PACIFIC
ENVIRONMENTAL
GROUP, INC.

Quarterly Groundwater Monitoring Report and Remedial System Performance Evaluation Second Quarter 1996

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

Prepared for

ARCO Products Company

September 30, 1996

Prepared by

Pacific Environmental Group, Inc.
2025 Gateway Place, Suite 440
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Project 330-006.2H

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GEOLOGIST
STATE OF CALIFORNIA

Date: September 30, 1996
Quarter: 2Q96

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 0608 Address: 17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

ARCO Environmental Engineer: Mike Whelan
Consulting Co./Contact Person: Pacific Environmental Group, Inc./Shaw Garakani
Consultant Project No.: 330-006.2H
Primary Agency/Regulatory ID No.: Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER (Second - 1996):

1. Performed second quarter 1996 groundwater monitoring event.
2. Prepared second quarter 1996 groundwater monitoring report.
3. Installed fresh ORCs in Wells E1-A, MW-5, and MW-10.
4. Resampled Well 633H to verify first quarter 1996 sampling results.
5. Performed intrinsic bioremediation monitoring program.
6. Continued quarterly payments to home owners for not using domestic irrigation wells.
7. Continued home owner quarterly monitoring results notification program.

WORK PROPOSED FOR NEXT QUARTER (Third - 1996):

1. Perform third quarter 1996 groundwater monitoring event.
2. Prepare third quarter 1996 groundwater monitoring report.
3. Replace depleted ORC in Wells E1-A, MW-5, and MW-10.
4. Continue intrinsic bioremediation monitoring program.
5. Continue quarterly payments to home owners for not using domestic irrigation wells.
6. Continue home owner quarterly monitoring results notification program.

Current Phase of Project:	Monitoring/Bioremediation Monitoring & Enhancement	(Assmnt, Remed., etc.)
Frequency of Groundwater Sampling:	Quarterly	(Quarterly, etc.)
Frequency of Groundwater Monitoring:	Quarterly	(Monthly, etc.)
Is Free Product (FP) Present On-Site:	No	(Yes/No)
FP Recovered this Quarter:	None	(gallons)
Cumulative FP Recovered to Date:	None	(gallons)
Bulk Soil Removed This Quarter:	None	(cubic yards)
Bulk Soil Removed to Date:	200	(cubic yards)
Current Remediation Techniques:	Bioremediation Enhancement	(SVE/Sparge/FP Removal, etc.)
Approximate Depth to Groundwater:	8.8 to 12.9	(Measure Feet)
Groundwater Gradient:	West	(Direction)
	0.0093	(Magnitude)
TPPH-g/Benzene Removed to Date:	0.0/0.0	(gallons)
Cumulative TPPH-g/Benzene Removed:	0.8/0.04	(gallons)

DISCUSSION:

- Groundwater levels have dropped approximately 2 feet compared to first quarter 1996.
- Hydrocarbon concentrations are within or lower than historical levels.

ATTACHMENTS:

- Table 1 - Groundwater Sampling Schedule
- Table 2 - Groundwater Elevation and Analytical Data - Groundwater Monitoring Wells
- Table 3 - Groundwater Analytical Data - Domestic Irrigation Wells
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPPH-g/Benzene Concentration Map
- Attachment A - Historical Liquid Surface Elevation and Groundwater Analytical Data Tables
- Attachment B - Field and Laboratory Procedures
- Attachment C - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment D - Remedial System Performance Evaluation

cc: Ms. Amy Leech, Alameda County Health Care Services Agency
Mr. Ron Sykora/Mr. Robert L. Webster, David D. Bohannon Organization
Mr. Kevin Graves, Regional Water Quality Control Board - S.F. Bay Region

Table 1
Groundwater Sampling Schedule

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

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
MW-5	a	a	a	a	Quarterly
MW-7	a	a	a	a	Quarterly
MW-8	a	a	a	a	Quarterly
MW-9	a	a	a	a	Quarterly
MW-10	a	a	a	a	Quarterly
MW-11	a	a	a	a	Quarterly
E-1A	a	a	a	a	Quarterly
MW-13	a	a	a	a	Quarterly
MW-14	a	a	a	a	Quarterly
MW-15	a	a	a	a	Quarterly
MW-16	a	a	a	a	Quarterly
MW-17	----------	----------	Destroyed	----------	----------
MW-18	a	a	a	a	Quarterly
MW-19	a	a	a	a	Quarterly
MW-20	----------	----------	Destroyed	----------	----------
MW-21	a	a	a	a	Quarterly
MW-22	a	a	a	a	Quarterly
MW-23	a	a	a	a	Quarterly
MW-24	a	a	a	a	Quarterly
MW-25	a	a	a	a	Quarterly
MW-26	a	a	a	a	Quarterly

Table 1 (continued)
Groundwater Sampling Schedule

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

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
Domestic Irrigation Wells					
590H	b	b	b	b	Quarterly
633H	b	b	b	b	Quarterly
634H	b	b	b	b	Quarterly
642H	b	b	b	b	Quarterly
675H	b	b	b	b	Quarterly
17197 VM	b	b	b	b	Quarterly
17200 VM	b	b	b	b	Quarterly
17203 VM	b	b	b	b	Quarterly
17302 VM	b	b	b	b	Quarterly
17348 VE	b	b	b	b	Quarterly
17349 VM	b	b	b	b	Quarterly
17371 VM	b	b	b	b	Quarterly
17372 VM	b	b	b	b	Quarterly
17393 VM	b	b	b	b	Quarterly

a. Samples analyzed for TPPH-g, BTEX compounds, and MtBE according to EPA Methods 8015 (modified) and 8020.
b. Samples analyzed for TPPH-g and BTEX compounds only by EPA Methods 8015 (modified) and 8020.

Table 2
Groundwater Elevation and 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		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-5	03/14/96	a	33.99	9.75	24.24	1,600	30	<10	13	<10
	05/29/96	b		11.48	22.51	240	2.4	<0.50	<0.50	<0.50
MW-7	03/15/96	a	34.40	9.73	24.67	<50	<0.50	<0.50	<0.50	<0.50
	05/29/96	b		11.60	22.80	<50	<0.50	<0.50	<0.50	<0.50
MW-8	03/14/96	a	32.79	8.90	23.89	670	5.1	<2.0	<2.0	<2.0
	05/29/96	b		10.58	22.21	490	<1.0	<1.0	0.91	0.91
MW-9	03/15/96	a	32.11	7.65	24.46	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		9.67	22.44	<50	<0.50	<0.50	<0.50	<0.50
MW-10	03/14/96	a	31.67	7.78	23.89	870	35	<5.0	5.2	7.0
	05/29/96	b		10.00	21.67	800	<1.0	<1.0	<1.0	<1.0
MW-11	03/14/96	a	32.54	8.60	23.94	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		10.55	21.99	<50	<0.50	<0.50	<0.50	<0.50
E-1A (MW-12)	03/14/96	a	33.06	10.35	22.71	2,700	38	<5.0	130	6.2
	05/29/96	b		11.50	21.56	1,400	410	18	55	5.5
MW-13	03/15/96	a	35.42	10.90	24.52	<50	<0.50	<0.50	<0.50	<0.50
	05/29/96	b		12.90	22.52	<50	<0.50	<0.50	<0.50	<0.50
MW-14	03/15/96	a	30.46	6.63	23.83	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		8.83	21.63	<50	<0.50	<0.50	<0.50	<0.50
MW-15	03/13/96	a	31.41	8.13	23.28	<50	<0.50	<0.50	<0.50	<0.50
	05/29/96	b		10.30	21.11	<50	<0.50	<0.50	<0.50	<0.50
MW-16	03/13/96	a	31.39	8.62	22.77	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		10.90	20.49	<50	<0.50	<0.50	<0.50	<0.50
MW-17	Well Destroyed									
MW-18	03/13/96	a	29.70	7.53	22.17	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		9.88	19.82	<50	<0.50	<0.50	<0.50	<0.50
MW-19	03/13/96	a	29.02	7.06	21.96	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		9.42	19.60	<50	<0.50	<0.50	<0.50	<0.50
MW-20	Well Destroyed									
MW-21	03/13/96	a	28.72	7.58	21.14	<50	<0.50	<0.50	<0.50	<0.50
	05/29/96	b		9.85	18.87	<50	<0.50	<0.50	<0.50	<0.50
MW-22	03/13/96	a	29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		10.33	18.96	<50	<0.50	<0.50	<0.50	<0.50

Table 2 (continued)
Groundwater Elevation and 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		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-23	03/13/96	a	30.99	9.13	21.86	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		11.37	19.62	<50	<0.50	<0.50	<0.50	<0.50
MW-24	01/15/96	a	34.38	10.10	24.28	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		12.25	22.13	<50	<0.50	<0.50	<0.50	<0.50
MW-25	03/14/96	a	34.12	9.61	24.51	<50	<0.50	<0.50	<0.50	<0.50
	05/29/96	b		11.30	22.82	<50	<0.50	<0.50	<0.50	<0.50
MW-26	03/15/96	a	33.71	9.38	24.33	<50	<0.50	<0.50	<0.50	<0.50
	05/28/96	b		11.57	22.14	<50	<0.50	<0.50	<0.50	<0.50

MSL = Mean sea level
TOB = Top of box
ppb = Parts per billion
a. All wells gauged on March 13, 1996.
b. All wells gauged on May 28, 1996.
< = Less than laboratory detection limit stated at right.
ND = Not detected
NS = Not sampled

Table 3
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

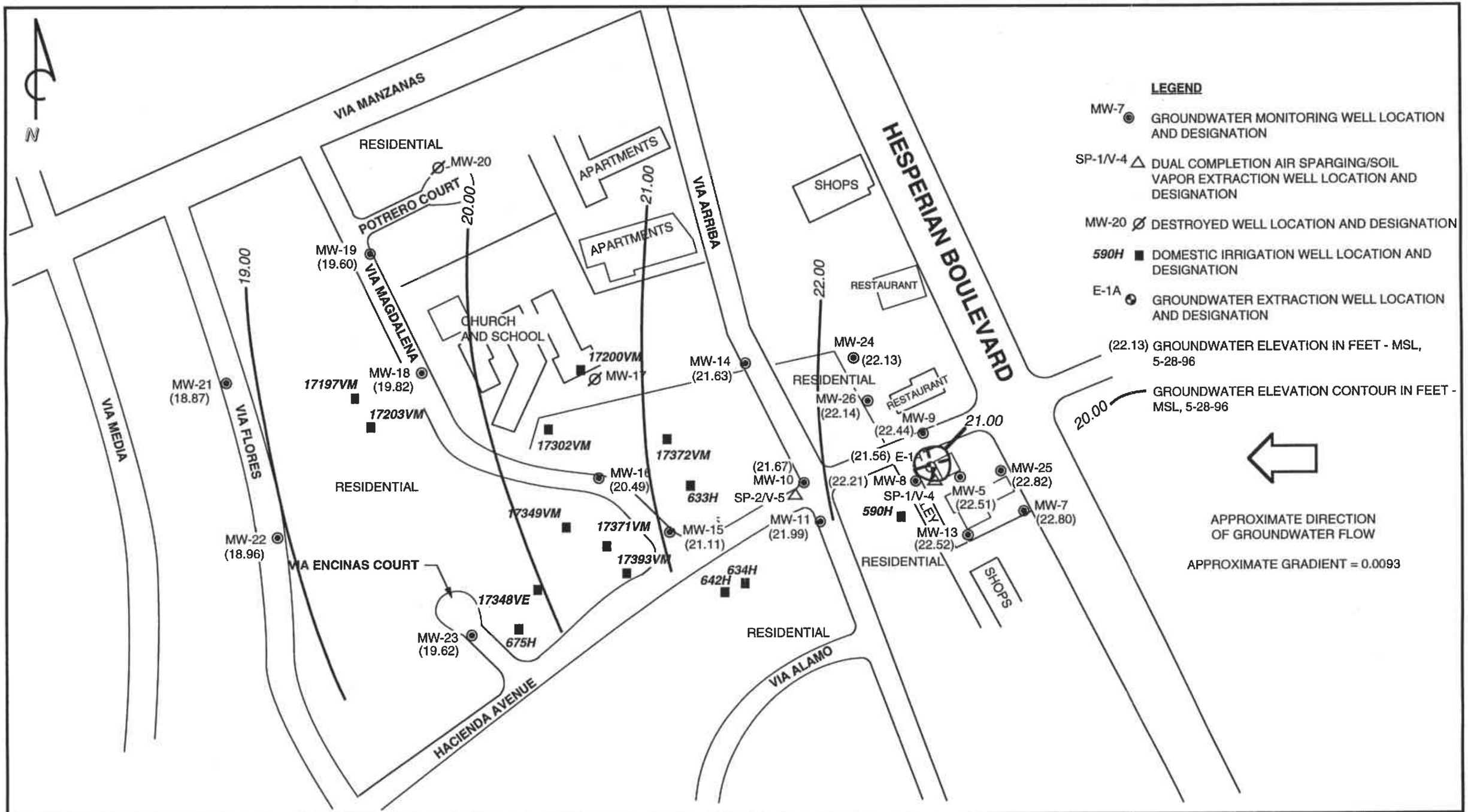
Well Address	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
590 H	03/14/96		<50	<0.50	<0.50	<0.50	<0.50
	05/29/96		<50	<0.50	<0.50	<0.50	<0.50
633 H	03/14/96		480	10	11	1.8	140
	05/13/96	*	<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		<50	<0.50	<0.50	<0.50	<0.50
634 H	03/13/96	a	NS	NS	NS	NS	NS
	05/27/96	a	NS	NS	NS	NS	NS
642 H	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		<50	<0.50	<0.50	<0.50	<0.50
675 H	03/13/96	a	NS	NS	NS	NS	NS
	05/27/96	a	NS	NS	NS	NS	NS
17197 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		<50	<0.50	<0.50	<0.50	<0.50
17200 VM	03/15/96		730	<1.0	<1.0	1.5	1.7
	05/27/96		200	<0.50	<0.50	1.4	1.8
17203 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		<50	<0.50	<0.50	<0.50	<0.50
17302 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		<50	<0.50	<0.50	<0.50	<0.50
17348 VE	03/13/96		<50	<0.50	<0.50	<0.50	<0.50
	05/27/96		---------- Well Dry ----------				
17349 VM	03/15/96		1,700	<2.0	<2.0	2.5	13
	05/27/96		320	4.2	1.3	0.95	0.71
17371 VM	03/13/96	c	NS	NS	NS	NS	NS
	05/27/96	c	NS	NS	NS	NS	NS

Table 3 (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	03/14/96	<50	<0.50	<0.50	<0.50	<0.50
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50
17393 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
H = Hacienda Avenue
< = Less than laboratory detection limit stated at right.
NS = Not sampled
VM = Via Magdalena
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.
* = Well resampled to confirm March 14, 1996 data.
Homeowners are contacted one week prior to sampling event.



PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

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

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:
1
PROJECT:
330-006.2H

N

VIA MANZANAS

RESIDENTIAL

MW-20 Ø

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

MW-19
ND/ND

VIA MAGDALENA

CHURCH
AND SCHOOL

200/ND
17200VM
MW-17 Ø

RESTAURANT

MW-24
ND/ND

MW-14
ND/ND

RESIDENTIAL

MW-21
ND/ND

ND/ND
MW-18
ND/ND

17197VM
17203VM
ND/ND

MW-26
ND/ND

RESTAURANT

MW-9
ND/ND

VIA MEDIA

VIA FLORES

17302VM
ND/ND

ND/ND
17372VM

1,400/410 E-1A

800/ND

MW-25
ND/ND

MW-16
ND/ND

ND/ND
633H

MW-10
SP-2/V-5

490/ND MW-8

MW-5

SP-1/V-4

240/2.4

MW-7
ND/ND

RESIDENTIAL

17349VM
320/4.2

MW-15
ND/ND

590H
ND/ND

ALLEY

MW-22
ND/ND

17371VM
NS

MW-11
ND/ND

17393VM
ND/ND

MW-13
ND/ND

VIA ENCINAS COURT

(DRY)
17348VE

634H
642H
NS
ND/ND

RESIDENTIAL

SHOPS

HACIENDA AVENUE

MW-23
ND/ND

675H
NS

RESIDENTIAL

VIA ALAMO

APPROXIMATE DIRECTION
OF GROUNDWATER FLOW

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

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

MW-20 Ø DESTROYED WELL LOCATION AND DESIGNATION

590H ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION

E-1A ⊕ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

240/2.4 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 5-27-96 through 5-28-96

ND NOT DETECTED

NS NOT SAMPLED

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

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

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-006.2H

ATTACHMENT A

HISTORICAL LIQUID SURFACE ELEVATION AND GROUNDWATER ANALYTICAL DATA TABLES

Table A-1
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-1 (continued)
Historical Liquid Surface 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 A-2
Historical 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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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 (MW-12)	09/19/90		<50	7	0.9	1	2
	12/27/90		<50	3	0.5	1	1
	03/21/91		<30	4.2	<0.3	1.1	0.89
	06/26/91		41	6.3	<0.3	1.2	0.59
			---------- Converted to Extraction Well 8/91 ----------				
	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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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 A-2 (continued)
Historical 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.
< = Less than laboratory detection limit stated at right.
* = 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 A-3
Historical 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

Table A-4
Historical 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 A-4 (continued)
Historical 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 A-4 (continued)
Historical 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 A-4 (continued)
Historical 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 A-4 (continued)
Historical 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
< = Less than laboratory detection limit stated at right.
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.

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

ATTACHMENT B
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, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Field Procedures

Parameters measured in the field include color, odor, oxidation reduction potential, turbidity, hydrogen sulfide, dissolved oxygen, and ferrous iron. Field parameters were monitored at approximately the same times samples were collected for laboratory analysis. The instruments and techniques used to monitor these parameters are listed in the table below.

PARAMETER	INSTRUMENT OR TECHNIQUE
Color	Manually
Odor	Manually
Oxidation Reduction Potential (ORP)	YSI Model 3560 water quality monitoring system with YSI Model 3540 ORP electrode assembly
Turbidity	Nepholemetric turbidity unit or manually
Hydrogen Sulfide	HACH hydrogen sulfide test kit Model HS-C, catalog No. 25378-00
Dissolved Oxygen	YSI Model 50 in-situ dissolved oxygen meter
Ferrous Iron	HACH TPTZ iron reagent method, Model 1R-21, catalog No. 22993-00

Laboratory Procedures

The groundwater samples were analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX compounds), nitrate as nitrate, sulfate, nitrogen as ammonia, and total iron according to the 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

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

ATTACHMENT C

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: Kelly Brown

Project: 330-006.2I/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on May 30, 1996.
The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K39 -01	LIQUID, MW-5	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -02	LIQUID, MW-7	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -03	LIQUID, MW-8	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -04	LIQUID, MW-9	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -05	LIQUID, MW-10	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -06	LIQUID, MW-11	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -07	LIQUID, MW-13	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -08	LIQUID, MW-14	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -09	LIQUID, MW-15	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -10	LIQUID, MW-16	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -11	LIQUID, MW-18	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -12	LIQUID, MW-19	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -13	LIQUID, MW-21	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -14	LIQUID, MW-22	05/28/96	TPHGBW Purgeable TPH/BTEX

SEQUOIA ANALYTICAL

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K39 -15	LIQUID, MW-23	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -16	LIQUID, MW-24	05/28/96	TPHGBW Purgeable TPH/BTEX
9605K39 -17	LIQUID, MW-25	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K39 -18	LIQUID, MW-26	05/28/96	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

Claudia Hirotsu
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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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: Kelly Brown

Project: 330-006.2I/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on May 30, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K97 -01	LIQUID, E-1A	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K97 -02	LIQUID, TB-1	05/28/96	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

Claudia Hirotsu
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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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: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-01

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**240**
Benzene	**0.50**	**2.4**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Gas & Unidentified HC		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

Claudia Hirotsu
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: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-7
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-02

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
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.
Surrogates	**Control Limits %**	**% Recovery**
Trifluorotoluene	70 130	110

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-8
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-03

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**490**
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	**1.0**	**0.91**
Xylenes (Total)	**1.0**	**0.91**
Chromatogram Pattern:		
Gas & Unidentified HC		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	118

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-9	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-04	Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
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.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/29/96
2025 Gateway Place, Suite 440	Sample Descript: MW-10	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-05	Reported: 06/10/96

QC Batch Number: GC060696BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**800**
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	1.0	N.D.
Chromatogram Pattern:		
Unidentified HC		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-11	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-06	Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
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.

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

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-13
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-07

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
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.

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

C. Hirotsu

Claudia Hirotsu
Project Manager

Sequoia Analytical

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-14
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-08

Sampled: 05/28/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX02A
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.
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

Claudia Hirotsu
Project Manager

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-15
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-09

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

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

Claudia Hirotsu
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-16	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-10	Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

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

C. Hirotsu

Claudia Hirotsu
Project Manager

Sequoia Analytical

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-18
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-11

Sampled: 05/28/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-19	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-12	Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

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

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-21
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-13

Sampled: 05/28/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.
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

Claudia Hirotsu
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-22	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-14	Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

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

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-23
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-15

Sampled: 05/28/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: MW-24	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-16	Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/29/96
2025 Gateway Place, Suite 440	Sample Descript: MW-25	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K39-17	Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97

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

SEQUOIA ANALYTICAL - ELAP #1210

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: MW-26
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K39-18

Sampled: 05/28/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX03A
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.
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

C. Hirotsu

Claudia Hirotsu
Project Manager

Sequoia Analytical

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

Attention: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: E-1A
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K97-01

Sampled: 05/29/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1400
Benzene	5.0	410
Toluene	5.0	18
Ethyl Benzene	5.0	55
Xylenes (Total)	5.0	5.5
Chromatogram Pattern:		Gas

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 - 130	95

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/28/96
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K97-02	Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Project ID:	330-006.2I/0608, San Leandro	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Kelly Brown	Work Order #:	9605K39 -01, 2, 4, 6-8	Reported: Jun 11, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX02A	GC060696BTEX02A	GC060696BTEX02A	GC060696BTEX02A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.7	8.5	8.5	25
MS % Recovery:	87	85	85	83
Dup. Result:	9.1	9.0	9.0	27
MSD % Recov.:	91	90	90	90
RPD:	4.5	5.7	5.7	7.7
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.4	9.3	9.1	28
LCS % Recov.:	94	93	91	93

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

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

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

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (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: Kelly Brown

Client Project ID: 330-006.2I/0608, San Leandro
Matrix: Liquid
Work Order #: 9605K39-03, 5

Reported: Jun 11, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX17A	GC060696BTEX17A	GC060696BTEX17A	GC060696BTEX17A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.5	9.5	9.5	28
MS % Recovery:	95	95	95	93
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	15	15	15	13
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107
MS/MSD - LCS Control Limits	60-140 70-130	60-140 70-130	60-140 70-130	60-140 70-130

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

Please Note:
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** 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: Kelly Brown

Client Project ID: 330-006.2I/0608, San Leandro
Matrix: Liquid
Work Order #: 9605K39-09-18

Reported: Jun 11, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX03A	GC060696BTEX03A	GC060696BTEX03A	GC060696BTEX03A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.7	8.6	8.3	25
MS % Recovery:	87	86	83	83
Dup. Result:	9.1	8.9	8.7	26
MSD % Recov.:	91	89	87	87
RPD:	4.5	3.4	4.7	3.9
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.1	8.9	8.8	26
LCS % Recov.:	91	89	88	87
MS/MSD - LCS Control Limits	60-140 / 70-130	60-140 / 70-130	60-140 / 70-130	60-140 / 70-130

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
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: Kelly Brown

Client Project ID: 330-006.2I/0608, San Leandro
Matrix: Liquid
Work Order #: 9605K97-01, 2

Reported: Jun 11, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX21A	GC060696BTEX21A	GC060696BTEX21A	GC060696BTEX21A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	9.8	30
MS % Recovery:	110	100	98	100
Dup. Result:	11	10	10	31
MSD % Recov.:	110	100	100	103
RPD:	0.0	0.0	2.0	3.3
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107
MS/MSD - LCS Control Limits	60-140 70-130	60-140 70-130	60-140 70-130	60-140 70-130

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
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 330-006.21
Division of AtlanticRichfieldCompany

Task Order No. 17391.00

Chain of Custody

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

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

Consultant name RESNA Environmental Group | Address (Consultant) 3025 Gateway Place Suite 490 San Jose CA 95

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH 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 ☐		
MW5	1	3		X		X	X	5/29/96	9:45		X											
MW7	2							5/29/96	8:55													
MW8	3							5/29/96	10:10													
MW9	4							5/28/96	16:15													
MW10	5							5/29/96	10:35													
MW11	6							5/28/96	15:00													
MW13	7							5/29/96	9:25													
MW14	8							5/28/96	10:35													
MW15	9							5/28/96	12:05													
MW16	10							5/28/96	13:20													
MW18	11							5/28/96	13:45													
MW19	11							5/28/96	14:10													
MW21	13							5/28/96	12:30													
MW22	14							5/28/96	12:05													
MW23	15							5/28/96	12:55													
MW24	16							5/28/96	15:25		↓											

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks: Page (1) of (2)

Lab number: 9605K39/K97

Condition of sample:

Temperature received:

Relinquished by sampler	Date 5/30/96	Time 7:30	Received by [signature]
Relinquished by [signature]	Date 5/30/96	Time 10/5	Received by [signature]
Relinquished by [signature]	Date 5/30/96	Time	Received by laboratory [signature] — Date 5/30/96 — Time 11:04am

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)

ARCO Products Company Division of AtlanticRichfieldCompany — 330 000.21 **Task Order No.** 193480 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) Hesperian Blvd Sanlorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Segco
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539	Contract number
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110			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 Semi Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-5	1	3		X		X	HCL	5/29/96	8:30		X											
MW-6	2	3						5/28/96	15:50													
E-1A	3	3						5/29/96	11:15													
TB-1	4	2						5/28/96	N/A													
TB-2	5	2						5/29/96	N/A													

Page 2 of 2

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9605K39/K9

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 5/30/96 Time 7:30	Received by	
Relinquished by	Date 5/30/96 Time 10:15	Received by	
Relinquished by	Date 5/30/96 Time	Received by laboratory	Date 5/30/96 Time 17:07

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 SAMPLE RECEIPT LOG

CLIENT NAME: Pacific Env
REC. BY (PRINT): JR

WORKORDER: 9605K39 / K97
DATE OF LOG-IN: 6-5-96

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: 5/30/96
12. Temp. Rec. at Lab: 11°C
13. Time Rec. at Lab: 1107

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	A-C	MW5	3 VOAs	W	5/24	
2	|	MW7	|	|	|	
3	|	MW8	|	|	↓	
4	|	MW9	|	|	5/28	
5	|	MW10	|	|	5/29	
6	|	MW11	|	|	5/28	
7	|	MW13	|	|	5/29	
8	|	MW14	|	|	5/28	
9	|	MW15	|	|	5/24	
11	|	MW18	|	|	5/28	
12	|	MW19	|	|	|	
14	|	MW22	|	|	|	
15	|	MW23	|	|	|	
16	|	MW24	|	|	↓	
17	|	MW25	|	|	5/29	
18	|	MW26	|	|	5/28	
19	↓	E-1A	↓	↓	5/29	
20	AB	TB-1	2 VOAs	↓	5/28	

5/30/96 1107 hr

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

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

WORKORDER: 9605139 / 197
DATE OF LOG-IN: 6-5-96

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: 5-30-96
12. Temp. Rec. at Lab: 11°C
13. Time Rec. at Lab: 1107

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
10	A-C	MW16	3VOA	L	5-28	
13	↓	MW17	↓	↓	↓	

6-5-96

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

Sequoia Analytical

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

Project: 330-006.2I/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on May 30, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K40 -01	LIQUID, 590H	05/29/96	TPHGBW Purgeable TPH/BTEX
9605K40 -02	LIQUID, 633H	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -03	LIQUID, 642H	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -04	LIQUID, 17197VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -05	LIQUID, 17200VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -06	LIQUID, 17203VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -07	LIQUID, 17302VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -08	LIQUID, 17349VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -09	LIQUID, 17372VM	05/27/96	TPHGBW Purgeable TPH/BTEX
9605K40 -10	LIQUID, 17393VM	05/27/96	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

Claudia Hirotsu
Project Manager

Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 633H	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-02	Reported: 06/10/96

QC Batch Number: GC060696BTEX20A
Instrument ID: GCHP20

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.

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

C. Hirotsu

Claudia Hirotsu
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: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 642H	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-03	Reported: 06/10/96

QC Batch Number: GC060696BTEX20A
Instrument ID: GCHP20

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.

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

C. Hirotsu

Claudia Hirotsu
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: 330-006.2l/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17197VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-04	Reported: 06/10/96

QC Batch Number: GC060696BTEX20A
Instrument ID: GCHP20

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.

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

Claudia Hirotsu
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: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17200VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-05	Reported: 06/10/96

QC Batch Number: GC060696BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**200**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**1.4**
Xylenes (Total)	**0.50**	**1.8**
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97

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

SEQUOIA ANALYTICAL - ELAP #1210

C. Hirotsu

Claudia Hirotsu
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: Kelly Brown

Client Proj. ID: 330-006.2I/0608,San Lorenzo
Sample Descript: 17203VM
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9605K40-06

Sampled: 05/27/96
Received: 05/30/96

Analyzed: 06/06/96
Reported: 06/10/96

QC Batch Number: GC060696BTEX20A
Instrument ID: GCHP20

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.
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

Claudia Hirotsu
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: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17302VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-07	Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

C. Hirotsu

Claudia Hirotsu
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: 330-006.2l/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17349VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-08	Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**320**
Benzene	**0.50**	**4.2**
Toluene	**0.50**	**1.3**
Ethyl Benzene	**0.50**	**0.95**
Xylenes (Total)	**0.50**	**0.71**
Chromatogram Pattern:		**Gas**

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

Claudia Hirotsu
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: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17372VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-09	Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

C. Hirotsu

Claudia Hirotsu
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 05/27/96
2025 Gateway Place, Suite 440	Sample Descript: 17393VM	Received: 05/30/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/96
Attention: Kelly Brown	Lab Number: 9605K40-10	Reported: 06/10/96

QC Batch Number: GC060696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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 Project ID:	330-006.2I/0608, San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Kelly Brown	Work Order #:	9605K40 -01-4, 6	Reported: Jun 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX20A	GC060696BTEX20A	GC060696BTEX20A	GC060696BTEX20A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.3	8.0	7.9	24
MS % Recovery:	83	80	79	80
Dup. Result:	9.8	9.7	9.7	29
MSD % Recov.:	98	97	97	97
RPD:	17	19	20	19
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.5	9.3	9.4	28
LCS % Recov.:	95	93	94	93
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
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:	330-006.2I/0608, San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Kelly Brown	Work Order #:	9605K40-05	Reported: Jun 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX17A	GC060696BTEX17A	GC060696BTEX17A	GC060696BTEX17A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.5	9.5	9.5	28
MS % Recovery:	95	95	95	93
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	15	15	15	13
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107
MS/MSD Control Limits, LCS	60-140 / 70-130	60-140 / 70-130	60-140 / 70-130	60-140 / 70-130

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

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

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Pacific Environmental Group	Client Project ID:	330-006.2I/0608, San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Kelly Brown	Work Order #:	9605K40-07-10	Reported: Jun 10, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060696BTEX21A	GC060696BTEX21A	GC060696BTEX21A	GC060696BTEX21A
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 #:	9605H3301	9605H3301	9605H3301	9605H3301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	9.8	30
MS % Recovery:	110	100	98	100
Dup. Result:	11	10	10	31
MSD % Recov.:	110	100	100	103
RPD:	0.0	0.0	2.0	3.3
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK060696A	BLK060696A	BLK060696A	BLK060696A
Prepared Date:	6/6/96	6/6/96	6/6/96	6/6/96
Analyzed Date:	6/6/96	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
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 330206.11
Division of AtlanticRichfieldCompany

Task Order No. 17348.00

Chain of Custody

ARCO Facility no. 0808 | City (Facility) 17601 Hesperian Blvd San Lorenzo | Project manager (Consultant) Kelly Brown | Laboratory name: Sequoia

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

Consultant name Pacific Environmental Group | Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110 | Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	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 ☐		
570H		3		X		X	X	5/28/96	14:15		X											
633H		↓		↓		↓	↓	5/29/96	1100		↓											
642H		↓		↓		↓	↓	↓	11:45	X	↓											
~~[illegible]~~									~~[illegible]~~													
17191VM		↓		↓		↓	↓	↓	[illegible]		↓											
17202VM		↓		↓		↓	↓	↓	10:00		↓											
17203VM		↓		↓		↓	↓	↓	13:10		↓											
17312VM		↓		↓		↓	↓	↓	14:30		↓											
17342VM		↓		↓		↓	↓	↓	14:05		↓											
17372VM		↓		↓		↓	↓	↓	12:20		↓											
17373VM		↓		↓		↓	↓	↓	10:55		↓											

Method of shipment:

Special detection Limit/reporting:

Special QA/QC:

Remarks: RT ~~3 of 3~~ 1 of 1

Lab number: 9605K40

Condition of sample:

Temperature received:

	Date	Time		
Relinquished by sampler [signature]	5/30/96	7:30	Received by [signature]	
Relinquished by [signature]	5/30/96	1015	Received by [signature]	
Relinquished by [signature]	5/30/96		Received by laboratory [signature]	Date 5/30/96 Time 11:07am

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 SAMPLE RECEIPT LOG

CLIENT NAME: Pacific Env
REC. BY (PRINT): mp

WORKORDER:
DATE OF LOG-IN:

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: 5/30/96
12. Temp. Rec. at Lab: 10°C
13. Time Rec. at Lab: 1107

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
		5901t	3 Voas	W	5/29	
		6331t	↓	↓	↓	
		6421t				
		17197VM				
		17200VM				
		17203VM				
		17302VM				
		17346VM				
		17372VM				
		17393VM				

5/30/96 1107

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

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2I

☐ **1st time visit**

Station #:0608

☐ **1st** ☒ **2nd** ☐ **3rd** ☐ **4th** **Date of Request:** 6/96

Site Address:17601 Hesperian Bl
San Lorenzo, California

☐ **Monthly** **Ideal Field Date:**

☐ **Semi-Monthly** **Purge water** 368-0

County: Alameda ☐ **Weekly** **Budget Hrs.**_____

Project Manager: Kelly Brown ☐ **One time Event** **Actual Hrs.** 14

Requestor: Kelly Romero ☐ **Other.**_____ **Mob de Mob** 4

Client: Arco **Client P.O.C.:**Mike Whelan **Total Wells** 37 wells

Total Purge = 368.0

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

Field Tasks: For General Description

Second Quarter 1996 groundwater sampling event: DTW/DTL on all wells from TOB/TOC

Sample per attached protocol:

WA#1934800

Comments, remarks, from Field Staff (include problems encountered

Completed by: W Reed Date: 5/25 5/29/96

Checked by:_____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2I	608	17601 Hesperlan San Lorenzo	2Q96	Kelly Brown	KB 3/21/96		Sequoia	Mike Whelan

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

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.21	608	17601 Hesperian San Lorenzo	2Q96	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	TOB/TOC				
Mr. Dahmann	Well Sam	633 Hacienda	QLY	GAS/BTEX	TOB/TOC				
Mrs Albright	Old Nickell	634 Hacienda	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Ms. Corregedor	Well Sam	642 Hacienda	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX	TOB/TOC				Dedicated pump inoperable
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX	TOB/TOC				
Mr Scrag		17197 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Cavalry Church		17200 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mrs Toles		17203 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr/Mrs Johanson		172302 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Kast		17349 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Manry		17371 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Mr. Pimental		17372 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				
Mr. Hull		17393 Via Magdalena	QLY	GAS/BTEX	TOB/TOC				

2Q96 Sampling Event

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 response to 1995 request letters
✓	590 Hacienda	Mr.& Mrs. Silva (510) 276-1534	5/21	operational	Need homeowmer there to sample. Well in back yard ok to sample; won't use well water this year
✓	633 Hacienda	Mr. Dahmann (510) 276-3860	5/21	operational	Well redeveloped with new pump as of 10/7/94 ok to sample; won't use well water this year
✶	634 Hacienda	Mrs. Albright (510) 278-6094	Don't Call Well Blocked	non-operational	No way to collect a sample no answer for 1995 letter
✓	642 Hacienda	Ms. Corregedor (510) 481-1063	5/21	operational	Need more information on how to sample well ok to sample; won't use well water this year
?	675 Hacienda	Mr. & Mrs. Roberts (510) 276-7389	5/21	non-operational	Cannot sample because of well seal ok to sample?; won't use well water this year
✓	17348 Via Encinas	Mr. Luehrs (510)278-9059	5/21	non-operational	Ok to enter backyard and grab bailer sample if resident not home, KNOCK FIRST no answer for 1995 letter
✓	17197 Via Magdalena	Mr. Scrag (510) 278-1904	5/21	operational	Grab sample off hose bib on front porch ok to sample; won't use well water this year
✓	17200 Via Magdalena	Cavalry Church (510) 278-2555	5/21	non-operational	Grab sample from well inside shed in church yard no answer for 1995 letter
✓	17203 Via Magdalena	Mrs. Toles (510)276-6797	5/21	operational	OK to enter back yard and sample if not home; knock first ok to sample; won't use well water this year
✓	17302 Via Magdalena	Mr. & Mrs. Johanson (510) 278-5987	5/21	operational	Sample from hose bib on lower right of front porch ok to sample; will use well water this year
✓	17349 Via Magdalena	Mr. Kast (510)278-1263	5/21	operational	OK to enter back yard and sample if not home; knock first no answer for 1995 letter
✶	17371 Via Magdalena	Mr. Manry (510) 317-9724	Don't Call Not autorized	operational	Won't allow access no answer for 1995 letter
✓	17372 Via Magdalena	Mr. Pimental (510) 278-6304	5/21	operational	Sampled from hose bib in back yard; resident is usually ok to sample?; will use well water this year
✓	17393 Via Magdalena	Mr. Whaley (510) 278-5576	5/21	non-operational	Pump disassembed. Try to bail sample from well in back yard ok to sample; won't use well water this year

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd, San Lorenzo DATE: 5/28/96

CLIENT/STATION NO.: Arco #608 FIELD TECHNICIAN: W. Peck DAY OF WEEK: Tues

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

Casing Size	Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	TOC Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SERARATE-PHASE HYDROCARBONS (SPH) SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
3/4"	4	MW-16	10:25	Y	Y		Y	Y	23.0	10.48 / 10.48	10.90 / 10.90										
		MW-17				DESTROYED															
3"	5	MW-18	10:30	Y	Y		Y	Y	21.40	9.55 / 9.55	9.88 / 9.88										
3"	6	MW-19	10:35	Y	Y		Y	Y	21.45	9.25 / 9.25	9.42 / 9.42										
		MW-20				DESTROYED															
3"	2	MW-21	10:15	Y	Y		Y	Y	21.40	9.33 / 9.35	9.85 / 9.85										
3"	1	MW-22	10:10	Y	Y		Y	Y	21.44	10.05 / 10.05	10.33 / 10.33										
3"	3	MW-23	10:20	Y	Y		Y	Y	21.65	11.10 / 11.10	11.37 / 11.37										
2"	9	MW-24	10:50	Y	Y		Y	Y	20.60	11.95 / 11.95	12.25 / 12.25										

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd, San Lorenzo DATE: 5/28/96

CLIENT/STATION NO.: Arco #608 FIELD TECHNICIAN: (J.) Peck DAY OF WEEK: Tues

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

Casing Size	Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	TOC 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
4"	15	MW-5	11:20	X	X		X	X	13.53	11.10 / 11.10	11.48 / 11.48										
3"	13	MW-7	11:40	X	X		X	X	18.25	11.10 / 11.10	11.60 / 11.60										
3"	16	MW-8	11:25	X	X		X	L	20.85	9.75 / 9.73	10.58 / 10.58										
3"	11	MW-9	11:00	X	X		X	X	18.15	9.15 / 9.15	9.67 / 9.67										
3"	17	MW-10	11:30	X	X		X	X	22.32	9.40 / 9.40	10.0 / 10.0										
3"	8	MW-11	10:45	X	X		X	X	18.80	10.15 / 10.15	10.55 / 10.55										
3"	14	MW-13	11:15	X	X		X	X	23.15	12.62 / 12.62	12.90 / 12.90										
3"	7	MW-14	10:40	X	X		O	—	23.0	8.60 / 8.60	8.83 / 8.83										
3"	15	MW-15	11:22	X	X		X	T	23.15	9.85 / 9.85	10.30 / 10.30										

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd. San Lorenzo DATE: 5 to 16

CLIENT/STATION NO.: Arco #608 FIELD TECHNICIAN: (W. Peck DAY OF WEEK: Tues

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

Casing Size	Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	TOC 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
2"	12	MW-25	11:05	X	X		X	X	20.85	10.80 / 10.80	11.30 / 11.30										/
2"	10	MW-26	10:55	X	X	X	X	X	19.45	11.10 / 11.10	11.57 / 11.57										/
6"	18	E-1A	11:35	X	X			X	24.30	10.0 / 10.0	11.50 / 11.50										/
										/	/										/
										/	/										/
										/	/										/
										/	/										/
										/	/										/
										/	/										/

Comments: _____

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-5

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ~~—~~ TOB ~~—~~ TOC
epth to water: 11.48 TOB 11.10 TOC
otal depth: ~~—~~ TOB 13.53 TOC
ate: 5/28/96 Time (2400):

obe 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 13.53 - DTW 11.10 = 2.43 x Gal/Linear Foot .66 = 1.60 x Number of Casings 3 = Calculated Purge 4.81

DATE PURGED: 5/29/96 START: 9:30 END (2400 hr): 9:35 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 9:40 END (2400 hr): 9:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:32	1.75	7.46	820	62.9	Cloudy	Light	None
9:35	2.0	7.39	850	63.7	Cloudy	Light	None
			DRY AT 2.0 Gal				

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: 12.20 TOB (TOC) 7.36 660 63.7 Cloudy Light None

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 29-8
- ☐ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29-8
- ☐ Dedicated:
- ☐ Other:

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	5/29/96	9:45	3	40ml	VOA	HCL	Gas/BTEX

ARKS: Dry at 2.0 Gal.

ATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW 7

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: 11.60 TOB 11.10 TOC
otal depth: _____ TOB _____ TOC
ate: 8/28/96 Time (2400): _____

obe 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 18.25 - DTW 11.10 = 7.15 x Gal/Linear Foot .38 = 2.71 x Number of Casings 3 = Calculated Purge 8.15

DATE PURGED: 8/28/96 START: 8:35 END (2400 hr): 8:50 PURGED BY: W Peck

DATE SAMPLED: 8/29/96 START: 8:50 END (2400 hr): 8:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:40	2.75	7.20	980	60.8	Brown	Mod	None
8:45	5.50	7.20	990	62.1	Brown	Mod	None
8:50	8.25	7.21	970	63.0	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: Z9-3
- ☐ Dedicated: _____
- ☐ Other: _____

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	8/29/96	8:55	3	40ml	VOA	HCl	Gas Btex
	/ /						

ARKS:

ATURE: Walter S. Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

ROJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW 8

LIENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.58 TOB 9.73 TOC
Total depth: _____ TOB 20.85 TOC
Date: 5/28/96 Time (2400): 1425

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 20.85 - DTW 9.73 = 11.12 x Gal/Linear Foot .38 = 4.22 x Number of Casings 3 = Calculated Purge 12.67

DATE PURGED: 5/29/96 START: 9:50 END (2400 hr): 10:05 PURGED BY: W Peck
DATE SAMPLED: 5/29/96 START: 10:05 END (2400 hr): 10:10 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2.5°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8155	4.25	7.33	650	61.5	Brown	Mod	None
9:00	8.50	7.35	640	62.7	Brown	Mod	None
9:05	12.75	7.35	610	62.9	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 135
- ☐ Dedicated:
- ☐ Other:

MP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	5/29/96	10:10	3	40ml	VOA	HCl	Gas/BTEX

MARKS:

NATURE: W. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

:OJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-9

.IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

'epth to Liquid: — TOB ____ TOC
'epth to water: 9.87 TOB 9.15 TOC
otal depth: — TOB 18.15 TOC
ate: 5/28/96 Time (2400): ____

robe 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 18.15 - DTW 9.15 = 9.0 x Gal/Linear Foot .38 = 3.42 x Number of Casings 3 = Calculated Purge 10.26

DATE PURGED: 5/28/96 START: 15:55 END (2400 hr): 16:10 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 16:10 END (2400 hr): 16:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
16:00	3.50	7.48	1370	69.1	Brown	Mod	None
16:05	7.0	7.48	1350	68.4	Brown	Mod	None
16:10	10.50	7.48	1330	67.7	Brown	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	5/28/96	16:15	3	40ml	VOA	HCL	Gas/BTEX

ARKS: ____

ATURE: W Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-10

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: 10.0 TOB 9.40 TOC
otal depth: _____ TOB 22.32 TOC
ate: 5/28/96 Time (2400): 11:30

obe 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 22.32 - DTW 9.40 = 12.92 x Gal/Linear Foot .38 = 4.90 x Number of Casings 3 = Calculated Purge 14.72

DATE PURGED: 5/29/96 START: 10:15 END (2400 hr): 10:30 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 10:30 END (2400 hr): 10:35 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:20	5.0	7.28	460	68.4	Brown	Mod	None
10:25	10.0	7.25	470	68.2	Brown	Mod	None
10:30	15.0	7.26	460	67.8	Cloudy	Light	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: G15
- ☐ Dedicated: _____
- ☐ Other: _____

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-10	5/29/96	10:35	3	40ml	VOA	HCL	Gas/BTEX

ARKS: _____

NATURE: Water Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-11

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: — TOB — TOC
epth to water: 10.55 TOB 10.15 TOC
otal depth: — TOB 18.80 TOC
ate: 5/28/96 Time (2400): 10:45

obe 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 18.80 - DTW 10.15 = 8.65 x Gal/Linear Foot .38 = 3.28 x Number of Casings 3 = Calculated Purge 9.86

DATE PURGED: 5/28/96 START: 14:40 END (2400 hr): 14:55 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 14:55 END (2400 hr): 15:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:45	3:50	7.44	1490	68.4	Brown	Mod	None
14:50	7:0	7.46	1450	67.2	Brown	Mod	None
14:55	10.50	7.46	1450	66.7	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	5/28/96	15:00	3	40ml	VOA	HCL	Gas/BTEX

ARKS:

ATURE: Walter Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-13

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: 12.90 TOB 12.62 TOC
otal depth: _____ TOB 23.15 TOC
ate: 5/28/96 Time (2400): 1115

obe 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 23.15 - DTW 12.62 = 10.53 x Gal/Linear Foot .38 = 4.00 x Number of Casings 3 = Calculated Purge 12.0

DATE PURGED: 5/29/96 START: 8:05 END (2400 hr): 8:20 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 8:20 END (2400 hr): 8:25 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:10	4.0	7.40	700	63.6	Brown	Mod	None
8:15	8.0	7.41	780	65.0	Brown	Mod	None
8:20	12.0	7.40	830	65.4	Brown	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G13
- ☐ Dedicated:
- ☐ Other:

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	5/29/96	8:25	3	40ml	VOA	HCL	Gas BTEX

ARKS:

ATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 21 LOCATION: 7601 Hesperian San Lorenzo WELL ID #: MW-14

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ___ TOB ___ TOC
epth to water: 8.83 TOB 8.60 TOC
otal depth: ___ TOB 23.0 TOC
ate: 5/28/96 Time (2400): ___

obe Type and I.D. #
- [ ] Oil/Water interface
- [x] Electronic indicator
- [ ] Other;

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

SAMPLE TYPE
- [x] Groundwater
- [ ] Duplicate
- [ ] Extraction well
- [ ] Trip blank
- [ ] Field blank
- [ ] Equipment blank
- [ ] Other;

TD 23.0 - DTW 8.60 = 14.4 x Gal/Linear Foot .38 = 5.47 x Number of Casings 3 = Calculated Purge 16.41

DATE PURGED: 5/28/96 START: 1415 END (2400 hr): 1430 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 1430 END (2400 hr): 1435 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1420	5.50	7.42	1490	73.2	Brown	Mod	None
1425	11.0	7.43	1450	70.3	Brown	Mod	None
1430	16.50	7.43	1456	69.9	Cloudy	light	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ___ TOB/TOC

PURGING EQUIPMENT/I.D. #
- [ ] Bailer:
- [x] Centrifugal Pump:
- [ ] Other:
- [ ] Airlift Pump:
- [ ] Dedicated:

SAMPLING EQUIPMENT/I.D. #
- [x] Bailer: G-10
- [ ] Dedicated:
- [ ] Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	5/28/96	1435	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-15

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ✓ TOB ____ TOC
epth to water: 10.30 TOB 9.85 TOC
otal depth: ____ TOB 23.15 TOC
ate: 5/28/96 Time (2400): ____

robe 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 23.15 - DTW 9.85 = 13.3 x Gal/Linear Foot .38 = 5.05 x Number of Casings 3 = Calculated Purge 15.16

DATE PURGED: 5/29/96 START: 11:50 END (2400 hr): 12:05 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 12:05 END (2400 hr): 12:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:55	5.0	7.74	8110	71.9	Brown	Mod	None
12:00	10.0	7.63	8400	69.1	Brown	Mod	None
12:05	15.0	7.61	8820	68.8	Brown	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 21-3
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-15	5/29/96	12:05	3	40ml	VOA	HCL	Gas BTEX

REMARKS: ____

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-16

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ____ TOB ____ TOC
epth to water: 10.80 TOB 10:48 TOC
otal depth: ____ TOB 23.0 TOC
ate: 5/28/96 Time (2400): 10:25

obe 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 23.0 - DTW 10.48 = 12.52 x Gal/Linear Foot .38 = 4.75 x Number of Casings 3 = Calculated Purge 14.27

DATE PURGED: 5/28/96 START: 1300 END (2400 hr): 13:15 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 13:15 END (2400 hr): 13:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:05	4.75	7.31	710	69.1	Brown	Heavy	None
13:10	9.50	7.29	810	67.9	Brown	Mod	None
13:15	14.25	7.30	840	68.0	Brown	Mod	None

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	5/28/96	13:20	3	40ml	VOA	HCL	Gas/Btex

ARKS: ____

IATURE: ____

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

ROJECT No.: 330006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-17

LIENT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Park

WELL INFORMATION

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

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

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

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

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

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

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

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

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

MP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW17							

MARKS: _____

NATURE: W. Park

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-18

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ~ TOB ~ TOC
epth to water: 9.88 TOB 9.55 TOC
otal depth: TOB 21.40 TOC
ate: 5/28/96 Time (2400): 10:30

robe 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 21.40 - DTW 9.55 = 11.85 x Gal/Linear Foot .38 = 4.50 x Number of Casings 3 = Calculated Purge 13.50

DATE PURGED: 5/28/96 START: 13:25 END (2400 hr): 13:40 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 13:40 END (2400 hr): 13:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:30	4.50	7.29	1260	73.1	Brown	Mod	None
13:35	9.0	7.30	1310	71.1	Brown	Mod	None
13:40	13.50	7.29	1360	70.7	Brown	Mod	None

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: TOB/TOC

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

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

SHIP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-18	5/28/96	13:45	3	40ml	VOA	HCL	Gas BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW 19

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: — TOB ____ TOC
epth to water: 9.42 TOB 9.25 TOC
otal depth: ____ TOB 21.45 TOC
ate: 5/28/96 Time (2400): ____

robe 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 9.25 = 12.2 x Gal/Linear Foot .38 = 4.63 x Number of Casings 3 = Calculated Purge 13.90

DATE PURGED: 5/28/96 START: 13:50 END (2400 hr): 14:05 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 14:05 END (2400 hr): 14:10 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:55	4.75	7.35	1460	71.2	Brown	Mod	None
14:00	9.50	7.38	1430	69.6	Brown	Mod	None
14:05	14.25	7.39	1440	69.8	Brown	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

MP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 19	5/28/96	14:10	3	40ml	VOA	HCl	Gas/BTEX

MARKS: ____

NATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330006 2 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-20

IENT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Park

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
tal depth: _____ TOB _____ TOC
ite: _____ Time (2400): _____

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

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

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

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

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

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

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

umped dry Yes / No

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

IELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

TW: _____ TOB/TOC _____

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-20							

ARKS: No Sample Taken

ATURE: W. Park

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-21

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: — TOB ____ TOC
epth to water: 9.85 TOB 9.35 TOC
tal depth: — TOB 21.40 TOC
ate: 5/28/96 Time (2400): 1015

obe 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 21.40 - DTW 9.35 = 12.05 x Gal/Linear Foot .38 = 4.57 x Number of Casings 3 = Calculated Purge 13.73

DATE PURGED: 5/28/96 START: 12:10 END (2400 hr): 12:25 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 12:25 END (2400 hr): 12:30 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:15	4.5	6.87	500	67.9	Brown	Mod	None
12:20	9.0	6.88	550	67.7	Cloudy	Light	None
12:25	13.50	6.92	480	69.3	Cloudy	Light	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: 28-1
- ☐ Dedicated: ____
- ☐ Other: ____

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-21	5/28/96	12:30	3	40ml	VOA	HCL	Gas BTEX

ARKS: ____

IATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-22

CLIENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.39 TOB 10.05 TOC
Total depth: — TOB 21.44 TOC
Date: 5/28/96 Time (2400): 10:10

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 21.44 - DTW 10.05 = 11.39 x Gal/Linear Foot .38 = 4.32 x Number of Casings 3 = Calculated Purge 12.98

DATE PURGED: 5/28/96 START: 11:45 END (2400 hr): 12:00 PURGED BY: W Peck
DATE SAMPLED: 5/28/96 START: 12:00 END (2400 hr): 12:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:50	4.50	7.61	620	63.8	Brown	Mod	None
11:55	9.0	6.64	560	65.0	Cloudy	Light	None
12:00	13.50	6.49	530	65.1	Cloudy	Light	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

MP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-22	5/28/96	12:05	3	40ml	VOA	HCL	Gas/BTEX

MARKS:

NATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-23

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ____ TOB ____ TOC
epth to water: 11.37 TOB 11.10 TOC
otal depth: ____ TOB 21.65 TOC
ate: 5/28/96 Time (2400): 10:20

robe 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 21.65 - DTW 11.10 = 10.55 x Gal/Linear Foot .38 = 4.0 x Number of Casings 3 = Calculated Purge 12.0

DATE PURGED: 5/28/96 START: 12:35 END (2400 hr): 12:50 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 12:50 END (2400 hr): 12:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:40	4.0	7.18	820	72.4	Brown	Mod	None
12:45	8.0	7.20	940	69.1	Brown	Mod	None
12:50	12.0	7.22	1020	68.6	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW23	5/28/96	1255	3	40ml	VOA	HCl	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-24

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ____ TOB ____ TOC
epth to water: 12.25 TOB 11.95 TOC
otal depth: ____ TOB 20.60 TOC
ate: 5/28/96 Time (2400): ____

robe 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 20.60 - DTW 11.95 = 8.65 x Gal/Linear Foot .17 = 1.47 x Number of Casings 3 = Calculated Purge 4.41

DATE PURGED: 5/28/96 START: 15:05 END (2400 hr): 15:20 PURGED BY: W Peck

DATE SAMPLED: 5/28/96 START: 15:20 END (2400 hr): 15:25 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:10	1.50	7.33	1550	69.7	Brown	Mod	None
15:15	3.0	7.35	1600	71.1	Brown	Mod	None
15:20	4.50	7.36	1590	71.7	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

URGING EQUIPMENT/I.D. #
- ☒ Bailer: G-14
- ☐ Centrifugal Pump: ____
- ☐ Other: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G-14
- ☐ Dedicated: ____
- ☐ Other: ____

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-24	5/28/96	15:25	3	40ml	VOA	HCL	Gas BTEX

ARKS: ____

ATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-25

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: — TOB — TOC
epth to water: 11.30 TOB 10.80 TOC
otal depth: — TOB 20.85 TOC
ate: 5/28/96 Time (2400): 11:05

obe 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 20.85 - DTW 10.80 = 10.05 x Gal/Linear Foot .17 = 1.70 x Number of Casings 3 = Calculated Purge 5.12

DATE PURGED: 5/29/96 START: 8:10 END (2400 hr): 8:25 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 8:25 END (2400 hr): 8:30 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:15	1.75	7.74	1150	61.8	Brown	Mod	None
8:20	3.50	6.90	1130	62.6	Brown	Mod	None
8:25	5.25	6.86	1130	62.8	Brown	Mod	None

Cobalt 0-100 Clear Cloudy Yellow Brown

NTU 0-200 Heavy Moderate Light Trace

Strong Moderate Faint None

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: G-10
- ☐ Centrifugal Pump: ____
- ☐ Airlift Pump: ____
- ☐ Dedicated: ____
- ☐ Other: ____

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

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	5/29/96	8:30	3	40ml	VOA	HCL	Gas BTEX

ARKS:

IATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: MW-26

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Reck

WELL INFORMATION

epth to Liquid: ___ TOB ___ TOC
epth to water: 11.37 TOB 11.10 TOC
otal depth: ___ TOB 19.45 TOC
ate: 5/28/98 Time (2400): 10:55

obe 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 19.45 - DTW 11.10 = 8.35 x Gal/Linear Foot .17 = 1.41 x Number of Casings 3 = Calculated Purge 4.25

DATE PURGED: 5/28/98 START: 15:30 END (2400 hr): 15:45 PURGED BY: W Reck

DATE SAMPLED: 5/28/98 START: 15:45 END (2400 hr): 15:50 SAMPLED BY: W Reck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
15:35	1.50	7.45	1450	67.4	Brown	Mod	None
15:40	3.0	7.47	1420	68.0	Brown	Mod	None
15:45	4.50	7.48	1390	67.7	Brown	Mod	None

Pumped dry Yes / (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ___ TOB/TOC ___

URGING EQUIPMENT/I.D. #
- ☐ Bailer: 23-9
- ☐ Centrifugal Pump:
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 23-9
- ☐ Dedicated:
- ☐ Other:

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	5/28/98	15:50	3	40ml	VOA	HCL	Gas/BTEX

ARKS:

IATURE: Water Level

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: E 1A

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: ~~—~~ TOB ~~—~~ TOC
epth to water: 11.50 TOB 10.0 TOC
otal depth: ~~—~~ TOB 24.30 TOC
ate: 5/29/96 Time (2400): 11:15

obe 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 10.0 = 14.3 x Gal/Linear Foot 1.5 = 21.45 x Number of Casings 3 = Calculated Purge 64.35

DATE PURGED: 5/29/96 START: 10 40 END (2400 hr): 11:10 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 11:10 END (2400 hr): 11:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:50	21.50	7.46	7080	70.7	Brown	Mod	Faint
11:00	43.0	7.48	8080	67.3	Brown	Mod	Faint
11:10	64.50	7.52	8300	66.2	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ~~—~~ TOB/TOC ~~—~~

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
19	5/29/96	11:15	3	40ml	VOA	HCL	Gas/BTEX

MARKS:

ATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: TB-1

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
otal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

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

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

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

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	5/16/96	N/A	2	40ml	VOA	HCl	Gas/BTEX

MARKS: TRIP BLANK-1

ATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: TB-2

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
otal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

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

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

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			TRIP BLANK -2				

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

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

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-2	5/09/96	N/A	2	40ml	VOA	HCL	Gas/Btex

ARKS:

NATURE: Walter J Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 590 H

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
tal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

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

DATE SAMPLED: 5/29/96 START: 1410 5 END (2400 hr): 1415 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1410	N/A	7.58	7960	73.3	Clear	Trace	None
		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: _____
- ☐ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sam. taken from Spigot

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
90H	5/29/96	1415	3	40ml	VOA	HCL	Gas/BTEX

MARKS: _____

ATURE: Walter Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 633-H

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
otal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

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

DATE SAMPLED: 5/29/96 START: 11:15 END (2400 hr): 11:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:19	N/A	7.67	5280	70.0	Clear	Trace	None
		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: _____
- ☐ Centrifugal Pump: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sample taken from Spigot

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
33H	5/29/96	11:20	3	40ml	VOA	HCl	Gas BTEX

ARKS: Grab Sample

NATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

R SAMPLE FIELD DATA SHEET

JECT No.: 330006 2 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 634 H

NT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Park

WELL INFORMATION

pth to Liquid: _____ TOB _____ TOC
pth to water: _____ TOB _____ TOC
al depth: _____ TOB _____ TOC
e: _____ Time (2400): _____

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

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

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

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

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

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

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

mped dry Yes / No

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

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

W: _____ TOB/TOC _____

RGING EQUIPMENT/I.D. #

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

SAMPLING EQUIPMENT/I.D. #

☒ Bailer: _____
☐ Dedicated: _____
☐ Other: _____

CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
34 H	5/19/96						

RKS: No response to letter No way to take sample

TURE: W. Park

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 642 H

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
otal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

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

DATE SAMPLED: 5/29/96 START: 11:30 END (2400 hr): 11:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:42	N/A	7.95	5450	70.2	Clear	Trace	None
			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: _____
- ☐ Centrifugal Pump: _____
- ☐ Other: _____
- ☐ Airlift Pump: _____
- ☐ Dedicated: _____

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sample taken from Spigot

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
642 H	5/29/96	11:45	3	40ml	VOA	HCL	Gas/BTEX

ARKS: You have to prime pump w/ H2O from hoose to get pump to work

ATURE: _____

642 H
PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

R SAMPLE FIELD DATA SHEET

JECT No.: 330006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 675 H

NT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Peli

WELL INFORMATION

pth to Liquid: _____ TOB _____ TOC
pth to water: _____ TOB _____ TOC
l depth: _____ TOB _____ TOC
e: _____ Time (2400): _____

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

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

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

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

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

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

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

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

mped dry Yes / No

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

W: _____ TOB/TOC _____

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

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

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

RKS: Cannot sample because of well seal

TURE: W. Peli

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

JECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17348 VE

ENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

pth to Liquid: _____ TOB _____ TOC
pth to water: _____ TOB _____ TOC
al depth: _____ TOB _____ TOC
e: _____ Time (2400): _____

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

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

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

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

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

DATE SAMPLED: 5/29/96 START: 15:20 END (2400 hr): 15:25 SAMPLED BY: W Peck

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

umped dry Yes / No

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

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

TW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D.

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

SAMPLING EQUIPMENT/I.D.

☒ Bailer: G-8
☐ Dedicated: _____
☐ Other: _____

; CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
348 VE	5/29/96	15:20	3	40 ml	VOA	HCL	Gas/Btex

RKS: ~~Grab~~ Sample Unable to get H2O from well. Well is 6" Not covered. Sent Sounder down depth was 13.65 D.T.B.

TURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17/97 VM

ENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
tal depth: _____ TOB _____ TOC
te: _____ Time (2400): _____

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

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

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

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

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

DATE SAMPLED: 5/29/96 START: 15:10 END (2400 hr): 15:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1513	4/4	7.69	990	69.3	Clear	Trace	None
			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: Sam, Taken From Spigot

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
7/97 VM	5/29/96	15:15	3	40ml	VOA	HCL	Gas & BTEX

MARKS: Grab Sample Two spigots on front porch use Spigot closest to house (White 3/4 PVC) You can see pvc go around house back to well, let spigot run for 5 to 6 min to get true sample

ATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17200 VM

ENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

pth to Liquid: ~ TOB ~ TOC
pth to water: ~ TOB 11.55 TOC
tal depth: ~ TOB 16.35 TOC
te: 5/29/96 Time (2400):

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

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

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

TD 26.35 - DTW 11.55 = 14.8 x Gal/Linear Foot 1.5 = 22.00 x Number of Casings 3 = Calculated Purge 66.0

DATE PURGED: 5/29/96 START: 13:05 END (2400 hr): 13:55 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 13:55 END (2400 hr): 14:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:55	22.25	7.90	4010	70.9	Brown	Heavy	None
13:45	44.50	7.53	5200	71.6	Brown	Mod	None
13:55	66.75	7.86	6680	71.9	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

TW: ~ TOB/TOC

PURGING EQUIPMENT/I.D.

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

SAMPLING EQUIPMENT/I.D.

- ☒ Bailer: G-5
- ☐ Dedicated:
- ☐ Other:

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
7200 VM	5/29/96	14:00	3	40ml	VOA	HCL	Gas/Btex

RKS:

ATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 21 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17203 VM

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: 12.70 TOB 12.45 TOC
otal depth: _____ TOB 23.40 TOC
ate: 5/29/96 Time (2400): 1445

obe 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 23.40 - DTW 12.45 = 10.95 x Gal/Linear Foot .66 = 7.22 x Number of Casings 3 = Calculated Purge 21.68

DATE PURGED: 5/29/96 START: 1450 END (2400 hr): 1505 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 1505 END (2400 hr): 1510 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1455	7.25	7.88	1050	70.7	Brown	mod	None
1500	14.50	7.77	1050	69.0	Cloudy	light	None
1505	21.75	7.74	1050	68.5	Cloudy	light	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17203 VM	5/29/96	1510	3	40ml	VOA	HCL	Gas BTEX

ARKS:

ATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

R SAMPLE FIELD DATA SHEET

JECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17302VM

ENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

pth to Liquid: ____ TOB ____ TOC
pth to water: ____ TOB ____ TOC
al depth: ____ TOB ____ TOC
e: ____ Time (2400): ____

be Type and D. #
- ☐ Oil/Water interface ____
- ☐ Electronic indicator ____
- ☐ Other: ____

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

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

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

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

DATE SAMPLED: 5/29/96 START: 14:25 END (2400 hr): 14:30 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1428	N/A	8.41	220	68.1	Clear	Trace	None
		Grab Sample					

umped dry Yes / No

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

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

TW: ____ TOB/TOC ____

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

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☐ Dedicated: ____
- ☒ Other: Sam Taken from Spigot

CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
302VM	5/29/96	14:30	3	40ml	VOA	HCl	Gas/BTEX

RKS: Grab Sample

TURE: Walter Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

OJECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17349 VM

IENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

epth to Liquid: _____ TOB _____ TOC
epth to water: _____ TOB _____ TOC
otal depth: _____ TOB _____ TOC
ate: _____ Time (2400): _____

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

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

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

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

DATE PURGED: 5/29/96 START: _____ END (2400 hr): _____ PURGED BY: _____

DATE SAMPLED: 5/29/96 START: 14:20 END (2400 hr): 14:25 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
14:22	n/a	7.88	7780	73.4	Clear	Trace	None
			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 _____

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

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Sam Taken from Spigot

IP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
2349 VM	5/29/96	14:25	3	40ml	VOA	HCL	Gas/Btex

ARKS: Grab Sample

IATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

:R SAMPLE FIELD DATA SHEET

)JECT No.: 330006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 7371 VM

:NT/STATION No.: Arco #0608 FIELD TECHNICIAN: W Park

WELL INFORMATION

)th to Liquid: _____ TOB _____ TOC
)th to water: _____ TOB _____ TOC
al depth: _____ TOB _____ TOC
e: _____ Time (2400): _____

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

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

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

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

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

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

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

umped dry Yes / No

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

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

TW: _____ TOB/TOC _____

JRGING EQUIPMENT/I.D.

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

SAMPLING EQUIPMENT/I.D.

☒ Bailer: _____
☐ Dedicated: _____
☐ Other: _____

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

RKS: Owner Won't allow access

TURE: W. Park

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

R SAMPLE FIELD DATA SHEET

JECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17372 VM

NT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

pth to Liquid: _____ TOB _____ TOC
pth to water: _____ TOB _____ TOC
al depth: _____ TOB _____ TOC
e: _____ Time (2400): _____

pe Type and D. # ☐ Oil/Water interface _____ ☐ Electronic indicator _____ ☐ Other; _____

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

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

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

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

DATE SAMPLED: 5/29/96 START: 12:15 END (2400 hr): 12:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
12:18	N/A	7.49	10790	67.3	Clear	Trace	None
		Grab Sample					

mped dry Yes / No

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

ELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

W: _____ TOB/TOC _____

RGING EQUIPMENT/I.D. #

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

SAMPLING EQUIPMENT/I.D. #

☐ Bailer: _____
☐ Dedicated: _____
☒ Other: Sam, taken from Spike

CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
372 VM	5/29/96	12:20	3	40ml	VOA	HCL	Gas Btex

RKS: Grab Sample

TURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

ER SAMPLE FIELD DATA SHEET

JECT No.: 330 006 71 LOCATION: 17601 Hesperian San Lorenzo WELL ID #: 17393 VM

ENT/STATION No.: Arco #608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

pth to Liquid: _____ TOB _____ TOC
pth to water: _____ TOB 12.95 TOC
al depth: _____ TOB 21.70 TOC
e: 5/29/96 Time (2400): 12:30

be Type and .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 21.70 - DTW 12.95 = 8.75 x Gal/Linear Foot 0.66 = 5.77 x Number of Casings 3 = Calculated Purge 17.32

DATE PURGED: 5/29/96 START: 12:35 END (2400 hr): 12:50 PURGED BY: W Peck

DATE SAMPLED: 5/29/96 START: 12:50 END (2400 hr): 12:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:40	5.75	7.83	10480	78.1	Brown	Mod	None
12:45	11.50	7.82	10330	73.4	Brown	Mod	None
12:50	17.25	7.68	6820	74.7	Brown	Mod	None

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

P. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17393 VM	5/29/96	12:55	3	40 ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Wally Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

ATTACHMENT D

REMEDIAL SYSTEM PERFORMANCE EVALUATION

ATTACHMENT D
REMEDIAL SYSTEM PERFORMANCE EVALUATION

Remedial History

Remedial action consisting of groundwater extraction (GWE) was initiated on September 25, 1991. Remedial objectives for the GWE system included migration control of the impacted groundwater plume, and petroleum hydrocarbon mass reduction. Operation of the GWE system created a small area of hydraulic influence extending no greater than 20 feet radially around the extraction well, and proved to be minimally effective in achieving the mass reduction objective (between September 1991 and August 1995, approximately 4.6 million gallons of groundwater were extracted and only 0.8 gallon of TPPH-g and 0.04 gallon of benzene were removed). A brief description and historical operational data for the GWE system are presented as Attachment D-A.

Intrinsic bioremediation parameters obtained during the second quarter 1995 indicated the presence of anaerobic conditions within the impacted groundwater plume. As part of a strategy to enhance the intrinsic bioremediation process; at the request of ARCO, PACIFIC initiated an oxygen enhancement pilot study program (OEPSP) according to an Alameda County Health Care Services Agency (ACHCSA)-approved work plan. The purpose of the OEPSP was to determine if the addition of oxygen releasing compound (ORC) to groundwater would be effective in the enhancement of dissolved oxygen (DO) concentrations within the impacted groundwater plume. With the approval of the ACHCSA, GWE was temporarily deactivated on August 21, 1995, and ORC installation was performed on September 21, 1995.

The OEPSP consisted of installing ORC "socks" in Extraction Well E-1A and groundwater Monitoring Well MW-10, and monitoring intrinsic bioremediation indicator parameters (bioparameters) in those wells and existing nearby observation wells on a monthly basis during the fourth quarter 1995. Bioparameters collected during the OEPSP were then compared to baseline data collected during the second quarter 1995.

The results of the OEPSP were mixed. Several geochemical parameters including ferrous iron, nitrates, and sulfates, suggest that anaerobic conditions continued to exist within the ORC-containing wells. However, oxidation reduction potential (ORP) and DO data suggest

the presence of aerobic conditions in the ORC-containing wells. Total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g) and benzene concentration data further supported that the OEPSP may have increased the rate of intrinsic biodegradation locally. Considering the low permeability soils at the site, PACIFIC concluded that modification of the OEPSP would be required to obtain conclusive results. A summary of field and laboratory data is presented in Table D-1. A detailed description and results of the OEPSP were presented in PACIFIC's fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.

Second Quarter 1996 GWE System Data

The GWE system remained inoperative during the second quarter 1996, since no evidence of further plume migration was observed and the bioremediation enhancement at the Extraction Well E-1 was in progress.

Second Quarter 1996 Bioremediation Results

Additional intrinsic bioremediation indicator data was collected during the second quarter 1996 groundwater monitoring event. The additional intrinsic bioremediation indicator data was collected to further demonstrate the presence of intrinsic bioremediation, and monitor any enhancement of DO concentrations within the hydrocarbon-impacted groundwater due to the installation of the ORCs. Additionally, biological oxygen demand (BOD) and chemical oxygen demand (COD) data was collected at selected monitoring points.

Comparison of electron acceptor (DO, nitrate, and sulfate) concentration data collected from wells located within the hydrocarbon-impacted groundwater (Wells MW-5 and E-1A) to those collected from wells outside of the hydrocarbon-impacted groundwater (Wells MW-23 and 633H) suggests that intrinsic anaerobic bioremediation remains active.

To evaluate the enhancement of DO in the hydrocarbon-impacted groundwater and the associated enhancement of aerobic bioremediation, intrinsic bioremediation indicator data were collected from Wells MW-8, SP-1, and SP-2. Wells MW-8 and SP-1 are the closest monitoring points to ORC containing Well E-1A, and Well SP-2 is the closest monitoring point to ORC containing Well MW-10. Electron acceptor concentration (nitrate, sulfate, and DO) data collected from Well MW-8 indicate a significant increase, while total benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) concentration data indicates a significant decrease compared to historical values. The aforementioned may be associated with increased aerobic bioremedation in the vicinity of Well MW-8. The above trend was not observed at the other monitoring points, therefore no concrete conclusions about the effectiveness of the DO enhancement program can be made at this time.

BOD and COD data from Wells 633H, E-1A, MW-5, MW-8, and MW-10 indicates that the ratio of BOD to COD are within acceptable limits and DO enhancement could result in enhanced bioremediation at the site.

Bioparameters are present in Table D-1. Graphical presentation of bioparameters vs. total BTEX compounds for Wells MW-8, 633H, and MW-23 are shown on Figures D-1 through D-4. Intrinsic bioremediation indicator parameter certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment D-B.

OEPSP Modification

At the request of ARCO, PACIFIC has expanded the OEPSP to include Well MW-5. Installation of fresh ORCs in Wells E1-A, MW-5, and MW-10 occurred on May 31, 1996 and will continue throughout 1996. To allow for more efficient disbursement of the ORC, PACIFIC proposes to temporarily halt purging and sampling of the aforementioned wells during the third quarter 1996. The bioparameter monitoring program will be continued on an as needed basis throughout 1996.

Conclusions

In light of evidence of intrinsic biodegradation and relative plume stability, PACIFIC, on behalf of ARCO, will maintain the inoperative status of the GWE system unless further plume migration is observed. The modified OEPSP will continue throughout 1996.

Attachments: Table D-1 - Intrinsic Biodegradation Indicator Parameters
Figure D-1 - Total BTEX vs. Dissolved Oxygen Concentrations
Figure D-2 - Total BTEX vs. Nitrate Concentrations
Figure D-3 - Total BTEX vs. Ferrous Iron Concentrations
Figure D-4- Total BTEX vs. Sulfate Concentrations
Attachment D-A - Groundwater Extraction System Description and Historical Operational Data
Attachment D-B - Intrinsic Bioremediation Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets,

Table D-1
Intrinsic Bioremediation Indicator Parameters

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

			Field Analyses									Laboratory Analyses								
Well		Date Sampled	Color	Odor	pH (units)	E.C (millimhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
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	N/A	N/A	<50	17.83	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	N/A	N/A	<50	9.94	0.64
		11/28/95	Clear	None	7.10	914	-4.7	20.4	Light	0.0	1.0 +	0.1	48	68	N/A	N/A	N/A	N/A	<50	9.69	<0.50
		03/14/96	Brown	None	7.16	760	-207	18.5	Mod	N/A	2.79 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	480	162.8	10
		05/31/96	Cloudy	None	7.06	1,000	-442	19.0	Light	0.00	1.0 +	0.80	41	76	2.4	N/A	N/A	N/A	<50	<2.0	<0.50
E-1A	a	06/01/95	Clear	None	7.63	1,340	-155	20.4	Trace	0.0	2.0	0.1	23	54	N/A	N/A	N/A	N/A	680	25.8	4.9
		09/15/95	Clear	Mod	7.36	1,208	N/A	15.9	Light	N/A	1.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	73	6.6	3.3
		10/13/95	b,c,d	N/A	N/A	7.76	1,300	N/A	21.8	N/A	N/A	3.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<250	<10	<2.5
		11/28/95	b	Brown	Faint	9.11	1,070	40	23.1	Heavy	N/A	OS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	<2.0	<0.50
		11/28/95		Clear	None	7.40	880	-21	21.4	Light	0.0	3.06	0.15	18	74	N/A	N/A	N/A	N/A	220	66.9	3.9
		12/21/95	b	N/A	N/A	7.88	489	N/A	15.8	N/A	N/A	16.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	230	26.94	5.7
		03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
		03/14/96		Brown	None	7.16	800	-318	20.7	Mod	N/A	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,700	179.2	38
		05/31/96	f,g	Brown	None	7.39	1,000	-339	21.6	Mod	N/A	2.34	N/A	8.1	N/A	6.0	35	N/A	N/A	1,400	488.5	410
MW-5		06/01/95		Brown	Faint	7.10	1,400	-119	20.2	Mod	0.0	2.0	*	19	<0.1	N/A	N/A	N/A	N/A	750	15.1	13
		09/15/95		Clear	Heavy	7.20	1,068	N/A	17.7	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	550	14	11
		10/13/95	b	N/A	N/A	7.59	1,329	N/A	25.6	N/A	N/A	1.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
		11/28/95		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
		03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
		03/14/96		Brown	None	6.88	900	-14.3	18.7	Mod	N/A	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,600	63	30
		05/31/96	f,g	Brown	None	6.98	900	-392	23.5	Mod	N/A	3.64	N/A	<0.10	N/A	3.0	<20	N/A	N/A	240	3.9	2.4
MW-7		06/01/95		Brown	None	7.11	1,156	-99	20.7	Light	0.0	*	*	42	68	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
		09/15/95		Brown	None	7.20	1,406	N/A	18.3	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
		10/13/95	b	N/A	N/A	7.23	1,075	N/A	23.2	N/A	N/A	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
		11/28/95		Brown	None	7.05	832	N/A	20.7	Heavy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
		03/15/96		Cloudy	None	7.69	800	N/A	17.5	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
		05/29/96		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50

Table D-1 (continued)
Intrinsic Bioremediation Indicator Parameters

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

			Field Analyses									Laboratory Analyses								
Well	Date Sampled		Color	Odor	pH (units)	E.C (millionhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	Chemets D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
MW-8	06/01/95		Brown	Strong	7.09	1,071	-199	20.4	Light	0.0	1.0	0.1	<0.10	33	N/A	N/A	N/A	N/A	810	7.1	5.2
	09/15/95		Clear	Mod	7.01	1,000	N/A	17.3	Light	N/A	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	850	33	30
	10/13/95	b,e	N/A	N/A	6.96	972	N/A	22.6	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	760	6.72	<2.5
	11/28/95	b	Clear	None	7.01	811	0	25.7	Trace	N/A	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	11/28/95		Clear	None	6.73	846	0	22.2	Trace	0.0	0.07	0.4	<1.0	<1.0	N/A	N/A	N/A	N/A	1,200	54	39
	12/21/95	b	Clear	None	6.75	640	N/A	17.0	Trace	N/A	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	12/21/95		Clear	None	6.80	652	N/A	16.7	Trace	N/A	0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	560	29.5	28
	03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	03/14/96		Cloudy	None	6.87	793	-266	19.6	Light	N/A	0.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	670	11.1	5.1
	05/31/96	f	Brown	None	6.79	800	-467	19.9	Mod	0.00	1.62	1.40	2.2	58	3.0	N/A	N/A	N/A	490	3.8	<1.0
MW-10	a 06/01/95		Clear	Mod	7.00	1,301	-199	18.0	Trace	0.0	1.0	0.2	<0.10	8.1	N/A	N/A	N/A	N/A	1,100	<4.8	<1.2
	09/14/95		Clear	Mod	7.10	968	N/A	20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	<8	<2.0
	10/13/95	b,e	N/A	N/A	7.33	1,397	N/A	23.6	N/A	N/A	17.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	510	<2.0	<0.50
	11/28/95	b	Cloudy	None	6.43	868	16	19.2	Light	N/A	9.74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	770	<4.0	<1.0
	11/28/95		Clear	None	6.99	1,021	5	21.8	Trace	0.0	0.71	0.40	<1.0	<1.0	N/A	N/A	N/A	N/A	840	<4.8	<1.0
	12/21/95	b	N/A	N/A	7.18	787	N/A	17.1	N/A	N/A	2.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	440	6.6	5.1
	03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	03/14/96		Clear	None	6.87	830	-244	19.1	Trace	N/A	1.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	52.2	35
	05/31/96	f,g	Clear	None	6.84	900	-470	19.1	Trace	N/A	2.07	N/A	<0.10	N/A	16	46	N/A	N/A	800	<4	<1.0
MW-23	05/31/96	f	Cloudy	None	7.65	1,000	-328	18.5	Light	0.00	4.23	0.40	39	85	<1.0	N/A	N/A	N/A	<50	<2.0	<0.50
SP-1	09/15/95		Clear	None	6.94	1,040	N/A	18.3	Mod	N/A	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	10/13/95	b,e	N/A	N/A	7.30	1,062	N/A	22.6	N/A	N/A	0.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	11/28/95	b	Brown	None	7.37	837	88	22.7	Heavy	N/A	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	11/28/95		Cloudy	None	6.89	956	72	21.8	Heavy	0.0	0.13	0.20	16	44	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	12/21/95	b	Clear	None	7.02	644	N/A	15.0	Trace	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	12/21/95		Clear	None	7.05	710	N/A	15.7	Trace	N/A	0.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	03/14/96	b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	03/14/96		Cloudy	None	6.99	840	-198	21.0	Light	N/A	1.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	05/31/96		Brown	None	6.85	900	-455	20.7	Mod	N/A	1.34	0.40	18	17	3.0	N/A	N/A	N/A	N/A	NA	N/A

Table D-1 (continued)
Intrinsic Bioremediation Indicator Parameters

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

		Field Analyses										Laboratory Analyses								
Well	Date Sampled	Color	Odor	pH (units)	E.C (millimhs)	O.R.P. (millivolts)	Temp (deg C)	Turbidity (NTU)	Chemets D.O.† (mg/L)	D.O.‡ (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	B.O.D. (mg/L)	C.O.D. (mg/L)	Carbon Dioxide (mg/L)	Methane (mg/L)	TPPH as Gasoline (µg/L)	Total BTEX (µg/L)	Benzene (µg/L)
SP-2	09/15/95	Clear	None	7.18	1,110	N/A	20.1	Light	N/A	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94	<2.0	<0.50
	10/13/95 b,e	N/A	N/A	7.11	1,090	N/A	23.0	N/A	N/A	0.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80	<2.0	<0.50
	11/28/95 b	Brown	None	7.10	866	2	23.3	Heavy	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	11/28/95	Brown	None	6.74	690	36	25.7	Heavy	0.0	0.72	0.6	<1.0	25	N/A	N/A	N/A	N/A	94	<2.0	<0.50
	12/21/95 b	Clear	None	7.25	662	N/A	15.6	Trace	N/A	3.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	12/21/95	Clear	None	7.19	710	N/A	16.7	Trace	N/A	3.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	<0.50
	03/14/96 b	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A
	03/14/96	Brown	None	6.84	810	-231	19.8	Heavy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<2.0	0.50
	05/31/96	Brown	None	6.95	900	-388	19.8	Mod	0.00	2.63	0.60	<0.10	24	2.3	N/A	N/A	N/A	N/A	NA	N/A

E.C. = Electrical conductivity
O.R.P. = Oxygen reduction potential
D.O. = Dissolved oxygen
B.O.D. = Biochemical oxygen demand
C.O.D. = Chemical oxygen demand
Temp = Temperature
deg C = Degrees Centigrade
NTU = Nepholemetric turbidity unit
mg/L = Milligrams per liter
µg/L = Micrograms per liter
TPPH = Total purgeable petroleum hydrocarbons
N/A = Not available or not applicable
Mod = Moderate
OS = Off scale
< = Denotes sample method detection limit

† = Dissolved oxygen measured using Chemets colorometric analysis kit ampules
‡ = Dissolved oxygen measured using a YSI Model #SODB D.O. meter
* = High sample turbidity prevented colorimetric analysis
@ = Turbidity measured greater than 200 NTU's.
+ = Well was sealed; unable to lower D.O. probe into well. Obtained D.O. measurement from extracted water using Chemets dissolved oxygen test kit.
a. ORC's installed September 21, 1995 in Wells E-1A and MW-10, and replaced on May 31, 1996.
b. Measurements and samples taken before purging.
c. ORCs were jammed in Well E-1A, therefore no sampling was performed.
d. October monthly data obtained 11/01/95 following removal of jammed ORCs from Well E-1A.
e. TPPH and BTEX samples taken on October 23, 1995.
f. TPPH and BTEX samples taken on May 29, 1996 (Well MW-23 samples taken May 28, 1996).
g. Fresh ORC installed in Wells MW-5, MW-10, and E1-A following data collection on May 31, 1996.

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

Figure D-1
Total BTEX vs. Dissolved Oxygen Concentrations

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

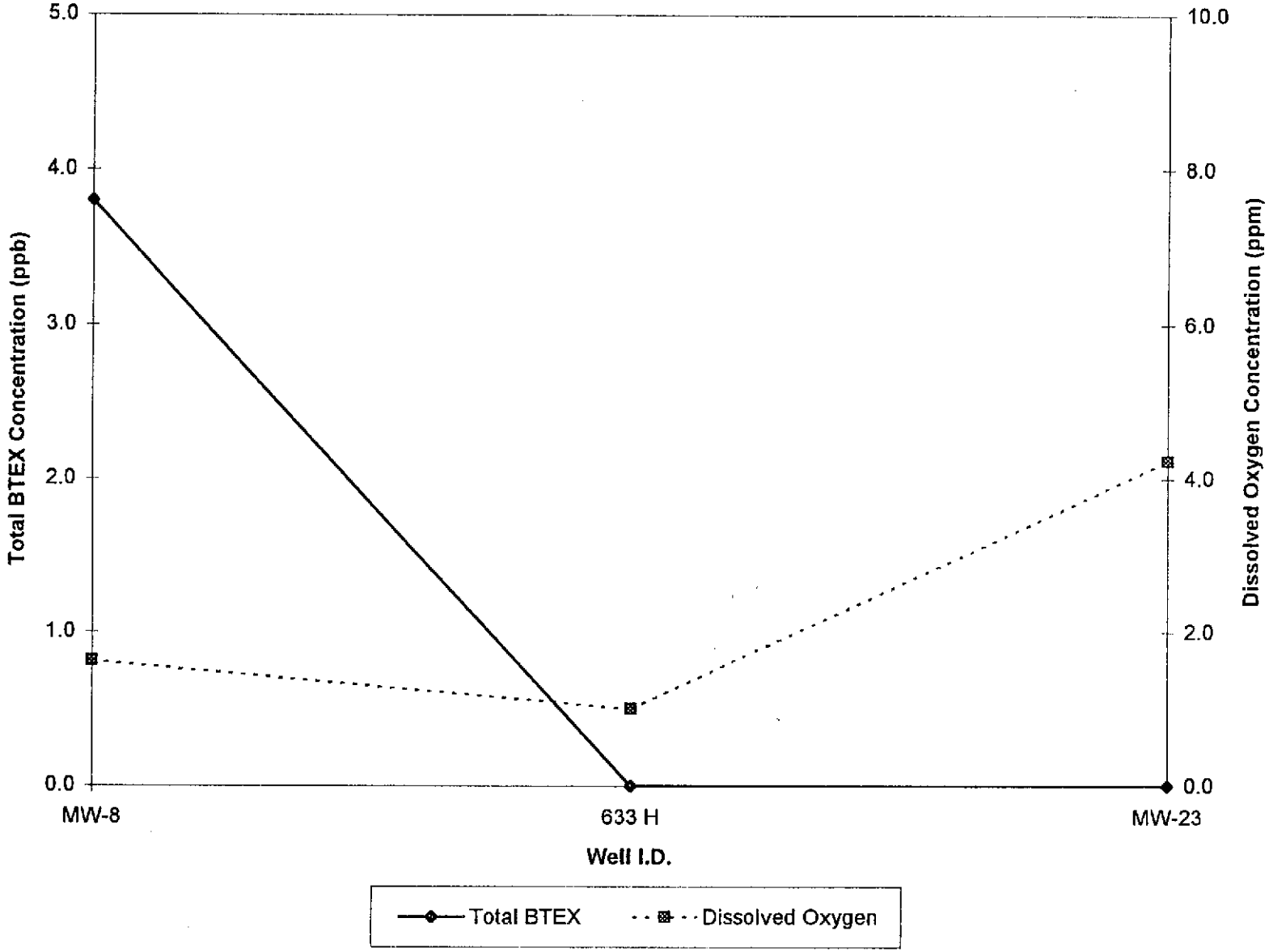


Figure D-2
Total BTEX vs. Nitrate Concentrations

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

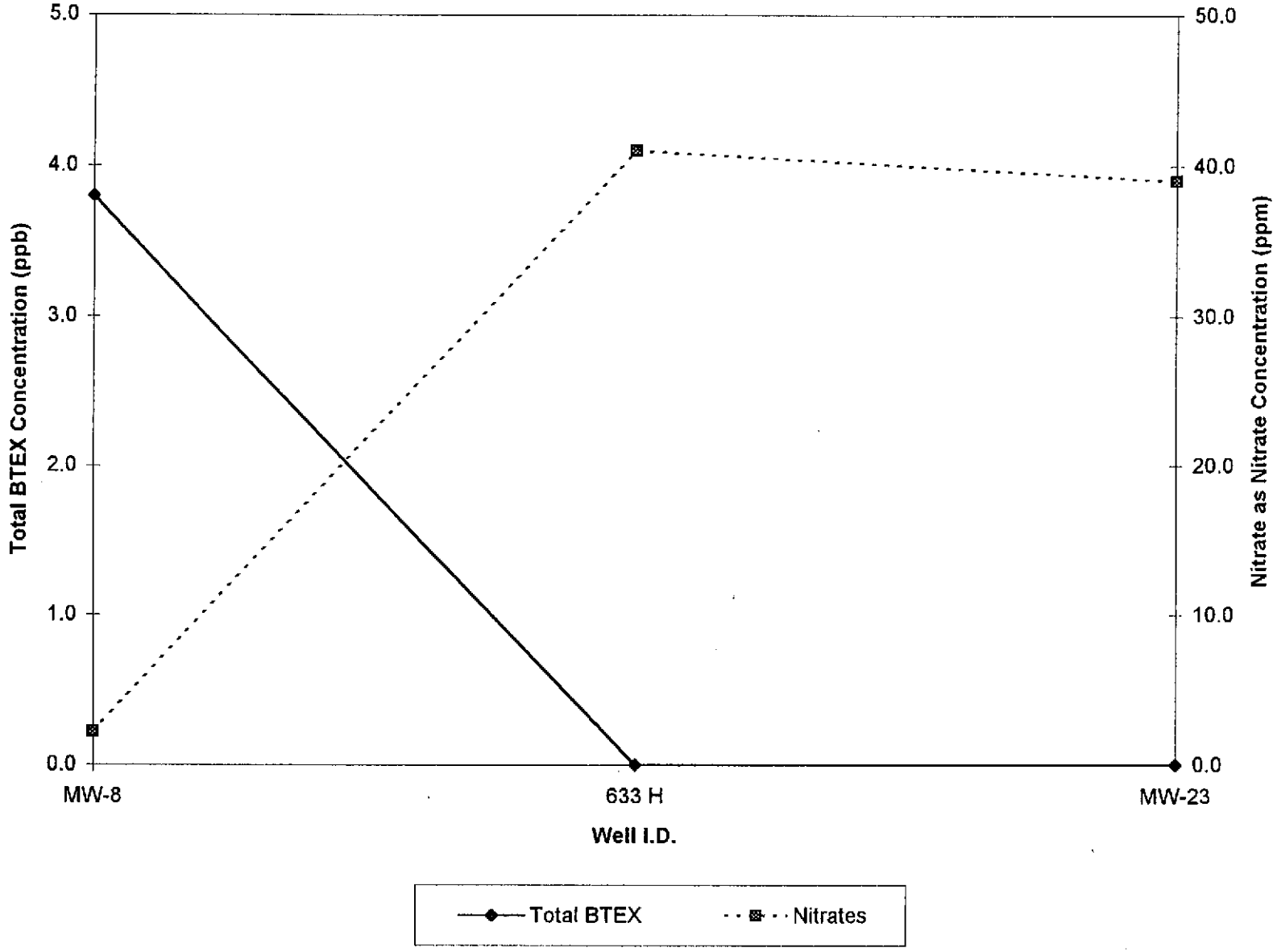


Figure D-3
Total BTEX vs. Ferrous Iron Concentrations

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

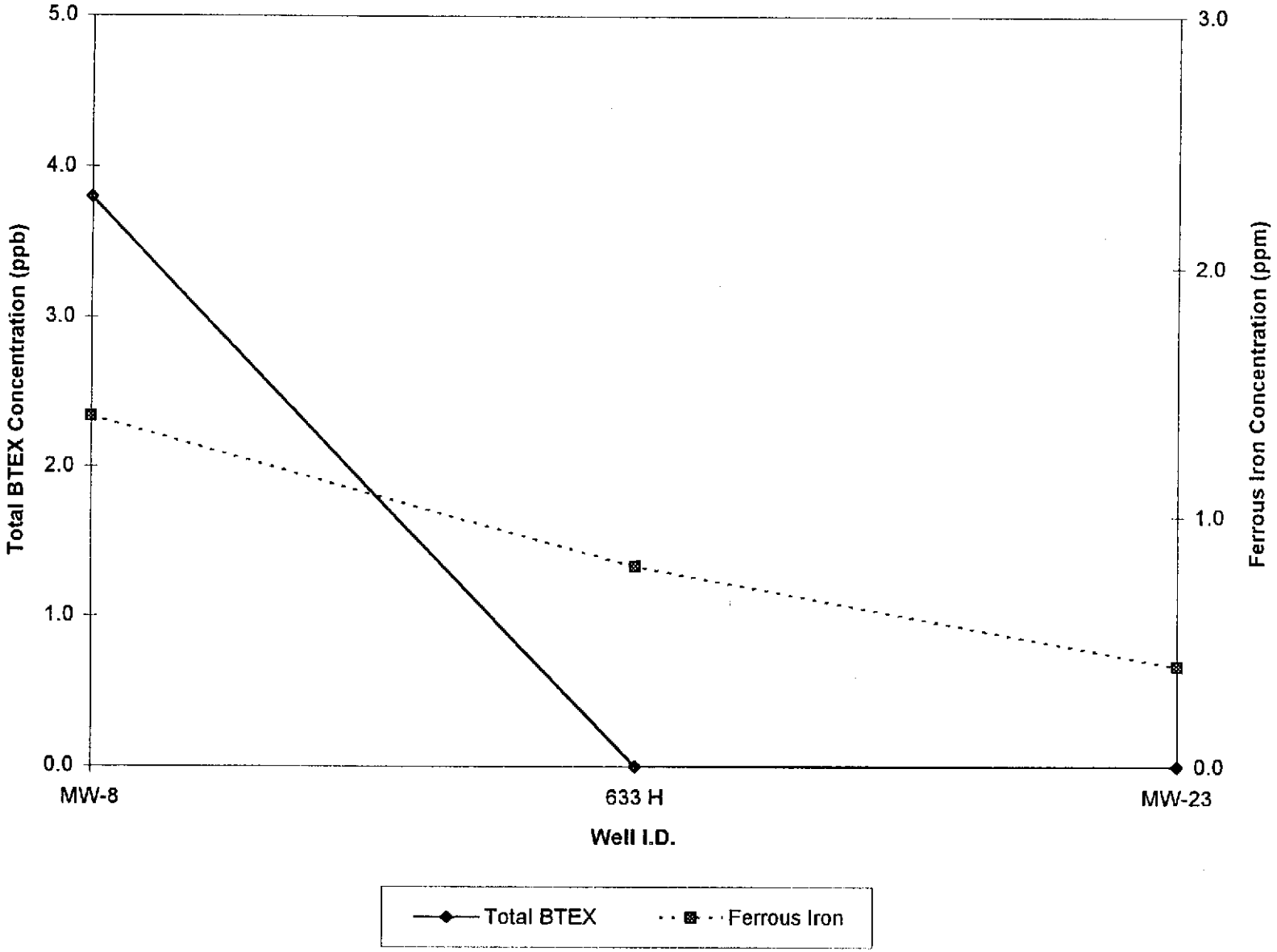
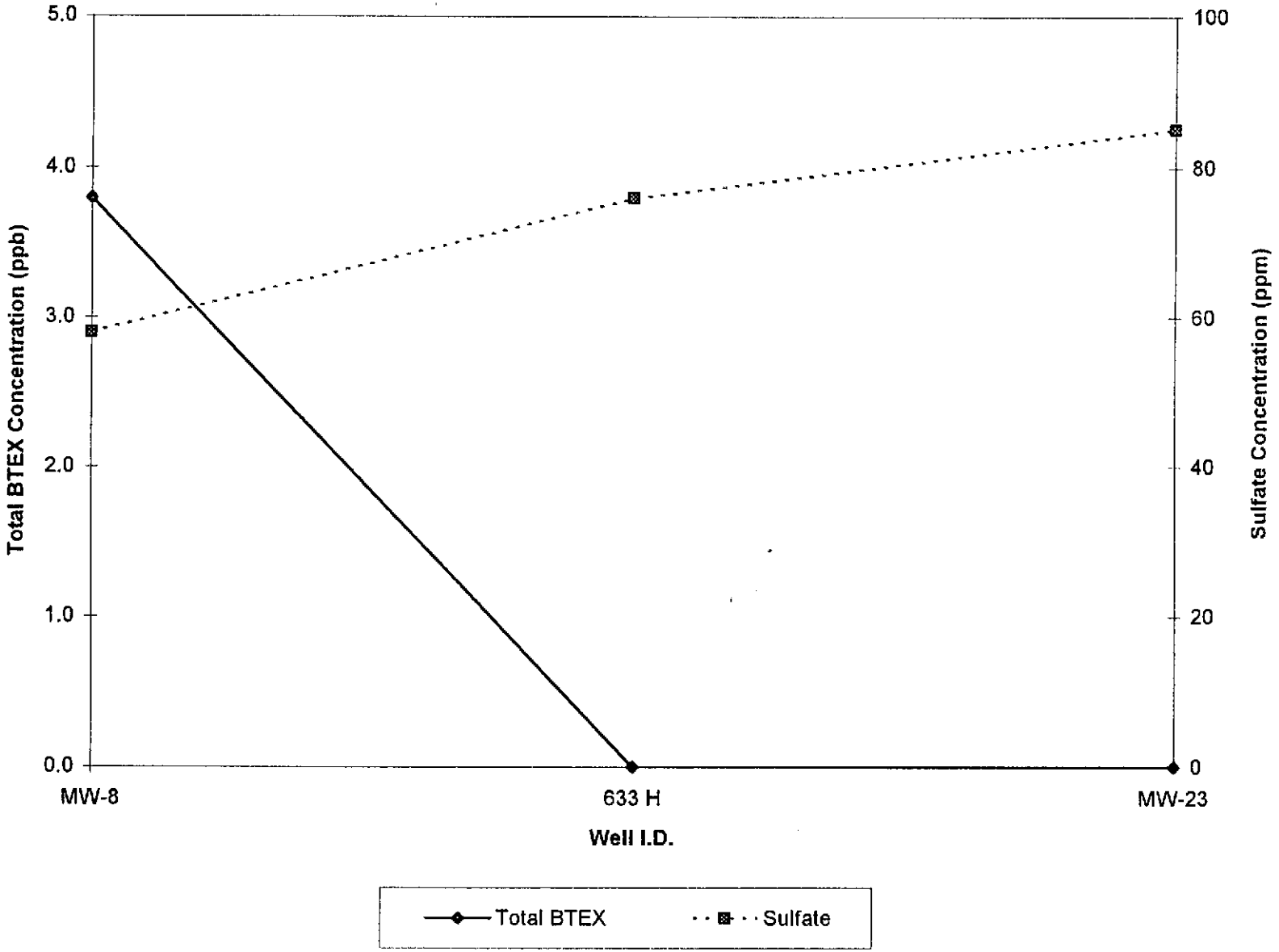


Figure D-4
Total BTEX vs. Sulfate Concentrations

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



ATTACHMENT D-A

GROUNDWATER EXTRACTION SYSTEM DESCRIPTION AND HISTORICAL OPERATIONAL DATA

ATTACHMENT D-A
GROUNDWATER EXTRACTION SYSTEM DESCRIPTION

GWE System 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 midpoint 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 is effective through April 4, 1997.

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

Table D-A-1
Groundwater Extraction System Performance Data

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

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

Table D-A-1 (continued)
Groundwater Extraction System Performance Data

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

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	Primary Carbon Loading (%)
04/04/95	26,253	1	672,510	103,330	2.2	290	0.1	4.3	6.6	0.00	0.28	5.4
05/02/95	26,924	0	760,350	87,840	2.2	240	0.2	4.5	7.1	0.01	0.29	5.7
06/05/95	27,721	2	848,810	88,460	1.9	ND	0.1	4.6	ND	0.00	0.29	5.8
07/06/95	28,464	0	921,260	72,450	1.6	270	0.1	4.7	2.4	0.00	0.29	5.9
08/21/95 d	29,568	0	993,320	72,060	1.1	230	0.2	4.9	1.8	0.00	0.29	6.1
REPORTING PERIOD: 12/31/95 - 03/31/96 (d)												
TOTAL GALLONS EXTRACTED:			**4,608,048**									
PERIOD GALLONS EXTRACTED:			**0**									
TOTAL POUNDS REMOVED:								**4.9**			**0.29**	
TOTAL GALLONS REMOVED:								**0.8**			**0.04**	
PERIOD POUNDS REMOVED:							**0.0**			**0.00**		
PERIOD GALLONS REMOVED:							**0.00**			**0.00**		
AVERAGE PERIOD FLOW RATE (gpm):												**0.0**
AVERAGE PERCENT DOWNTIME SINCE START-UP UNTIL SHUTDOWN (d):												**13.6%**
PERIOD PERCENT OPERATIONAL:												**0%**

TPPH = Total purgeable petroleum hydrocarbons
gpm = Gallons per minute
µg/L = Micrograms per liter
N/A = Not available or not applicable
ND = Not detected above detection limit
Densities: Gasoline = 6.1 lbs/gallon; Benzene = 7.34 lbs/gallon.

a. Totalizer broken; volume estimated from hourmeter and flow rate.
b. Volume estimated from hourmeter and instantaneous flow rate.
c. Sewer totalizer replaced July 28, 1994; volume discharged estimated between July 14 and 28, 1994 at 2.0 gpm.
d. GWE system temporarily shut down August 21, 1995.
Primary carbon loading estimated using isotherm of 8 percent by weight.

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

Table D-A-2
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

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

Table D-A-2 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

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

Table D-A-2 (continued)
Treatment System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

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

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

ppb = Parts per billion
< = Less than laboratory detection limit at right.
NS = Not sampled
ND = Not detected
Prior to June 1995, TPPH as gasoline was reported as TPH as gasoline.

Figure D-A-1
Groundwater Extraction System Mass Removal Trend

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

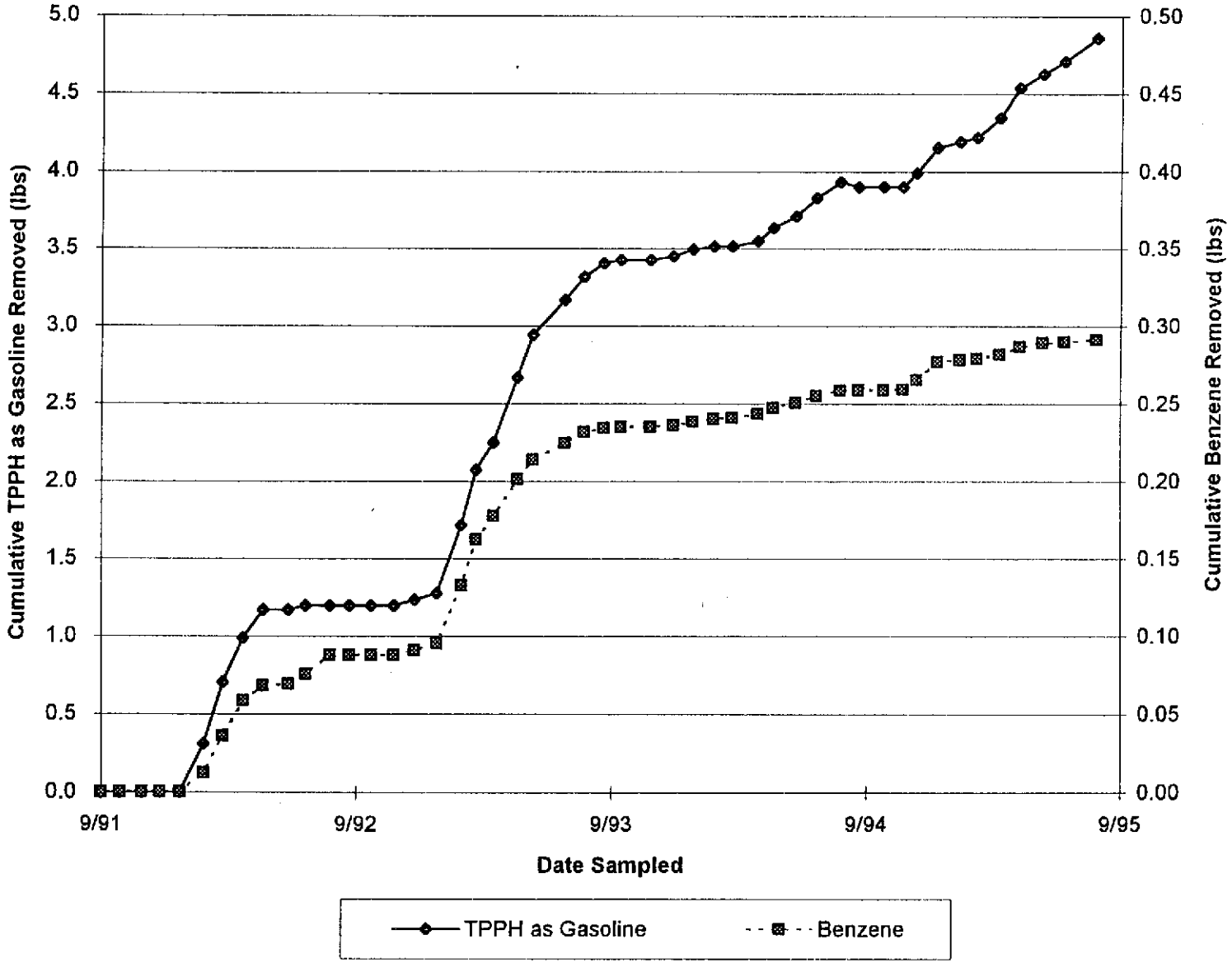
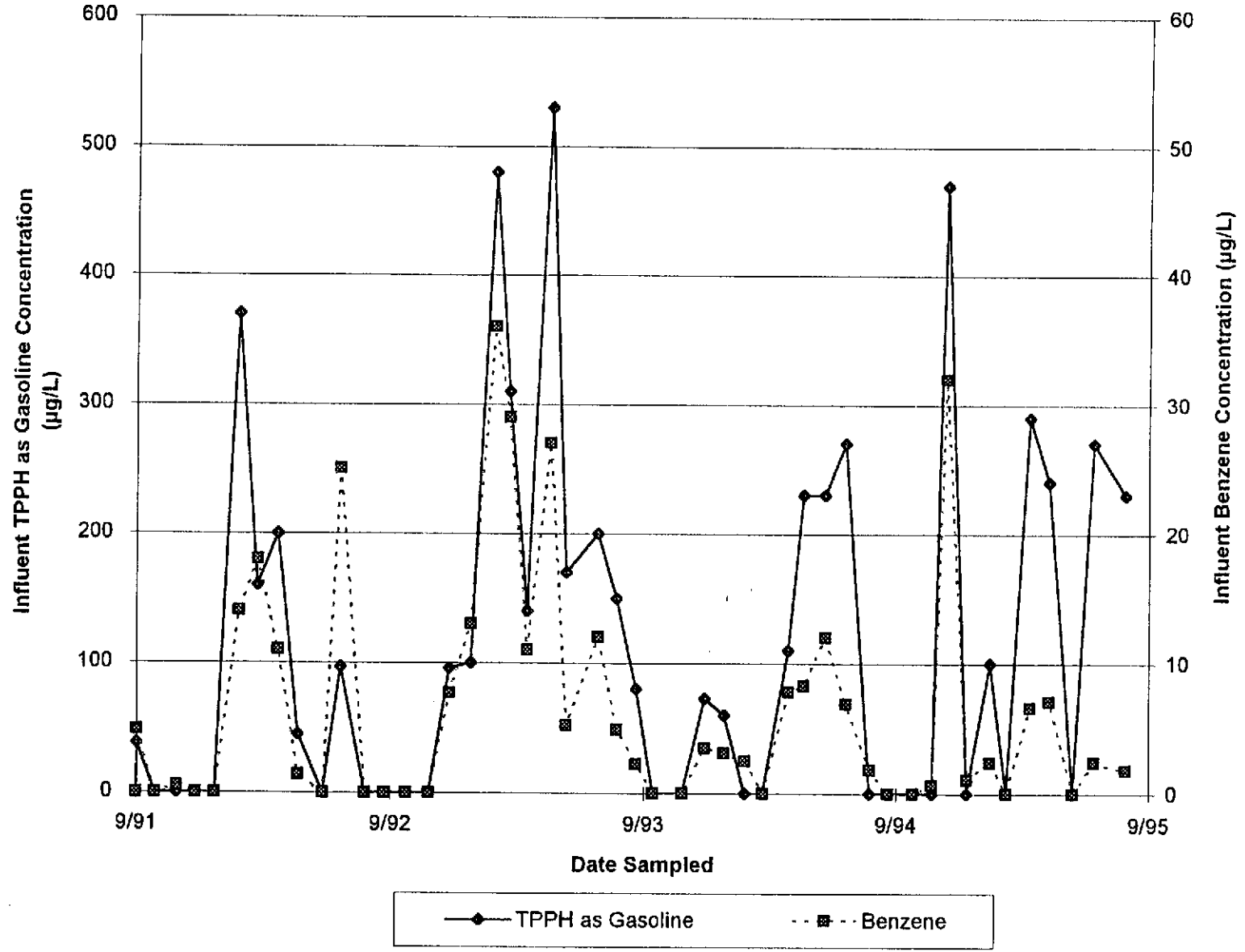


Figure D-A-2
Groundwater Extraction System Concentration Trend

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



ATTACHMENT D-B

INTRINSIC BIOREMEDIATION 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: Shaw Garakani

Project: 330-006.21/-,Oakland

Enclosed are the results from samples received at Sequoia Analytical on May 31, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K73 -01	LIQUID, 633H	05/31/96	Nitrate as Nitrate
9605K73 -01	LIQUID, 633H	05/31/96	Biochem Oxygen Demand
9605K73 -01	LIQUID, 633H	05/31/96	Nitrogen: Ammonia
9605K73 -01	LIQUID, 633H	05/31/96	Lead
9605K73 -01	LIQUID, 633H	05/31/96	Sulfate
9605K73 -02	LIQUID, E1A	05/31/96	Nitrate as Nitrate
9605K73 -02	LIQUID, E1A	05/31/96	Biochem Oxygen Demand
9605K73 -02	LIQUID, E1A	05/31/96	Chemical Oxygen Demand
9605K73 -03	LIQUID, MW-5	05/31/96	Nitrate as Nitrate
9605K73 -03	LIQUID, MW-5	05/31/96	Biochem Oxygen Demand
9605K73 -03	LIQUID, MW-5	05/31/96	Chemical Oxygen Demand
9605K73 -04	LIQUID, MW-8	05/31/96	Nitrate as Nitrate
9605K73 -04	LIQUID, MW-8	05/31/96	Biochem Oxygen Demand
9605K73 -04	LIQUID, MW-8	05/31/96	Nitrogen: Ammonia
9605K73 -04	LIQUID, MW-8	05/31/96	Lead
9605K73 -04	LIQUID, MW-8	05/31/96	Sulfate
9605K73 -05	LIQUID, MW-10	05/31/96	Nitrate as Nitrate
9605K73 -05	LIQUID, MW-10	05/31/96	Biochem Oxygen Demand
9605K73 -05	LIQUID, MW-10	05/31/96	Chemical Oxygen Demand
9605K73 -06	LIQUID, MW-23	05/31/96	Nitrate as Nitrate
9605K73 -06	LIQUID, MW-23	05/31/96	Biochem Oxygen Demand

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605K73 -06	LIQUID, MW-23	05/31/96	Nitrogen: Ammonia
9605K73 -06	LIQUID, MW-23	05/31/96	Lead
9605K73 -06	LIQUID, MW-23	05/31/96	Sulfate
9605K73 -07	LIQUID, SP-1	05/31/96	Nitrate as Nitrate
9605K73 -07	LIQUID, SP-1	05/31/96	Biochem Oxygen Demand
9605K73 -07	LIQUID, SP-1	05/31/96	Nitrogen: Ammonia
9605K73 -07	LIQUID, SP-1	05/31/96	Lead
9605K73 -07	LIQUID, SP-1	05/31/96	Sulfate
9605K73 -08	LIQUID, SP-2	05/31/96	Nitrate as Nitrate
9605K73 -08	LIQUID, SP-2	05/31/96	Biochem Oxygen Demand
9605K73 -08	LIQUID, SP-2	05/31/96	Nitrogen: Ammonia
9605K73 -08	LIQUID, SP-2	05/31/96	Lead
9605K73 -08	LIQUID, SP-2	05/31/96	Sulfate

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

Claudia Hirotsu
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Client Proj. ID: 330-006.2I/-,Oakland

Lab Proj. ID: 9605K73

Sampled: 05/31/96
Received: 05/31/96
Analyzed: see below

Attention: Shaw Garakani

Reported: 06/13/96

LABORATORY ANALYSIS

	Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9605K73-01					
Sample Desc : **LIQUID,633H**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**2.4**
	Lead	mg/L	06/04/96	0.0050	N.D.
#1271	**Nitrate as Nitrate**	**mg/L**	**06/07/96**	**0.10**	**41**
	Nitrogen: Ammonia	mg/L	06/03/96	0.10	N.D.
#1271	**Sulfate**	**mg/L**	**06/10/96**	**0.10**	**76**
Lab No: 9605K73-02					
Sample Desc : **LIQUID,E1A**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**6.0**
	Chemical Oxygen Demand	**mg/L**	**06/11/96**	**20**	**35**
#1271	**Nitrate as Nitrate**	**mg/L**	**06/07/96**	**0.10**	**8.1**
Lab No: 9605K73-03					
Sample Desc : **LIQUID,MW-5**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**3.0**
	Chemical Oxygen Demand	mg/L	06/11/96	20	N.D.
#1271	Nitrate as Nitrate	mg/L	06/07/96	0.10	N.D.
Lab No: 9605K73-04					
Sample Desc : **LIQUID,MW-8**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**3.0**
	Lead	mg/L	06/04/96	0.0050	N.D.
#1271	**Nitrate as Nitrate**	**mg/L**	**06/07/96**	**0.10**	**2.2**
	Nitrogen: Ammonia	mg/L	06/03/96	0.10	N.D.
#1271	**Sulfate**	**mg/L**	**06/10/96**	**0.10**	**58**

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

ELAP Number

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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: Shaw Garakani

Client Proj. ID: 330-006.2I/-,Oakland

Lab Proj. ID: 9605K73

Sampled: 05/31/96
Received: 05/31/96
Analyzed: see below

Reported: 06/13/96

LABORATORY ANALYSIS

	Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9605K73-05					
Sample Desc : **LIQUID,MW-10**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**16**
	Chemical Oxygen Demand	**mg/L**	**06/11/96**	**20**	**46**
#1271	Nitrate as Nitrate	mg/L	06/07/96	0.10	N.D.
Lab No: 9605K73-06					
Sample Desc : **LIQUID,MW-23**					
	Biochem Oxygen Demand	mg/L	06/03/96	1.0	N.D.
	Lead	mg/L	06/04/96	0.0050	N.D.
#1271	**Nitrate as Nitrate**	**mg/L**	**06/07/96**	**0.10**	**39**
	Nitrogen: Ammonia	mg/L	06/03/96	0.10	N.D.
#1271	**Sulfate**	**mg/L**	**06/10/96**	**0.10**	**85**
Lab No: 9605K73-07					
Sample Desc : **LIQUID,SP-1**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**3.0**
	Lead	mg/L	06/04/96	0.0050	N.D.
#1271	**Nitrate as Nitrate**	**mg/L**	**06/07/96**	**0.10**	**18**
	Nitrogen: Ammonia	mg/L	06/03/96	0.10	N.D.
#1271	**Sulfate**	**mg/L**	**06/10/96**	**0.10**	**17**
Lab No: 9605K73-08					
Sample Desc : **LIQUID,SP-2**					
	Biochem Oxygen Demand	**mg/L**	**05/31/96**	**1.0**	**2.3**
	Lead	**mg/L**	**06/04/96**	**0.0050**	**0.0078**
#1271	Nitrate as Nitrate	mg/L	06/07/96	0.10	N.D.
	Nitrogen: Ammonia	mg/L	06/03/96	0.10	N.D.
#1271	**Sulfate**	**mg/L**	**06/10/96**	**0.10**	**24**

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

ELAP Number

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

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

Client Proj. ID: 330-006.2I/-,Oakland
Lab Proj. ID: 9605K73

Received: 05/31/96
Reported: 06/13/96

LABORATORY NARRATIVE

Please note: Fraction -06 (MW-23) was set up 1 day past hold time for BOD.

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

Sequoia Analytical

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

Project: 330-006.2I/-,Oakland

Enclosed are the results from samples received at Sequoia Analytical on May 31, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9606449 -01	LIQUID, 633H	05/31/96	Heterotrophic Plate Count
9606449 -02	LIQUID, MW8	05/31/96	Heterotrophic Plate Count
9606449 -03	LIQUID, MW23	05/31/96	Heterotrophic Plate Count
9606449 -04	LIQUID, SP1	05/31/96	Heterotrophic Plate Count
9606449 -05	LIQUID, SP2	05/31/96	Heterotrophic Plate Count

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

Claudia Hirotsu
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: Shaw Garakani

Client Proj. ID: 330-006.2I/-,Oakland

Lab Proj. ID: 9606449

Sampled: 05/31/96
Received: 05/31/96
Analyzed: see below

Reported: 06/10/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9606449-01 Sample Desc : **LIQUID,633H**				
Heterotrophic Plate Count	**cfu/mL**	**06/02/96**	**1.0**	**39000**
Lab No: 9606449-02 Sample Desc : **LIQUID,MW8**				
Heterotrophic Plate Count	**cfu/mL**	**06/02/96**	**1.0**	**700**
Lab No: 9606449-03 Sample Desc : **LIQUID,MW23**				
Heterotrophic Plate Count	**cfu/mL**	**06/02/96**	**1.0**	**900**
Lab No: 9606449-04 Sample Desc : **LIQUID,SP1**				
Heterotrophic Plate Count	**cfu/mL**	**06/02/96**	**1.0**	**13000**
Lab No: 9606449-05 Sample Desc : **LIQUID,SP2**				
Heterotrophic Plate Count	**cfu/mL**	**06/02/96**	**1.0**	**1800**

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
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 Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73 -01-8	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Nitrate
QC Batch#:	IN060796300011F
Analy. Method:	EPA 300.0
Prep. Method:	EPA 300.0
Analyst:	K. Anderson
MS/MSD #:	6060117
Sample Conc.:	N.D.
Prepared Date:	6/7/96
Analyzed Date:	6/7/96
Instrument I.D.#:	INIC1
Conc. Spiked:	100 mg/L
Result:	110
MS % Recovery:	110
Dup. Result:	100
MSD % Recov.:	100
RPD:	9.5
RPD Limit:	0-20

LCS #:	BLK060796A-2
Prepared Date:	6/7/96
Analyzed Date:	6/7/96
Instrument I.D.#:	INIC1
Conc. Spiked:	10 mg/L
LCS Result:	10
LCS % Recov.:	100

MS/MSD LCS Control Limits	80-120

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

SEQUOIA ANALYTICAL
Elap #1271

Claudia Hirotsu
Project Manager

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

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73-01, 4, 6-8	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Sulfate
QC Batch#:	IN0610963000I1A
Analy. Method:	EPA 300.0
Prep. Method:	EPA 300.0
Analyst:	K. Anderson
MS/MSD #:	6060115
Sample Conc.:	76
Prepared Date:	6/10/96
Analyzed Date:	6/10/96
Instrument I.D.#:	INIC1
Conc. Spiked:	100 mg/L
Result:	180
MS % Recovery:	104
Dup. Result:	180
MSD % Recov.:	104
RPD:	0.0
RPD Limit:	0-20

LCS #:	BLK061096A-3
Prepared Date:	6/10/96
Analyzed Date:	6/10/96
Instrument I.D.#:	INIC1
Conc. Spiked:	10 mg/L
LCS Result:	11
LCS % Recov.:	110

MS/MSD LCS Control Limits	80-120

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

SEQUOIA ANALYTICAL
Elap.#1271

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

Pacific Environmental Group	Client Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73-01, 4, 6-8	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Ammonium	Lead
QC Batch#:	IN060396350300A	ME0604967000MDA
Analy. Method:	EPA 350.3	EPA 239.2
Prep. Method:	N/A	EPA 3020
Analyst:	S. Lee	J. Jencks
MS/MSD #:	9605K7301	9605I9701
Sample Conc.:	N.D.	N.D.
Prepared Date:	6/3/96	6/4/96
Analyzed Date:	6/3/96	6/4/96
Instrument I.D.#:	Manual	MTJA1
Conc. Spiked:	20 mg/L	50 µg/L
Result:	23	46
MS % Recovery:	115	92
Dup. Result:	23	47
MSD % Recov.:	115	94
RPD:	0.0	2.2
RPD Limit:	0-20	0-20

LCS #:	LCS060396	BLK060496BS
Prepared Date:	6/3/96	6/4/96
Analyzed Date:	6/3/96	6/4/96
Instrument I.D.#:	Manual	MTJA1
Conc. Spiked:	100 mg/L	50 µg/L
LCS Result:	110	51
LCS % Recov.:	110	102

MS/MSD	75-125	75-125
LCS	80-120	80-120
Control Limits		

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

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

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

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Pacific Environmental Group	Client Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73-02, 3, 5	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Chemical Oxygen Demand
QC Batch#:	IN061196410400A
Analy. Method:	EPA 410.4
Prep. Method:	N/A

Analyst:	R. Iverson
MS/MSD #:	9605I6501
Sample Conc.:	130
Prepared Date:	12/29/95
Analyzed Date:	6/11/96
Instrument I.D.#:	Manual
Conc. Spiked:	100 mg/L
Result:	230
MS % Recovery:	100
Dup. Result:	230
MSD % Recov.:	100
RPD:	0.0
RPD Limit:	0-20

LCS #:	INS122995
Prepared Date:	12/29/95
Analyzed Date:	6/11/96
Instrument I.D.#:	Manual
Conc. Spiked:	100 mg/L
LCS Result:	99
LCS % Recov.:	99

MS/MSD	75-125
LCS	80-120
Control Limits	

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

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

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (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 Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73-01-5, 7, 8	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Biochemical Oxygen Demand
QC Batch:	IN053196405100A
Analy. Method:	EPA 405.1
Prep Method:	N/A

Analyst:	J. Clark
Duplicate Sample #:	9605I5201B
Prepared Date:	5/31/96
Analyzed Date:	6/5/96
Instrument I.D.#:	Manual
Sample Concentration:	173
Dup. Sample Concentration:	176
RPD:	1.7
RPD Limit:	0-20

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

** RPD = Relative % Difference

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 Project ID:	330-006.2I/-, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Shaw Garakani	Work Order #:	9605K73-06	Reported: Jun 13, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Biochemical Oxygen Demand
QC Batch:	IN060396405100A
Analy. Method:	EPA 405.1
Prep Method:	N/A

Analyst:	J. Clark
Duplicate Sample #:	9605K7306B
Prepared Date:	6/3/96
Analyzed Date:	6/8/96
Instrument I.D.#:	Manual
Sample Concentration:	N.D.
Dup. Sample Concentration:	N.D.
RPD:	0.0
RPD Limit:	0-20

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

SEQUOIA ANALYTICAL

Claudia Hirotsu
Project Manager

** RPD = Relative % Difference

ARCO Products Company Division of AtlanticRichfieldCompany 330006 C1 **Task Order No.** ~~[illegible]~~ 1928100

Chain of Custody

ARCO Facility no.	City (Facility) [illegible] Oakland
ARCO engineer [illegible]	Telephone no. (ARCO)
Project manager (Consultant) ~~[illegible]~~ [illegible]	
Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name [illegible] Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110
Laboratory name [illegible]	Contract number
Method of shipment	

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	[illegible] EPA 601/8010	[illegible] EPA 624/8240	[illegible] EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐ COD	Heterotrophic Plate Count	BOD
[illegible]	1	6		X		X	X	4/5/90	1210						X	X	X	X			X	X
E-111	2	3							1455						X					X		X
MW-5	3	3							1535						X					X		X
MW-8	4	6							1525						X	X	X	X			X	X
MW-10	5	3							1255						X					X		X
MW-23	6	6							1035						X	X	X	X			X	X
SP-1	7	6							1500						X	X	X	X			X	X
									1235													

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 7685 [illegible]

Condition of sample: [illegible]

Temperature received: Cool

Relinquished by sampler [signature]	Date 4/5/90	Time 16:15	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory [signature] Date 4/5/90 Time 1045

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)

ARCO Products Company
Division of AtlanticRichfieldCompany

330006 26 **Task Order No.** ~~[illegible]~~ 928100

Chain of Custody

ARCO Facility no.	City (Facility) Hesperian Blvd Oakland	Project manager (Consultant) ~~[illegible]~~ Shaw Gunakari	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E -	Nitrate EPA 6017/8010	Sulfate EPA 624/8240	Nitrogen, Nitrate EPA 625/8270 COD	Total Lead TCLP Metals ☐ VOA ☐ VOA ☐	Cam Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐ COD	Heterotrophic Plate Count	BOD
33 H		6		X		X	X	5/31/96	11:10						X	X	X	X			X	X
E-1H		3							14:55						X					X		X
MW-5		3							15:35						X					X		X
MW-8		6							15:25						X	X	X	X			X	X
MW-10		3							12:15						X					X		X
MW-23	1	6							10:25						X	X	X	X			X	X
S.P.1.		6							15:00						X	/	/	X			X	X
									12:25													

Condition of sample: Good		Temperature received: Cool	
Relinquished by sampler [signature]	Date 5/31/96 Time 16:45	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory [signature]	Date 5/31/96 Time 1645

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 ☑

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PES
REC. BY (PRINT): Chris

WORKORDER: 9605K73
DATE OF LOG-IN: 5/31/96

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: 5/31/96
12. Temp. Rec. at Lab: 16°C
13. Time Rec. at Lab: 1645

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	a-e	633 H	3 1LP	Liq	5/31/96	
	↓	↓	1LP nat	↓	↓	
	↓	↓	1/2LP NITRO			
2	a-c	E1A	2 1LP			
	↓	↓	1/2L NITRO			
3	a-c	MW-5	Save			
	↓	↓	↓			
4	a-e	MW-8	3 1LP			
	↓	↓	1LP nat			
	↓	↓	1/2LP NITRO			
5	a-c	MW-10	2 1LP			
	↓	↓	1/2L NITRO			
6	a-e	MW-23	3 1LP			
	↓	↓	1LP nat			
	↓	↓	1 1/2LP NITRO			
7	a-e	SP-1	Save			
	↓	↓	↓	↓	↓	

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

FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.5C

Station ID #0608

Site Address: 17601 Hesperian Blvd, Oakland

Lab: Sequoia 1928100

County:

Project Manager: Shaw Garakani

Requester: David S. Nanstad

Client: ARCO

Client P.O.C: MIKE WHELAN

Date of Request: May 30, 1996

Project Type

☒ Operation & Maintenance

☐ Sampling

☐ 1st time visit

☐ Quarterly

☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

X Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time event

☐ Other:

Ideal field date: May 31, 1996

Check Appropriate Category

X In Budget Site Visit

☐ Out of Budget Site Visit

Budget Hours: 8

Actual Hours: 7.5

Mob de Mob: 2.5

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE: Obtain 10 plastic 100 ml. NA S O preserved bottles from Sequoia on the way to the site. 5 will be used at this site for the Heterotrophic Plate Count (shown on schedule. 5 are extra.)

Obtain DO values from wells MW-10 and E1-A while the ORC's are in the well. Remove the 14. 2" ORC's from well MW- and the 13. 4" ORC's from well E-1A. Place the removed ORC's in a bucket and leave on-site in the enclosure to dry out. They are to be disposed of during the next quarterly event.

Obtain the samples and field measurements listed on the attached schedule. In addition to the attached monitoring schedule, sample wells SP-1 and SP-2 for TPPH-g and BTEX compounds.

Install 14 new 2" ORC's in well MW-10, and 13 new 4" ORC's in well E-1A. Install 5 new 4" ORC's in well MW-5.

Install ORC's per typical procedure (4" slip cap and eye bolt, 5/16" diameter rope).

Review the attached ORC installation instructions and take great care in lacing the ORC's together. They harden to a cement like consistancy and could be difficult to pull out if not correctly laced up.

14 2"
13 4"
5 4"

Comments, remarks from field staff

Completed By: [signature] Date: 5/31/96

Pacific Environmental Group, Inc.

2nd Quarter Intrinsic Groundwater Bioremediation Enhancement Program Monitoring Schedule

ARCO Service Station 0608
17601 Hesperian Blvd.
San Lorenzo, CA

Well	O.R.P. Before Purging	O.R.P. After Purging	Hydrogen Sulfide	D.O Before Purging	D.O. After Purging	Ferrous Iron	Laboratory Analyses: Nitrate as Nitrate	Sulfate	Nitrogen as Ammonia	Total Iron	B.O.D.	Hetero-trophic Plate Count	C.O.D.
633 H	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
E-1A*	N	Y	N	N	Y	N	Y	N	N	N	Y	N	Y
MW-5*	N	Y	N	N	Y	N	Y	N	N	N	Y	N	Y
MW-8	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
MW-10*	N	Y	N	N	Y	N	Y	N	N	N	Y	N	Y
MW-23	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
SP-1	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
SP-2	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y

O.R.P. = Oxidation reduction potential
D.O. = Dissolved oxygen
B.O.D.. = Biological oxygen demand
C.O.D. = Chemical oxygen demand
ORC = Oxygen releasing compound
Y/N = Monitor/Don't monitor
* = Wells containing ORC (Well MW-5 scheduled for ORC installation 2Q96)

Bioremediation Assessment Field and Laboratory Procedures

Field Procedures

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

Laboratory Procedures

Analysis	Method	Technique
TPPH-g & 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, G or P, keep cool, ~~100ml~~, 24 hr hold	Ion chromatography
Sulfate	EPA Method 300, G or P, keep cool, ~~100ml~~, 28 day hold	Ion chromatography
Nitrogen as Ammonia	EPA Method 350.3, G or P, 500 ml with H_2SO_4, keep cool, 28 day hold time	Probe method
B.O.D.	EPA Method 405.1, P, 1L, 48 hour hold	
C.O.D.	EPA Method 410.4, VOA w/ H_2SO_4, 28 day hold time	
Heterotrophic Plate Count	SM 907, P, ~~100ml~~, $NA_2S_2O_3$, keep cool, 30 hour hold; or non-preserved; keep cool, 12 hour hold time	
Total Iron	EPA Method 6010, P, G, C, 200ml, HNO_3 6 month hold	Inductively coupled plasma

DATE: 5/31/16 TECHNICIAN: JBL

Dissolved Oxygen Meter Checklist and Data Sheet

PART A: WELL DAT.
MATERIALS
PLEASE CHECK OFF THE FOLLOWING BEFORE LEAVING OFFICE!

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

BEFORE MEASUREMENTS

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

CALIBRATION

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	Yes	CALIBRATE UNIT?	Yes
4a. CALIBRATION TEMPERATURE (C)	18.8	4b. CALIBRATION DO READING (mg/L)	9.32

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

FIELD MEASUREMENTS

WELL 633H

DISSOLVED OXYGEN (mg/L)

Allow 2 minute minimum stabilization time		Before Purge	After Purge	Ferrous Iron
2' From top		NA	1.0+	.80
PROBE & CORD RINSED?				
DO READING STABILIZED?				

HYDROGEN SULFIDE .00

DATE: 1/31/96 TECHNICIAN: WPeck

WELL E-1A

DISSOLVED OXYGEN (mg/L)

	Allow 2 minute minimum stabilization time	Before Purge	After Purge	Ferrous Iron
2' From top		NA	2.34	N/A
PROBE & CORD RINSED?		YES		
DO READING STABILIZED?		YES		

HYDR SULFIDE N/A

WELL MW-5

DISSOLVED OXYGEN (mg/L)

	Allow 2 minute minimum stabilization time	Before Purge	After Purge	Ferrous Iron
2' From top		NA	3.64	N/A
PROBE & CORD RINSED?				
DO READING STABILIZED?				

HYDR. SULF N/A

WELL MW-8

DISSOLVED OXYGEN (mg/L)

	Allow 2 minute minimum stabilization time	Before Purge	After Purge	Ferrous Iron
2' From top		NA	1.62	1.40
PROBE & CORD RINSED?		YES		
DO READING STABILIZED?		YES		

HYDR. SULF -00

WELL MW-10

DISSOLVED OXYGEN (mg/L)

	Allow 2 minute minimum stabilization time	Before Purge	After Purge	Ferrous Iron
2' From top		NA	2.07	N/A
PROBE & CORD RINSED?				
DO READING STABILIZED?				

HYDR SULF N/A

WELL MW-25

DISSOLVED OXYGEN (mg/L)

	Allow 2 minute minimum stabilization time	Before Purge	After Purge	Ferrous Iron
2' From top		NA		
PROBE & CORD RINSED?				
DO READING STABILIZED?				

HYDR SULF