by: Chuck M. Graves Date: 11/30/95

Checked by:_____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2G	608	17601 Hesperian San Lorenzo		Kelly Brown			Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goe Dry?	Comments
C SP-1			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC				
O SP-2 ✓			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC				
O MW-5			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC	14	4"	YES	
MW-7 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	19	3"	NO	
O MW-8 ✓			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC	22	3"	NO	
MW-9 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	19	3"	YES	
O MW-10			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC	22	3"	YES	
MW-11 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	19	3"	YES	
MW-13 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	23.5	3"	YES	
MW-14 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	24	3"	YES	
MW-15 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	24	3"	YES	
MW-16 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	23	3"	YES	
MW-17 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	24	3"	YES	
MW-18 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	22	3"	YES	
MW-19 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	22	3"	YES	
MW-20 ✓				DESTROYED		0	3"	YES	
MW-21 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	22	3"	YES	
MW-22 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	22	3"	YES	
MW-23 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	22	3"	YES	
MW-24 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	20	2"	YES	
O MV -25			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC	21	2"	YES	ON Site
MW-26 ✓			QLY	GAS/BTEX/MTBE	TOB/TOC	20	2"	YES	
O E-1A			QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC	?	?	YES	

Additional analysis = Sulfate, Nitrate, Ammonia, TPG-Gas, BTEX + Field Measurements ORP, Turbidity, H2S, D.O., Total & Ferrous Iron.

MP MP H_2SO_4 HCL

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2G	608	17601 Hesperian San Lorenzo		Kelly Brown			Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goe Dry?	Comments
Mr/Mrs Silva		590 Hacienda	QLY	GAS/BTEX/MTBE	TOB/TOC				Not Home
Mr. Dahmann		633 Hacienda	QLY	GAS/BTEX/MTBE+ additional analysis *	TOB/TOC				
Mrs Albright		634 Hacienda	QLY	GAS/BTEX/MTBE	TOB/TOC				Not authorized to enter backyard
Ms. Corregedor		642 Hacienda	QLY	GAS/BTEX/MTBE	TOB/TOC				Not authorized to enter backyard
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX/MTBE	TOB/TOC				Dedicated pump inoperable
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mr Scrag		17197 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Cavalry Church		17200 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mrs Toles		17203 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mr/Mrs Johanson		17302 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mr. Kast		17349 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mr. Manry		17371 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				Not authorized to enter backyard
Mr. Pimental		17372 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				
Mr. Hull		17393 Via Magdalena	QLY	GAS/BTEX/MTBE	TOB/TOC				

ADDITIONAL QUARTERLY

FIELD

FIELD
color
odor
pH
EC
ORP
T
Turbidity
H_2S
DO
Fe^{++} : Ferrous iron

LAB

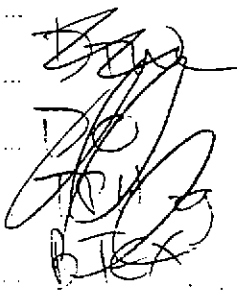
Sulfate
Nitrate
Ammonia
TPH-g
BTEX
Total IRON

WELLS

EI-A ✓
MW-10 ✓
SP-2 ✓
MW-8 ✓
SP-1 ✓
633
MW-5 ✓
MW-25 ✓

PURGED

MONTHLY



W/O PURGING

	DO	TPH G	BTEX
E1-A	x	x	x
MW-10	x	x	x
SP-1	x	—	—
SP-2	x	—	—
MW-8	x	—	—

W/ PURGING

E1-A	—	—	—
MW-10	—	—	
SP-1	x	x	x
SP-2	x	x	x
MW-8	x	x	x

330-006.26 / 330-006.5B

27th NOV Monday W/ PAUL W?

All wells + HACh Kit Stuff

(1) HOME OWNER WELL CALLS

(2) Rent Flow thru cell from EI (ORP)

(A) H_2S with Hach Kit

(B) (meter D.O.)

(~~Total IRON Kit~~) Order from HACH / Ferrous Iron Kit (We HAVE)

Sulfate
Nitrate
GAS, BTKE.
Ammonia
Alkalinity

Wells ORC wells - (2)

MW 10 & E-1A
2" w/ 10 ORCs 6" well w/ 11 ORCs

Measare between EI-A wells & down gradint wells

PACIFIC ENVIRONMENTAL GROUP, INC.	Project No:	Figure No:	Date: 11/15/95
			Drawn By:
Title:			

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2G LOCATION: 17601 Hesperian Bl, San Lorenzo DATE: 11/27/95

CLIENT/STATION NO.: 06008 FIELD TECHNICIAN: Chuck Graves DAY OF WEEK: Monday

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ ____
- ☒ H_2O level Indicator 29
- ☐ 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
	SP-1	9:48	✓	✓	✓	✓	✓		12.05 / 12.05	12.69 / 12.69	—	—								— / —
	SP-2	10:24	✓	✓	✓	✓	✓		11.09 / 11.09	11.27 / 11.27	—	—								/
	MW5	9:50	✓	✓	✓	✓	✓		12.57 / 12.57	13.00 / 13.00	—	—								— / —
	MW7	9:05	✓	✓	✓	✓	✓		12.55 / 12.55	13.01 / 13.01	—	—								— / —
	MW8	9:52	✓	✓	✓	✓	✓		11.12 / 11.12	11.78 / 11.78	—	—								— / —
	MW9	10:14	✓	✓	✓	✓	✓		10.64 / 10.64	11.13 / 11.13	—	—								— / —
	MW10	9:28	✓	✓	✓	✓	✓		11.39 / 11.39	12.02 / 12.02	—	—								— / —
	MW11	9:19	✓	✓	✓	✓	✓		12.25 / 12.25	12.70 / 12.70	—	—								— / —
	MW13	10:00	✓	✓	✓	✓	✓		14.03 / 14.03	14.31 / 14.31	—	—								— / —

Comments: ____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0016.2G LOCATION: 17601 Hesperian Bl. San Lorenzo DATE: 11/27/95

CLIENT/STATION NO.: 10608 FIELD TECHNICIAN: Chuck GRAVES DAY OF WEEK: MONDAY

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH): SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons): SPH / H_2O
	MW14	9:23	✓	✓	✓	✓	✓	23.55	10.67 / 10.67	10.97 / 10.97	—	—			—					— / —
	MW15	9:33	✓	✓	✓	✓	✓	23.75	11.88 / 11.88	12.32 / 12.32	—	—				—				— / —
	MW16	9:37	✓	✓	✓	✓	✓	23.45	12.43 / 12.43	12.85 / 12.85	—	—			—					— / —
	MW17	9:43	✓	✓	✓	✓	✓	24.00	12.48 / 12.48	13.00 / 13.00										/
	MW18	9:42	✓	✓	✓	✓	✓	21.95	11.47 / 11.47	11.77 / 11.77	—	—			—					— / —
	MW19	9:46	✓	✓	✓	✓	✓	21.97	11.06 / 11.06	11.22 / 11.22	—	—			—					— / —
	MW20	—	—	—	—	—	—	DESTROYED	/	/	—	—								/
	MW21	9:50	✓	✓	✓	✓	✓	22.00	11.07 / 11.07	11.61 / 11.61	—	—			—					— / —
	MW22	9:55	✓	✓	✓	✓	✓	21.98	11.87 / 11.87	12.20 / 12.20	—	—			—					/

Comments: ____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0062G LOCATION: 17601 Hesperian Bl San Lorenzo DATE: 11/27/95

CLIENT/STATION NO.: 0608 FIELD TECHNICIAN: Chuck Graves DAY OF WEEK: Monday

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH) SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh / Weathered / Gas / Oil	VISCOSITY: Lite / Medium / Heavy	LIQUID REMOVED (gallons) SPH / H_2O
	MW23	10:00	✓	✓	✓	✓	✓	22.20	12.95 / 12.95	13.24 / 13.24	—	—			
	MW24	10:21	✓	✓	✓	✓	✓		13.38 / 13.38	13.71 / 13.71	—	—			
	MW25	10:09	✓	✓	✓	✓	✓		12.20 / 12.20	12.74 / 12.74	—	—			
	MW26	10:19	✓	✓	✓	✓	✓		12.55 / 12.55	13.00 / 13.00	—	—			
	E-1A	10:30	✓	✓	✓	✓	✓	24.30	11.84 / 11.84	13.20 / 13.20	—	—			

Comments: _____

Summary of Domestic Wells Sampling Contacts
ARCO Service Station #0608
17601 Hesperian, San Lorenzo

CALL AT LEAST ONE WEEK IN ADVANCE OF EVENT EACH QUARTER
Document with copy of this log in project file
DOCUMENT EVENT WITH A SAMPLING FORM FROM ALL HOMES WHETHER SAMPLED OR NOT!!!!!!!!!!!!!!!

Address	Contact Name Phone #	Date Contacted	Pump Assessment	Notes
590 Hacienda	Mr.& Mrs. Silva (510) 276-1534		operational	Need homeowmer there to sample. Well in back yard LEFT message 11/22
633 Hacienda	Mr. Dahmann (510) 276-3860	11/22/95 OK'd by Mr. Dahmann	operational	Well redeveloped with new pump as of 10/7/94
634 Hacienda	Mrs. Albright (510) 278-6094	Don't Call Well Blocked	non-operational	No way to collect a sample
642 Hacienda	Ms. Corregedor (510) 481-1063	Don't Call Not authorized	operational	Won't allow access
675 Hacienda	Mr. & Mrs. Roberts (510) 276-7389	No Answer	non-operational	Cannot sample because of well seal
17348 Via Encinas	Mr. Luehrs (510)278-9059	OK'd 11/22/95	non-operational	Ok to enter backyard and grab bailer sample if resident not home; KNOCK FIRST
17197 Via Magdalena	Mr. Scrag (510) 278-1904	OK'd 11/22/95	operational	Grab sample off hose bib on front porch LEFT Message 11/22
17200 Via Magdalena	Cavalry Church (510) 278-2555	11/22/95	non-operational	Grab sample from well inside shed in church yard get keys from church office
17203 Via Magdalena	Mrs. Toles (510)276-6797	OK'd 11/22/95	operational	OK to enter back yard and sample if not home; KNOCK FIRST!
17302 Via Magdalena	Mr. & Mrs. Johanson (510) 278-5987	OK'd 11/22/95	operational	Sample from hose bib on lower right of front porch
17349 Via Magdalena	Mr. Kast (510)278-1263	OK'd 11/22/95	operational	OK to enter back yard and sample if not home; well shed in back yard; KNOCK FIRST!
17371 Via Magdalena	Mr. Manry (510) 317-9724	Don't Call Not authorized	operational	Won't allow access
17372 Via Magdalena	Mr. Pimental (510) 278-6304	OK'd 11/22/95	operational	Sampled from hose bib in back yard; resident is usually using the hose when you get there => 9:00 - 10:00 Am
17393 Via Magdalena	Mr. Hull (510) 278-5576		non-operational LEFT MESSAGE 11/22/95	Pump disassembed. Try to bail sample from well in back yard. OK to enter if not home; KNOCK FIRST

9:00 - 10:00

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: SP-1

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 20.25 - DTW 12.05 = 8.20 x Gal/Linear Foot 0.17 = 1.39 x Number of Casings 3 = Calculated Purge 4.18

DATE PURGED: 11/28/95 START: 1433 END (2400 hr): 1437 PURGED BY: PW & CG

DATE SAMPLED: 11/29/95 START: 1440 END (2400 hr): 1440 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
1434	1.5	7.31	815	25.3	Brown	>200	NO
1435	3.0	6.88	913	21.7	Cloudy	>200	NO
1437	4.5	6.89	956	21.8	Cloudy	>200	NO

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP-1	11/28	1440	3	40 ML	VOA	HCL	Gas Btex
↓	↓	↓	1	500	Poly	H_2SO_4	Ammonia
↓	↓	↓	1	500		NP	Sulfate, Nitrate
			1	1 l	↓	HNO_3	Total Iron

REMARKS: MV: 88 / MV: 74 ✓ / MV: 72 — H_2S: 0 ppm; FE Iron: .20 mg/L; DO: 1.0 ✓

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: SP-2

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 18.88 - DTW 11.27 = 7.61 x Gal/Linear Foot .17 = 1.29 x Number of Casings 3 = Calculated Purge 3.88

DATE PURGED: 11/28/95 START: 1140 END (2400 hr): 1145 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 1150 END (2400 hr): 1150 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE ~~°F~~ °C	COLOR	TURBIDITY	ODOR
11:43	1.25	6.85	950	28.5	Brown	>200	NO
11:44	2.50	6.76	966	23.6	Brown	>200	NO
11:45	3.75	6.74	690	25.7	Brown	>200	NO

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: 13
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP-2	11-28-95	1150	~~3~~ 4	40 ML	VOA	HCL	GAS BTEX
			1	500 ML	Poly	NP	SULFATE NITRATE
			1	500 ML		H_2SO_4	AMMONIA
			1	LIT		HNO_3	~~TOTAL~~ IRON Total

REMARKS: 1st MV: 2 FE Iron = .6 mg/L
2nd MV: 20
3rd MV: 34 D.O. = 1.00 ppm
H_2S = 0 mg/L

Phil M. G

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: E-1A

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 24.30 - DTW 13.20 = 11.10 x Gal/Linear Foot 1.5 = 16.65 x Number of Casings 3 = Calculated Purge 49.95

DATE PURGED: 11/28/95 START: 13:32 END (2400 hr): 1359 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 1400 END (2400 hr): 1400 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1343	17	9.11	1070	23.1	Brown	>200	Faint
1352	34	7.48	959	22.0	Clear	26.8	None
1359	51	7.40	880	21.4	Clear	36.8	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
E-1A	11/28	1400	3	40 mL	VOA	HCL	Gas Btex
			1	500 mL	500 Poly	H_2SO_4	Ammonia
			1	500 ml	500 Poly	NP	Sulfate, Nitrate
			1	1 l	1 l Poly	HNO_3	Total IRON

REMARKS: MV: 40
MV: -072 ✓
MV: -21

DO: 1.0 ppm
H_2S: 0 mg/L
FE IRON: .15 mg/L

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW5

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 14.00 - DTW 12.57 = 1.43 x Gal/Linear Foot 0.66 = 0.94 x Number of Casings 3 = Calculated Purge 2.83

DATE PURGED: 11/28/95 START: 1455 END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
	1						
	2		Well is Dry				
	3		No Sample				

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: 29-12
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW5	11/28		3	40 ML	VOA	HCL	GAS BTEX
			No Sample				

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW7

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 19.00 - DTW 12.55 = 6.45 x Gal/Linear Foot 0.38 = 2.45 x Number of Casings 3 = Calculated Purge 7.35

DATE PURGED: 11/28/95 START: 9:23 END (2400 hr): 9:27 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 930 END (2400 hr): 930 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:25	2.5	7.10	811	67.4	Brown	>200	ND
9:26	5.0	7.05	807	68.5	Brown	>200	ND
9:27	7.5	7.05	832	69.3	Brown	>200	ND

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW7	11/28	930	3	40mL	VOA	HCL	GAS BTEX
MW7	11/28	930	3	40mL	VOA	HCL	MTBE

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW8

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 22.00 - DTW 11.12 = 10.88 x Gal/Linear Foot 0.38 = 4.13 x Number of Casings 3 = Calculated Purge 12.40

DATE PURGED: 11/28/95 START: 12:45 END (2400 hr): 1251 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 1255 END (2400 hr): 1255 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE °C	COLOR	TURBIDITY	ODOR
1248	4.25	6.70	901	21.9	Clear	9.24	NO
1249	8.50	6.71	863	21.9	Clear	8.26	NO
1251	12.75	6.73	846	22.2	Clear	4.62	NO

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: 29-11
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW8	11/28	1255	3 4	40 ML	VOA	HCL	Gas Btex, MTBE
MW8	↓	↓	1	1 L 500	Poly	H_2SO_4	Ammonia
MW8	↓	↓	1	500	Poly		Sulfate, Nitrate
MW8	↓	↓	1	1L	Poly		Total Iron

REMARKS:
1 MV: 0
2 MV: 0 ✓
3 MV: 0

Fe IRON = .4 mg/L ✓
H_2S = 0 mg/L
D.O. = .08 ppm

PAGE

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW9

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 19.00 - DTW 10.64 = 8.36 x Gal/Linear Foot 0.38 = 3.17 x Number of Casings 3 = Calculated Purge 9.53

DATE PURGED: 11/28/95 START: 8:59 END (2400 hr): 904 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 905 END (2400 hr): — SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
901	3.25	7.28	803	64.3	Brown	>200	NO
902	6.50	7.11	821	66.6	Brown	>200	NO
904	9.75	7.02	818	66.9	Brown	>200	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW28~~	11/28	905	3	40 mL	VOA	HCl	GasBTEX
MW9	11/28	905	3	40mL	VOA	HCl	MTBE

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW10

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 22.00 - DTW 11.39 = 10.61 x Gal/Linear Foot 0.38 = 4.03 x Number of Casings 3 = Calculated Purge 12.09

DATE PURGED: 11-28-95 START: 1041 END (2400 hr): 1046 PURGED BY: PW & CG

DATE SAMPLED: 11-28-95 START: 1050 END (2400 hr): 1050 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE ~~°F~~ °C	COLOR	TURBIDITY	ODOR	MV
~~1043~~	4	7.31	1030	21.7	Cloudy	26.2	NO	16
1044	8	7.08	1024	21.8	Clear	13.26	NO	8
1046	12	6.99	1021	21.8	Clear	8.34	NO	5

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW10	11/28	1050	3 4	40 ml	VOA	HCL	GAS Btex, MTBE
MW10	"	"	1	500 ml	Poly	NP	Sulfate, Nitrate
MW10	"	"	1	500 ml	Poly	H_2SO_4	Ammonia
			1	1 l	Poly	HNO_3	Total Iron

REMARKS: 1st MV: 16 Fe Iron = .40 mg/L
2nd MV: 8 H_2S: 0 mg/L
3rd. MV: 5 DO: .96 ppm

Neil M. Hr

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW11

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 19.35 - DTW 12.25 = 7.10 x Gal/Linear Foot 0.38 = 2.70 x Number of Casings 3 = Calculated Purge 8.10

DATE PURGED: 11/27/95 START: 10:46 END (2400 hr): 10:50 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 10:55 END (2400 hr): 10:55 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:46	2.75	6.64	802	65.4	Brown	>200	NO
10:48	5.50	6.69	812	66.9	Brown	>200	NO
10:50	8.25	6.72	809	67.3	Brown	>200	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW11	11/27	10:55	3	40 mL	VOA	HCL	GRO BTEX
↓	↓	↓	↓	↓	↓	↓	MTBE

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW13

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☑ Electronic indicator 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 23.50 - DTW 14.03 = 9.47 x Gal/Linear Foot 0.38 = 3.59 x Number of Casings 3 = Calculated Purge 10.79

DATE PURGED: 11/28/95 START: 9:13 END (2400 hr): 919 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 920 END (2400 hr): 920 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
915	35	6.97	808	67.2	Brown	7200	NO
917	7.0	6.98	846	68.9	↓	7200	NO
919	11.0	7.02	847	68.9	↓	7200	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-4
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW13	11/28	920	3/4	40 ML	VOA	HCL	GAS BTEX, MTBE
				~~40~~	~~VOA~~	~~HCL~~	~~MTBE~~

REMARKS: _____

Phil W. [illegible]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW14

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 29
- ☐ 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 23.55 - DTW 10.67 = 12.88 x Gal/Linear Foot 3 = 4.89 x Number of Casings 3 = Calculated Purge 14.68

DATE PURGED: 11/27/95 START: 10:59 END (2400 hr): 1104 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1105 END (2400 hr): 1105 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:00	5	7.15	768	66.5	Cloudy	>200	NO
11:02	10	7.11	779	67.6	Cloudy	>200	NO
11:04	15	7.17	784	68.2	Cloudy	>200	NO

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW14	11/27	1105	3	40 ML	VOA	HCL	GAS BTEX
↓	↓	↓	↓	↓	↓	↓	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW15

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 23.75 - DTW 11.88 = 11.87 x Gal/Linear Foot 0.38 = 4.51 x Number of Casings 3 = Calculated Purge 13.53

DATE PURGED: 11/27/95 START: 11:23 END (2400 hr): 11:27 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1130 END (2400 hr): 1130 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:24	4.5	7.10	768	64.6	Cloudy	>200	MOD
11:26	9.0	6.95	778	65.8	Cloudy	>200	MOD
11:27	13.75	6.90	787	65.9	Clear	30.2	MOD

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW15	11/27	1130	3	40 mL	VOA	HCL	Gas Btex
MW15	11/27	1130	3	40mL	VOA	HCL	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW16

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 23.45 - DTW 12.43 = 11.02 x Gal/Linear Foot 0.38 = 4.19 x Number of Casings 3 = Calculated Purge 12.57

DATE PURGED: 11/27/95 START: 1138 END (2400 hr): 1144 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1145 END (2400 hr): 1145 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
1141	4.25	7.09	775	64.9	Brown	>200	ND
1142	8.50	7.09	788	67.0	Brown	>200	ND
1144	13.75	7.17	812	67.9	Brown	>200	ND

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: 13
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-4
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW16	11/27	1145	3	40 ML	VOA	HCL	GRO BTEX
↓	↓	1145	3	40 ML	VOA	HCL	MTBE

REMARKS: _____

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW17

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 13.00 TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 24.00 - DTW 12.48 = 11.52 x Gal/Linear Foot 0.38 = 4.38 x Number of Casings 3 = Calculated Purge 13.14

DATE PURGED: 11/28/95 START: 948 END (2400 hr): 951 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 955 END (2400 hr): 955 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
949	4.5	~~7.73~~ 7.14	773	63.3	Cloudy	>200	NO
950	9.0	7.04	787	65.1	Cloudy	>200	NO
951	13.25	7.01	785	65.5	Cloudy	66.1	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-4
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW17	11/28	955	3	40 mL	VOA	HCL	GRO BTEX, MTBE
MW17	11/28						

REMARKS: _____

PACE

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW18

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 29
- ☐ 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 21.95 - DTW 11.47 = 10.48 x Gal/Linear Foot 0.38 = 3.98 x Number of Casings 3 = Calculated Purge 11.94

DATE PURGED: 11/27/95 START: 11:53 END (2400 hr): 1159 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1200 END (2400 hr): 1200 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:56	4	7.20	787	65.3	Brown	>200	NO
11:58	8	7.13	805	66.6	Cloudy	>200	NO
11:59	12.	7.09	825	67.4	Cloudy	>200	NO

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: 13
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW18	11/27	1200	3	40 mL	VOA	HCL	GRO BTEX
MW18	11/27	1200	3	40mL	VOA	HCL	MTBE

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW19

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 29
- ☐ 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 21.97 - DTW 11.06 = 10.91 x Gal/Linear Foot 0.38 = 4.14 x Number of Casings 3 = Calculated Purge 12.44

DATE PURGED: 11/27/95 START: 1205 END (2400 hr): 1209 PURGED BY: PW & CG

DATE SAMPLED: 11-27-95 START: 1210 END (2400 hr): 1210 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:08	4.25	7.26	800	65.8	Cloudy	7200	NO
12:09	8.50	7.20	804	66.2	Brown	>200	NO
1209	12.75	7.14	796	65.9	Brown	>200	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-6
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW19	11/27	1210	3	40 mL	VOA	HCL	Gas B/BEX
MW19	11/27	1210	3	40mL	VOA	HCL	MTBE

REMARKS: _____

Paces

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 COLE 26 LOCATION: 17601 HESPERIAN BLVD. SAN LORENZO WELL ID #: MW21

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 29
- ☐ Other; _____

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

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

TD 22.00 - DTW 11.07 = 10.93 x Gal/Linear Foot 0.38 = 4.15 x Number of Casings 3 = Calculated Purge 12.45

DATE PURGED: 11/27/95 START: 12:21 END (2400 hr): 1226 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1230 END (2400 hr): 1230 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1223	4.25	7.26	827	65.1	Cloudy	>200	NO
1224	8.50	7.23	843	67.2	Cloudy	>200	NO
1226	12.75	7.28	832	66.7	Cloudy	>200	NO

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: 29-6
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW21	11/27	1230	3	40mL	VOA	HCL	GAS BTEX
MW21	11/27	1230	3	40mL	VOA	HCL	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW22

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 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 21.98 - DTW 11.87 = 10.11 x Gal/Linear Foot 0.38 = 3.84 x Number of Casings 3 = Calculated Purge 11.52

DATE PURGED: 11/27/95 START: 1233 END (2400 hr): 1237 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1240 END (2400 hr): 1240 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1235	4	7.33	818	65.9	Brown	>200	NO
1236	8	7.21	814	66.6	Brown	>200	↓
1237	12	7.23	816	66.8	Brown	>200	↓

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-7
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW22	11/27	1240	3	40 mL	VOA	HCL	GAS BTEX
MW22	11/27	1240	3	40mL	VOA	HCL	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW23

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☒ Electronic indicator 29
- ☐ 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 22.20 - DTW 12.95 = 9.25 x Gal/Linear Foot 0.38 = 3.52 x Number of Casings 3 = Calculated Purge 10.56

DATE PURGED: 11/27/95 START: 1248 END (2400 hr): 1251 PURGED BY: PW & CG

DATE SAMPLED: 11/27/95 START: 1255 END (2400 hr): 1255 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1249	3.5	7.25	859	66.8	Cloudy	7200	NO
1250	7.0	7.20	860	67.0	Cloudy	7200	NO
1251	11.0	7.09	856	66.7	Cloudy	7200	NO

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: 13
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW23	11/27	1255	3	40 mL	VOA	HCL	GAS BTEX
MW23	11/27	1255	3	40mL	VOA	HCL	MTBE

REMARKS: _____

Page

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW 24

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 20.00 - DTW 13.38 = 6.62 x Gal/Linear Foot 0.17 = 1.13 x Number of Casings 3 = Calculated Purge ~~4.13~~ 3.39

DATE PURGED: 11/28/95 START: 843 END (2400 hr): 847 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 850 END (2400 hr): 850 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
844	1.25	6.99	823	66.6	Brown	>200	NO
846	2.5	7.06	859	67.8	Brown	>200	NO
847	3.5	7.03	835	67.2	Brown	>200	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 29-2
- ☐ Airlift Pump: _____
- ☒ ~~Centrifugal Pump~~: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-2
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW24	11/28	850	3	40 ML	VOA	HCL	GAS BTEX
MW24	11/28	850	3	40mL	VOA	HCL	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW25

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 21.00 - DTW 12.20 = 8.80 x Gal/Linear Foot .17 = 1.50 x Number of Casings 3 = Calculated Purge 4.5

DATE PURGED: 11/28/95 START: 15:13 END (2400 hr): 1518 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 1520 END (2400 hr): 1520 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1514	1.5	6.90	885	22.6	Brown	3 7200	NO
1516	3.0	6.90	918	22.7	Brown	>200	NO
1518	4.5	6.90	845	22.9	Brown	7200	NO

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
MW25	11/28	1520	34	40 ML	VOA	HCL	GRO Btex, MTBE
↓	↓	↓	↓	500	500 Poly	H_2SO_4	Ammonia
↓	↓	↓	↓	500	500 Poly	NP	Sulfate, Nitrate
				1 L	1 L/Poly	HNO3	Total Iron

REMARKS:

1 MV @ 157 / FE IRON .56 mg/l
2 MV @ 154 / H_2S = 0 mg/l ✓
3 MV @ 149
DO = 1.0 ppm

Page

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: MW26

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 20.00 - DTW 12.55 = 7.45 x Gal/Linear Foot .17 = 1.27 x Number of Casings 3 = Calculated Purge 3.81

DATE PURGED: 11/28/95 START: 830 END (2400 hr): 836 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 840 END (2400 hr): 840 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
833	1.25	6.90	810	67.1	Brown	>200	NO
835	2.50	7.07	808	67.3	Brown	>200	NO
836	4.00	7.01	780	66.8	Brown	>200	NO

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: 13
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW26	11/28	840	3	40 ML	VOA	HCL	GAS BTEX
MW26	11/28	840	3	40ml	VOA	HCL	MTBE

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17200VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
		DRY @ 12.20 Feet					

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
17200VM	11		3 4	40 ML	VOA	HCL	GRO BTEX, MTBE

REMARKS: NO Sample

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 633H

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: 11/28/95 START: 1551 END (2400 hr): 1600 PURGED BY: PW & CG

DATE SAMPLED: 11/28/95 START: 1600 END (2400 hr): 1600 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:54	4	7.02	897	17.8	Cloudy	128.7	NO
15:58	8	7.01	924	18.2	Clear	36.4	NO
1600	12	6.99	945	18.5	Clear	24.6	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
633H	11/28	1600	3 4	40 ml	VOA	HCL	GRO BTEX, MTBE
↓	↓	↓					

REMARKS:

MV = -4.0 / FE IRON: .1 mg/L
MV = -5.0 / H_2S: 0 ppm
MV = -5.0 DO: 1 ppm

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17197VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/29/95 START: 1255 END (2400 hr): 1255 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			Purged For 5 MIN:				
			Took Sample				

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17197VM	11/29	1255	3	40 ML	VOA	HCL	GAS BTEX

REMARKS: _____

Page

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17203VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/29/95 START: 1300 END (2400 hr): 1300 SAMPLED BY: PW & CG

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

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
17203VM	11/29	1300	3	40 ML	VOA	HCL	GAS BTEX

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 COde 26 LOCATION: 17601 HESPERIAN Blvd. San Lorenzo WELL ID #: 17302 VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/29/95 START: 13:20 END (2400 hr): 13:20 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			Grab				
			Sample				

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ 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
17302 VM	11/29	1320	3	40 ML	VOA	HCL	GAS BTEX

REMARKS: Ran Pump for 5 minute before Collecting Sample

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17349VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/29/95 START: 13:30 END (2400 hr): 13:30 SAMPLED BY: PW & CG

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

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17349VM	11/29	1330	3	40 ML	VOA	HCL	GAS BTEX

REMARKS: RAN pump FOR 5 minute before pulling samples.

Rachel Wilson

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17348 VE

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11-29-95 START: 1240 END (2400 hr): 1240 SAMPLED BY: PW & CG

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ 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
17348VE	11/29	1240	3	40 ML	VOA	HCL	GRAB BTEX

REMARKS: VERY little water in well. pump inoperable

Neal W. Gr

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17372VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: ~~11/30~~ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: 11/30/95 START: 930 END (2400 hr): 930 SAMPLED BY: PW & CG

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17372VM	11/30	930	3	40ML	VOA	HCL	GAS BTEX

REMARKS: Ran water for ten minutes before pulling sample.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 COLE 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 17393 VM

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 21.45 - DTW 14.26 = 7.19 x Gal/Linear Foot 0.38 = 2.73 x Number of Casings 3 = Calculated Purge 8.20

DATE PURGED: 11/30/95 START: 930 END (2400 hr): 938 PURGED BY: PW & CG

DATE SAMPLED: 11/30/95 START: 940 END (2400 hr): 940 SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
933	2.75	6.91	860	62.7	Clear	9.84	NO
9:35	5.50	6.82	847	63.6	Clear	1.08	NO
9:38	8.25	6.86	836	64.2	Clear	1.24	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17393VM	11/30	940	3	40 ML	VOA	HCL	GAS BTEX

REMARKS: _____

Phil W. G

PACE

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 590H

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
590H	11/29		3	40 ML	VOA	HCL	GAS BTEX

REMARKS: Could NOT MAKE Contact W/RESIDENT.

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: 675H

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
		NO Sample					

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ 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
675H			3	40 ML	VOA	HCL	GAS BTEX

REMARKS: Could NOT Contact Resident

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: TB-1

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	11/28	—	3	40 ML	VOA	HCL	GRO BTEX

REMARKS: _____

PACIFIC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 26 LOCATION: 17601 Hesperian Blvd. San Lorenzo WELL ID #: TB-2

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: PW & CG

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

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

DATE PURGED: _____ START: _____ END (2400 hr): _____ PURGED BY: PW & CG

DATE SAMPLED: _____ START: _____ END (2400 hr): _____ SAMPLED BY: PW & CG

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-2	11/30	—	2	40 mL	VOA	HCl	GAS BTEX

REMARKS: _____

Pacific

ARCO Products Company
Division of AtlanticRichfieldCompany

330-0026.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. 0008	City (Facility) 17601 Hesperian BL 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 PL #440 San Jose, CA		Contract number 1707600

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 ☐	* MTBE	MTBE by 8240
SP-1-B		4		✓		✓	HCL	11/28/95	14:40		✓										✓	
SP-2-B									11:50		✓										✓	
E-1A-B									14:00		✓										✓	
MW7									9:30		✓										✓	
MW8-B									12:55		✓										✓	
MW9									9:05		✓										✓	
MW10B									10:50		✓										✓	✓
MW13									9:20		✓										✓	
MW17									9:55		✓										✓	
MW24									8:50		✓										✓	
MW25									15:20		✓										✓	
MW26									8:40		✓										✓	
233H		↓		↓		↓	↓		16:00		✓										✓	
TB-1		2		↓		↓	↓	↓	—		✓										✓	
																					CG	

Special detection Limit/reporting

Special QA/QC

Remarks

* LAB: Please Follow WSPA Protocol for MTBE Report Results on Separate Report

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	11/28/95	1800	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory

Date: — Time: —

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

[redacted] Division of AtlanticRichfieldCompany

330-006.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. 0008	City (Facility) 17601 Hesperian Bl 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 Pl #440 San Jose, CA		Contract number 1707600

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 G&S 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 ☐		
7197VM		3		✓		✓	HCL	11/29/95	1255		✓											
7203VM		↓		↓		↓	↓	↓	1300		✓											
7302VM									1320		✓											
7349VM									1330		✓											
7348VE								↓	1240		✓											
7372VM								11/30/95	930		✓											
7393VM		↓						↓	940		✓											
TB-2		2		↓		↓	↓	↓	—		✓											

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	11/30/95	1445	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

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

TC-3292 (2-91)

ATTACHMENT C

ENHANCED INTRINSIC BIOREMEDIATION WORK PLAN AND RI/FS SUPPLEMENTAL INFORMATION

PACIFIC
ENVIRONMENTAL
GROUP, INC.

June 28, 1995
Project 330-006.3E

Ms. Amy Leech
Department of Environmental Health
Environmental Protection Division
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Work Plan and RI/FS Supplemental Information
ARCO Service Station 0608
17601 Hesperian Boulevard
San Lorenzo, California

Dear Ms. Leech:

On behalf of ARCO Products Company (ARCO), Pacific Environmental Group, Inc. (PACIFIC) has prepared this letter in response to our May 9, 1995 meeting between Alameda County Health Care Services Agency (ACHCSA), Regional Water Quality Control Board (RWQCB), ARCO, and PACIFIC regarding the site referenced above. In accordance with the May 9, 1995 meeting minutes (PACIFIC, May 24, 1995), this letter presents the following items:

- Results of recent groundwater biodegradation feasibility testing.
- Work plan for enhancing intrinsic bioremediation.
- Results of an additional risk assessment evaluation.
- Revisions to the Remedial Investigation/Feasibility Study (RI/FS) (PACIFIC, November 22, 1994).
- Future work/issues.

Each of these items is discussed below.

The purpose of this letter is to provide sufficient information to obtain ACHCSA approval of the intrinsic bioremediation work plan and revised RI/FS. It is ARCO's goal

to proceed with implementation of the intrinsic bioremediation enhancement program and the RI/FS-recommended remedial action as quickly as possible. However, to expedite the process, we wish to point out that it is not necessary for these two items to be approved simultaneously. We request that the intrinsic bioremediation enhancement program be approved as soon as possible so that it can be implemented in July 1995. We also request that the RI/FS be approved in August 1995 in order to implement the approved remedial action and provide community notification in a timely manner.

GROUNDWATER BIODEGRADATION TESTING

PACIFIC conducted an *in-situ* groundwater bioremediation baseline study during the second quarter 1995. The three objectives and methodology to achieve each objective are discussed below.

1. **To improve the understanding of the factors that control the biodegradation of dissolved petroleum hydrocarbons in groundwater.** PACIFIC reviewed published technical case studies. These studies identified and described the nature of the groundwater parameters that are intrinsic indicators of *in-situ* groundwater bioremediation. The studies indicate that the extent of aerobic biodegradation of petroleum hydrocarbons is generally controlled by the amount of hydrocarbon present, the rate of oxygen transfer in the subsurface, and the background oxygen content of the groundwater. Further, hydrocarbon biodegradation is essentially an oxidation/reduction reaction where the hydrocarbons are oxidized (donates electrons) and oxygen is reduced (accepts electrons). Other compounds can act as electron acceptors, including nitrate, sulfate, and ferrous iron; however, oxygen is the favored electron acceptor in this process. As a result of the biodegradation process, the studies have shown that concentrations of the electron acceptors decrease below expected background levels. The indicator compounds with the expected concentration ranges for background and biodegradation conditions, based on literature review, are presented in Table 1. The studies reviewed are referenced at the end of this letter and served as the basis for the field testing portion of this study.

2. **To establish baseline concentrations for the groundwater parameters that are indicators of intrinsic bioremediation.** PACIFIC collected additional groundwater samples from the monitoring and domestic irrigation wells sampled during the second quarter 1995 groundwater monitoring and sampling event. The samples were analyzed by PACIFIC in the field for color, odor, pH, electrical conductivity, oxidation/reduction potential, temperature, turbidity, hydrogen sulfide, dissolved oxygen, and ferrous iron. Groundwater samples were also submitted to Sequoia Analytical for analyses of sulfate, nitrate calculated as nitrate, total petroleum hydrocarbons

calculated as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds). The results of field and laboratory analyses are presented in Table 1. The results of dissolved oxygen analyses are shown on Figure 1. The certified analytical reports, chain-of-custody documentation, and field testing procedures are presented as Attachment A.

3. **To identify and recommend strategies to enhance the intrinsic biodegradation process.** Based on the results of field and laboratory sampling, PACIFIC found that dissolved oxygen is generally a limiting factor in wells impacted by dissolved petroleum hydrocarbons. Additionally, in the wells where dissolved oxygen levels are below background, the nitrate calculated as nitrate concentrations are also lower than background. This finding confirms intrinsic biodegradation is occurring as nitrate is the next favorable electron acceptor utilized once dissolved oxygen is depleted. Based on these findings, PACIFIC recommends enhancing the intrinsic bioremediation occurring at the site by elevating the dissolved oxygen concentrations within the plume. A work plan for increasing dissolved oxygen levels and to continue monitoring the biodegradation process is presented in the next section.

WORK PLAN FOR ENHANCING INTRINSIC BIOREMEDIATION

This brief work plan was prepared to describe procedures to enhance the intrinsic bioremediation in groundwater that is occurring at the site. This work plan proposes a dissolved oxygen enhancement program and a groundwater monitoring program to evaluate the performance of the dissolved oxygen enhancement. A work plan overview, proposed scope of work, report, and schedule follow.

Overview

PACIFIC proposes to conduct a pilot study to determine if enhancement of dissolved oxygen concentrations is feasible at the site. Oxygen releasing compounds (ORC) will be placed into selected existing wells to increase the dissolved oxygen concentrations in the areas of Wells MW-8 and MW-10 (Figure 1).

Wells SP-1 and SP-2 will be used as the ORC-containing wells. These wells were selected because of their proximity to nearby groundwater monitoring wells. Wells E-1A and MW-8 will serve as the downgradient observation wells for Well SP-1. Well MW-10 will serve as the nearby observation well for Well SP-2. If performance groundwater monitoring indicates that dissolved oxygen concentrations increase in the downgradient observation wells, PACIFIC will continue the dissolved oxygen enhancement program using ORC in the monitoring and homeowner wells impacted by petroleum hydrocarbons. ORC is a formulation of very fine, insoluble magnesium peroxide

that releases oxygen at a slow, controlled rate when hydrated. ORC product literature is presented as Attachment B. ORC will be used through the remainder of 1995 following a successful pilot study, then its use will be reevaluated.

Dissolved Oxygen Enhancement and Performance Monitoring

The dissolved oxygen enhancement and performance monitoring program will consist of the following.

- ORC will be placed into Wells SP-1 and SP-2. ORC is available in fabric bags, known as socks. The ORC socks will be placed throughout the screened interval in each well.
- Wells E-1A and MW-8 will serve as the downgradient observation well for Well SP-1. Well E-1A is an operational groundwater extraction well at the site. For the purposes of this pilot study, this well will be shutdown on a conditional basis, otherwise the oxygen emanating from Well SP-1 will preferentially migrate to, and be extracted by Well E-1A. Short-term cessation of groundwater extraction will also allow PACIFIC to evaluate the affect on the migration of the dissolved petroleum hydrocarbon plume. If quarterly groundwater monitoring data indicates that dissolved petroleum hydrocarbons are migrating off site, PACIFIC is willing to resume groundwater extraction. In the event quarterly groundwater monitoring data indicates that dissolved petroleum hydrocarbons are not migrating off site, or if the data is inconclusive, the groundwater extraction system will remain shutdown until data supports its reactivation. Cessation of groundwater extraction will also allow oxygen and nutrient rich groundwater to flow downgradient from site in to the area of Wells MW-8 and MW-10.
- Well MW-10 will serve as the nearby observation well for Well SP-2.
- The dissolved oxygen concentration in ORC and observation monitoring wells will be measured on a monthly basis.
- During the fourth quarter 1995 groundwater monitoring and sampling event, PACIFIC will repeat the baseline groundwater biodegradation study that was completed in June 1995 (discussed above) in the ORC and selected upgradient and downgradient wells. The results of the follow-up study will be compared to the baseline data.

Reporting

A summary of the enhancement program will be included in the third quarter 1995 groundwater monitoring report, if applicable. The summary will describe the field procedures and results of dissolved oxygen monitoring.

A summary of the final results of the dissolved oxygen enhancement program will be included in the fourth quarter 1995 groundwater monitoring report for the site. The report will include a discussion of the enhancement program, a comparison of dissolved oxygen levels and petroleum hydrocarbon concentrations, any difficulties encountered using ORC, and certified analytical reports and chain-of-custody documentation. The report will also include discussion of the effects on the petroleum hydrocarbon plume following shutdown of Well E-1A. Based on these results, PACIFIC will provide a recommendation to continue the program for another calendar year, or to discontinue the dissolved oxygen enhancement program.

Schedule

PACIFIC proposes to begin the dissolved oxygen enhancement program within 10 working days of written approval of this work plan from ACHCSA, or as quickly as ORC can be obtained from the supplier. The program will continue through 1995, as described above.

ADDITIONAL RISK ASSESSMENT EVALUATION

At the request of ACHCSA in April 1995, PACIFIC evaluated the potential health risk to residents from inhalation of soil vapor in an enclosed space, or house. The objective of this evaluation was to determine the potential health risk resulting from inhalation of volatilized benzene which could migrate from the groundwater surface through the overlying soil and into houses. PACIFIC used the methodology that was approved by ACHCSA in November 1993 to determine benzene volatilization and the resulting pollutant flux across the ground surface. A box model representing a house was then used; the key parameters, like area of the residence, crack factor, and air recirculation rate, were provided by Dr. Ravi Arulanantham of the RWQCB. Based on this methodology, PACIFIC determined that the potential carcinogenic health risk from this additional exposure pathway is 5.8×10^{-6} for children and 1.5×10^{-7} for adults. At these levels, no adverse health effects would be expected to occur.

The methodology, assumptions, and results of this evaluation were presented at the May 9, 1995 meeting between ACHCSA, RWQCB, ARCO, and PACIFIC. At that time, Dr. Arulanantham approved this evaluation and requested written submittal of the

results. The methodology, assumptions, and results of this evaluation are provided in Appendix C as Tables C-1 and C-2. It is our understanding from the May 9, 1995 meeting that Dr. Arulanantham verbally approved this evaluation during the May 9, 1995 meeting and that ACHCSA will approve this evaluation with approval of the revised RI/FS.

RI/FS REVISIONS

PACIFIC has updated the RI/FS with additional data collected since November 1993 and the supplemental information presented in this letter. The RI/FS text revisions are presented as Attachment D. The main revisions of the RI/FS include the presentation of the results for the groundwater biodegradation testing and additional risk assessment evaluation, and the modifications to Alternative 2 suggested by ACHSCA. The RI/FS tables, figures, and appendices will be updated, as appropriate, for the final submittal. Text revision marks were used to facilitate your review; inserted text is marked using a double-underline and deleted text is marked using a strikethrough. All revisions are marked with a vertical revision line located on the right margin of the page for quick reference.

As agreed in the May 9, 1995, once approval of the RI/FS revisions is received, a complete bound copy of the revised RI/FS will be submitted to replace the RI/FS (PACIFIC, November 22, 1994) that is currently on file with ACHCSA.

FUTURE WORK/ISSUES

The following items will be implemented according to the schedule described below once ACHCSA approves of the work plan for enhancing intrinsic bioremediation and the RI/FS revisions.

Activity	Date
ACHCSA Approval of the Work Plan and RI/FS Revisions	July 1995
Approved RI/FS Submittal to ACHCSA	August 1995
ACHCSA Final Approval of RI/FS Community Notification Implementation of RI/FS Recommended Remedial Action	September 1995
Groundwater Management Plan Submittal to ACHCSA	November 1995
Reevaluation of Enhanced In-situ Bioremediation Program	January 1996

If you have any questions regarding this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Keith Winemiller
Project Engineer

ORIGINAL SIGNED BY:

Debra J. Moser
Project Manager
CEG 1293

REFERENCES

Bianchi-Mosquera, Gino C., Allen-King, Richelle M., and Mackay, Douglas M., *Enhanced Degradation of Dissolved Benzene and Toluene Using Solid Oxygen Releasing Compound*, Ground Water Monitoring and Remediation, Volume 14, Number 1, Winter 1994.

Borden, Robert C., Gomez, Carlos A., and Becker, Mark T., *Geochemical Indicators of Intrinsic Bioremediation, Ground Water*, Volume 33, Number 2, March-April 1995.

McAllister, P. M. and Chiang, C. Y., *A Practical Approach to Evaluating Natural Attenuation of Contaminants in Ground Water*, Ground Water Monitoring and Remediation, Volume 14, Number 2, Spring 1994.

McAllister, P. M. and Chiang, C. Y., *Evaluation of Natural Attenuation of Petroleum Hydrocarbons in Groundwater*, Presented at CoBioRem Conference, Lansing Michigan.

Mobil EHSD, Princeton, and Stoneybrook Laboratories, *A Practical Approach to Evaluating Intrinsic Bioremediation of Petroleum Hydrocarbons in Groundwater*, November 1994.

Pacific Environmental Group, Inc., *Remedial Investigation/Feasibility Study, ARCO Service Station, 17601 Hesperian Boulevard, San Lorenzo, California,* November 22, 1994.

Pacific Environmental Group, Inc., *Meeting Minutes, May 9, 1995, Memorandum, ARCO Service Station 0608, 17601 Hesperian Boulevard, San Lorenzo, California*, May 24, 1995.

Salanitro, Joseph P., *The Role of Bioattenuation in the Management of Aromatic Hydrocarbon Plumes in Aquifers*, Ground Water Monitoring and Remediation, Volume 13, Number 4, Fall 1993.

United States Department of Commerce, National Technical Information Service, *Water Quality Criteria, Second Edition*, California Institute of Technology, Pasadena, California, July 1978.

Attachments:
- Table 1 - Groundwater Biodegradation Study Field and Laboratory Data
- Figure 1 - Dissolved Oxygen Results
- Attachment A - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Testing Procedures
- Attachment B - Oxygen Release Compound Product Literature
- Attachment C - Inhalation of Benzene Vapor in an Enclosed Space - Methodology, Assumptions, and Results
- Attachment D - RI/FS Revisions

cc: Ms. Juliett Shin, Alameda County Health Care Services Agency
Mr. Kevin Graves, Regional Water Quality Control Board
Dr. Ravi Arulanantham, Regional Water Quality Control Board
Mr. Michael Whelan, ARCO Products Company
Mr. Chris Winsor, ARCO Products Company

ATTACHMENT D

ORC PRODUCT LITERATURE

REGENESIS

Bioremediation Products

OXYGEN RELEASE COMPOUND (ORC®)

ORC RELEASES

OXYGEN SLOWLY

TO ENHANCE

BIOREMEDIATION.

OXYGEN RELEASE COMPOUND (ORC®)

BIOREMEDIATION – A NATURAL PROCESS

Bioremediation is a process by which microorganisms degrade certain hazardous substances. REGENESIS products enhance the supply of oxygen to naturally occurring microbes which metabolically transform toxic organic compounds into harmless by-products. This carefully designed process can help to clean up sites and inhibit the flow of polluted groundwater by creating permeable oxygen barriers.

A bioremediation system offers several advantages over other technologies. Other remediation methods may simply transfer the contaminants to another medium which requires removal, transportation, and possibly additional clean up. Bioremediation degrades contaminants on-site and has been shown to be more cost effective than other treatment technologies. The EPA actively promotes bioremediation as an ecologically sound, natural process.

Oxygen is often the limiting factor in aerobic bioremediation. Moisture and nutrients (such as phosphorus and nitrogen) are generally present in sufficient quantities, however, oxygen is rapidly consumed by microbes which thrive in an oxygen rich environment. Without adequate oxygen, contaminant degradation will either cease or may proceed by highly inefficient anaerobic processes. Thus, additional oxygen is needed to stimulate further aerobic microbial growth and activity.

OXYGEN RELEASE COMPOUND, ORC®

Oxygen Release Compound (ORC®) and details of its application are innovative technologies which enhance bioremediation. ORC is a patented formulation of a very fine, insoluble peroxygen that releases oxygen at a slow, controlled rate when hydrated. Its use has been demonstrated to increase the remediation of hydrocarbon contamination in soil and groundwater.

FEATURES

- Magnesium peroxide compound is activated by moisture
- Patented technology controls and prolongs the release of oxygen
- Moderate pH levels are maintained
- Fine particle size has stable, long shelf life
- No external coating of product is required to control rate of oxygen release
- Generates higher dissolved oxygen levels than possible with air

BENEFITS

- Provides a passive, cost-effective, long-term oxygen source
- Does not generate harmful residue; environmentally safe
- Ideal for *in-situ* remediation where other methods are impractical
- Will not disturb the flow pattern of the contaminated plume
- Does not volatilize pollutants
- Can be used as a redox control agent

ORC TECHNOLOGY

The product releases oxygen when it comes in contact with water as shown by the following equation:

$$MgO_2 + H_2O \rightarrow \tfrac{1}{2}O_2 \uparrow + Mg(OH)_2$$

ORC will stop releasing oxygen when dry and will again release when rehydrated. The by-products of the reaction are oxygen and ordinary magnesium hydroxide, which make ORC environmentally safe to use.

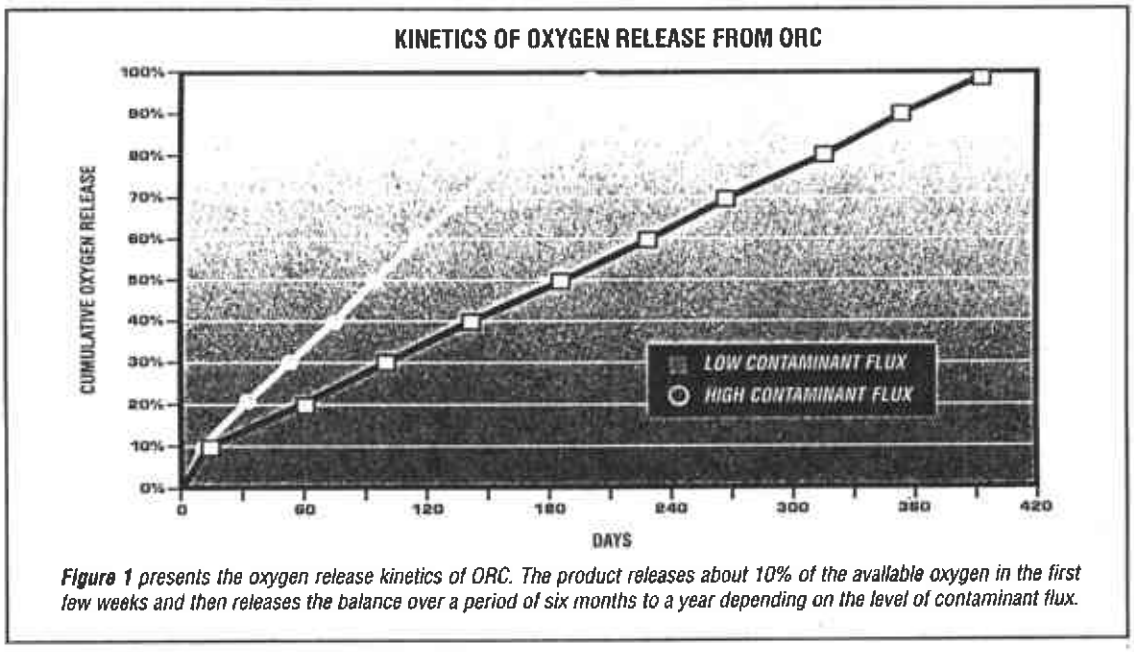

Figure 1 presents the oxygen release kinetics of ORC. The product releases about 10% of the available oxygen in the first few weeks and then releases the balance over a period of six months to a year depending on the level of contaminant flux.

GROUNDWATER APPLICATION – THE "OXYGEN BARRIER"

ORC should be considered for contaminated groundwater sites where aerobic bioremediation is the appropriate treatment technology. For application, ORC powder is mixed in a carrier matrix and contained in inert filter socks. A string of ORC Filter Socks is laced together and lowered into a well through the length of the contaminated saturated zone where contact with groundwater will initiate the release of oxygen. ORC Filter Socks are configured for two-, four-, and six-inch diameter wells (see Figure 2). When the oxygen returns to background levels, the socks containing ORC are removed from the well and, if necessary, new charges of ORC are added.

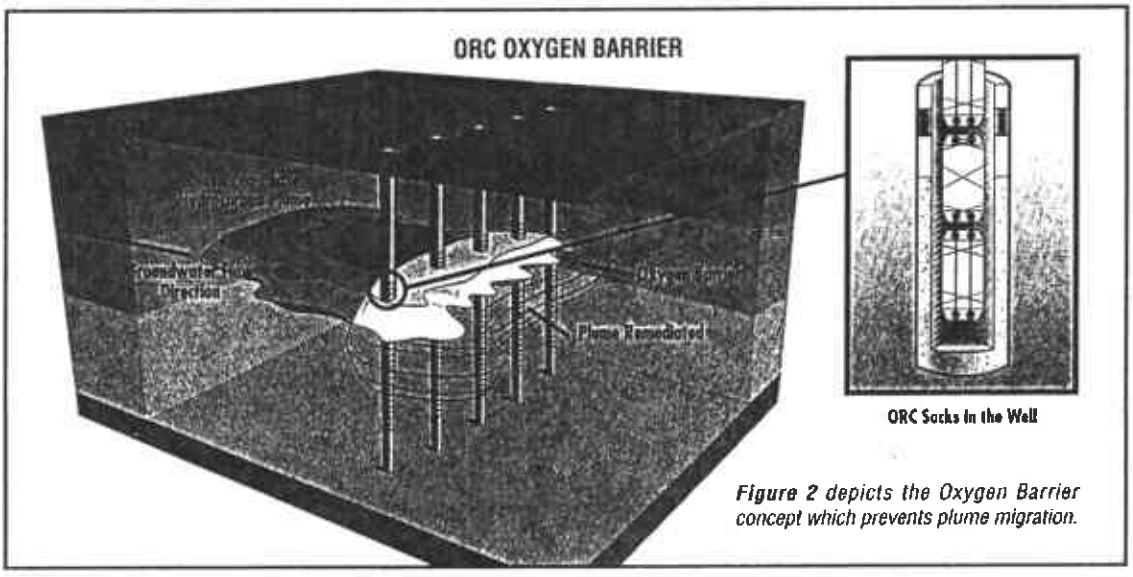

Figure 2 depicts the Oxygen Barrier concept which prevents plume migration.

ATTACHMENT E

INTRINSIC BIOREMEDIATION ENHANCEMENT PROGRAM
CERTIFIED ANALYTICAL REPORTS
CHAIN-OF-CUSTODY DOCUMENTATION,
AND FIELD DATA SHEETS

Sequoia Analytical

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

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 330-006.5B/0608/San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on October 24, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9510G68 -01	LIQUID, SP-1	10/23/95	TPHGBW Purgeable TPH/BTEX
9510G68 -02	LIQUID, SP-2	10/23/95	TPHGBW Purgeable TPH/BTEX
9510G68 -03	LIQUID, MW-8	10/23/95	TPHGBW Purgeable TPH/BTEX
9510G68 -04	LIQUID, MW-10	10/23/95	TPHGBW Purgeable TPH/BTEX

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

Very truly yours,

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608/San Lorenzo
Sample Descript: SP-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9510G68-01

Sampled: 10/23/95
Received: 10/24/95

Analyzed: 10/26/95
Reported: 10/31/95

QC Batch Number: GC102695BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	96

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608/San Lorenzo
Sample Descript: SP-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9510G68-02

Sampled: 10/23/95
Received: 10/24/95

Analyzed: 10/26/95
Reported: 10/31/95

QC Batch Number: GC102695BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**80**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		**C7-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608/San Lorenzo
Sample Descript: MW-8
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9510G68-03

Sampled: 10/23/95
Received: 10/24/95

Analyzed: 10/30/95
Reported: 10/31/95

QC Batch Number: GC103095BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**760**
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	**2.5**	**0.91**
Xylenes (Total)	**2.5**	**0.81**
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	109

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608/San Lorenzo
Sample Descript: MW-10
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9510G68-04

Sampled: 10/23/95
Received: 10/24/95

Analyzed: 10/26/95
Reported: 10/31/95

QC Batch Number: GC102695BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**510**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		**C7-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	108

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9510G68 01-04

Reported: Nov 1, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC102695BTEX22A	GC102695BTEX22A	GC102695BTEX22A	GC102695BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Lee	R. Lee	R. Lee	R. Lee
MS/MSD #:	9510F4101	9510F4101	9510F4101	9510F4101
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/26/95	10/26/95	10/26/95	10/26/95
Analyzed Date:	10/26/95	10/26/95	10/26/95	10/26/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	38
MS % Recovery:	100	100	100	93
Dup. Result:	10	10	10	30
MSD % Recov.:	100	100	100	100
RPD:	0.0	0.0	0.0	6.9
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

ARCO Products Company Division of AtlanticRichfieldCompany [redacted] Task Order No. 170210 Chain of Custody

ARCO Facility no. 0008	City (Facility) 17601 HESPERIAN blvd. SAN LORENZO	Project manager (Consultant) SHAW GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539	Contract number 170210
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PL #440 SAN JOSE, CA		Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH G&S 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 ☐		
SP-1	01	3		✓			HCL	10/23/95	1405		✓											
SP-2	02	↓		✓			↓	↓	1450		✓											
MW 8	03	↓		✓			↓	↓	1426		✓											
MW 10	04	↓		✓			↓	↓	1315		✓											

Special detection Limit/reporting

Special QA/QC

Remarks

OCT 24 12 22

Lab number 9510668

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: Charles M. Shaw	10/23/95	1700	Received by: M Dodson	10/23/95	1700
Relinquished by: M Dodson	10/24/95	9:45AM	Received by: Ruth R. Shaw	10/24/95	9:45
Relinquished by: Ruth R. Shaw	10/24/95		Received by laboratory:	10/24/95	1222

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 330-006.5B/0608,San Leandro

Enclosed are the results from samples received at Sequoia Analytical on November 3, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9511285 -01	LIQUID, EW-1	11/01/95	TPHGBW Purgeable TPH/BTEX

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

Very truly yours,

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608,San Leandro
Sample Descript: EW-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511285-01

Sampled: 11/01/95
Received: 11/03/95

Analyzed: 11/07/95
Reported: 11/16/95

QC Batch Number: GC110795BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	N.D.
Benzene	2.5	N.D.
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	2.5	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Client Proj. ID: 330-006.5B/0608,San Leandro
Lab Proj. ID: 9511285

Received: 11/03/95
Reported: 11/16/95

LABORATORY NARRATIVE

Please note:

The detection limits have been raised. Sample foaming necessitated sample dilution.

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Leandro
Matrix: LIQUID
Work Order #: 9511285 01

Reported: Nov 17, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC110795BTEX02A	GC110795BTEX02A	GC110795BTEX02A	GC110795BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9510L3207	9510L3207	9510L3207	9510L3207
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/7/95	11/7/95	11/7/95	11/7/95
Analyzed Date:	11/7/95	11/7/95	11/7/95	11/7/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.0	9.1	9.1	26
MS % Recovery:	90	91	91	87
Dup. Result:	8.8	8.9	8.8	25
MSD % Recov.:	88	89	88	83
RPD:	2.2	2.2	3.4	3.9
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK102795	BLK102795	BLK102795	BLK102795
Prepared Date:	11/7/95	11/7/95	11/7/95	11/7/95
Analyzed Date:	11/7/95	11/7/95	11/7/95	11/7/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.7	9.5	9.6	29
LCS % Recov.:	97	95	96	97

MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG/Arco
REC. BY (PRINT): NL

WORKORDER: 9511285
DATE OF LOG-IN: 11/9/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s) Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
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: 11/9/95
12. Temp. Rec. at Lab: 13°C
13. Time Rec. at Lab: 1717

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
01	A-C	EW-1	3 VOAs	Liq.	11/1/95	

11/9/95

* if Circled, contact Project manager and attach record of resolution

Revision 3/21/95

ARCO Products Company — Division of AtlanticRichfieldCompany

330-096 SB **Task Order No.** 170210

Chain of Custody

ARCO Facility no. 0608	City (Facility) SAN LEANDRO	Project manager (Consultant) SHAWGARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441-7500	Fax no. (Consultant) 441-7539
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PL. #240 SAN JOSÉ 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 (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 ☐		
EW-1	01	3		X		X	HCl	11.1.95	1430		X											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9511285

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	11.2.95	0930	Received by	11/2/95	0930
Relinquished by	11/3/95	1435	Received by	11/3/95	235
Relinquished by	11/3/95		Received by laboratory	11/3/95	1717

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Sequoia Analytical

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RECEIVED
DEC 12 1995
PACIFIC ENVIRONMENTAL GROUP, INC.

acific Environmental Group
025 Gateway Place, Suite 440
an Jose, CA 95110
ttention: Maree Doden

roject: 330-006.5B/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on November 29, 1995.
he requested analyses are listed below:

AMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
511J03 -01	LIQUID, SP-1-B	11/28/95	Iron
11J03 -01	LIQUID, SP-1-B	11/28/95	Nitrate as Nitrate
511J03 -01	LIQUID, SP-1-B	11/28/95	Sulfate
511J03 -01	LIQUID, SP-1-B	11/28/95	Nitrogen: Ammonia
11J03 -02	LIQUID, SP-2-B	11/28/95	Iron
511J03 -02	LIQUID, SP-2-B	11/28/95	Nitrate as Nitrate
11J03 -02	LIQUID, SP-2-B	11/28/95	Sulfate
511J03 -02	LIQUID, SP-2-B	11/28/95	Nitrogen: Ammonia
11J03 -03	LIQUID, E-1A-A	11/28/95	TPHGBW Purgeable TPH/BTEX
511J03 -04	LIQUID, EA-1A-B	11/28/95	Iron
11J03 -04	LIQUID, EA-1A-B	11/28/95	Nitrate as Nitrate
511J03 -04	LIQUID, EA-1A-B	11/28/95	Sulfate
11J03 -04	LIQUID, EA-1A-B	11/28/95	Nitrogen: Ammonia
511J03 -05	LIQUID, MW8-B	11/28/95	Iron
11J03 -05	LIQUID, MW8-B	11/28/95	Nitrate as Nitrate
11J03 -05	LIQUID, MW8-B	11/28/95	Sulfate
511J03 -05	LIQUID, MW8-B	11/28/95	Nitrogen: Ammonia
11J03 -06	LIQUID, MW10-A	11/28/95	TPHGBW Purgeable TPH/BTEX
511J03 -07	LIQUID, MW10-B	11/28/95	Iron
11J03 -07	LIQUID, MW10-B	11/28/95	Nitrate as Nitrate
511J03 -07	LIQUID, MW10-B	11/28/95	Sulfate

Sequoia Analytical

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AMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
511J03 -07	LIQUID, MW10-B	11/28/95	Nitrogen: Ammonia
511J03 -08	LIQUID, MW25	11/28/95	Iron
511J03 -08	LIQUID, MW25	11/28/95	Nitrate as Nitrate
511J03 -08	LIQUID, MW25	11/28/95	Sulfate
511J03 -08	LIQUID, MW25	11/28/95	Nitrogen: Ammonia
511J03 -09	LIQUID, 633H	11/28/95	Iron
511J03 -09	LIQUID, 633H	11/28/95	Nitrate as Nitrate
511J03 -09	LIQUID, 633H	11/28/95	Sulfate
511J03 -09	LIQUID, 633H	11/28/95	Nitrogen: Ammonia

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

ry truly yours,

EQUOIA ANALYTICAL

ucie Fletcher
oject Manager

Quality Assurance Department

Sequoia Analytical

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

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Lab Proj. ID: 9511J03

Sampled: 11/28/95
Received: 11/29/95
Analyzed: see below

Attention: Maree Doden

Reported: 12/11/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9511J03-01				
Sample Desc : **LIQUID,SP-1-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**12**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**16**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**44**
Lab No: 9511J03-02				
Sample Desc : **LIQUID,SP-2-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**68**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**25**
Lab No: 9511J03-04				
Sample Desc : **LIQUID,EA-1A-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**0.92**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**18**
Nitrogen: Ammonia	**mg/L**	**11/30/95**	**0.10**	**0.18**
Sulfate	**mg/L**	**11/30/95**	**1.0**	**74**
Lab No: 9511J03-05				
Sample Desc : **LIQUID,MW8-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**3.4**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	mg/L	11/30/95	1.0	N.D.

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

EQUOIA ANALYTICAL - ELAP #1210

B Fletcher

ucie Fletcher
oject Manager

Sequoia Analytical

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

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Lab Proj. ID: 9511J03

Sampled: 11/28/95
Received: 11/29/95
Analyzed: see below

Attention: Maree Doden

Reported: 12/11/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9511J03-07				
Sample Desc : **LIQUID,MW10-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**2.0**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	**mg/L**	**11/30/95**	**0.10**	**0.10**
Sulfate	mg/L	11/30/95	1.0	N.D.
Lab No: 9511J03-08				
Sample Desc : **LIQUID,MW25**				
Iron	**mg/L**	**12/01/95**	**0.010**	**47**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**42**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**90**
Lab No: 9511J03-09				
Sample Desc : **LIQUID,633H**				
Iron	**mg/L**	**12/01/95**	**0.010**	**0.52**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**48**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**68**

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

SEQUOIA ANALYTICAL - ELAP #1210

R Fletcher

Lucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Sample Descript: E-1A-A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511J03-03

Sampled: 11/28/95
Received: 11/29/95

Analyzed: 11/30/95
Reported: 12/11/95

C Batch Number: GC113095BTEX03A
strument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**69**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

EQUOIA ANALYTICAL - ELAP #1210

rucie Fletcher
oject Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Sample Descript: MW10-A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511J03-06

Sampled: 11/28/95
Received: 11/29/95

Analyzed: 11/30/95
Reported: 12/11/95

QC Batch Number: GC113095BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**770**
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	1.0	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Lucie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9511J03 01, 02, 04, 05, 07-09
Reported: Dec 11, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Ammonia	Nitrate	Sulfate
QC Batch#:	IN113095350300A	IN1130953000ACC	IN1130953000ACC
Analy. Method:	EPA 350.3	EPA 300.0	EPA 300.0
Prep. Method:	N.A.	N.A.	N.A.
Analyst:	Y. Arteaga	S. Flynn	S. Flynn
MS/MSD #:	9511J0302	9511I9802	9511I9802
Sample Conc.:	N.D.	26	70
Prepared Date:	11/30/95	11/30/95	11/30/95
Analyzed Date:	11/30/95	11/30/95	11/30/95
Instrument I.D.#:	MANUAL	INIC1	INIC1
Conc. Spiked:	20 mg/L	10 mg/L	10 mg/L
Result:	19	36	81
MS % Recovery:	95	100	110
Dup. Result:	18	36	82
MSD % Recov.:	90	100	120
RPD:	5.4	0.0	1.2
RPD Limit:	0-30	0-30	0-30
LCS #:	LCS113095	LCS113095	LCS113095
Prepared Date:	11/30/95	11/30/95	11/30/95
Analyzed Date:	11/30/95	11/30/95	11/30/95
Instrument I.D.#:	MANUAL	INIC1	INIC1
Conc. Spiked:	100 mg/L	10 mg/L	5.0 mg/L
LCS Result:	99	9.9	4.8
LCS % Recov.:	99	99	95
MS/MSD	70-130	70-130	70-130
LCS	80-120	90-110	90-110
Control Limits			

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9511J03 01, 02, 04, 05, 07-09
Reported: Dec 11, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1201956010MDA	ME1201956010MDA	ME1201956010MDA	ME1201956010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010
Analyst:	S. O'Donnell	S. O'Donnell	S. O'Donnell	S. O'Donnell
MS/MSD #:	9511H6501	9511H6501	9511H6501	9511H6501
Sample Conc.:	N.D.	N.D.	0.011	0.14
Prepared Date:	12/1/95	12/1/95	12/1/95	12/1/95
Analyzed Date:	12/1/95	12/1/95	12/1/95	12/1/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	0.91	0.88	0.85	0.93
MS % Recovery:	91	88	84	79
Dup. Result:	0.87	0.85	0.81	0.91
MSD % Recov.:	87	85	80	77
RPD:	4.5	3.5	4.8	2.2
RPD Limit:	0-30	0-30	0-30	0-30
LCS #:	BLK120195	BLK120195	BLK120195	BLK120195
Prepared Date:	12/1/95	12/1/95	12/1/95	12/1/95
Analyzed Date:	12/1/95	12/1/95	12/1/95	12/1/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	1.1	1.0	1.0	1.1
LCS % Recov.:	110	100	100	110
MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9511J03 03, 06

Reported: Dec 11, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC113095BTEX03A	GC113095BTEX03A	GC113095BTEX03A	GC113095BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9511D5910	9511D5910	9511D5910	9511D5910
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/30/95	11/30/95	11/30/95	11/30/95
Analyzed Date:	11/30/95	11/30/95	11/30/95	11/30/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	9.7	9.8	29
MS % Recovery:	98	97	98	97
Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103
RPD:	2.0	3.0	2.0	6.7
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK113095	BLK113095	BLK113095	BLK113095
Prepared Date:	11/30/95	11/30/95	11/30/95	11/30/95
Analyzed Date:	11/30/95	11/30/95	11/30/95	11/30/95
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	31
LCS % Recov.:	100	100	100	103
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: ARCO/PEG
REC. BY (PRINT): M.Y.

WORKORDER: 9511J03
DATE OF LOG-IN: 11/29/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
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: 11/29/95
12. Temp. Rec. at Lab: 10 C
13. Time Rec. at Lab: 1205

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
01		SP-1-B	½L Nitro.	LIQ	11/28	
		↓	½LP		↓	
		↓	1LM			
02		SP-2-B	SAME			
03		E-1A-A	VOA (3)			
04		E-1A-B	½L Nitro.			
		↓	½LP			
		↓	1LM			
05		MW8-B	SAME			
06		MW10-A	VOA (3)			
07		MW10-B	½L Nitro.			
		↓	½LP			
		↓	1LM			
08		MW 25	SAME			
09		633 H	SAME			
			11/29/95			

* if Circled, contact Project manager and attach record of resolution

ARCO Products Company

Division of AtlanticRichfieldCompany

330-0006.5B **Task Order No.** ~~1707600~~ ~~170211-00~~ 1702100

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Bl. 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 PL #440 San Jose, CA		Contract number 1707600 1702100

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/Diesel	TPH Modified 8015 Gas/Diesel	Oil and Grease 413.1/413.2	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	Ammonia EPA 350.2/350.3	TCLP Metals/VOA/Semi VOA	CAM Metals EPA 6010/7000 TTLC/STLC	Lead Org./DHS/Lead EPA 7420/7421	Sulfate/Nitrate	Total Iron
~~SP-1-A~~		~~3~~		✓		✓	~~HCL~~	~~11/28/95~~	~~1440~~		✓											EG
SP-1-B	01	1					H_2SO_4										✓					
SP-1-B		1					NP														✓	
SP-1-B		1					HNO_3															✓
~~SP-2-A~~		~~3~~					~~HCL~~				✓											EG
SP-2-B	02	1					H_2SO_4										✓					
SP-2-B		1					NP														✓	
SP-2-B		1					HNO_3															✓
E-1A-A	03	3					HCL				✓											
E-1A-B	04	1					H_2SO_4										✓					
E-1A-B		1					NP														✓	
E-1A-B		1					HNO_3															✓
~~MW8-A~~		~~3~~					~~HCL~~				✓											EG
MW8-B	05	1					H_2SO_4										✓					
MW8-B		1					NP														✓	
MW8-B		1		✓		✓	HNO_3	✓	✓													✓

Special detection Limit/reporting: 12 05

Special QA/QC: EG

Remarks:

Lab number: 9511J03

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: Chad M. Dodson	11/28/95	1800	Received by: M Dodson	11/29/95	0730
Relinquished by: M Dodson	11/29/95	1045	Received by: [illegible]		
Relinquished by: [illegible]	11/29/95	1155	Received by laboratory: [illegible]	11/29/95	1205

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

ARCO Products Company
Division of AtlanticRichfieldCompany

330-006.8B **Task Order No.** 17021 00

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 Hesperian BL 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 PL #440 San Jose, CA		Contract number 1702100

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	Ammonia EPA 350.2/350.3	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	Sulfate, Nitrate	Total Iron
MW10-A	06	3		✓		✓	HCL	11/28/95	10:50		✓											
MW10-B	07	1					H_2SO_4										✓					
MW10-B		1					NP														✓	
MW10-B		1					HNO_3		↓													✓
MW25	08	1					H_2SO_4		15:20								✓					
MW25		1					NP														✓	
MW25		1					HNO_3		↓													✓
633H	09	1					H_2SO_4		1600								✓					
633H		1					NP														✓	
633H		1		↓		↓	HNO_3	↓	↓													✓

Special detection Limit/reporting: 12

Special QA/QC

Remarks

Lab number 9511JQ3

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

Method of shipment

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	11/28/95	1800	Received by	11/29/95	0730
Relinquished by	11/29/95	1045	Received by		
Relinquished by	11/29/95	1155	Received by laboratory	11/29/95	1205

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

Sequoia Analytical

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before purging

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Sample Descript: E-1A-A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9511J03-03

Sampled: 11/28/95
Received: 11/29/95

Analyzed: 11/30/95
Reported: 12/11/95

QC Batch Number: GC113095BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**69**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

E e Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.5B/0608,San Lorenzo	Sampled: 11/28/95
2025 Gateway Place, Suite 440	Sample Descript: MW10-A	Received: 11/29/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 11/30/95
Attention: Maree Doden	Lab Number: 9511J03-06	Reported: 12/11/95

QC Batch Number: GC113095BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**770**
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	1.0	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Bonnie Fletcher
Project Manager

Sequoia Analytical

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

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Lab Proj. ID: 9511J03

Sampled: 11/28/95
Received: 11/29/95
Analyzed: see below

Attention: Maree Doden

Reported: 12/11/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9511J03-01				
Sample Desc : **LIQUID,SP-1-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**12**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**16**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**44**
Lab No: 9511J03-02				
Sample Desc : **LIQUID,SP-2-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**68**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**25**
Lab No: 9511J03-04				
Sample Desc : **LIQUID,EA-1A-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**0.92**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**18**
Nitrogen: Ammonia	**mg/L**	**11/30/95**	**0.10**	**0.18**
Sulfate	**mg/L**	**11/30/95**	**1.0**	**74**
Lab No: 9511J03-05				
Sample Desc : **LIQUID,MW8-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**3.4**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	mg/L	11/30/95	1.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

rucie Fletcher
roject Manager

Sequoia Analytical

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

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

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Lab Proj. ID: 9511J03

Sampled: 11/28/95
Received: 11/29/95
Analyzed: see below

Attention: Maree Doden

Reported: 12/11/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9511J03-07				
Sample Desc : **LIQUID,MW10-B**				
Iron	**mg/L**	**12/01/95**	**0.010**	**2.0**
Nitrate as Nitrate	mg/L	11/30/95	1.0	N.D.
Nitrogen: Ammonia	**mg/L**	**11/30/95**	**0.10**	**0.10**
Sulfate	mg/L	11/30/95	1.0	N.D.
Lab No: 9511J03-08				
Sample Desc : **LIQUID,MW25**				
Iron	**mg/L**	**12/01/95**	**0.010**	**47**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**42**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**90**
Lab No: 9511J03-09				
Sample Desc : **LIQUID,633H**				
Iron	**mg/L**	**12/01/95**	**0.010**	**0.52**
Nitrate as Nitrate	**mg/L**	**11/30/95**	**1.0**	**48**
Nitrogen: Ammonia	mg/L	11/30/95	0.10	N.D.
Sulfate	**mg/L**	**11/30/95**	**1.0**	**68**

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

SEQUOIA ANALYTICAL - ELAP #1210

K Fletcher

ucie Fletcher
oject Manager

[redacted] Division of Atlantic Richfield Company 330-0006.5B **Task Order No.** [redacted] 1702100 **Chain of Custody**

ARCO Facility 0608	City (Facility) 17601 Hesperian Bl. San Lorenzo	P. 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 Pl #440 San Jose, CA		Contract number 1702100 1707600

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 G&S 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	Ammonia EPA 350.2/350.3	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	Sulfate, Nitrate	Total Iron
~~SP-1-A~~		~~3~~		✓		✓	HCL	~~11/28/95~~	~~1440~~		✓											EG
SP-1-B	01	1					H_2SO_4										✓					
SP-1-B		1					NP														✓	
SP-1-B		1					HNO_3		✓													✓
~~SP-2-A~~		~~3~~					HCL				✓											EG
SP-2-B	02	1					H_2SO_4										✓					
SP-2-B		1					NP														✓	
SP-2-B		1					HNO_3															✓
E-1A-A	03	3					HCL				✓											
E-1A-B	04	1					H_2SO_4										✓					
E-1A-B		1					NP														✓	
E-1A-B		1					HNO_3															✓
~~MW8-A~~		~~3~~					HCL				✓											EG
MW8-B	05	1					H_2SO_4										✓					
MW8-B		1					NP														✓	
MW8-B		1		✓		✓	HNO_3	✓	✓													✓

Special detection Limit/reporting: 29 12 05

Special QA/QC: EG

Remarks:

Lab number: 9511J03

Condition of sample:

Temperature received:

	Date	Time
Relinquished by sampler: Chad M. [illegible]	11/28/95	1800
Relinquished by: M Dodson	11/29/95	1045
Relinquished by: [illegible]	11/29/95	1155
Received by: M Dodson	11/29/95	0730
Received by: [illegible]		
Received by laboratory: [illegible]	11/29/95	1205

Turnaround time

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

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

APC-3292 (2-91)

[redacted] Task Order No. [redacted]

ARCO Facility	0608	City (Facility)	17601 Hesperian BL San Lorenzo
F manager (C ultant)	KELLY BROWN	L: ory 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 PL #440 San JOSE, CA
Contract number	1702100		

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	Ammonia EPA [redacted]	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	Sulfate, Nitrate	Total Iron
MW10-A	06	3		✓		✓	HCL	11/28/95	10:50		✓											
MW10-B	07	1					H_2SO_4										✓					
MW10-B		1					NP														✓	
MW10-B		1					HNO_3		↓													✓
MW25	08	1					H_2SO_4		15:20								✓					
MW25		1					NP														✓	
MW25		1					HNO_3		↓													✓
633H	09	1					H_2SO_4		16:00								✓					
633H		1					NP														✓	
633H		1		↓		↓	HNO_3	↓	↓													✓

Special detection Limit/reporting: 12

Special QA/QC:

Remarks:

Lab number: 9511J03

Turnaround time

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

Method of shipment:

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler: [signature]	11/28/95	1800	Received by: [signature]	11/29/95	0736
Relinquished by: [signature]	11/29/95	1045	Received by: [signature]		
Relinquished by: [signature]	11/29/95	1155	Received by laboratory: [signature]	11/29/95	1205

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

APC-3292 (2-91)

Sequoia Analytical

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

Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 330-006.5B/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on December 22, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9512H13 -01	LIQUID, SP-1	12/21/95	TPHGBW Purgeable TPH/BTEX
9512H13 -02	LIQUID, SP-2	12/21/95	TPHGBW Purgeable TPH/BTEX
9512H13 -03	LIQUID, MW-8	12/21/95	TPHGBW Purgeable TPH/BTEX
9512H13 -04	LIQUID, MW-10	12/21/95	TPHGBW Purgeable TPH/BTEX
9512H13 -05	LIQUID, EI-A	12/21/95	TPHGBW Purgeable TPH/BTEX

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

Very truly yours,

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.5B/0608,San Lorenzo	Sampled: 12/21/95
2025 Gateway Place, Suite 440	Sample Descript: SP-1	Received: 12/22/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/27/95
Attention: Maree Doden	Lab Number: 9512H13-01	Reported: 01/02/96

QC Batch Number: GC122795BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

B. Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.5B/0608,San Lorenzo	Sampled: 12/21/95
2025 Gateway Place, Suite 440	Sample Descript: SP-2	Received: 12/22/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/27/95
Attention: Maree Doden	Lab Number: 9512H13-02	Reported: 01/02/96

QC Batch Number: GC122795BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-006.5B/0608,San Lorenzo
Sample Descript: MW-8
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9512H13-03

Sampled: 12/21/95
Received: 12/22/95

Analyzed: 12/27/95
Reported: 01/02/96

QC Batch Number: GC122795BTEX22A
nstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**560**
Benzene	**0.50**	**28**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	96

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.5B/0608,San Lorenzo	Sampled: 12/21/95
2025 Gateway Place, Suite 440	Sample Descript: MW-10	Received: 12/22/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/27/95
Attention: Maree Doden	Lab Number: 9512H13-04	Reported: 01/02/96

QC Batch Number: GC122795BTEX22A
nstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**440**
Benzene	**0.50**	**5.1**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Unidentified HC		**>C11**
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.5B/0608,San Lorenzo	Sampled: 12/21/95
2025 Gateway Place, Suite 440	Sample Descript: EI-A	Received: 12/22/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/27/95
Attention: Maree Doden	Lab Number: 9512H13-05	Reported: 01/02/96

QC Batch Number: GC122795BTEX22A
nstrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**230**
Benzene	**0.50**	**5.7**
Toluene	**0.50**	**0.74**
Ethyl Benzene	**0.50**	**20**
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	117

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 330-006.5B/0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9512H13 01-05
Reported: Jan 3, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC122795BTEX22A	GC122795BTEX22A	GC122795BTEX22A	GC122795BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	E. Cunanan	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	9512G6306	9512G6306	9512G6306	9512G6306
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/27/95	12/27/95	12/27/95	12/27/95
Analyzed Date:	12/27/95	12/27/95	12/27/95	12/27/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	30
MS % Recovery:	110	110	110	100
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	0.0	0.0	0.0	6.5
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK122795	BLK122795	BLK122795	BLK122795
Prepared Date:	12/27/95	12/27/95	12/27/95	12/27/95
Analyzed Date:	12/27/95	12/27/95	12/27/95	12/27/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	12	34
LCS % Recov.:	110	110	120	113
MS/MSD LCS 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

B Fletcher

Brucie Fletcher
Project Manager

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

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

ARCO Products Company Division of AtlanticRichfieldCompany — 330 [redacted] 06.0D — **Task Order No.** 1707600 — **Chain of Custody**

ARCO Facility no. 0008	City (Facility) 17601 HESPERIAN BL 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 PL #440 San JOSE, CA 95110		Contract number 1707600

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 ☐		
SP-1	1	3		✓		✓	HCL	12/21/95	855		✓											
SP-2	2	↓		↓		↓	↓	↓	1020		✓											
MW-8	3								935		✓											
MW-10	4								1040		✓											
EI-A	5	↓		↓		↓	↓	↓	8:00		✓											

Special detection Limit/reporting

Special QA/QC

DEC 22 1995

Remarks

Lab number 9512H13

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	12/21/95	11:30	Received by	12/21/95	1130
Relinquished by	12/22/95	10:38	Received by		
Relinquished by	12/22/95	11:35	Received by laboratory	12/22/95	11:35

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

APC-3292 (2-91)

FIELD SERVICES / O&M REQUEST JV Work Order # 4622

SITE INFORMATION FORM

Identification

Project # 330-006.5B

Station # 0608

Site Address: 17601 HESPERIAN BLVD SAN LORENZO, CA

County: ALAMEDA

Project Manager: SG

Requestor: SJ

Client: ARCO

Project Type

- ☐ 1st Time Visit
- ☐ Quarterly ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly — Initials — Date
- ☐ Semi-Monthly F/S — RH — 9-25-95
- ☐ Weekly
- ☒ One time event — Copy/Dist — RH — ↓
- ☐ Other: _____

Client P.O.C.: MW

Date of Request 8/18/95

Ideal field date(s): 9/5/95

COORDINATE WITH QUARTERLY SAMPLING

Check Appropriate Category

Budget Hrs. 3

Actual Hrs. 3

Mob de Mob 2

Field Tasks: For General Description

circle one:
Priority: 1. (emergency, must be done within 24 hrs); 2. (next visit); 3. (when available)

- MODIFY QUARTERLY SAMPLING (NOT MONTHLY O&M)
- MEASURE D.O., pH, TEMP BEFORE AND AFTER PURGING
- ADD WELLS SP-1/V-1 · SP-2/V-2 TO W/L PROGRAM
- INSTALL ORC'S IN WELLS E1-A, MW-5, MW-10

READ ATTACHED INSTALLATION PROCEDURE PRIOR TO SITE VISIT. THE ORC'S HARDEN TO CEMENT-LIKE HARDNESS. IT IS CRITICAL THAT PROPER INSTALLATION BE DONE IF NOT IT IS NEARLY IMPOSSIBLE TO REMOVE FROM WELLS FOR SAMPLING.

INSTALL ORC'S SO THAT TOP OF ORC IS 1" ABOVE WATER LEVEL.

E1-A = 5-4" ORC'S

MW-5 = 14-2" ORC'S

MW-10 => 15-2" ORC

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

TASK Completed
UNABLE TO INSTALL ORC'S IN MW5 E1 WELL IS ONLY 14ft deep NO ORC'S WERE INSTALLED IN MW5 AS PER SJ.

☐ Samples taken ☐ Samples not required ☐ Soil Vapor ☐ Groundwater

☐ Weekly ☐ Semi-Monthly ☐ Monthly ☐ Quarterly ☐ Semi-Annual

PACIFIC ENVIRONMENTAL GROUP, INC.

Completed by: JV Date: 9-21-95

Checked by: _____

Work Order # 953860

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-006.5B
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	David Nanstad
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	October 6, 1995
Laboratory:	Sequoia Analytical

Request Frequency:Monthly

	Initials	Date
F/S	RY	11/2/95
Copy/Dist.	RY	↓

Site Remedial Technologies:

Bioaugmentation (BIO) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
BIO(A, B)	monthly† (DO NOT DO ON QUARTERLY MONTHS)		4	1.5	

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once every month on week 3
quarterly occurs on = 12,3,6,9
semi-annually = N/A

Field Technician Response:

Completed by: Chuck Graves
Date: 10/13/95
Arrival time: 11:45
Departure time: 16:00
Sample this visit?: yes
Engineer contacted? yes

DATE:_____ TECHNICIAN:_____

Date:_____

Groundwater Bioaugmentation System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.5B
October 17, 1995

System Description:

ORC Wells

Well	Size	Number	Set Depth (TOB)
E-1A	6"	10	dtw
MW-10	3"	11	dtw

MATERIALS

DO METER	✓	PROBE AND REEL	✓
CALIBRATION BOTTLE	✓	KCL SOLUTION	✓
SPARE MEMBRANES	✓	6 SPARE D BATTERIES	✓
BUCKET	✓	PAPER TOWEL	✓
INSTRUCTION BINDER	✓	SPARE O-RINGS	✓
SCISSORS	✓	SPARE DATA SHEETS	✓
ALCONOX	✓	STICK	✓
WATER BOTTLE	✓	WATER LEVEL INDICATOR	✓
ELECTRIC WENCH TO PULL ORC'S OUT WITH	✓		

BEFORE MEASUREMENTS

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	WARM UP UNIT FOR 20 MINUTES?	Yes

PART A: WELL DATA
FIELD MEASUREMENTS

WELL MW-5

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	25.3	CALIBRATION DO READING (mg/L)	8.21

COMPARED TO CALIBRATION DO TABLE	Yes	CALIBRATION BOTTLE READINING	8.19

DATE:		TECHNICIAN:	
VALUE? NA		(mg/L) NA	NA
DTW (tob)	12.81	DTB (tob)	13.88

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1' from TOP	—	—	MIDDLE	1.28	1.19	1' from BOTTOM	—	—

PROBE & CORD RINSED?	Yes

* ~~Less than~~ ONLY 1' of H_2O in well.

MW-5	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	72.6	1,329	7.59	NA

WELL MW-7

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	23.6	CALIBRATION DO READING (mg/L)	8.48
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READINING (mg/L)	8.13
DTW (tob)	12.86	DTB (tob)	18.78

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1' from TOP	.58	.56	MIDDLE	.54	.54	1' from BOTTOM	.81	.53

PROBE & CORD RINSED?	Yes

MW-7	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	73.8	1075	7.23	

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	NO
CALIBRATION TEMPERATURE (C)	—	CALIBRATION DO READING (mg/L)	—
COMPARED TO TABLE VALUE?	—	CALIBRATION BOTTLE READINING (mg/L)	—
DTW (tob)	11.75	DTB (tob)	21.38

DATE:_____ TECHNICIAN:_____

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.69	.30	MIDDLE	.21	.18	1'from BOTTOM	.25	.54

PROBE & CORD RINSED?				
MW-8	TEMP (°F) 72.6	CONDUCTIVITY (umhos) 972	pH (units) 6.96	AVERAGED DISSOLVED OXYGEN (ppm) 0.35

WELL MW-13

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	NO
CALIBRATION TEMPERATURE (C)	—	CALIBRATION DO READING (mg/L)	—
COMPARED TO TABLE VALUE?	—	CALIBRATION BOTTLE READINING (mg/L)	—
DTW (tob)	14.20	DTB (tob)	23.35

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.35	.31	MIDDLE	.22	.13	1'from BOTTOM	.73	.31

PROBE & CORD RINSED?				
MW-13	TEMP (°F) 72.6	CONDUCTIVITY (umhos) 1,117	pH (units) 7.19	AVERAGED DISSOLVED OXYGEN (ppm)

WELL MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	NO
CALIBRATION TEMPERATURE (C)	—	CALIBRATION DO READING (mg/L)	—
COMPARED TO TABLE VALUE?	—	CALIBRATION BOTTLE READINING (mg/L)	—
DTW (tob)	12.55	DTB (tob)	21.30

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.68	.50	MIDDLE	.61	.46	1'from BOTTOM	.71	.53

PROBE & CORD RINSED?				
MW-25	TEMP (°F) 72.8	CONDUCTIVITY (umhos) 1,083	pH (units) 6.97	AVERAGED DISSOLVED OXYGEN (ppm)

DATE:_____ TECHNICIAN:_____

WELL MW-E1-A

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)	SEE	CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?	NOTES	CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		

PROBE & CORD RINSED?				
E1-A	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	29.2°C	CALIBRATION DO READING (mg/L)	7.68
COMPARED TO TABLE VALUE?	yes	CALIBRATION BOTTLE READINING (mg/L)	7.82
DTW (tob)	11.16	DTB (tob)	23.01

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	17.57	OFF Scale	MIDDLE	OFF Scale	OFF Scale	1'from BOTTOM	off Scale	off Scale

PROBE & CORD RINSED?				
MW-10	TEMP (°F) 74.4	CONDUCTIVITY (umhos) 1,397	pH (units) 7.33	AVERAGED DISSOLVED OXYGEN (ppm)

WELL SP-1

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	NO
CALIBRATION TEMPERATURE (C)	—	CALIBRATION DO READING (mg/L)	—
COMPARED TO TABLE VALUE?	—	CALIBRATION BOTTLE READINING (mg/L)	—
DTW (tob)	12.59	DTB (tob)	20.84

DATE:_____ TECHNICIAN:_____

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.60	.65	MIDDLE	.12	.09	1'from BOTTOM	.32	.19

PROBE & CORD RINSED?	yes			
SP-1	TEMP (°F) 72.6	CONDUCTIVITY (umhos) 1,062	pH (units) 7.30	AVERAGED DISSOLVED OXYGEN (ppm) 0.3

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	—
CALIBRATION TEMPERATURE (C)	—	CALIBRATION DO READING (mg/L)	—
COMPARED TO TABLE VALUE?	—	CALIBRATION BOTTLE READINING (mg/L)	—
DTW (tob)	11.01	DTB (tob)	19.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.53	.57	MIDDLE	.54	.47	1'from BOTTOM	1.85	.86

PROBE & CORD RINSED?				
SP-2	TEMP (°F) 73.4	CONDUCTIVITY (umhos) 1090	pH (units) 7.11	AVERAGED DISSOLVED OXYGEN (ppm) 0.8

that

PART B: SAMPLING

DO NOT PURGE WELLS FOR MONTHLY SAMPLING EVENT/ DO NOT PERFORM SAMPLING ON MONTH/QUARTERLY GW MONITORING EVENT HAPPENS

(GRAB) SAMPLE	ANALYSIS	COMPLETED
SP-1	TPH-gasoline, BTEX compounds	yes
SP-2	TPH-gasoline, BTEX compounds	yes
MW-8	TPH-gasoline, BTEX compounds	yes
E1-A	TPH-gasoline, BTEX compounds	NO
MW-10	TPH-gasoline, BTEX compounds	yes

FIELD SERVICES / O&M REQUEST

Work Order # 4974

SITE INFORMATION FORM

Identification SEE BELOW

Project # (330-0065B)

Station # 0608

Site Address: 17601 HESPERIAN BLVD. SAN LORENZO, CA

County: ALAMEDA

Project Manager: S.G.

Requestor: D.N.

Client: AZCO

Project Type

- ☐ 1st Time Visit
- ☐ Quarterly ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly — Initials — Date
- ☐ Semi-Monthly — RH — 11/6/95 — P/S
- ☐ Weekly — Copy/Dist. — RH — ↓
- ☒ One time event
- ☐ Other:

Client P.O.C.:

Date of Request

Ideal field date(s):

Check Appropriate Category

Budget Hrs.

Actual Hrs. 5.0 — 10.30.95 2.5

Mob de Mob 3.0 — 10.31.95 T.O — 11.1.95 4.5

Field Tasks: For General Description

circle one:

Priority: 1. (emergency, must be done within 24 hrs); 2. (next visit); 3. (when available)

THIS REQUEST IS TO BE PERFORMED BY JOHN MADDOX PLEASE (HE HAS EXPERIANCE WITH THESE ACCORDING TO A.B. AND REGENESIS.

- PLEASE VISIT SITE AND ASSESS STUCK ORC'S IN WELL EI-A.

- CALL ENGINEER (D.N.) WITH YOUR ASSESSMENT AND THEN CALL CRAIG SANDIFORD OR BILL COX AT REGENISIS AND GIVE THEM YOUR ASSESSMENT ANSWER QUESTIONS. WILL PROBABLY WANT TO KNOW WHAT EQUIPMENT NECCESSARY TO REMOVE.

GRAB SOME DRAEGER TUBE D.O. READINGS FROM WELLS MW-8, MW-10, MW-7, MW-11

(GET MAPS FROM FILE CABINET) CHARGE TO 265-001.5B

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

- 10.30.95 - REMOVED 6TH AND 5TH 6' ORC'S BY LUBING WITH LIQUID SOAP & WINCHING OUT. SECOND STRING OF ORC'S WAS 15' BELOW TOC. WINCHED THESE TO TOC WHERE ROPE BROKE.

11.1.95 REMOVED 4 MORE ORCS PLUS 4 GALLONS OF POWDERED MATERIAL FOR ~15 ORC'S TOTAL. WELL IS CLEARED SEE ATTACHED (EW-1 ONLY SAMPLED, PER D.N.

☒ Samples taken ☐ Samples not required ☐ Soil Vapor ☐ Groundwater

☐ Weekly ☐ Semi-Monthly ☐ Monthly ☐ Quarterly ☐ Semi-Annual

PACIFIC ENVIRONMENTAL GROUP, INC.

Completed by: JOHN MADDOX Date: 11.1.95

Checked by:

White Copy - Originator Yellow Copy - Project Task Pink Copy - File

EW 1 DTW TOC = 10.56 TOB = 12.11
TD TOC = 24.50 TOB = 26.05

NOTE: 0.34' OF CASING WAS REMOVED FROM TOP TO CLEAN UP JAGGED EDGE.

- GW IN EW-1 HAS LIQUID DISH SOAP IN IT FROM LUBRICATING THE ORC'S.

- THERE ARE NO ORC'S STORED ONSITE

PACIFIC ENVIRONMENTAL GROUP, INC.	Project No: 380-006.5B	Figure No:	Date: 11.1.95
			Drawn By:
Title:			

DATE: 11.1.95 TECHNICIAN JOHN MADDOX

WELL MW-13

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

MW-13	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

WELL MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

MW-25	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

WELL MW-E1-A

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	OK	CALIBRATE UNIT?	468
CALIBRATION TEMPERATURE (C)	23.4 °C	CALIBRATION DO READING (mg/L)	8.51
COMPARED TO TABLE VALUE?	Good 23°C = 8.68 24°C = 8.42	CALIBRATION BOTTLE READINING (mg/L)	8.53
DTW (tob)	12.11	DTB (tob)	26.05

DATE: 11.1.95 TECHNICIAN John Maddox

DISSOLVED OXYGEN (mg/L) (MW-E1-A CONTINUED)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	1.10	1.18	MIDDLE	5.55	5.61	1'from BOTTOM	11.62	11.64
PROBE & CORD RINSED?								

MW-E1-A	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	71.3	1,300	7.76	6.12

D.O. BY 0-12ppm AMPULE = 2ppm

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

MW-10	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

WELL SP-1

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

SP-1	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

ARCO Products Company Division of AtlanticRichfieldCompany

330-006.5B **Task Order No.** 1702100

Chain of Custody

ARCO Facility no. 0608	City (Facility) SAN LEANDRO	Project manager (Consultant) SHAWGARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441-7500	Fax no. (Consultant) 441-7539
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PL. #240 SAN JOSÉ CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	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 ☐		
EW-1		3		X		X	HCl	11.1.95	1430		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 Busi[illegible] Days

Condition of sample:

Temperature received:

Relinquished by sampler	Date 11.2.95	Time 0930	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

Distribution: White co[illegible] - Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultan[illegible]

APC-3292 (2-91)

Work Order # 953951

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-006.5B
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	David Nanstad
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date: NOV	October 21, 1995
Laboratory:	Sequoia Analytical

Request Frequency: Monthly

	Initials	Date
F/S	RH	12/6/95
Copy/Dist.	RH	↓

Site Remedial Technologies:

Bioaugmentation (BIO) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
BIO(A, B) BIO (A,B,C)	monthly† quarterly†		CA 15.0 PW 9.0	3.0 CA PW 0	11/28/95

† = sampling to be performed

JWX 1.0

Quarterly GW monitoring event should include monthly event (Do not perform on separate dates.)

Definition of frequencies:

weekly = N/A
monthly = once every month on week 3, combine with quarterly GW monitoring event
quarterly occurs on = 11-27-95,3,6,9 always with quarterly GW monitoring event
semi-annually = N/A

Field Technician Response:

Completed by: Chuck Graves Date: 11/28/95
Arrival time: 10:00 Departure time: 17:00
Sample this visit?: Yes Engineer contacted? NO

DATE: 11/28/95 TECHNICIAN Chuck Gra

Groundwater Bioaugmentation System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.5B
October 21, 1995

SYSTEM DESCRIPTION:

ORC Wells

Well	Size	Number	Set Depth (TOB)
E-1A	6"	10	dtw
MW-10	3"	11	dtw

MATERIALS

DO METER	✓	PROBE AND REEL	✓
CALIBRATION BOTTLE	✓	KCL SOLUTION	✓
SPARE MEMBRANES	✓	6 SPARE D BATTERIES	✓
BUCKET	✓	PAPER TOWELS	✓
INSTRUCTION BINDER	✓	SPARE O-RINGS	✓
SCISSORS	✓	SPARE DATA SHEETS	✓
ALCONOX	✓	STICK	✓
WATER BOTTLE	✓	WATER LEVEL INDICATOR	✓
(ELECTRIC WENCH TO PULL ORC'S OUT WITH)	✓		

BEFORE MEASUREMENTS

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

DATE: 11/26 TECHNICIAN CG

PART A: WELL DATA (DO NOT PURGE)

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.0	CALIBRATION DO READING (mg/L)	9.08
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	9.06
DTW (tob)	11.53	DTB (tob)	22.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.09	.08	MIDDLE	.11	.10	1'from BOTTOM	.18	.13

PROBE & CORD RINSED?	Yes

MW-8	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	78.3	811	7.01	

WELL E1-A OBTAIN AN ADDITIONAL D.O. MEASUREMENT USING TEST KIT — OFF Scale / 12.0 ppm

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	31.3	CALIBRATION DO READING (mg/L)	7.39
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	7.41
DTW (tob)	13.20	DTB (tob)	24.30

DISSOLVED OXYGEN (mg/L) (MW-E1-A CONTINUED)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	OFF Scale	OFF Scale	MIDDLE	OFF Scale	OFF Scale	1'from BOTTOM	OFF Scale	OFF Scale

PROBE & CORD RINSED?	

MW-E1-A	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	75.1	1,133	8.94	

DATE: 11/28/95 TECHNICIAN Chuck Greaves

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	21.2	CALIBRATION DO READING (mg/L)	8.88
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	8.82
DTW (tob)	12.02	DTB (tob)	22.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	6.92	8.48	MIDDLE	12.18	11.38	1'from BOTTOM	OFF Scale	OFF Scale

PROBE & CORD RINSED?	Yes			
MW-10	TEMP (°F) 66.5	CONDUCTIVITY (umhos) 868	pH (units) 6.43	AVERAGED DISSOLVED OXYGEN (ppm)

WELL SP-1 GOT ADDITIONAL D.O. MEASUREMENT USING TEST KIT Add'l Measurement: 1.0 ppm

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	22.2	CALIBRATION DO READING (mg/L)	8.72
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READINING (mg/L)	8.72
DTW (tob)	12.09	DTB (tob)	20.25

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.23	.24	MIDDLE	.11	.14	1'from BOTTOM	.25	.12

PROBE & CORD RINSED?				
SP-1	TEMP (°F) 72.9	CONDUCTIVITY (umhos) 837	pH (units) 7.37	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 11/28/95 TECHNICIAN Chuck GRAVES

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	29.2	CALIBRATION DO READING (mg/L)	7.70
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	7.71
DTW (tob)	11.27	DTB (tob)	18.88

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.12	.14	MIDDLE	.11	.09	1'from BOTTOM	.28	.15

PROBE & CORD RINSED?	yes

SP-2	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	73.9	866	7.10	

PART B: SAMPLING

***OBTAIN THE FOLLOWING SAMPLES BEFORE PURGING WELLS**

SAMPLE	ANALYSIS	DO MEASURED?	SAMPLING COMPLETED?
SP-1	TPH-gasoline, BTEX compounds	Yes	yes
SP-2	TPH-gasoline, BTEX compounds	Yes	yes
MW-8	TPH-gasoline, BTEX compounds	Yes	Yes
E1-A	TPH-gasoline, BTEX compounds	Yes	Yes
MW-10	TPH-gasoline, BTEX compounds	Yes	Yes

***AFTER PURGING WELLS OBTAIN THE FOLLOWING SAMPLES AND DO MEASUREMENTS**

SAMPLE	ANALYSIS	DO MEASURED? (SEE THE ATTACHED DATA SHEETS)	SAMPLING COMPLETED?
SP-1	TPH-gasoline, BTEX compounds	Yes	Yes
SP-2	TPH-gasoline, BTEX compounds	Yes	Yes
MW-8	TPH-gasoline, BTEX compounds	Yes	Yes

DATE: 11/28 TECHNICIAN [illegible]

PART B (CONTINUED)

AFTER PURGE

WELL SP-1 OBTAIN AN ADDITIONAL DO MEASUREMENT USIN TEST KIT Add'l Measurement = 1.0 ppm

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	19.7	CALIBRATION DO READING (mg/L)	9.15
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READING (mg/L)	9.13
DTW (tob)	12.89	DTB (tob)	20.25

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.16	.17	MIDDLE	.10	.08	1'from BOTTOM	.18	.10
PROBE & CORD RINSED?	Yes							

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	26.8	CALIBRATION DO READING (mg/L)	7.99
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READINING (mg/L)	7.97
DTW (tob)	11.16	DTB (tob)	18.88

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	1.24	.83	MIDDLE	.41	.39	1'from BOTTOM	.44	.30
PROBE & CORD RINSED?	Yes							

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	26.0	CALIBRATION DO READING (mg/L)	8.12
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	8.15
DTW (tob)	11.93	DTB (tob)	22.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.06	.07	MIDDLE	.08	.06	1'from BOTTOM	.14	.09
PROBE & CORD RINSED?	Yes							

DATE: _____ TECHNICIAN _____

PART C (CONTINUED)

WELL 633 1 Ppm with test kit

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

MW-25	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	68.7	914	7.10	

Well is sealed could not obtain down hole readings.

WELL MW-5

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

MW-25	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

MW5 Functionally Dry well

DATE: 11/27/06 TECHNICIAN Chuck Gr

PART C (CONTINUED)

WELL E1-A GETTING AN ADDITIONAL D.O. MEASUREMENT USING A TEST KIT

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	18.5	CALIBRATION DO READING (mg/L)	9.37
COMPARED TO TABLE VALUE?	OK.	CALIBRATION BOTTLE READINING (mg/L)	9.36
DTW (tob)	13.48	DTB (tob)	24.30

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	3.66	2.77	MIDDLE	2.75	3.06	1'from BOTTOM	5.46	4.06
PROBE & CORD RINSED?	Yes							

Add'l Measurement 1.0 ppm

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO Bubbles	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	21.9	CALIBRATION DO READING (mg/L)	~~7.72~~ 8.79
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READINING (mg/L)	8.89
DTW (tob)	11.42	DTB (tob)	22.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.28	.18	MIDDLE	1.42	.94	1'from BOTTOM	4.72	5.26
PROBE & CORD RINSED?	yes							

DATE: _____ TECHNICIAN _____

PART C

DURING THE QUARTERLY GW MONITORING EVENT THE FOLLOWING PARAMETERS ARE TO BE MEASURED FOR WELLS E1-A, MW-10, *SP-1,* SP-2, *MW-8, 633, MW-5, AND MW-25 AFTER PURGING;

***DO NOT OBTAIN AFTER PURGE TEMP, CONDUCTIVITY , pH AND DO MEASUREMENTS TWICE (OBTAINED IN PART B).**

***DO NOT COLLECT AFTER PURGE TPPH-G AND BTEX SAMPLES TWICE (OBTAINED IN PART B).**

IN THE FIELD

COLOR
ODOR
pH
EC
ORP
TEMP
TURBIDITY
H2S
DO
TOTAL AND FERROUS IRON

SEND TO LAB FOR ANALYSIS

SULFATE
NITRATE
AMMONIA
TPH-G
BTEX

WELL MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No Bubbles	CALIBRATE UNIT?	yes
CALIBRATION TEMPERATURE (C)	20.20	CALIBRATION DO READING (mg/L)	9.05
COMPARED TO TABLE VALUE?	OK	CALIBRATION BOTTLE READINING (mg/L)	9.04
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.20	.20	MIDDLE	.08	.07	1'from BOTTOM	.19	.10
PROBE & CORD RINSED?								

MW-25	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	69.4	840	6.94	

ARCO Products Company — Chain of Custody

ARCO Facility no. 0608 | City (Facility) 17601 Hesperian Bl. 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 1707600 1702100

Consultant name Pacific Environmental Group | Address (Consultant) 2025 Gateway Pl #440 San Jose, CA | Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Water	Other	Preservation: Ice	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	Ammonia EPA 350.2/350.3	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	Sulfate, Nitrate	Total Iron
~~SP-1-A~~		~~3~~		✓		✓	~~HCL~~	~~11/28/95~~	~~1440~~		✓											EG
SP-1-B		1					H_2SO_4										✓					
SP-1-B		1					NP														✓	
SP-1-B		1					HNO_3		↓													✓
~~SP-2-A~~		~~3~~					~~HCL~~				✓											
SP-2-B		1					H_2SO_4										✓					
SP-2-B		1					NP														✓	
SP-2-B		1					HNO_3															✓
-1A-A		3					HCL				✓											
-1A-B		1					H_2SO_4										✓					
-1A-B		1					NP														✓	
-1A-B		1					HNO_3															✓
~~W8-A~~		~~3~~					~~HCL~~				✓											EG
W8-B		1					H_2SO_4										✓					
W8-B		1					NP														✓	
W8-B		1		↓		↓	HNO_3	↓	↓													✓

Special detection Limit/reporting: EG

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	Received by
Relinquished by sampler	11/28/95	1800	
Relinquished by			
Relinquished by			

Received by

Received by

Received by laboratory | Date | Time

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

ARCO-3292 (2-91)

ARCO Products Company — Division of AtlanticRichfieldCompany — 330-006.20 — **Task Order No.** 170121 00 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian BL 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 PL #440 San Jose, CA		Contract number 1702100

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	Ammonia EPA [illegible]	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	Sulfate, Nitrate	Total Iron
MW10-A		3		✓		✓	HCL	11/28/95	10:50		✓											
MW10-B		1					H_2SO_4										✓					
MW10-B		1					NP														✓	
MW10-B		1					HNO_3		↓													✓
MW25		1					H_2SO_4		15:20								✓					
MW25		1					NP														✓	
MW25		1					HNO_3		↓													✓
633H		1					H_2SO_4		1600								✓					
633H		1					NP														✓	
633H		1		↓		↓	HNO_3	↓	↓													✓

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

Relinquished by sampler	Date	Time	Received by
[signature]	11/28/95	1800	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

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

Work Order # 954020

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-006.5B
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	David Nanstad
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	December 6, 1995
Laboratory:	Sequoia Analytical

Request Frequency: Monthly

	Initials	Date
F/S	RY	12/22/95
Copy/Dist.	RY	↓

Site Remedial Technologies:

Bioaugmentation (BIO) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
BIO(A, B) BIO (A,B,C)	MONTHLY*† quarterly†		5.0	Ø	12/21

† = sampling to be performed

Quarterly GW monitoring event should include monthly event (Do not perform on separate dates.)

Definition of frequencies:

weekly = N/A
monthly = *LAST EVENT TO OCCUR IN DECEMBER*
quarterly occurs on = 11-27-95,3,6,9 always with quarterly GW monitoring event
semi-annually = N/A

Field Technician Response:

Completed by: Chad Wilson Date: 12/21/95
Arrival time: 7:30 Departure time: 1045
Sample this visit?: Yes Engineer contacted? NO

DATE: 12/21 TECHNICIAN Chuck Graves

Groundwater Bioaugmentation System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.5B
December 5, 1995

SYSTEM DESCRIPTION:

ORC Wells

Well	Size	Number	Set Depth (TOB)
E-1A	6"	10	dtw
MW-10	3"	11	dtw

MATERIALS

DO METER	✓	PROBE AND REEL	✓
CALIBRATION BOTTLE	✓	KCL SOLUTION	✓
SPARE MEMBRANES	✓	6 SPARE D BATTERIES	✓
BUCKET	✓	PAPER TOWELS	✓
INSTRUCTION BINDER	1	SPARE O-RINGS	✓
SCISSORS	✓	SPARE DATA SHEETS	✓
ALCONOX	✓	STICK	✓
WATER BOTTLE	✓	WATER LEVEL INDICATOR	✓
(ELECTRIC WENCH TO PULL ORC'S OUT WITH)	✓		

BEFORE MEASUREMENTS

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	4 Less than 1/8" Bubble	WARM UP UNIT FOR 20 MINUTES?	yes

DATE: 12/21 TECHNICIAN CG

PART A: WELL DATA (DO NOT PURGE)

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	yes
CALIBRATION TEMPERATURE (C)	9.9	CALIBRATION DO READING (mg/L)	11.31
COMPARED TO TABLE VALUE?	yes/ok	CALIBRATION BOTTLE READINING (mg/L)	11.31
DTW (tob)	10.54	DTB (tob)	21.66

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.04	.07	MIDDLE	.08	.05	1'from BOTTOM	.30	.13
PROBE & CORD RINSED?			yes					

MW-8	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	62.6	640	6.75	

WELL E1-A (OBTAIN AN ADDITIONAL DO MEASUREMENT USING TEST KIT:) 12 ppm

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	yes
CALIBRATION TEMPERATURE (C)	12.0	CALIBRATION DO READING (mg/L)	10.78
COMPARED TO TABLE VALUE?	yes / o.k.	CALIBRATION BOTTLE READINING (mg/L)	10.81
DTW (tob)	10.89	DTB (tob)	25.85

DISSOLVED OXYGEN (mg/L) (MW-E1-A CONTINUED)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	18.80	18.61	MIDDLE	14.71	15.03	1'from BOTTOM	11.31	11.33
PROBE & CORD RINSED?			yes					

MW-E1-A	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	60.5	489	7.88	

DATE: 12/21 TECHNICIAN C. GRAVES

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	15.5	CALIBRATION DO READING (mg/L)	9.98
COMPARED TO TABLE VALUE?	Yes/OK.	CALIBRATION BOTTLE READINING (mg/L)	10.01
DTW (tob)	10.00	DTB (tob)	23.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.70	.60	MIDDLE	3.81	3.54	1'from BOTTOM	19.19	16.44
PROBE & CORD RINSED?			Yes					

MW-10	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	62.8	787	7.18	

WELL SP-1 (OBTAIN AN ADITTIONAL DO MEASUREMENT USING TEST KIT:) 1 ppm

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	7.0	CALIBRATION DO READING (mg/L)	12.15
COMPARED TO TABLE VALUE?	Yes/OK.	CALIBRATION BOTTLE READINING (mg/L)	12.15
DTW (tob)	11.25	DTB (tob)	20.90

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.15	.14	MIDDLE	.09	.09	1'from BOTTOM	.25	.13
PROBE & CORD RINSED?			Yes					

SP-1	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	59.0	644	7.02	

DATE: 12/21 TECHNICIAN C. Graves

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	12.9	CALIBRATION DO READING (mg/L)	10.56
COMPARED TO TABLE VALUE?	Yes / OK	CALIBRATION BOTTLE READINING (mg/L)	10.58
DTW (tob)	9.76	DTB (tob)	19.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	3.90	3.87	MIDDLE	3.82	3.88	1'from BOTTOM	.34	.28
PROBE & CORD RINSED?			Yes					

SP-2	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)
	60.1	662	7.25	

PART B: SAMPLING

***OBTAIN THE FOLLOWING SAMPLES BEFORE PURGING WELLS**

SAMPLE	ANALYSIS	DO MEASURED?	SAMPLING COMPLETED?
E1-A	TPH-gasoline, BTEX compounds	Yes	Yes
MW-10	TPH-gasoline, BTEX compounds	Yes	Yes

***AFTER PURGING WELLS OBTAIN THE FOLLOWING SAMPLES AND DO MEASUREMENTS**

SAMPLE	ANALYSIS	DO MEASURED? (SEE THE ATTACHED DATA SHEETS)	SAMPLING COMPLETED?
SP-1	TPH-gasoline, BTEX compounds	Yes	Yes
SP-2	TPH-gasoline, BTEX compounds	Yes	Yes
MW-8	TPH-gasoline, BTEX compounds	Yes	Yes

DATE: 12/21 TECHNICIAN CG

PART B (CONTINUED)

WELL SP-1 (OBTAIN AN ADDITIONAL DO MEASUREMENT USING TEST KIT:) 1 PPM

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less Than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	10.0	CALIBRATION DO READING (mg/L)	11.30
COMPARED TO TABLE VALUE?	Yes / OK	CALIBRATION BOTTLE READING (mg/L)	11.31
DTW (tob)	11.68	DTB (tob)	20.90

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.21	.19	MIDDLE	.16	.09	1'from BOTTOM	.31	.12
PROBE & CORD RINSED?	Yes							

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	12.6	CALIBRATION DO READING (mg/L)	10.64
COMPARED TO TABLE VALUE?	Yes / OK	CALIBRATION BOTTLE READINING (mg/L)	10.64
DTW (tob)	9.80	DTB (tob)	19.00

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	4.20	4.30	MIDDLE	2.79	2.68	1'from BOTTOM	.23	.11
PROBE & CORD RINSED?	Yes							

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Less Than 1/8" Bubble	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	11.6	CALIBRATION DO READING (mg/L)	10.88
COMPARED TO TABLE VALUE?	Yes / OK	CALIBRATION BOTTLE READINING (mg/L)	10.89
DTW (tob)	11.01	DTB (tob)	21.64

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP	.10	.11	MIDDLE	.06	.05	1'from BOTTOM	.33	.11
PROBE & CORD RINSED?	Yes							

DATE: _____ TECHNICIAN _____

PART C

DURING THE QUARTERLY GW MONITORING EVENT THE FOLLOWING PARAMETERS ARE TO BE MEASURED FOR WELLS E1-A, MW-10, *SP-1,* SP-2, *MW-8, 633, MW-5, AND MW-25 AFTER PURGING;

***DO NOT OBTAIN AFTER PURGE TEMP, CONDUCTIVITY , pH AND DO MEASUREMENTS TWICE (OBTAINED IN PART B).**

***DO NOT COLLECT AFTER PURGE TPPH-G AND BTEX SAMPLES TWICE (OBTAINED IN PART B).**

IN THE FIELD

COLOR
ODOR
pH
EC
ORP
TEMP
TURBIDITY
H2S
DO
TOTAL AND FERROUS IRON

SEND TO LAB FOR ANALYSIS

SULFATE
NITRATE
AMMONIA
TPH-G
BTEX

WELL MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		

PROBE & CORD RINSED?	

MW-25	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: _____ TECHNICIAN _____

PART C (CONTINUED)

WELL 633

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		

PROBE & CORD RINSED?				
633	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

WELL MW-5

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		

PROBE & CORD RINSED?				
MW-5	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: _____ TECHNICIAN _____

PART C (CONTINUED)

WELL E1-A (OBTAIN AN ADDITIONAL DO MEASUREMENT USING TEST KIT:)

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

WELL MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READINING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds		30 seconds	60 seconds		30 seconds	60 seconds
1'from TOP			MIDDLE			1'from BOTTOM		
PROBE & CORD RINSED?								

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.5B LOCATION: 17601 Hesperian WELL ID #: SP-1

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: Chuck Graves

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 20.90 - DTW 11.25 = 9.65 x Gal/Linear Foot 0.17 = 1.64 x Number of Casings 3 = Calculated Purge 4.92

DATE PURGED: 12/21/95 START: 845 END (2400 hr): 855 PURGED BY: CG

DATE SAMPLED: 12/21/95 START: 855 END (2400 hr): 855 SAMPLED BY: CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
849	1.75	7.11	664	61.6	Clear	4.26	NO
852	3.50	7.08	670	60.0	Clear	2.86	NO
855	5.25	7.05	710	60.3	Clear	2.14	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☑ Bailer: 29-1
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 29-1
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP-1	12/21	855	3	40ml	VOA	HCL	GAS, BTEX

REMARKS:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.5B LOCATION: 17601 Hesperian bl San Lorenzo WELL ID #: ~~##~~ SP-2

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: Chuck Graves

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 19.00 - DTW 9.76 = 9.24 x Gal/Linear Foot 0.17 = 1.57 x Number of Casings 3 = Calculated Purge 4.71

DATE PURGED: 12-21-95 START: 1000 END (2400 hr): 1015 PURGED BY: CG

DATE SAMPLED: 12-21-95 START: 1020 END (2400 hr): 1020 SAMPLED BY: CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:04	1.5	7.27	686	62.6	Clear	8.15	NO
10:10	3.0	7.25	680	62.5	Clear	3.64	NO
10:15	4.75	7.19	710	62.1	Clear	2.81	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☑ Bailer: 29-4
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 29-4
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP-2	12/21	1020	3	40ml	VOA	HCL	GAS, BTEX

REMARKS: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.5B LOCATION: 17601 Hesperian BL San Lorenzo WELL ID #: MW8

CLIENT/STATION No.: 0608 FIELD TECHNICIAN: Chuck Graves

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

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

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

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

TD 21.66 - DTW 10.54 = 11.12 x Gal/Linear Foot 0.38 = 4.23 x Number of Casings 3 = Calculated Purge 12.69

DATE PURGED: 12-21-95 START: 9:20 END (2400 hr): 934 PURGED BY: CG

DATE SAMPLED: 12-21-95 START: 935 END (2400 hr): 935 SAMPLED BY: CG

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
9:25	4.5	6.84	636	63.6	Clear	4.41	NO
9:29	9.0	6.82	651	62.8	Clear	3.18	NO
9:34	12.75	6.80	652	62.1	Clear	1.94	NO

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D. #
- ☑ Bailer: 29-3
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW8	12/21	935	3	40ml	VOA	HCL	GAS, BTEX

REMARKS:

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330-006.5B **Task Order No.** 1707600 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BL 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 Pl #440 San Jose, CA 95110		Contract number 1707600

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 ☐		
SP-1		3		✓		✓	HCL	12/21/95	855		✓											
SP-2		↓		↓		↓	↓	↓	1020		✓											
MW-8		↓		↓		↓	↓	↓	935		✓											
MW-10		↓		↓		↓	↓	↓	1040		✓											
EI-A		↓		↓		↓	↓	↓	8:00		✓											

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	12/21/95	11:30	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory

Date: Time: