PACIFIC
ENVIRONMENTAL
GROUP, INC.

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

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

Prepared for

ARCO Products Company

June 30, 1996

Prepared by

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Project 330-006.2H

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DISCUSSION:

- Groundwater levels have risen approximately 3 to 4 feet.
- Hydrocarbon concentrations are within historical levels.

ATTACHMENTS:

- Table 1 - Groundwater Sampling Schedule
- Table 2 - Groundwater Elevation and Analytical Data - Groundwater Monitoring Wells
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- 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	a	a	a	a	Quarterly
633H	a	a	a	a	Quarterly
634H	a	a	a	a	Quarterly
642H	a	a	a	a	Quarterly
675H	a	a	a	a	Quarterly
17197 VM	a	a	a	a	Quarterly
17200 VM	a	a	a	a	Quarterly
17203 VM	a	a	a	a	Quarterly
17302 VM	a	a	a	a	Quarterly
17348 VE	a	a	a	a	Quarterly
17349 VM	a	a	a	a	Quarterly
17371 VM	a	a	a	a	Quarterly
17372 VM	a	a	a	a	Quarterly
17393 VM	a	a	a	a	Quarterly

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

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline 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
MW-7	03/15/96	a	34.40	9.73	24.67	<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
MW-9	03/15/96	a	32.11	7.65	24.46	<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
MW-11	03/14/96	a	32.54	8.60	23.94	<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
MW-13	03/15/96	a	35.42	10.90	24.52	<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
MW-15	03/13/96	a	31.41	8.13	23.28	<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
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
MW-19	03/13/96	a	29.02	7.06	21.96	<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
MW-22	03/13/96	a	29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50
MW-23	03/13/96	a	30.99	9.13	21.86	<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
MW-25	03/14/96	a	34.12	9.61	24.51	<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
SP-1	03/14/96		--	9.30	--	<50	<0.50	<0.50	<0.50	<0.50
SP-2	03/14/96		--	7.78	--	<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.
ND = Not detected
< = Less than laboratory detection limit stated at right.

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
633 H	03/14/96		480	10	11	1.8	140
	05/13/96	*	<50	<0.50	<0.50	<0.50	<0.50
634 H	03/13/96	a	NS	NS	NS	NS	NS
642 H	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
675 H	03/13/96	a	NS	NS	NS	NS	NS
17197 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
17200 VM	03/15/96		730	<1.0	<1.0	1.5	1.7
17203 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
17302 VM	03/15/96		<50	<0.50	<0.50	<0.50	<0.50
17348 VE	03/13/96		<50	<0.50	<0.50	<0.50	<0.50
17349 VM	03/15/96		1,700	<2.0	<2.0	2.5	13
17371 VM	03/13/96	c	NS	NS	NS	NS	NS
17372 VM	03/14/96		<50	<0.50	<0.50	<0.50	<0.50
17393 VM	03/14/96		<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts ber 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.

N

VIA MANZANAS

RESIDENTIAL

MW-20 ∅

COURT

POTRERO

22.00

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

MW-19 (21.96)

VIA MAGDALENA

21.50

22.50

CHURCH AND SCHOOL

23.00

23.50

24.00

24.50

MW-24 (24.28)

RESIDENTIAL

MW-21 (21.14)

VIA MEDIA

VIA FLORES

MW-18 (22.17)

17197VM

17200VM

MW-17 ∅

MW-14 (23.33)

MW-26 (24.33)

RESTAURANT

MW-9 (24.46)

24.00

17203VM

17302VM

17372VM

RESIDENTIAL

MW-16 (22.77)

(23.89) MW-10

(22.71) E-1A

(23.89) MW-8

MW-25 (24.51)

633H

SP-2/V-5

SP-1/V-4

MW-5 (24.69)

590H

MW-7 (24.67)

17349VM

17371VM

MW-15 (23.28)

MW-11 (23.94)

MW-13 (24.52)

MW-22 (21.46)

VIA ENCINAS COURT

17393VM

634H

642H

RESIDENTIAL

SHOPS

17348VE

MW-23 (21.86)

675H

VIA ALAMO

HACIENDA AVENUE

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

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

MW-20 ∅ DESTROYED WELL LOCATION AND DESIGNATION

590H ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION

E-1A ◉ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

(24.28) GROUNDWATER ELEVATION IN FEET - MSL, 3-13-96

23.00 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 3-13-96

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.003

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE

0 150 300 FEET

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

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 1

PROJECT: 330-006.2H

N

VIA MANZANAS

RESIDENTIAL

MW-20 ∅

POTRERO COURT

APARTMENTS

APARTMENTS

VIA ARRIBA

SHOPS

HESPERIAN BOULEVARD

RESTAURANT

MW-19
ND/ND

VIA MAGDALENA

CHURCH
AND SCHOOL

730/ND
17200VM
MW-17 ∅

MW-14
ND/ND

MW-24
ND/ND

RESIDENTIAL

MW-26
ND/ND

RESTAURANT

MW-21
ND/ND

VIA MEDIA

VIA FLORES

ND/ND
MW-18
ND/ND
17197VM
17203VM
ND/ND

17302VM
ND/ND

ND/ND
17372VM

MW-9
ND/ND

E-1A

MW-16
ND/ND

RESIDENTIAL

870/35
MW-10
2,700/38
670/5.1

MW-25
ND/ND

SP-1/V-4
ND/ND

MW-5
1,600/30

MW-7
ND/ND

590H
ND/ND

ND/ND
633H
SP-2/V-5
ND/0.50

17349VM
1,700/ND

17371VM
NS

MW-15
ND/ND

MW-11
ND/ND

MW-22
ND/ND

VIA ENCINAS COURT

17393VM
ND/ND

634H
642H
NS
ND/ND

MW-13
ND/ND

RESIDENTIAL

SHOPS

ND/ND
17348VE

HACIENDA AVENUE

MW-23
ND/ND

675H
NS

RESIDENTIAL

VIA ALAMO

LEGEND

MW-7 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

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

MW-20 ∅ DESTROYED WELL LOCATION AND DESIGNATION

590H ■ DOMESTIC IRRIGATION WELL LOCATION AND DESIGNATION

E-1A ◉ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

2,700/38 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 3-13-96 through 3-15-96

* RESULTS FROM RESAMPLING EVENT PERFORMED ON 5-15-96 TO CONFIRM DETECTED CONCENTRATION FROM 3-15-96 EVENT

ND NOT DETECTED

NS NOT SAMPLED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

APPROXIMATE SCALE
0 150 300 FEET

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

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	09/19/90		<50	7	0.9	1	2
(MW-12)	12/27/90		<50	3	0.5	1	1
	03/21/91		<30	4.2	<0.3	1.1	0.89
	06/26/91		41	6.3	<0.3	1.2	0.59
			Converted to Extraction Well 8/91				
	03/28/94		120	4.8	<0.50	5.7	4.1
	06/14/94	*	230	12	<0.5	16	1.5
	09/20/94	*	<50	<0.5	<0.5	<0.5	<0.5
	12/20/94		<50	2.4	<0.5	1.9	<0.5
	03/14/95		<50	<0.50	<0.50	<0.50	<0.50
	06/01/95		680	4.9	<0.50	18	2.4
	09/15/95		73	3.3	<0.50	2.3	<0.50
	09/15/95		73	3.3	<0.50	2.3	<0.50
	11/28/95		220	3.9	<0.50	6.2	<0.50
MW-13	07/03/91		<30	<0.3	<0.3	<0.3	<0.3
	09/24/91		<30	<0.3	<0.3	<0.3	<0.3
	12/19/91		<30	<0.3	<0.3	<0.3	<0.3
	03/17/92		<30	<0.3	<0.3	<0.3	<0.3
	06/17/92		<30	<0.3	<0.3	<0.3	<0.3
	09/16/92		<50	<0.5	<0.5	<0.5	<0.5
	12/21/92		<50	<0.5	<0.5	<0.5	<0.5
	03/17/93		<50	<0.5	<0.5	<0.5	<0.5
	06/15/93		<50	<0.5	<0.5	<0.5	<0.5
	09/14/93		<50	<0.5	<0.5	<0.5	<0.5
	12/29/93		<50	<0.5	<0.5	<0.5	<0.5
	03/30/94		<50	<0.5	<0.5	<0.5	<0.5
	06/14/94		<50	<0.5	<0.5	<0.5	<0.5

Table 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	570	c	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	630
	11/28/95	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,	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,	NS	NS	NS	NS	NS
	12/30/93	b,	NS	NS	NS	NS	NS
	03/29/94	b,	NS	NS	NS	NS	NS
	06/15/94	b,	NS	NS	NS	NS	NS
	09/21/94	b,	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,	NS	NS	NS	NS	NS
	10/14/92	a	NS	NS	NS	NS	NS
	12/21/92	b,	NS	NS	NS	NS	NS
	03/16/93	b,	NS	NS	NS	NS	NS
	06/17/93	b,	NS	NS	NS	NS	NS
	09/15/93	a	NS	NS	NS	NS	NS
	12/30/93	b,	NS	NS	NS	NS	NS
	03/29/94	b,	NS	NS	NS	NS	NS
	06/15/94		NS	NS	NS	NS	NS
	09/21/94	b,	NS	NS	NS	NS	NS
	12/21/94	b,	NS	NS	NS	NS	NS
	03/15/95	b,	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,	NS	NS	NS	NS	NS
	12/21/94 b,	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,	NS	NS	NS	NS	NS
	10/14/92 a	NS	NS	NS	NS	NS
	12/21/92 b,	NS	NS	NS	NS	NS
	03/16/93 b,	NS	NS	NS	NS	NS
	06/17/93 b,	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,	NS	NS	NS	NS	NS
	03/15/95 b,	NS	NS	NS	NS	NS
	05/31/95 b,	NS	NS	NS	NS	NS
	09/14/95 b,	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,	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,	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,	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 March 18, 1996.
The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9603C49 -01	LIQUID, SP-1	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -02	LIQUID, SP-2	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -03	LIQUID, MW-5	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -04	LIQUID, MW-7	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C49 -05	LIQUID, MW-8	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -06	LIQUID, MW-9	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C49 -07	LIQUID, MW-10	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -08	LIQUID, MW-11	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C49 -09	LIQUID, MW-13	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C49 -10	LIQUID, MW-14	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C49 -11	LIQUID, MW-15	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -12	LIQUID, MW-16	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -13	LIQUID, MW-18	03/13/96	TPHGBW Purgeable TPH/BTEX

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9603C49 -14	LIQUID, MW-19	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -15	LIQUID, MW-21	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -16	LIQUID, MW-22	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -17	LIQUID, MW-23	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C49 -18	LIQUID, MW-24	03/15/96	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
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Kelly Brown

Project: 330-006.21/0608,San Lorenzo

Enclosed are the results from samples received at Sequoia Analytical on March 18, 1996.
The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9603C54 -01	LIQUID, MW-25	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -02	LIQUID, MW-26	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -03	LIQUID, E1-A	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -04	LIQUID, TB-1	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C54 -05	LIQUID, TB-2	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -06	LIQUID, TB-3	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -07	LIQUID, 590H	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -08	LIQUID, 633H	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -09	LIQUID, 642H	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -10	LIQUID, 17348VE	03/13/96	TPHGBW Purgeable TPH/BTEX
9603C54 -11	LIQUID, 17197VM	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -12	LIQUID, 17200VM	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -13	LIQUID, 17203VM	03/15/96	TPHGBW Purgeable TPH/BTEX

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9603C54 -14	LIQUID, 17302VM	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -15	LIQUID, 17349VM	03/15/96	TPHGBW Purgeable TPH/BTEX
9603C54 -16	LIQUID, 17372VM	03/14/96	TPHGBW Purgeable TPH/BTEX
9603C54 -17	LIQUID, 17393VM	03/14/96	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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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: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: SP-1	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-01	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

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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: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: SP-2	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C49-02	Reported: 03/27/96

QC Batch Number: GC032296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results - ug/L
TPPH as Gas	50	N.D.
Benzene	**0.50**	**0.50**
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
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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: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: MW-5	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-03	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**1000**	**1600**
Benzene	**10**	**30**
Toluene	10	N.D.
Ethyl Benzene	**10**	**13**
Xylenes (Total)	10	N.D.
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: MW-7	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-04	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

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
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: 9603C49-05

Sampled: 03/14/96
Received: 03/18/96

Analyzed: 03/22/96
Reported: 03/27/96

QC Batch Number: GC032296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**200**	**670**
Benzene	**2.0**	**5.1**
Toluene	2.0	N.D.
Ethyl Benzene	2.0	N.D.
Xylenes (Total)	2.0	N.D.
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

Claudia Hirotsu
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-006.21/0608,San Lorenzo	Sampled: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: MW-9	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-06	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85

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

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: MW-10	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-07	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**870**
Benzene	**5.0**	**35**
Toluene	5.0	N.D.
Ethyl Benzene	**5.0**	**5.2**
Xylenes (Total)	**5.0**	**7.0**
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	80

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: MW-11	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-08	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: MW-13	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-09	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: MW-14	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-10	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-15	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-11	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-16	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-12	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-18	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-13	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-19	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-14	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-21	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-15	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-22	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-16	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: MW-23	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C49-17	Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

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-24
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9603C49-18

Sampled: 03/15/96
Received: 03/18/96

Analyzed: 03/21/96
Reported: 03/27/96

QC Batch Number: GC032196BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Surrogates	**Control Limits %**	**% Recovery**
Trifluorotoluene	70 130	102

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: MW-25	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C54-01	Reported: 03/27/96

QC Batch Number: GC032196BTEX21A
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	121

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: MW-26	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C54-02	Reported: 03/27/96

QC Batch Number: GC032196BTEX21A
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	119

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: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: E1-A	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/25/96
Attention: Kelly Brown	Lab Number: 9603C54-03	Reported: 03/27/96

QC Batch Number: GC032596BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**2700**
Benzene	**5.0**	**38**
Toluene	5.0	N.D.
Ethyl Benzene	**5.0**	**130**
Xylenes (Total)	**5.0**	**6.2**
Chromatogram Pattern:		**Gas**

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

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C54-04	Reported: 03/27/96

QC Batch Number: GC032196BTEX21A
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	116

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: TB-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9603C54-05

Sampled: 03/14/96
Received: 03/18/96

Analyzed: 03/21/96
Reported: 03/27/96

QC Batch Number: GC032196BTEX21A
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	115

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: TB-3	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-06	Reported: 03/27/96

QC Batch Number: GC032296BTEX20A
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	92

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: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: 590H	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-07	Reported: 03/27/96

QC Batch Number: GC032196BTEX21A
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	114

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: 633H
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9603C54-08

Sampled: 03/14/96
Received: 03/18/96

Analyzed: 03/22/96
Reported: 03/27/96

QC Batch Number: GC032296BTEX20A
Instrument ID: GCHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	480
Benzene	1.0	10
Toluene	1.0	11
Ethyl Benzene	1.0	1.8
Xylenes (Total)	1.0	140
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	84

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 642H	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C54-09	Reported: 03/27/96

QC Batch Number: GC032196BTEX20A
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	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: 03/13/96
2025 Gateway Place, Suite 440	Sample Descript: 17348VE	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-10	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
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	88

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	Client Proj. ID: 330-006.21/0608,San Lorenzo	Sampled: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 17197VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-11	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
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	85

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 17200VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-12	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**730**
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	**1.0**	**1.5**
Xylenes (Total)	**1.0**	**1.7**
Weathered Gas		**C9-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	82

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	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 17203VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/21/96
Attention: Kelly Brown	Lab Number: 9603C54-13	Reported: 03/27/96

QC Batch Number: GC032196BTEX20A
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

Claudia Hirotsu
Project Manager

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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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 17302VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-14	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
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	76

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: 03/15/96
2025 Gateway Place, Suite 440	Sample Descript: 17349VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-15	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**200**	**1700**
Benzene	2.0	N.D.
Toluene	2.0	N.D.
Ethyl Benzene	**2.0**	**2.5**
Xylenes (Total)	**2.0**	**13**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: 17372VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-16	Reported: 03/27/96

QC Batch Number: GC032196BTEX20A
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
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Pacific Environmental Group	Client Proj. ID: 330-006.2I/0608,San Lorenzo	Sampled: 03/14/96
2025 Gateway Place, Suite 440	Sample Descript: 17393VM	Received: 03/18/96
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/22/96
Attention: Kelly Brown	Lab Number: 9603C54-17	Reported: 03/27/96

QC Batch Number: GC032296BTEX21A
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	86

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 Project ID:	330-006.2I / 0608, San Lorenzo	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Kelly Brown	Work Order #:	9603C49 01, 03, 04, 06-18	Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032196BTEX22A	GC032196BTEX22A	GC032196BTEX22A	GC032196BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9603C1601	9603C1601	9603C1601	9603C1601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.8	8.9	9.0	27
MS % Recovery:	88	89	90	90
Dup. Result:	9.2	9.2	9.2	27
MSD % Recov.:	92	92	92	90
RPD:	4.4	3.3	2.2	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK031996	BLK031996	BLK031996	BLK031996
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.9	9.8	9.9	29
LCS % Recov.:	99	98	99	97

MS/MSD 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

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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 Lorenzo
Matrix: LIQUID
Work Order #: 9603C49 02, 05

Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032296BTEX07A	GC032296BTEX07A	GC032296BTEX07A	GC032296BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	M. Otte	M. Otte	M. Otte	M. Otte
MS/MSD #:	9603C4918	9603C4918	9603C4918	9603C4918
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.4	9.5	9.6	27
MS % Recovery:	94	95	96	90
Dup. Result:	9.2	9.3	9.4	28
MSD % Recov.:	92	93	94	93
RPD:	2.2	2.1	2.1	3.6
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK032296	BLK032296	BLK032296	BLK032296
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	7.9	8.0	7.9	23
LCS % Recov.:	79	80	79	77
MS/MSD 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

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 Lorenzo
Matrix: LIQUID
Work Order #: 9603C54 01, 02, 04, 05, 07

Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032196BTEX21A	GC032196BTEX21A	GC032196BTEX21A	GC032196BTEX21A
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 #:	960338303	960338303	960338303	960338303
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.0	7.3	21
MS % Recovery:	100	90	73	70
Dup. Result:	12	12	11	31
MSD % Recov.:	120	120	110	103
RPD:	18	29	40	38
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK032196	BLK032196	BLK032196	BLK032196
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	12	12	11	31
LCS % Recov.:	120	120	110	103
MS/MSD 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

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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
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San Jose, CA 95110
Attention: Kelly Brown

Client Project ID: 330-006.2I / 0608, San Lorenzo
Matrix: LIQUID
Work Order #: 9603C54 03

Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032596BTEX03A	GC032596BTEX03A	GC032596BTEX03A	GC032596BTEX03A
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 #:	960375403	960375403	960375403	960375403
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/25/96	3/25/96	3/25/96	3/25/96
Analyzed Date:	3/25/96	3/25/96	3/25/96	3/25/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	34
MS % Recovery:	110	110	110	113
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	0.0	0.0	0.0	6.1
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK032596	BLK032596	BLK032596	BLK032596
Prepared Date:	3/25/96	3/25/96	3/25/96	3/25/96
Analyzed Date:	3/25/96	3/25/96	3/25/96	3/25/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	11	11	33
LCS % Recov.:	110	110	110	110
MS/MSD 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

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 Lorenzo
Matrix: LIQUID
Work Order #: 9603C54 06, 08, 09

Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032296BTEX20A	GC032296BTEX20A	GC032296BTEX20A	GC032296BTEX20A
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 #:	960376601	960376601	960376601	960376601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	11	10	32
MS % Recovery:	100	110	100	107
Dup. Result:	10	10	9.9	30
MSD % Recov.:	100	100	99	100
RPD:	0.0	9.5	1.0	6.5
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK032296	BLK032296	BLK032296	BLK032296
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	11	10	10	31
LCS % Recov.:	110	100	100	103
MS/MSD 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:
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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 #:	9603054	10-12, 14, 15, 17	Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032296BTEX21A	GC032296BTEX21A	GC032296BTEX21A	GC032296BTEX21A
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 #:	960376601	960376601	960376601	960376601
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	12	12	11	34
MS % Recovery:	120	120	110	113
Dup. Result:	12	12	11	34
MSD % Recov.:	120	120	110	113
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK032296	BLK032296	BLK032296	BLK032296
Prepared Date:	3/22/96	3/22/96	3/22/96	3/22/96
Analyzed Date:	3/22/96	3/22/96	3/22/96	3/22/96
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	10	30
LCS % Recov.:	110	110	100	100
MS/MSD 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.

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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 #:	9603C54 13, 16	Reported: Mar 27, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC032196BTEX20A	GC032196BTEX20A	GC032196BTEX20A	GC032196BTEX20A
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 #:	960338303	960338303	960338303	960338303
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	30
MS % Recovery:	100	100	100	100
Dup. Result:	9.2	9.2	9.4	28
MSD % Recov.:	92	92	94	93
RPD:	8.3	8.3	6.2	6.9
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK032196	BLK032196	BLK032196	BLK032196
Prepared Date:	3/21/96	3/21/96	3/21/96	3/21/96
Analyzed Date:	3/21/96	3/21/96	3/21/96	3/21/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	30
LCS % Recov.:	100	100	100	100
MS/MSD LCS Control Limits	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.

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SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

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

WORKORDER: 9603C49 / 9603C5F
DATE OF LOG-IN: 3/20/96

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: 3-18-96
12. Temp. Rec. at Lab: 9°C
13. Time Rec. at Lab: 1101

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
3	A-C	E1-A	VOA (3)	WQ	3/14/96	
4	A-B	TB-1	VOA (2)		3/13/96	
5		TB-2			3/14/96	
6		TB-3			3/15/96	
7	A-C	590H	VOA (3)		3/14/96	Project
8		633H			3/14/96	Sheet
9		642H			3/15/96	
10		17348VE			3/12/96	
11		17197VM			3/15/96	
12		17200VM			3/15/96	
13		17203VM			3/15/96	
14		17302VM			3/15/96	
15		17349VM			3/15/96	
16		17372VM			3/14/96	
17		17393			3/14/96	

3/18/96

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 3300067F **Task Order No.** 1934800 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 1760 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

Method of shipment: 9603C49 & 9603C54

Special detection Limit/reporting

Special QA/QC: 11

Remarks: 1 of 3

Lab number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Water	Other	Preservation: Ice	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 Semi Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
SP-1		3	1 A-C	X		Y	X	3/14/96	12:45		X											
SP-2		1	2					3/14/96	14:20													
MW-5			3					3/14/96	10:05													
MW-7			4					3/15/96	8:20													
MW-8			5					3/14/96	10:55													
MW-9			6					3/15/96	9:00													
MW-10			7					3/14/96	13:50					↓								
MW-11			8					3/14/96	17:05													
MW-13			9					3/15/96	8:45													
MW-14			10					3/15/96	9:20													
MW-15			11					3/13/96	15:15													
MW-16			12					3/13/96	14:50													
MW-18			13					3/13/96	14:35													
MW 19			14					3/13/96	14:05													
MW 21			15					3/13/96	13:05													
MW 22		↓	16	↓		↓	↓	3/13/96	12:40		↓											

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler: Walter J Reed	3/15/96	14:00	Received by: Glenda DeGuzman
Relinquished by: Glenda DeGuzman	3/18/96	935	Received by: Jeff Knight
Relinquished by: Jeff Knight	3/18/96	1045	Received by laboratory: Tony McMahon — Date 3/18/96 — Time 1100

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

ARC-3292 (2-91)

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330 006 ZI — **Task Order No.** 1934800 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian bl/San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental Group Inc.	Address (Consultant) 2025 Gateway Place, Suite 440 San Jose CA 95110		Contract number

Method of shipment: 9603CF9 f 9603C5F

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Water	Other	Preservation: Ice	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 ☐		
MW23		3	17 A-C	X		X	X	3/13/96	13:35		X											
MW24		1	18					3/15/96	7:40													
MW25			1					3/14/96	9:10													
MW26			2					3/15/96	8:00													
EB-A			3					3/14/96	12:05													
TB-1		2	4 A-B					3/13/96	7:00													
TB-2			5					3/14/96														
TB-3			6					3/15/96														
590 H		3	7 A-C					3/14/96	17:20													
633 H			8					3/14/96	15:15													
642 H			9					3/15/96	9:45													
77348 VE			10					3/13/96	11:00													
77197 Vm			11					3/15/96	10:50													
77200 Vm			12					3/15/96	11:40													
77203 Vm			13					3/15/96	10:45													
77302 Vm			14					3/15/96	11:45													

Special detection Limit/reporting: 10

Special QA/QC

Remarks: 2 of 3

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	3/15/96	14:00	Received by		
Relinquished by	3/18/96	9??	Received by		
Relinquished by	3/18/96	1045	Received by laboratory	3/18/96	11 07

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

ARCO Products Company

Division of AtlanticRichfieldCompany

330 006 II

Task Order No. 1934800

Chain of Custody

ARCO Facility no. 0608	City (Facility) 1760 / Hesperian Bl, San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 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 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 ☐		
X 17349YM		3	15	X		X	X	3/15/96	10:05		X											
X 17372YM		↓	16	↓		↓	↓	3/14/96	15:40		↓											
X 17393YM		↓	17	↓		↓	↓	3/14/96	16:30		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

3 of 3

Lab number

Turnaround time

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

Method of shipment

9603C49
+9603C54

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler: Walter Kerk	3/15/96	14:00	Received by: Glenda DeGuzman		
Relinquished by: DeGuzman	3/18/96	935	Received by: Stu Knight		
Relinquished by: Stu Knight	3/18/96	1045	Received by laboratory: Tony McMahon	3/15/96	11 00

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

8649600 50

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-006.2I

☐ 1st time visit

Station #:0608

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

Site Address:17601 Hesperian Bl
San Lorenzo, California

☐ Monthly **Ideal Field Date:**

☐ Semi-Monthly **Purge water** 325

County: Alameda ☐ Weekly **Budget Hrs.** 32hrs + 4 for DO readings

Project Manager: Kelly Brown ☐ One time Event **Actual Hrs.** 28.5 hrs

Requestor: Chuck Graves ☐ Other:_____ **Mob de Mob** 6 hrs

Client: Arco **Client P.O.C.:**Mike Whelan **Total Wells** 32

Total Hrs = 32.5

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

purge water
446.5

Field Tasks: For General Description

First 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 Rich Date: 3/13 - 3/15

Checked by:_____

1 of 2

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-006.2I	608	17601 Hesperian San Lorenzo	1Q96	Kelly Brown	5/3/96		Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goe Dry?	Comments
SP-1			QLY	GAS/BTEX	TOB/TOC				
SP-2			QLY	GAS/BTEX	TOB/TOC				
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	

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	**Station #**	**Project Name**	**SEQUENCE**	**Project Manager**	**Approval**	**Date/s**	**Laboratory:**	**Client Engineer:**
330-006.2G	608	17601 Hesperian San Lorenzo		Kelly Brown	3/5/96		Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goe Dry?	Comments
Mr/Mrs Silva		590 Hacienda	QLY	GAS/BTEX	TOB/TOC				
Mr. Dahmann		633 Hacienda	QLY	GAS/BTEX	TOB/TOC				
Mrs Albright	1	634 Hacienda	QLY	GAS/BTEX	TOB/TOC				Not authorized to enter backyard
Ms. Corregedor	Pump don't work	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				

ARCO Products Company Division of AtlanticRichfieldCompany — 330 066 21 — **Task Order No.** 1934800 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian Bl, San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 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 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 ☐		
17348 VM		3		X		X	X	3/15/96	10:05													
17372 VM		↓		↓		↓	↓	3/14/96	15:40													
17393 VM		↓		↓		↓	↓	3/14/96	16:30													

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler: Walter J. Peck	3/15/96	14:00	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory

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

APC-3292 (2-91)

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330006U **Task Order No.** 1934800

Chain of Custody

ARCO Facility no. 0608	City (Facility) 1760 Hesperian Bl San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441 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 ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
SP-1		3		X		Y	X	3/14/96	12:45		X											
SP-2		1						3/14/96	14:20													
MW-5								3/14/96	10:05													
MW-7								3/15/96	8:20													
MW-8								3/14/96	10:55													
MW-9								3/15/96	9:00													
MW-10								3/14/96	13:50													
MW-11								3/14/96	17:05													
MW-13								3/15/96	8:45													
MW-14								3/15/96	9:20													
MW-15								3/13/96	15:15													
MW-16								3/13/96	14:50													
MW-18								3/13/96	14:35													
MW 19								3/13/96	14:05													
MW 21								3/13/96	13:05													
MW 22		↓		↓		↓	↓	3/13/96	12:40		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Walter J. Reed	Date 3/15/96 Time 14:00	Received by
Relinquished by	Date Time	Received by
Relinquished by	Date Time	Received by laboratory / Date / Time

Distribution: White

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330006 21 — **Task Order No.** 1934800 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 Hesperian bl San Lorenzo	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental Group Inc	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 ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW23		3		X		X	X	3/13/96	13:35		X											
MW24		↑		↑		↑	↑	3/15/96	7:40		↑											
MW25								3/14/96	9:10													
MW26								3/15/96	8:00													
E.A		↓						3/14/96	12:05													
TB 1		2						3/13/96	N/A													
TB 2		↑						3/14/96														
TB 3		↓		↓		↓	↓	3/15/96	↓													
590 H		3						3/14/96	17:20													
633 H		↑						3/14/96	15:15													
642 H								3/15/96	9:45													
17348 VE								3/13/96	11:00													
17197 Vm								3/15/96	10:50													
17200 Vm								3/15/96	11:40													
17203 Vm								3/15/96	10:45													
17302 Vm		↓		↓		↓	↓	3/15/96	11:45		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Condition of sample:

Temperature received:

Relinquished by sampler: Walter Kerl	Date 3/15/96 Time 14:00	Received by
Relinquished by	Date Time	Received by
Relinquished by	Date Time	Received by laboratory — Date — Time

Turnaround time

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

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

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo DATE: 3/13/96

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

PROBE TYPE/ID No.
- ☐ 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	SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	SERARATE-PHASE HYDROCARBONS (SPH) COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
2"	20	SP-1	9:50	Y	Y	Y	Y	Y	20.27	8.63 / 8.63	9.30 / 9.30										/
2"	21	SP-2	10:50	Y	Y	Y	Y	Y	18.82	7.58 / 7.58	7.78 / 7.78										/
4"	2	MW-5	8:45	Y	Y		Y	Y	13.53	9.35 / 9.35	9.75 / 9.75										/
3"	1	MW-7	8:40	Y	Y		Y	Y	18.25	9.21 / 9.21	9.73 / 9.73										/
3"	8	MW-8	9:15	Y	Y		Y	Y	20.85	7.78 / 7.78	8.90 / 8.90										/
3"	5	MW-9	9:00	Y	Y		Y	Y	18.15	7.10 / 7.10	7.65 / 7.65										/
3"	17	MW 10	10:25	Y	Y		Y	Y	22.32	7.10 / 7.10	7.78 / 7.78										/
3"	16	MW11	10:20	Y	Y		Y	Y	18.80	8.20 / 8.20	8.60 / 8.60										/
3"	3	MW-13	8:50	Y	Y		Y	Y	23.15	10.58 / 10.58	10.90 / 10.90										/

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 1760 Hesperian Blvd San Lorenzo DATE: 3/13/96

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

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

Casing Size	Drw 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
3"	18	MW-14	10:30	Y	Y		Y	X	23.0	6.38 / 6.58	6.63 / 6.63										
3"	15	MW-15	10:00	X	Y		Y	X	23.15	7.67 / 7.67	8.13 / 8.13										
3"	4	MW-16	9:55	Y	X		Y	Y	23.0	8.22 / 8.22	8.62 / 8.62										
		~~MW-17~~							Destroyed												
3"	3	MW-18	9:50	Y	Y		Y	Y	21.40	7.18 / 7.18	7.53 / 7.53										
3"	12	MW-19	9:45	X	Y	X	X	Y	21.45	6.90 / 6.90	7.06 / 7.06										
		~~MW-20~~							Destroyed												
3"	10	MW-21	9:35	Y	Y		Y	Y	21.40	7.03 / 7.03	7.58 / 7.58										
3"	9	MW-22	9:30	X	Y		Y	Y	21.44	7.55 / 7.55	7.83 / 7.83										

Comments: _____

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo DATE: 3/13/96

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

PROBE TYPE/ID No.
- ☐ 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	SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	SERARATE-PHASE HYDROCARBONS (SPH) COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
3"	11	MW-23	9:40	X	X		X	X	21.65	8.82 / 8.82	9.13 / 9.13										
2"	7	MW-24	9:10	X	X		X	X	20.60	9.80 / 9.80	10.10 / 10.10										
2"	4	MW-25	8:55	X	X		X	X	20.85	9.05 / 9.05	9.61 / 9.61										
2"	6	MW-26	9:05	X	X		X	X	19.45	8.90 / 8.90	9.38 / 9.38										
6"	19	EIA	10:40	X	X		X	X	24.30	8.69 / 8.69	10.35 / 10.35										
		MW-																			
		MW-																			
		MW-																			
		MW-																			

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: SP 1

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.30 TOB 8.63 TOC
Total depth: — TOB 20.21 TOC
Date: 3/13/96 Time (2400): 9.15

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 20.21 - DTW 8.63 = 11.58 x Gal/Linear Foot .17 = 1.96 x Number of Casings 3 = Calculated Purge 5.90

DATE PURGED: 3/14/96 START: 12:25 END (2400 hr): 12:40 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 12:40 END (2400 hr): 12:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE °F / °C	ORP COLOR	TURBIDITY	ODOR
12:35	2.0	6.98	880	75.4 / 21.8	-163 / Brown	Mod	None
12:38	4.0	6.98	850	75.4 / 21.0	174 / Brown	Mod	None
12:40	6.0	6.99	840	73.7 / 21.0	198 / Cloudy	Hi/Lt	None

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP-1	3/14/96	12:45	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Conductivity & °F temp taken from field instrument

SIGNATURE: W Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: SP 2

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

WELL INFORMATION

Depth to Liquid:	—	TOB —	TOC
Depth to water:	7.58	TOB 7.58	TOC
Total depth:	—	TOB 18.82	TOC
Date:	3/13/96	Time (2400):	9:15

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

CASING DIAMETER / GAL/LINEAR FT.

☒	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

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

TD 18.82 - DTW 7.58 = 11.24 x Gal/Linear Foot .17 = 1.91 x Number of Casings 3 = Calculated Purge 5.73

DATE PURGED: 3/14/96 START: 14:00 END (2400 hr): 14:15 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 14:17 END (2400 hr): 14:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE °F	TEMPERATURE °C	ORP COLOR	TURBIDITY	ODOR
14:10	2	6.81	840	82.2	19.9	151/Brown	Heavy	None
14:12	4	6.83	840	75.3	19.8	209/Brown	Heavy	None
14:15	6	6.84	810	72.0	19.8	231/Brown	Heavy	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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
SP 2	3/14/96	14:20	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: MW-5

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.75 TOB 9.35 TOC
Total depth: — TOB 13.53 TOC
Date: 3/13/96 Time (2400): 0945

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 13.53 - DTW 9.35 = 4.18 x Gal/Linear Foot .66 = 2.75 x Number of Casings 3 = Calculated Purge 8.27

DATE PURGED: 3/14/96 START: 9:35 END (2400 hr): 9:50 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 9:50 END (2400 hr): 10:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	ORP COLOR	TURBIDITY	ODOR
9:45	2.75	6.96	970	75.2 / 20.8	-23 / Brown	Mod	None
9:50	5.50	6.88	900	73.5 / 18.7	-14.3 / Brown	Mod	None
		DRY AT 5:50					

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

Pumped dry (Yes) / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.38 TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	3/14/96	10:05	3	40ml	VOA	HCL	Gas/BTEX

REMARKS: Field unit used to take temp. (F°) Conductivity
DRY AT 5:50
After well went dry Field unit used for all measurements

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: MW-7

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

WELL INFORMATION

Depth to Liquid:	— TOB —	TOC
Depth to water:	9.73 TOB 9.21	TOC
Total depth:	— TOB 18.25	TOC
Date:	3/13/96 Time (2400):	8:40

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

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

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

TD 18.25 - DTW 9.21 = 9.04 x Gal/Linear Foot .38 = 3.43 x Number of Casings 3 = Calculated Purge 10:30

DATE PURGED: 3/15/96 START: 8:10 END (2400 hr): 8:17 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 8:17 END (2400 hr): 8:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:10	3.50	7.93	780	61.3	Brown	Mod	None
8:15	7.0	7.76	790	62.6	Brown	Mod	None
8:17	10.50	7.69	800	63.5	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: #15
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-7	3/13/96	8:20	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: MW 8

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.90 TOB 7.78 TOC
Total depth: — TOB 20.85 TOC
Date: 3/13/96 Time (2400): 9:15

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 7.78 = 13.07 x Gal/Linear Foot .38 = 4.96 x Number of Casings 3 = Calculated Purge 14.88

DATE PURGED: 3/14/96 START: 10:30 END (2400 hr): 10:50 PURGED BY: W Peck
DATE SAMPLED: 3/14/96 START: 10:50 END (2400 hr): 16:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F) °C	ORP COLOR	TURBIDITY	ODOR
10:40	5.2	6.90	880	F69°/19.5	218/Cloudy	Light	None
10:45	10.0	6.88	803	68.3/19.5	241/Cloudy	Light	None
10:50	15.0	6.87	793	68.3/19.06	266/Cloudy	Light	None

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 234
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	3/14/96	10:55	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Conclu °F temp Field instrument

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd SunLorenzo WELL ID #: MW-9

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.65 TOB 7.10 TOC
Total depth: — TOB 18.15 TOC
Date: 3/13/96 Time (2400): 9600

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

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

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

TD 18.15 - DTW 7.10 = 11.05 x Gal/Linear Foot .38 = 4.19 x Number of Casings 3 = Calculated Purge 12.59

DATE PURGED: 3/15/96 START: 8:50 END (2400 hr): 8:57 PURGED BY: W Peck
DATE SAMPLED: 3/15/96 START: 8 57 END (2400 hr): 9:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:52	4.25	7.93	770	62.1	Brown	Mod	None
8:55	8.50	7.79	780	63.0	Brown	Mod	None
9:57	12.75	7.71	800	63.8	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: # 15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 29.1
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	3/15/96	9:00	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.78 TOB 7.10 TOC
Total depth: — TOB ~~22.32~~ 22.32 TOC
Date: 3/13/96 Time (2400): 1025

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

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

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

TD 22.32 - DTW 7.10 = 15.22 x Gal/Linear Foot .38 = 5.78 x Number of Casings 3 = Calculated Purge 17.33

DATE PURGED: 3/14/96 START: 1325 END (2400 hr): 1345 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 1348 END (2400 hr): 1350 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE °F (°F) °C	ORP COLOR	TURBIDITY	ODOR
1340	6.0	6.96	880	713 / 19.1	173 / Cloudy	Light	Mod
1342	12.0	6.90	840	698 / 19.1	209 / Cloudy	Light	None
1345	18	6.87	830	70.6 / 19.1	244 / Clear	Trace	Mod

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ~ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: # 15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 10	3/14/96	1350	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: MW-11

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.60 TOB 8.20 TOC
Total depth: — TOB 18.80 TOC
Date: 3/13/96 Time (2400): 10:20

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

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

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

TD 18.80 - DTW 8.20 = 10.6 x Gal/Linear Foot .38 = 4.02 x Number of Casings 3 = Calculated Purge 12.06

DATE PURGED: 3/14/96 START: 16:55 END (2400 hr): 17:03 PURGED BY: W Peck
DATE SAMPLED: 3/14/96 START: 17:03 END (2400 hr): 17:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
16:57	4.0	7.83	810	65.7	Brown	Mod	None
17:00	8.0	7.66	820	65.3	Brown	Mod	None
17:03	12.0	7.59	820	65.1	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:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	3/14/96	17:05	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd SunLorenzo WELL ID #: MW-13

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.90 TOB 10.58 TOC
Total depth: — TOB 23.15 TOC
Date: 3/13/96 Time (2400): 8:50

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

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

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

TD 23.15 - DTW 10.58 = 12.57 x Gal/Linear Foot .38 = 4.77 x Number of Casings 3 = Calculated Purge 14.32

DATE PURGED: 3/15/96 START: 8:30 END (2400 hr): 8:40 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 8:40 END (2400 hr): 8:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
8:35	5.0	7.82	790	62.6	Brown	Mod	None
8:38	10.0	7.69	790	63.5	Cloudy	Light	None
8:40	15.1	7.58	780	64.5	Cloudy	Light	None
~~8:45~~							

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: #15
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-13	3/15/96	8:45	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd SunLorenzo WELL ID #: MW-14

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 6.63 TOB 6.38 TOC
Total depth: — TOB 23 TOC
Date: 3/13/96 Time (2400): 1030

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

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

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

TD 23.0 - DTW 6.38 = 16.62 x Gal/Linear Foot .38 = 6.31 x Number of Casings 3 = Calculated Purge 18.94

DATE PURGED: 3/15/96 START: 9:10 END (2400 hr): 9:17 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 9:17 END (2400 hr): 9:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:13	6.50	8.0	740	61.5	Brown	Mod	None
9:15	13.0	7.76	770	62.4	Cloudy	Mod	None
9:17	19.50	7.61	790	62.7	Cloudy	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-14	3/15/96	9:20	3	40ml	VOA	HCl	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Suntorero WELL ID #: MW 15

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.13 TOB 7.67 TOC
Total depth: — TOB 23.15 TOC
Date: 3/13/96 Time (2400): 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 23.15 - DTW 7.67 = 15.48 x Gal/Linear Foot .38 = 5.88 x Number of Casings 3 = Calculated Purge 17.64

DATE PURGED: 3/13/96 START: 15:00 END (2400 hr): 15:10 PURGED BY: W Peck

DATE SAMPLED: 3/13/96 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
15:03	6.0	8.32	780	69.6	Brown	Mod	None
15:07	12.0	7.94	770	67.7	Brown	Mod	None
15:10	18.0	7.92	750	67.4	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: 15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 15	3/13/96	15:15	3	40ml	VOA	HCl	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorero WELL ID #: MW 16

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.22 TOB 8.22 TOC
Total depth: — TOB 23.0 TOC
Date: 3/13/96 Time (2400): 9:55

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

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

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

TD 23.0 - DTW 8.22 = 14.78 x Gal/Linear Foot .38 = 5.61 x Number of Casings 3 = Calculated Purge 16.84

DATE PURGED: 3/13/96 START: 14:40 END (2400 hr): 14:48 PURGED BY: W Peck
DATE SAMPLED: 3/13/96 START: 14:48 END (2400 hr): 14:50 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:43	5.75	8.81	750	69.0	Brown	Heavy	None
14:46	11.50	8.72	720	68.8	Brown	Mod	None
14:48	17.25	8.22	710	69.5	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	3/13/96	14:50	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Suntonero WELL ID #: MW17

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

WELL INFORMATION

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

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

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

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

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

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

DATE SAMPLED: ____ START: ____ END (2400 hr): ____ 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				

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: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW17	3/13/96	N/A	3	40ml	VOA	HCL	Gas/BTEX

REMARKS: School built structure over it.

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Suntonero WELL ID #: MW-18

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

WELL INFORMATION

Depth to Liquid:	— TOB —	TOC
Depth to water:	7.53 TOB 7.18	TOC
Total depth:	— TOB 21.40	TOC
Date:	3/13/96 Time (2400): 9:50	

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 21.40 - DTW 7.18 = 14.22 x Gal/Linear Foot .38 = 5.40 x Number of Casings 3 = Calculated Purge 16.21

DATE PURGED: 3/13/96 START: 1420 END (2400 hr): 14:30 PURGED BY: W Peck

DATE SAMPLED: 3/13/96 START: 14:30 END (2400 hr): 14:35 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:25	5.50	8.35	880	71.7	Brown	Mod	None
14:28	11.0	8.13	870	70.5	Cloudy	Light	None
14:30	16.50	8.38	860	78.1	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-18	3/13/96	14:35	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Suntorero WELL ID #: MW 19

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

WELL INFORMATION

Depth to Liquid:	— TOB —	TOC
Depth to water:	7.06 TOB 6.90	TOC
Total depth:	— TOB 21.45	TOC
Date:	3/13/96 Time (2400): 9:45	

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

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

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

TD 21.45 - DTW 6.90 = 14.55 x Gal/Linear Foot .38 = 5.52 x Number of Casings 3 = Calculated Purge 16.58

DATE PURGED: 3/13/96 START: 13:45 END (2400 hr): 14:00 PURGED BY: W Peck

DATE SAMPLED: 3/13/96 START: 14:00 END (2400 hr): 14:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:50	5.50	8.59	880	74.9	Brown	Mod	None
13:55	11.0	8.52	880	73.7	Brown	Mod	None
14:00	16.50	8.27	870	75.6	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 19	3/13/96	14:05	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: MW-20

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

WELL INFORMATION

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

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

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

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

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

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

DATE SAMPLED: ____ START: ____ END (2400 hr): ____ 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					

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-20	3/13/96	N/A	3	40ml	VOA	HCL	Gas/Btex

REMARKS: DESTROYED

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sanlorenzo WELL ID #: MW 2 MW 2

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

WELL INFORMATION

Depth to Liquid:	— TOB	— TOC
Depth to water:	7.58 TOB	7.03 TOC
Total depth:	— TOB	21.40 TOC
Date: 3/13/96	Time (2400):	9:35

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 21.40 - DTW 7.03 = 14.37 x Gal/Linear Foot .38 = 5.46 x Number of Casings 3 = Calculated Purge 16.38

DATE PURGED: 3/13/96 START: 12 45 END (2400 hr): 13:00 PURGED BY: W Peck

DATE SAMPLED: 3/13/96 START: 13:00 END (2400 hr): 13:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:50	5.50	8.74	840	67.5	Brown	Mod	None
12:55	11.0	8.33	840	69.3	Brown	Mod	None
1300	16.50	8.23	800	70.4	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 —

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: #15
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 2	3/13/96	13:05	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: MW-22

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.83 TOB 7.55 TOC
Total depth: — TOB 21.44 TOC
Date: 3/13/96 Time (2400): 9:30

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 7.55 = 13.89 x Gal/Linear Foot .38 = 5.27 x Number of Casings 3 = Calculated Purge 15.83

DATE PURGED: 3/13/96 START: 12:25 END (2400 hr): 12:35 PURGED BY: W Peck
DATE SAMPLED: 3/13/96 START: 12:35 END (2400 hr): 12:40 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:28	5.50	8.32	890	71.3	Brown	Mod	None
12:32	11.0	8.23	830	70.1	Brown	Mod	None
13:35	16.50	8.24	810	68.7	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: #15
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 22	3/13/96	12:40	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: MW 23

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.13 TOB 8.82 TOC
Total depth: — TOB 21.65 TOC
Date: 3/13/96 Time (2400): 9:40

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 21.65 - DTW 8.82 = 12.83 x Gal/Linear Foot .38 = 4.87 x Number of Casings 3 = Calculated Purge 14.62

DATE PURGED: 3/13/96 START: 13:15 END (2400 hr): 13:30 PURGED BY: W Peck

DATE SAMPLED: 3/13/96 START: 13:30 END (2400 hr): 13:35 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:20	5.0	8.54	890	72.2	Brown	Mod	None
13:25	10.0	8.63	890	70.4	Brown	Mod.	None
13:30	15	8.54	880	70.6	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-23	3/13/96	13:35	3	40ml	VOA	HCl	Gas/Btex

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: MW-24

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.10 TOB 9.80 TOC
Total depth: — TOB 20.60 TOC
Date: 3/13/96 Time (2400): 9:10

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 20.60 - DTW 9.80 = 10.8 x Gal/Linear Foot .17 = 1.83 x Number of Casings 3 = Calculated Purge 5.50

DATE PURGED: 3/15/96 START: 7:30 END (2400 hr): 7:37 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 7:37 END (2400 hr): 7:40 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
7:34	2.0	7.16	940	65.0	Brown	Mod	None
7:37	4.0	7.20	890	64.4	Brown	Mod	None
7:37	6.0	7.54	970	64.0	Brown	Mod	None

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC —

PURGING EQUIPMENT/I.D. #
- ☒ Bailer: 28-9
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 28-9
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW 24	3/15/96	7:40	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: MW-25

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.61 TOB 9.05 TOC
Total depth: — TOB 20.85 TOC
Date: 3/12/96 Time (2400): 8155

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 9.05 = 11.8 x Gal/Linear Foot .17 = 2.0 x Number of Casings 3 = Calculated Purge 6.0

DATE PURGED: 3/14/96 START: 8.45 END (2400 hr): 9:05 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 9:05 END (2400 hr): 9:10 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	ORP COLOR	TURBIDITY	ODOR
8:55	2.0	7.19	~~900~~ 900	72.7	37 / Brown	Mod	None
9:00	4.0	7.20	870	~~71.4~~	21 / Brown	Mod	None
9:05	6.0	7.22	880	70.0 / 23.1	21 / 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:
- ☐ Airlift Pump:
- ☒ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	3/14/96	9:10	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: MW 26

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.38 TOB 8.90 TOC
Total depth: — TOB 19.45 TOC
Date: 3/13/96 Time (2400): 9:05

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

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

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

TD 19.45 - DTW 8.90 = 10.55 x Gal/Linear Foot .17 = 1.79 x Number of Casings 3 = Calculated Purge 5.38

DATE PURGED: 3/15/96 START: 7:45 END (2400 hr): 7:55 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 7:55 END (2400 hr): 8:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
7:48	2.0	7.48	790	62.2	Brown	Mod	None
7:51	4.0	7.74	770	62.3	Brown	Mod	None
7:55	6.0	7.63	760	62.2	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: G. P.
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-26	3/15/96	8:00	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

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WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorero WELL ID #: E1-A

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

WELL INFORMATION

Depth to Liquid:	—	TOB —	TOC
Depth to water:	10.35	TOB 8.69	TOC
Total depth:	—	TOB 24.30	TOC
Date:	3/14/96	Time (2400):	10:40

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

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

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

TD 24.30 - DTW 8.69 = 15.61 x Gal/Linear Foot 1.5 = 23.41 x Number of Casings 3 = Calculated Purge 70.24

DATE PURGED: 3/14/96 START: 11:25 END (2400 hr): 1200 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 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 / °C	ORP COLOR	TURBIDITY	ODOR
11:40	23.50	7.33	740	67.6 / 20.3	253 Brown	Mod	None
11:50	47.0	7.20	750	68.0 / 20.5	274 Cloudy	light	None
12:00	70.5	7.16	800	67.9 / 20.7	318 Brown	M.d	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:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
E1 A	3/14/96	12:05	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Conductivity & Temp (°F) Taken from field instrument

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

Sonny, Put w/ Field DATA. Chuck.

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	lm 3/6 OK'd 3/7	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	3/6 3/7 3/8	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	OK'd 3/6	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	lm 3/7 ok	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	lm 3/6 ok	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	OK'd 3/6	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	OK'd 3/6	non-operational	Grab sample from well inside shed in church yard no answer for 1995 letter
17203 Via Magdalena	Mrs. Toles (510)276-6797	3/6 OK'd 3/7	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	OK'd 3/6	operational	Sample from hose bib on lower right of front porch ok to sample; will use well water this year ⇒ !!! why sample.
17349 Via Magdalena	Mr. Kast (510)278-1263	OK'd 3/6, 3/7, 3/8	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	OK'd 3/6	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	OK'd 3/6	non-operational	Pump disassembed. Try to bail sample from well in back yard ok to sample; won't use well water this year

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd Sunlorenzo WELL ID #: 590 H

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

WELL INFORMATION

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

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

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

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

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

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

DATE SAMPLED: 3/14/96 START: 17:10 END (2400 hr): 17:20 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
17:20	N/A	8.13	700	62.4	Cloudy	light	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: ____
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☒ Other: Used Spike of existing pump

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☐ Dedicated: ____
- ☑ Other: Filled VOAs w/ Spike

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
590 H	3/14/96	17:20	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd Sunlorero WELL ID #: 633 H

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

WELL INFORMATION

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

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

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

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

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

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

DATE SAMPLED: 3 14 96 START: 14:55 END (2400 hr): 15:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	ORP	COLOR	TURBIDITY	ODOR
1500	n/a	2.16	760	63.6°F / 18.5°C	207	Brown	Mod	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: ____
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☒ Other: Existing Pump

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☐ Dedicated: ____
- ☒ Other: Filled VOAs from spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
633-H	3/14/96	15:15	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Grab Sample Conductivity (°F) temp taken from field equip.

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorero WELL ID #: 634 H

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

WELL INFORMATION

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

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

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

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

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

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

DATE SAMPLED: ____ START: ____ END (2400 hr): ____ 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				

Pumped dry Yes / No

Cobalt 0-100 Clear Cloudy Yellow Brown

NTU 0-200 Heavy Moderate Light Trace

Strong Moderate Faint None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
634 H	3/13/96	NA	3	40ml	VOA	HCl	Gas/Btex

REMARKS: Well hard piped, pump didn't work

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd SunLorenzo WELL ID #: 642 H

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: — START: — END (2400 hr): — PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 9140 END (2400 hr): 9145 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9145	0	8.45	510	64.0	Clear	Trace	None
			Grab Sample				

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC —

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

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Dedicated:
- ☒ Other: Filled VOAs from Spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
642H	3/15/96	9145	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Grab Sample. To sample you need to prime pump with city H2O let presure build so pump can draw H2O

SIGNATURE: Walter S Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No. : 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 675 H

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: ______ START: ______ END (2400 hr): ______ PURGED BY: W Peck

DATE SAMPLED: ______ START: ______ END (2400 hr): ______ SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC ______

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
675H	3/13/96		3	40ml	VOA	HCL	Gas/Btex

REMARKS: — Pump didn't work unable to get into well

SIGNATURE: [signature]

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: 17348 VE

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 11.45 TOB 10.45 TOC
Total depth: — TOB 10.73 TOC
Date: 3/13/96 Time (2400): 10:55

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 Foot = x Casings = Purge

DATE PURGED: START: END (2400 hr): PURGED BY: W Peck

DATE SAMPLED: 3/13/96 START: 10:55 END (2400 hr): 11:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:55	6	6.97	530	62.2	Brown	Mod	Non

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: No Purge, Grab Sample

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17348 VE	3/13/96	11:00	3	40ml	VOA	HCl	Gas/Btex

REMARKS: Grab sample

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd San Lorenzo WELL ID #: 17197 VM

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: 3/15/96 START: — END (2400 hr): — PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 10:45 END (2400 hr): 10:50 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
10:50	0	7.90	780	65.8	Clear	Trace	None
			Grab Sample				

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ____
- ☐ Airlift Pump: ____
- ☐ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☒ Other: Purged by letting spigot run

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17197 VM	3/15/96	10:50	3	40ml	VOA	HCl	Gas/BTEX

REMARKS: Grab Sample

SIGNATURE: Walter J. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17200 VM

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: N/A TOB 9.55 TOC
Total depth: — TOB 26.20 TOC
Date: 3/15/96 Time (2400): 11:10

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 26.20 - DTW 9.55 = 16.65 x Gal/Linear Foot 1.5 = 24.97 x Number of Casings 3 = Calculated Purge 74.92

DATE PURGED: 3/15/96 START: 11:15 END (2400 hr): 11:35 PURGED BY: W Peck
DATE SAMPLED: 3/15/96 START: 11:35 END (2400 hr): 11:40 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:22	25.0	7.94	930	79.0	Brown	Mod	Non
11:28	50.0	7.47	780	79.9	Brown	Mod	Non
11:35	75.0	7.05	890	77.3	Brown	Mod	Non

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

Pumped dry Yes (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ~~~~ TOB/TOC

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: ±15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G15
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17200 VM	3/15/96	11:40	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Pump frozen up, purged w/ jacuzzi pump

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunlorenzo WELL ID #: 17203 VM

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.48 TOB 10.48 TOC
Total depth: — TOB 23.20 TOC
Date: 3/15/96 Time (2400): 10:30

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

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

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

TD 23.25 - DTW 10.48 = 12.77 x Gal/Linear Foot .66 = 8.42 x Number of Casings 3 = Calculated Purge 25.28

DATE PURGED: 3/15/96 START: 10:25 END (2400 hr): 10:40 PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 10:40 END (2400 hr): 10:45 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:30	8.50	8.20	790	66.8	Brown	Mod	None
10:35	17.0	7.74	750	65.2	Brown	Mod	None
10:40	25.50	7.48	780	64.3	Brown	Mod	Mine

Pumped dry Yes (No)

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17203 VM	3/15/96	10:45	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Existing Pump Frozen used Soccorri Pump.
Watch Out for Fleas!!!
PPE Flea Collar

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd Sunlorenzo WELL ID #: 17302 MW

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: — START: — END (2400 hr): — PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 11:40 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
11:45	0	9.75	250	70.1	Clear	None	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: Jet Spitfire pump

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Dedicated:
- ☒ Other: Filled VOA from Spitfire

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17302 MW	3/15/96	11:45	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: Walter J Pe

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17349 VM

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: ______ START: ______ END (2400 hr): ______ PURGED BY: W Peck

DATE SAMPLED: 3/15/96 START: 10:00 END (2400 hr): 10:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:05	0	7.85	720	61.7	Clear	Trace	None
		Grab Sample					
					Cobalt 0-100 Clear Cloudy Yellow Brown	NTU 0-200 Heavy Moderate Light Trace	Strong Moderate Faint None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: ______
- ☐ Dedicated: ______
- ☒ Other: Filled VOAs from Spigot

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17349VM	3/15/96	10:05	3	40ml	VOA	HCL	Gas/Btex

REMARKS: Grab Sample let run 5 min took sample

SIGNATURE: Walter J Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 7601 Hesperian Blvd Sunolorero WELL ID #: 17372 VM

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

WELL INFORMATION

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

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

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

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

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

DATE PURGED: — START: — END (2400 hr): — PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 15:35 END (2400 hr): 15:40 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
15:40	0	7.48	880	66.7	Brown	Mod	Yes
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: Spiket

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Dedicated:
- ☐ Other: VOA's Filled w/ spiket

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17372 VM	3/14/96	15:40	3	40ml	VOA	HCL	Gas/Btex

REMARKS:

SIGNATURE: Walter S Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 17601 Hesperian Blvd San Lorenzo WELL ID #: 17393 VM

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

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: — TOB 10.80 TOC
Total depth: — TOB — TOC
Date: 3/14/96 Time (2400): —

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

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

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

TD 24.53 - DTW 10.80 = 10.73 x Gal/Linear Foot .66 = 7.08 x Number of Casings 3 = Calculated Purge 21.24

DATE PURGED: — START: 1620 END (2400 hr): 1628 PURGED BY: W Peck

DATE SAMPLED: 3/14/96 START: 1628 END (2400 hr): 1630 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1623	7.0	7.93	820	66.8	Brown	Heavy	None
1625	14.0	7.50	800	66.4	Brown	Mod	None
1628	21.0	7.60	800	65.7	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: #15
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17393 VM	3/14/96	1630	3	40ml	VOA	HCL	Gas/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 000 21 LOCATION: 17601 Hesperian Blvd, Lathrop, CA WELL ID #: TB-3

CLIENT/STATION No.: 608 FIELD TECHNICIAN: W Peit

WELL INFORMATION

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

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

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

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

TD _____ - DTW _____ = _____ x Gal/Linear Foot _____ = _____ x Number of Casings _____ = 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
			TRIP Blank				

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-2	3/15/96	1146	2	40ml	VOA	HCL	Gas/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 370 006 21 LOCATION: 1760 Hesperian Blvd San Lorenzo WELL ID #: TB-2

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

WELL INFORMATION

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

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

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

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

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-2	3/14/95	n/a	2	40ml	VOA	HCL	Gas BTEX

REMARKS: _____

SIGNATURE: Walter Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 006 21 LOCATION: 1760 Hesperian Blvd San Lorenzo WELL ID #: TB-1

CLIENT/STATION No.: ~~0505~~ 608 FIELD TECHNICIAN: W Peck

WELL INFORMATION

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

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

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

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

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	3/13/96	NA	2	40ml	VOA	HCL	Gas/BTEX

REMARKS: _____

SIGNATURE: Walter 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, 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 an oxygen releasing compound (ORC) 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 ORCs 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. 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.

First Quarter 1996 GWE System Data

The GWE system remained inoperative during the first quarter of 1996, while PACIFIC performed evaluation of methods to expand and enhance the OEPSP.

First Quarter 1996 Bioremediation Results

DO and ORP data collected from ORC-containing Wells E1-A and MW-10 during the first quarter 1996 were lower compared to the fourth quarter 1995 data due to depletion of the ORCs in those wells. Increased TPPH-g and benzene concentrations in Wells E1-A and MW-10, compared to fourth quarter 1995 results, may either be associated with the seasonal rise in the groundwater table or depleted ORCs. The DO concentration in bioparameter Monitoring Well MW-8 increased and the benzene concentration decreased, indicating that natural attenuation, which may include enhanced bioremediation resulting from installation of ORCs in Well E1-A, was occurring. Other bioparameter data obtained were inconclusive. Bioparameter data are presented in Table D-1. Graphical presentations of TPPH-g and benzene concentration data versus bioparameter data are shown on Figures D-1A through D-6B. Bioparameter field data sheets are presented as Attachment D-B.

OEPSP Modification

At the request of ARCO, PACIFIC will expand the OEPSP to include Well MW-5. Installation of fresh ORCs in Wells E1-A, MW-5, and MW-10 will commence during the second quarter 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 a quarterly 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-1A - Well 633H: Dissolved Oxygen vs TPPH as Gasoline
Figure D-1B - Well 633H: Dissolved Oxygen vs Benzene
Figure D-2A - Well E-1A: Dissolved Oxygen vs TPPH as Gasoline
Figure D-2B - Well E-1A: Dissolved Oxygen vs Benzene
Figure D-3A - Well MW-8: Dissolved Oxygen vs TPPH as Gasoline
Figure D-3B - Well MW-8: Dissolved Oxygen vs Benzene
Figure D-4A - Well MW-10: Dissolved Oxygen vs TPPH as Gasoline
Figure D-4B - Well MW-10: Dissolved Oxygen vs Benzene
Figure D-5A - Well SP-1: Dissolved Oxygen vs TPPH as Gasoline
Figure D-5A - Well SP-1: Dissolved Oxygen vs Benzene
Figure D-6A - Well SP-2: Dissolved Oxygen vs. TPPH as Gasoline
Figure D-6B - Well SP-2: Dissolved Oxygen vs Benzene

Table D-1
Intrinsic Biodegradation 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)	Electrical Conduc-tivity (millionhs)	Oxidation Reduction Potential‡ (millivolts)	Temp (deg C)	Turbidity (NTU)	Hydrogen Sulfide (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	Nitrogen as Ammonia (mg/L)	Total Iron (mg/L)	TPPH as Gasoline (µg/L)	Benzene (µg/L)
633 H		05/31/95	Clear	None	7.09	1,295	-203	18.9	Trace	0.0	1.0	0.2	38	61	N/A	N/A	<50	0.93
		09/12/95	Clear	None	7.36	876	N/A	20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	<50	0.64
		11/28/95	Clear	None	7.10	914	-4.7	20.4	Light	0.0	1.0 +	0.1	48	68	<0.10	0.52	<50	<0.50
		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	480	10
		05/13/96 f	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	<0.50
E-1A	a	06/01/95	Clear	None	7.63	1,340	-155	20.4	Trace	0.0	2.0	0.1	23	54	N/A	N/A	680	4.9
		09/15/95	Clear	Mod	7.36	1,208	N/A	15.9	Light	N/A	1.25	N/A	N/A	N/A	N/A	N/A	73	3.3
		10/13/95 b,c,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	<250	<2.5
		11/28/95 b	Brown	Faint	9.11	1,070	40	23.1	Heavy †	N/A	OS	N/A	N/A	N/A	N/A	N/A	69	<0.50
		11/28/95	Clear	None	7.40	880	-21	21.4	Light	0.0	3.06	0.15	18	74	0.18	0.92	220	3.9
		12/21/95 b	N/A	N/A	7.88	489	N/A	15.8	N/A	N/A	16.8	N/A	N/A	N/A	N/A	N/A	230	5.7
		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
		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	2,700	38
MW-5		06/01/95	Brown	Faint	7.10	1,400	-119	20.2	Mod	0.0	2.0	*	19	<0.1	N/A	N/A	750	13
		09/15/95	Clear	Heavy	7.20	1,068	N/A	17.7	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	550	11
		10/13/95 b	N/A	N/A	7.59	1,329	N/A	25.6	N/A	N/A	1.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		11/28/95	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	N/A	N/A	N/A	N/A	N/A	N/A
		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
		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	1,600	30
MW-7		06/01/95	Brown	None	7.11	1,156	-99	20.7	Light	0.0	*	*	42	68	N/A	N/A	<50	<0.50
		09/15/95	Brown	None	7.20	1,406	N/A	18.3	Light	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<0.50
		10/13/95 b	N/A	N/A	7.23	1,075	N/A	23.2	N/A	N/A	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		11/28/95	Brown	None	7.05	832	N/A	20.7	Heavy †	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<50	<0.50

Table D-1 (continued)
Intrinsic Biodegradation Indicator Parameters

ARCO Service Station 0608
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San Lorenzo, California

			Field Analyses										Laboratory Analyses					
Well	Date Sampled		Color	Odor	pH (units)	Electrical Conductivity (millionmhs)	Oxidation Reduction Potential‡ (millivolts)	Temp (deg C)	Turbidity (NTU)	Hydrogen Sulfide (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	Nitrogen as Ammonia (mg/L)	Total Iron (mg/L)	TPPH as Gasoline (µg/L)	Benzene (µg/L)
MW-8	06/01/95		Brown	Strong	7.09	1,071	-199	20.4	Light	0.0	1.0	0.1	<0.10	33	N/A	N/A	810	5.2
	09/15/95		Clear	Mod	7.01	1,000	N/A	17.3	Light	N/A	1.0	N/A	N/A	N/A	N/A	N/A	850	30
	10/13/95	b,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	760	<2.5
	11/28/95	b	Clear	None	7.01	811	0	25.7	Trace	N/A	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95		Clear	None	6.73	846	0	22.2	Trace	0.0	0.07	0.4	<1.0	<1.0	<0.10	3.4	1,200	39
	12/21/95	b	Clear	None	6.75	640	N/A	17.0	Trace	N/A	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95		Clear	None	6.80	652	N/A	16.7	Trace	N/A	0.08	N/A	N/A	N/A	N/A	N/A	560	28
	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
	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	670	5.1
MW-10	a 06/01/95		Clear	Mod	7.00	1,301	-199	18.0	Trace	0.0	1.0	0.2	<0.10	8.1	N/A	N/A	1,100	<1.2
	09/14/95		Clear	Mod	7.10	968	N/A	20.0	Light	N/A	1.5	N/A	N/A	N/A	N/A	N/A	1,100	<2.0
	10/13/95	b,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	510	<0.50
	11/28/95	b	Cloudy	None	6.43	868	16	19.2	Light	N/A	9.74	N/A	N/A	N/A	N/A	N/A	770	<1.0
	11/28/95		Clear	None	6.99	1,021	5	21.8	Trace	0.0	0.71	0.40	<1.0	<1.0	0.10	2.0	840	<1.0
	12/21/95	b	N/A	N/A	7.18	787	N/A	17.1	N/A	N/A	2.16	N/A	N/A	N/A	N/A	N/A	440	5.1
	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
	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	870	35
SP-1	09/15/95		Clear	None	6.94	1,040	N/A	18.3	Mod	N/A	1.5	N/A	N/A	N/A	N/A	N/A	<50	<0.50
	10/13/95	b,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	<50	<0.50
	11/28/95	b	Brown	None	7.37	837	88	22.7	Heavy †	N/A	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95		Cloudy	None	6.89	956	72	21.8	Heavy †	0.0	0.13	0.20	16	44	<0.10	12	<50	<0.50
	12/21/95	b	Clear	None	7.02	644	N/A	15.0	Trace	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95		Clear	None	7.05	710	N/A	15.7	Trace	N/A	0.16	N/A	N/A	N/A	N/A	N/A	<50	<0.50
	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
	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	<50	<0.50

Table D-1 (continued)
Intrinsic Biodegradation Indicator Parameters

ARCO Service Station 0608
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		Field Analyses										Laboratory Analyses					
Well	Date Sampled	Color	Odor	pH (units)	Electrical Conductivity (milliomhs)	Oxidation Reduction Potential‡ (millivolts)	Temp (deg C)	Turbidity (NTU)	Hydrogen Sulfide (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Nitrate as Nitrate (mg/L)	Sulfate (mg/L)	Nitrogen as Ammonia (mg/L)	Total Iron (mg/L)	TPPH as Gasoline (µg/L)	Benzene (µg/L)
SP-2	09/15/95	Clear	None	7.18	1,110	N/A	20.1	Light	N/A	2.0	N/A	N/A	N/A	N/A	N/A	94	<0.50
	10/13/95 b,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	80	<0.50
	11/28/95 b	Brown	None	7.10	866	2	23.3	Heavy †	N/A	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/28/95	Brown	None	6.74	690	36	25.7	Heavy †	0.0	0.72	0.6	<1.0	25	<0.10	68	94	<0.50
	12/21/95 b	Clear	None	7.25	662	N/A	15.6	Trace	N/A	3.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/21/95	Clear	None	7.19	710	N/A	16.7	Trace	N/A	3.49	N/A	N/A	N/A	N/A	N/A	<50	<0.50
	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
	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	<50	0.50

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

‡ = Value shown is an average of three consecutive measurements, each taken after a single purge-volume.
* = 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.
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. Resampled to verify March 14, 1996 results.

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

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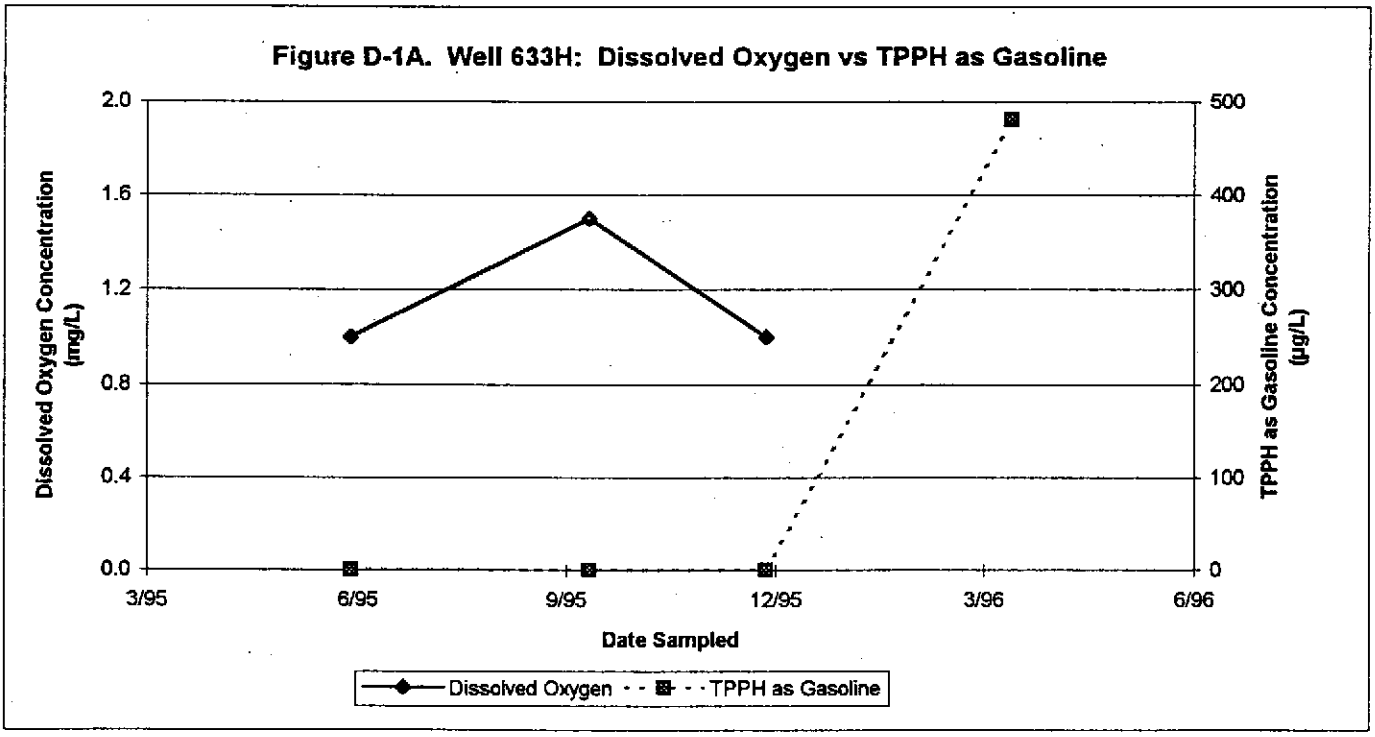

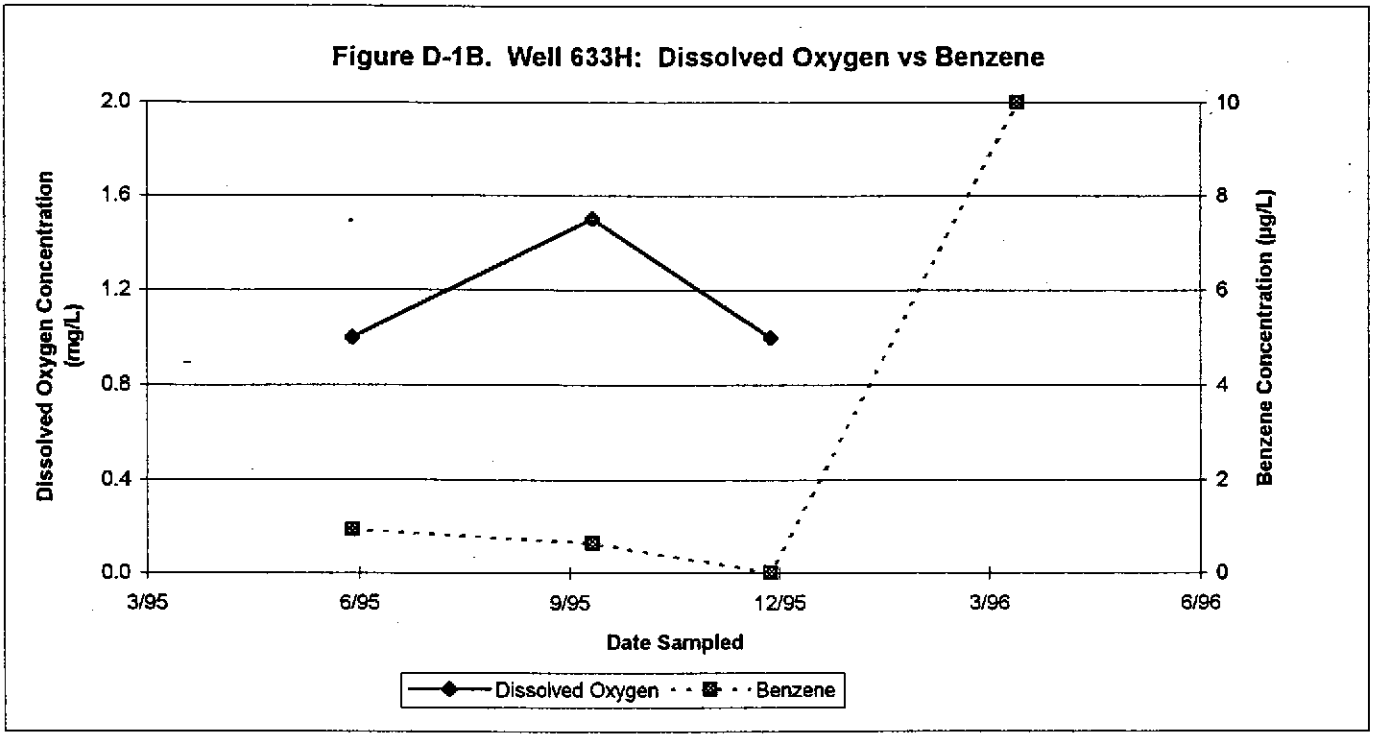

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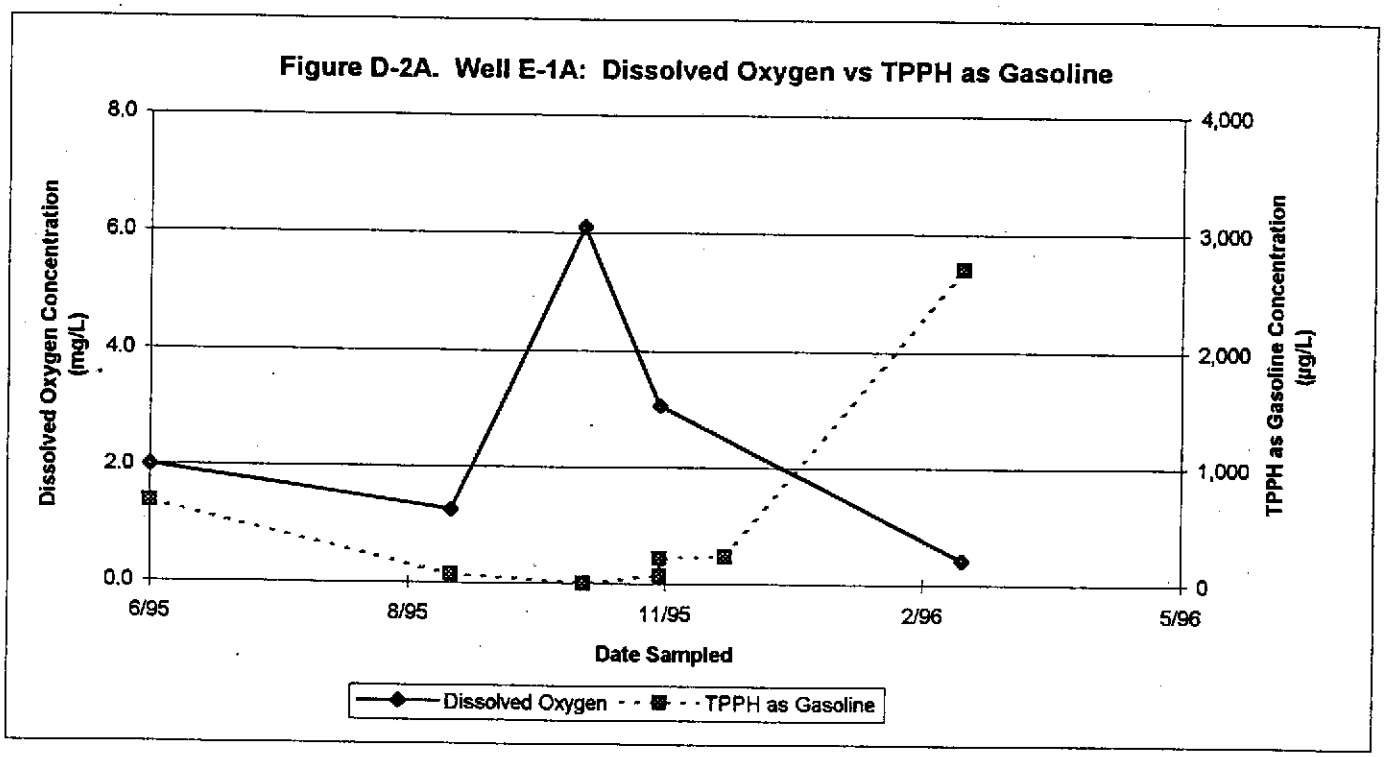

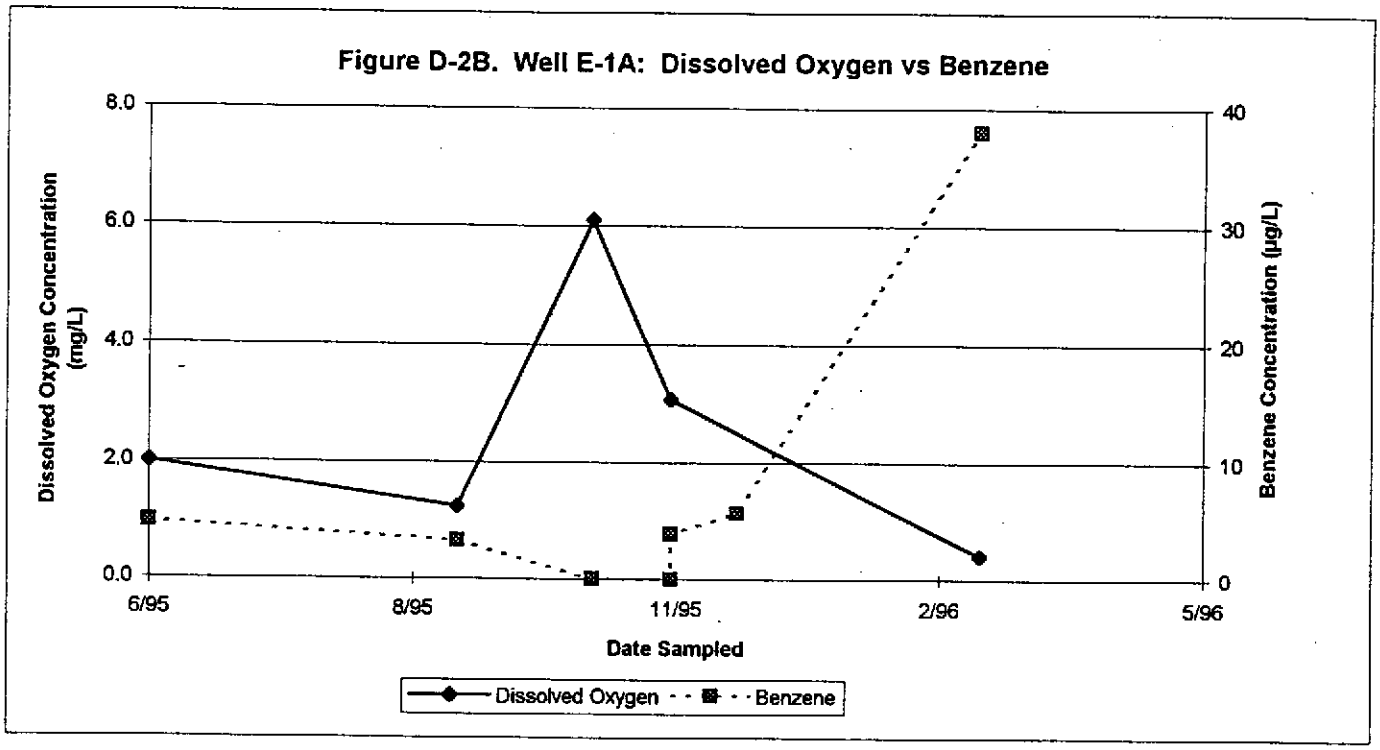

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Figure D-3A. Well MW-8: Dissolved Oxygen vs TPPH as Gasoline

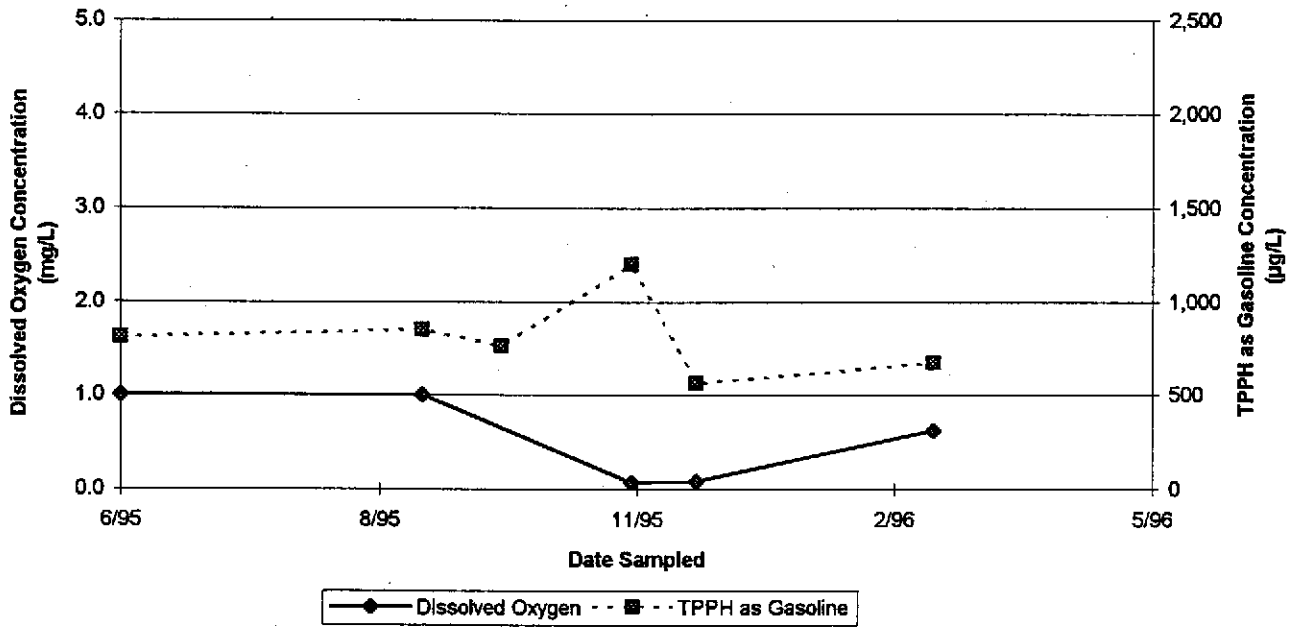

Figure D-3B. Well MW-8: Dissolved Oxygen vs Benzene

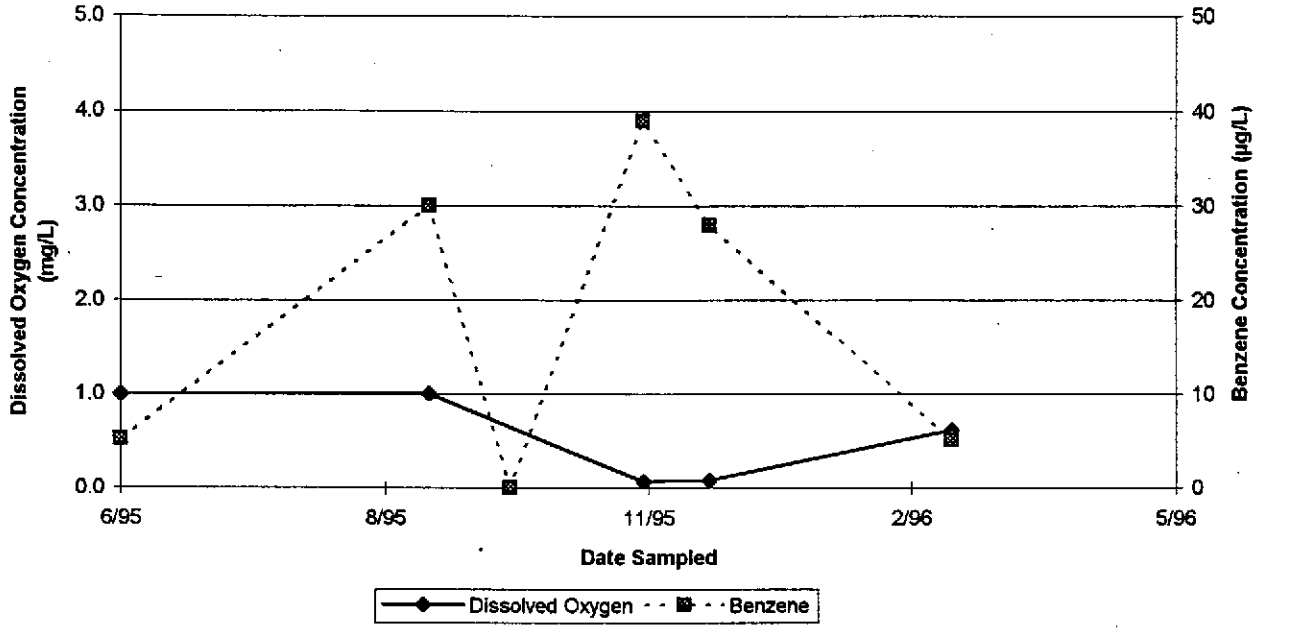

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Figure D-4A. Well MW-10: Dissolved Oxygen vs TPPH as Gasoline

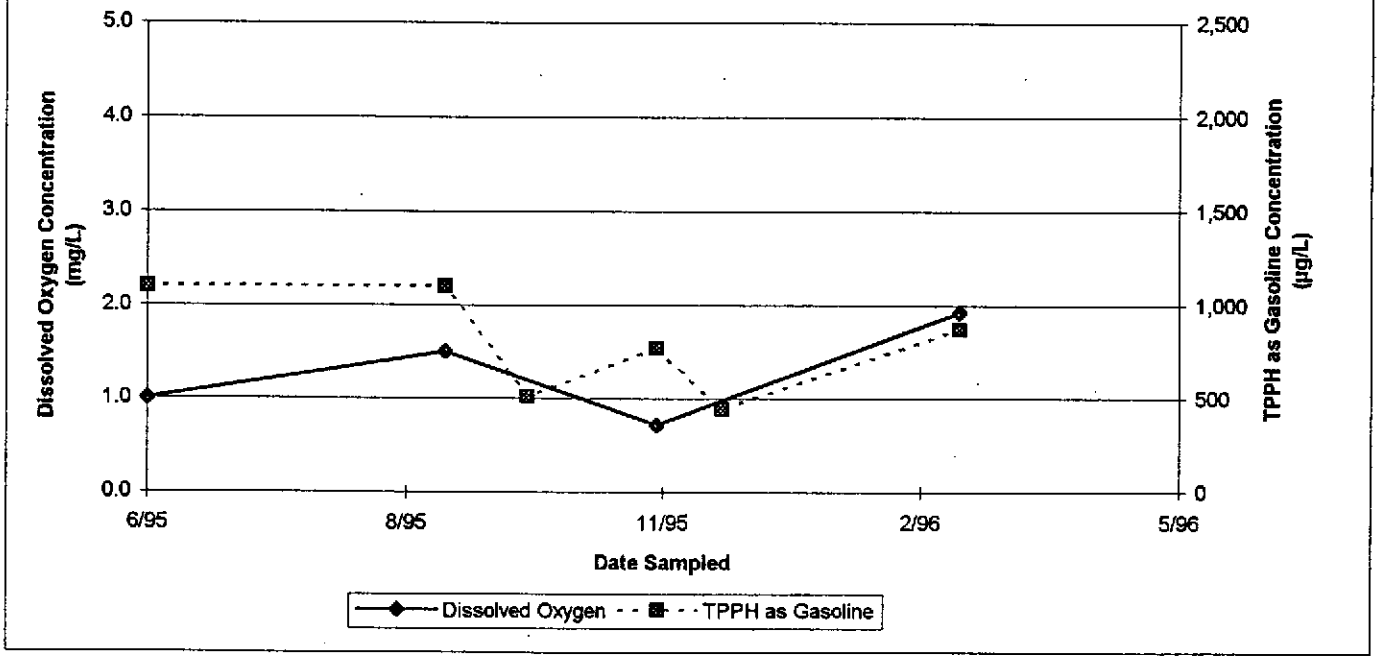


Figure D-4B. Well MW-10: Dissolved Oxygen vs Benzene

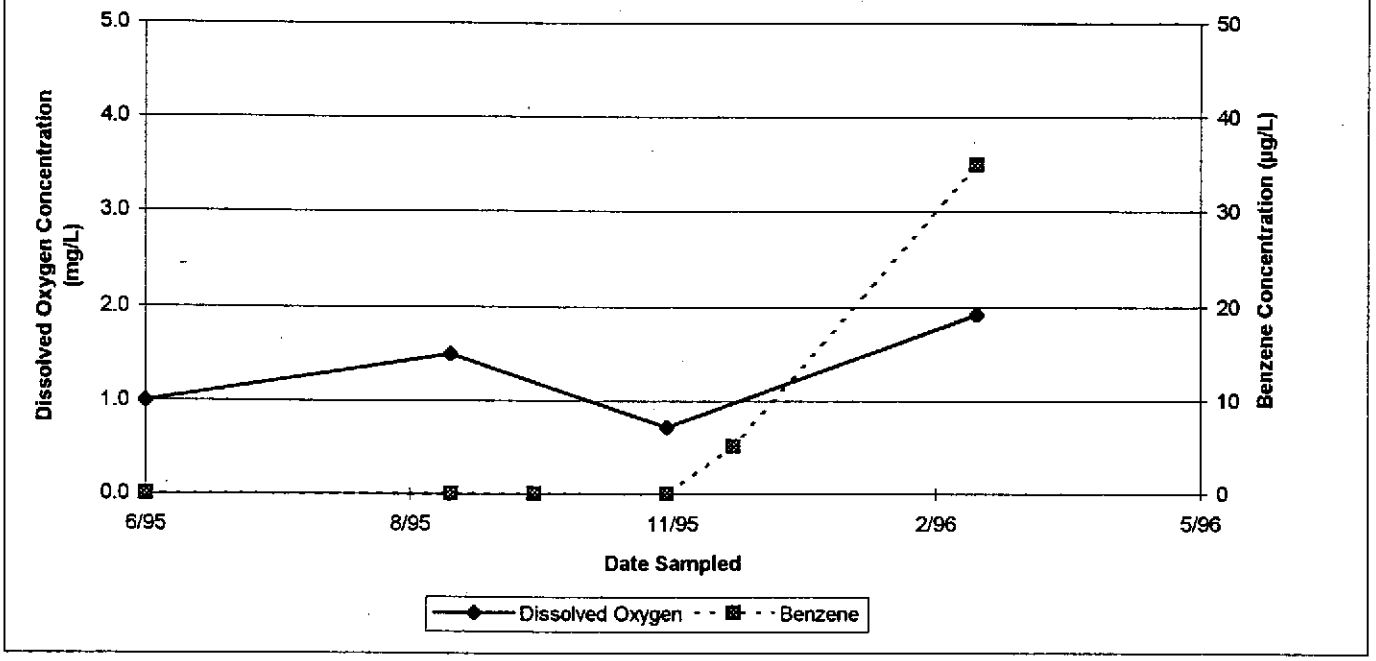


Figure D-5A. Well SP-1: Dissolved Oxygen vs TPPH as Gasoline

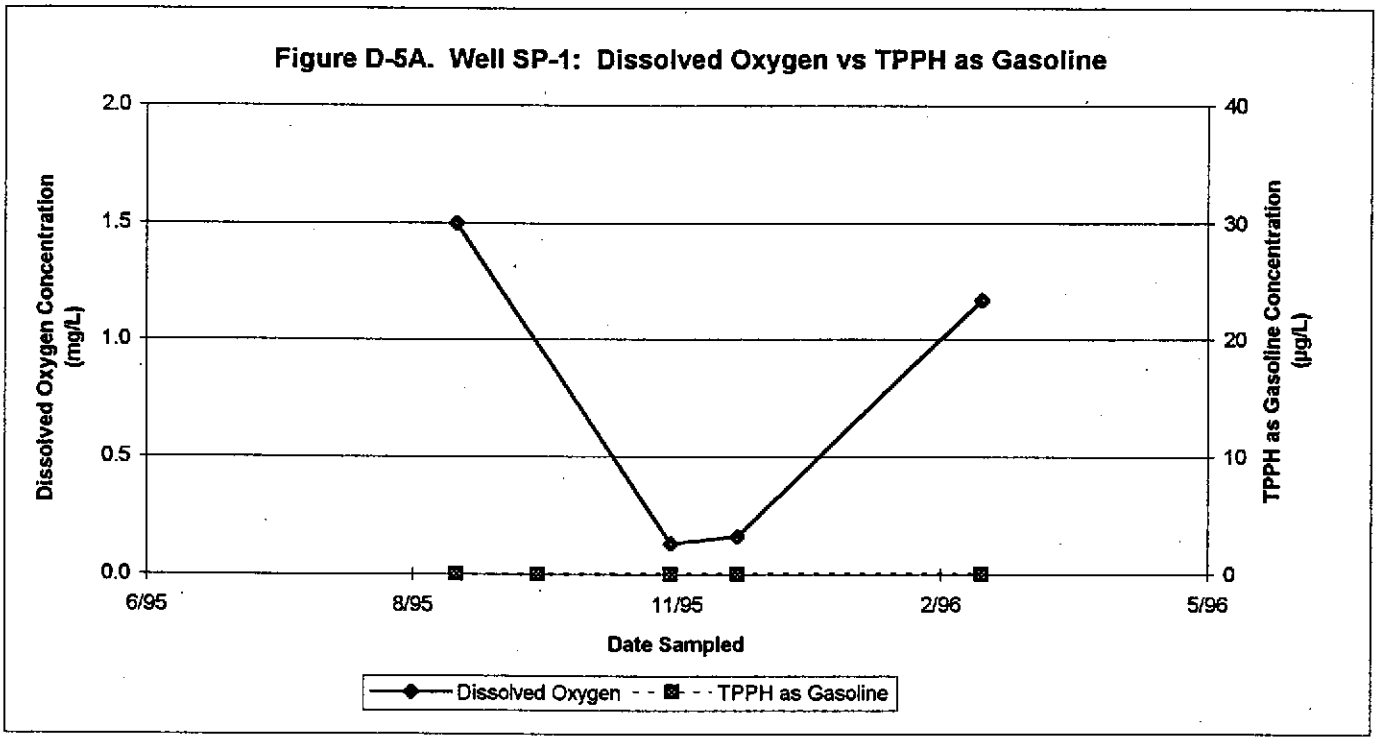


Figure D-5B. Well SP-1: Dissolved Oxygen vs Benzene

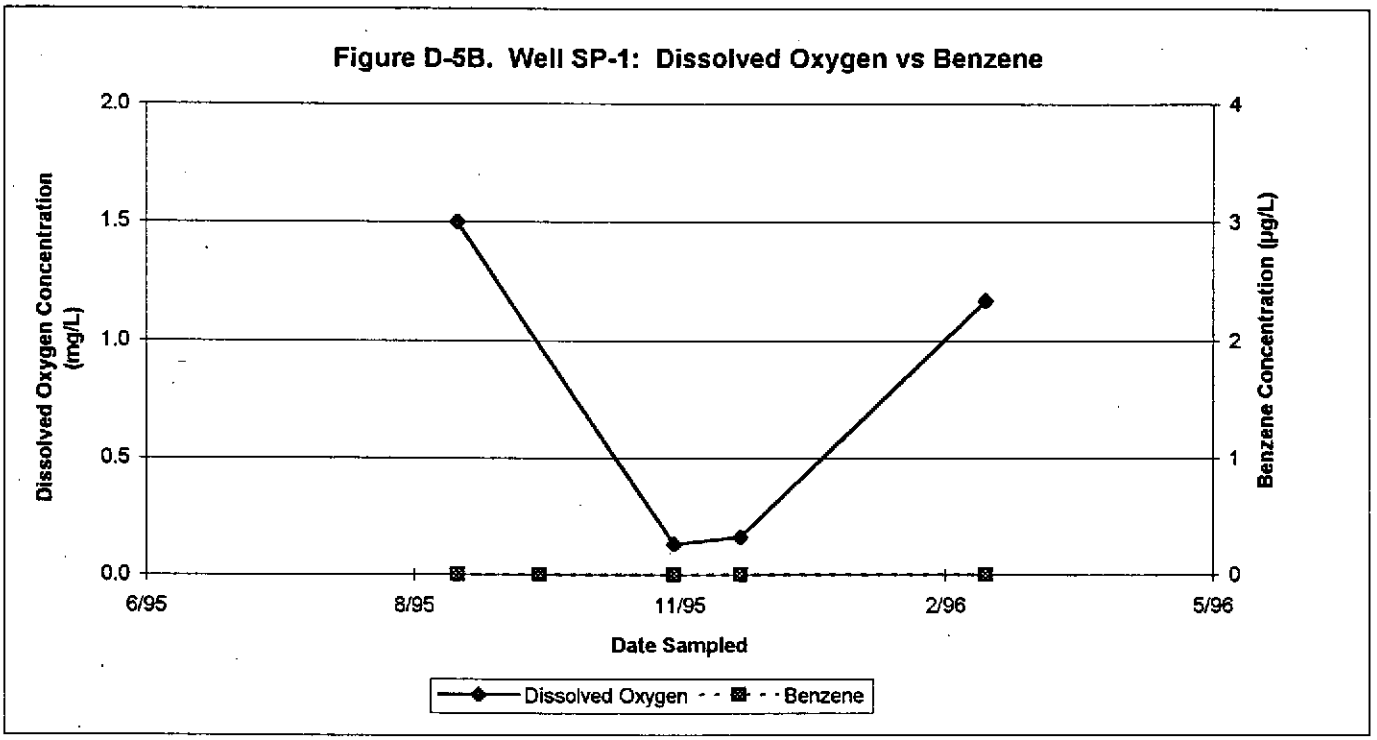


Figure D-6A. Well SP-2: Dissolved Oxygen vs TPPH as Gasoline

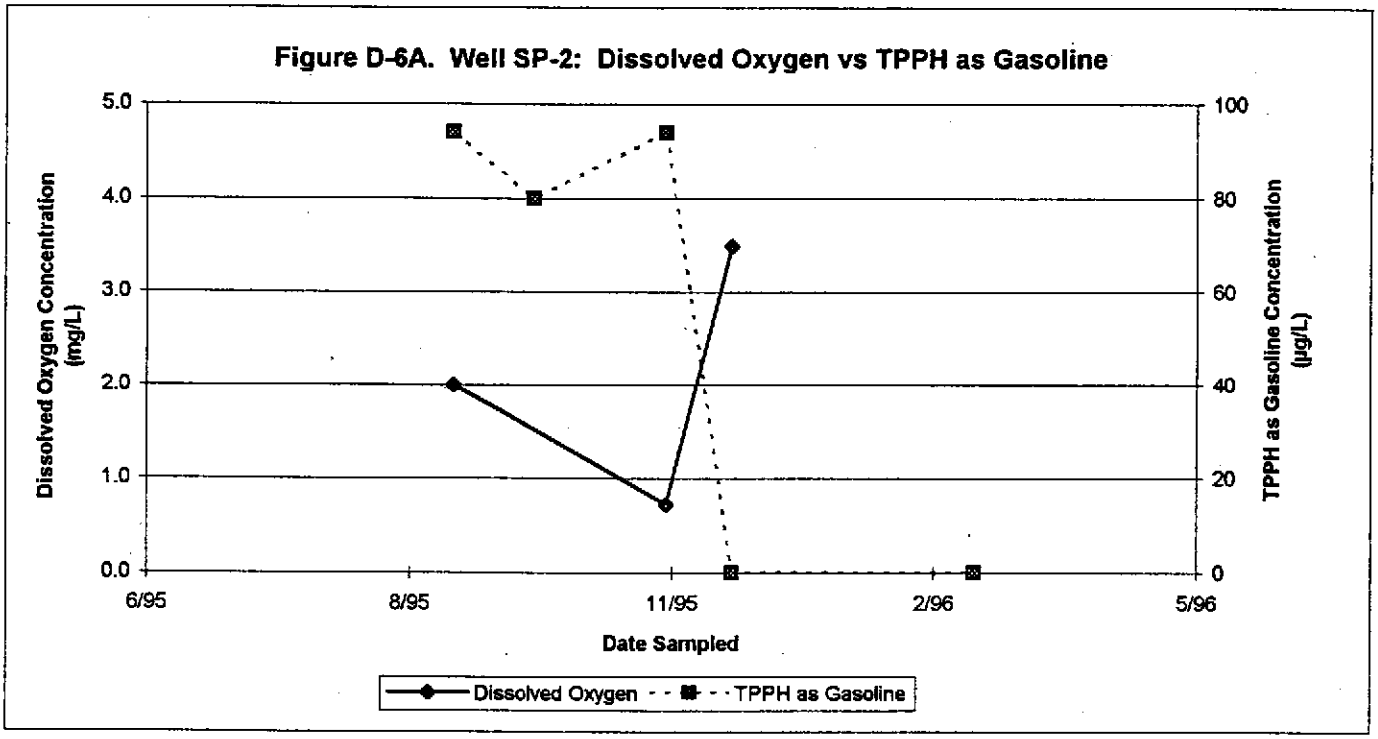
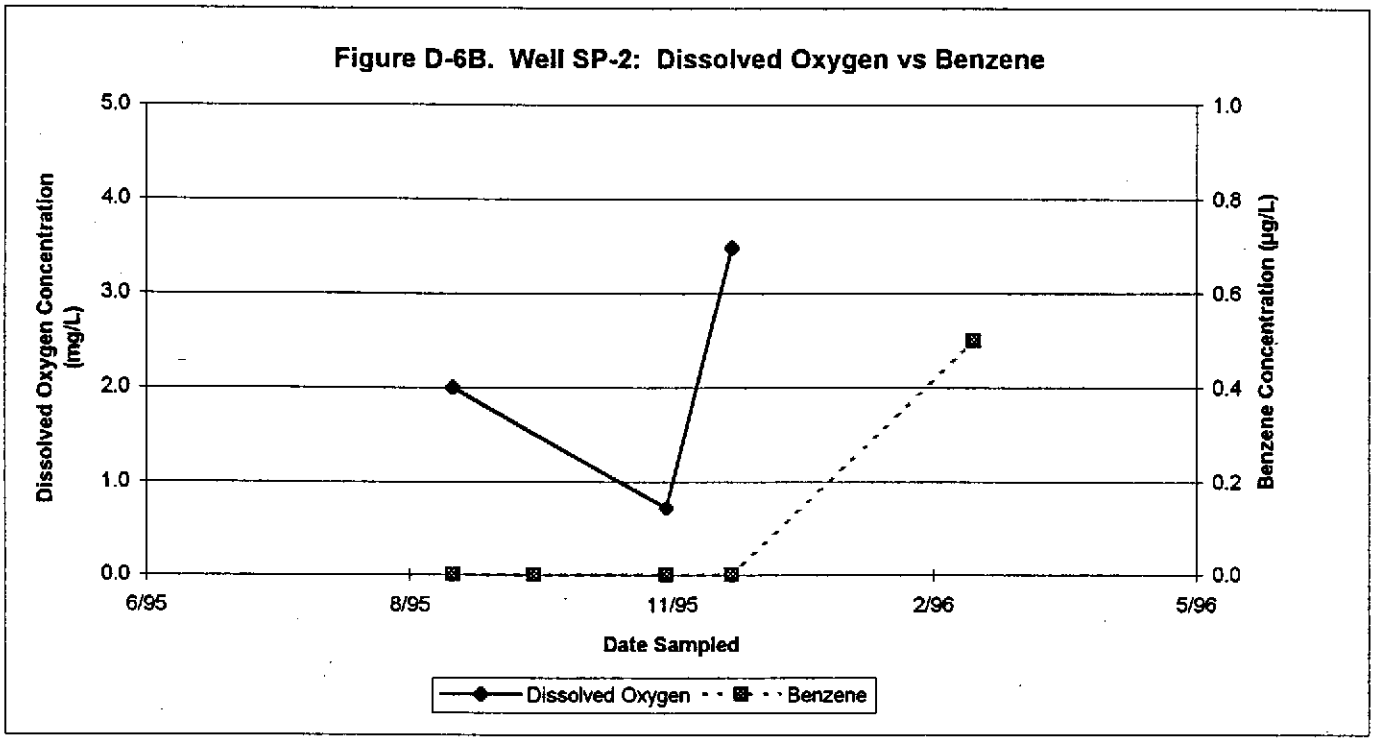


Figure D-6B. Well SP-2: Dissolved Oxygen vs Benzene



ATTACHMENT D-A

GROUNDWATER EXTRACTION SYSTEM DESCRIPTION AND HISTORICAL OPERATIONAL DATA

ATTACHMENT D-A
GROUNDWATER EXTRACTION SYSTEM DESCRIPTION AND HISTORICAL OPERATIONAL DATA

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 0606
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

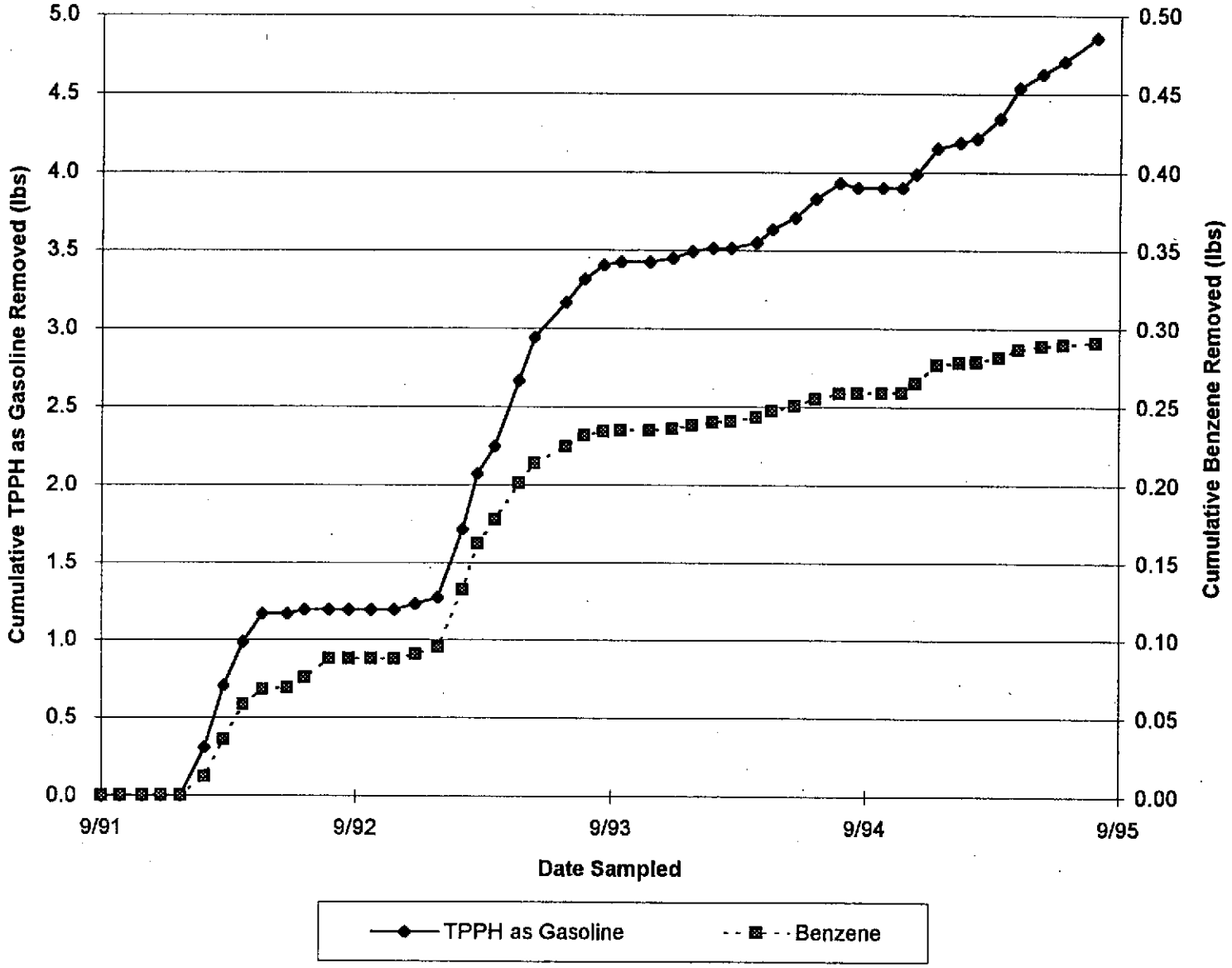
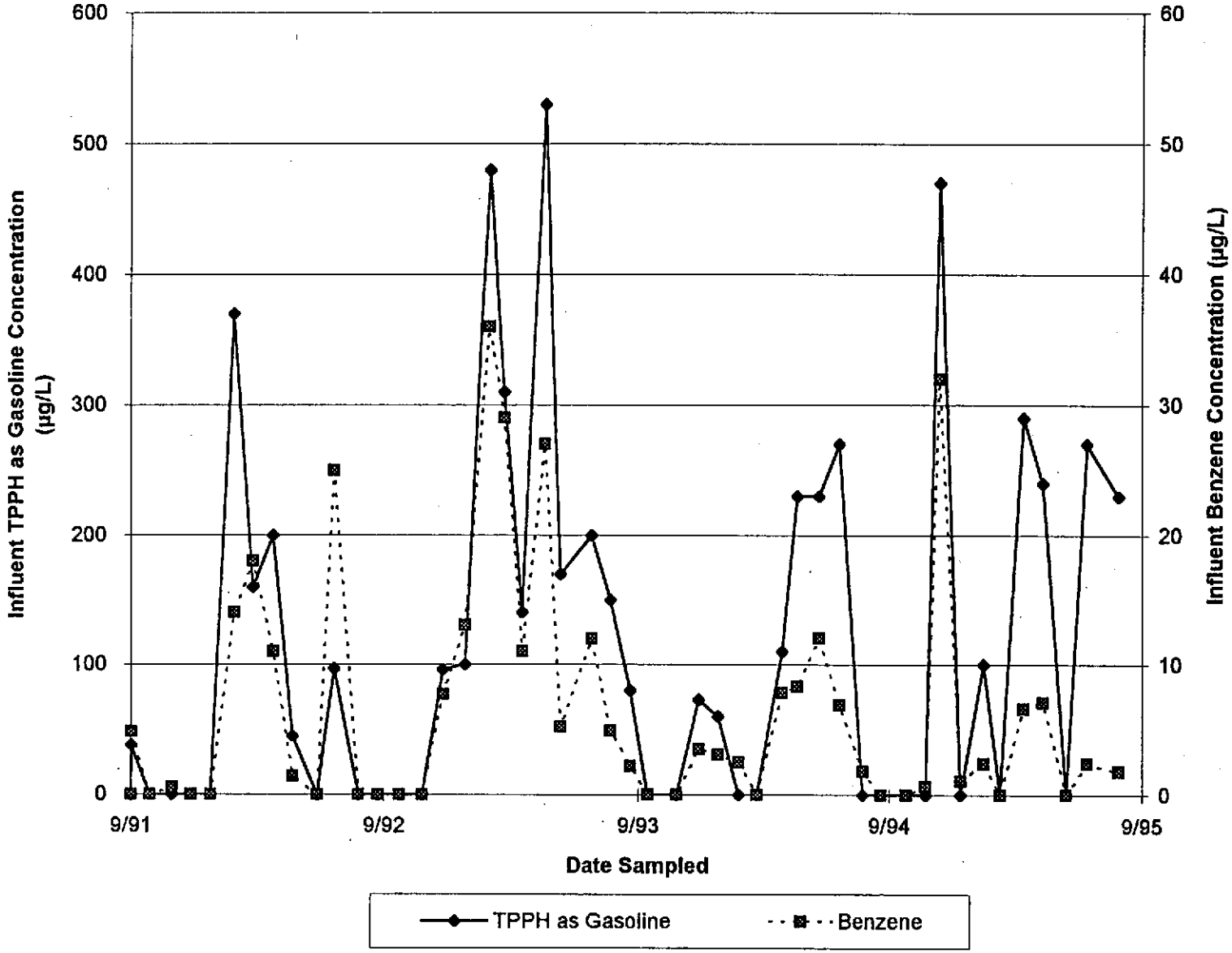


Figure D-A-2
Groundwater Extraction System Concentration Trend

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



ATTACHMENT D-B

INTRINSIC BIOREMEDIATION INDICATOR PARAMETER FIELD DATA SHEETS

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Request Frequency:Monthly

Project #	330-006.5C
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	David Nanstad
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	March 12, 1996
Laboratory:	Sequoia Analytical 19281 00

Site Remedial Technologies:

Bioaugmentation (BIO) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
BIO(A, B)	Quarterly†	+3hr	4	0	Y/6

Charge additional time to perform BIO tasks to 330-006.5C

† = sampling to be performed (typical quarterly monitoring sampling)

Definition of frequencies:

weekly = N/A
monthly = N/A
quarterly = 11,3,6,9 (always with quarterly GW monitoring event)
semi-annually = N/A

Field Technician Response:

Completed by: W Peck
Arrival time: 5:05
Sample this visit?: NA

Date: 3/14/96
Departure time: 5:0
Engineer contacted? No who?

Bioremediation Assessment
Field and Laboratory Procedures

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

Intrinsic Groundwater Bioremediation Enhancement Program Monitoring Schedule

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
633 H	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
E-1A	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
MW-5	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
MW-8	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
MW-10	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
MW-25	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
SP-1	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA
SP-2	Q	Q	NA	Q	Q	NA	NA	NA	NA	NA

~~E.C. = Electrical conductivity~~
O.R.P. = Oxidation reduction potential
~~Temp = Temperature~~
D.O. = Dissolved oxygen
~~TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline~~
M = Monthly analysis
Q = 1st, 2nd, 3rd, and 4th quarter 1996 groundwater monitoring event
O = One-time event
Note: All parameters measured during or after purge, unless otherwise noted.

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	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

DATE: 3/14/96 **TECHNICIAN** D Beck

Groundwater Bioaugmentation System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.5C
March 13, 1996

SYSTEM DESCRIPTION:

ORC Wells

Well	Size	Number	Set Depth (TOB)
E-1A	6"	10	dtw
MW-10	3"	11	dtw

MATERIALS

DO METER	✓	PROBE AND REEL	✓
CALIBRATION BOTTLE	✓	KCL SOLUTION	✓
SPARE MEMBRANES	✓	6 SPARE D BATTERIES	✓
BUCKET	✓	PAPER TOWELS	✓
INSTRUCTION BINDER	✓	SPARE O-RINGS	✓
SCISSORS	✓	SPARE DATA SHEETS	✓
ALCONOX	✓	STICK	✓
WATER BOTTLE	✓	WATER LEVEL INDICATOR	✓
YSI Water Quality Monitoring System Model 3560 (for ORP monitoring) and instructions	-		

BEFORE MEASUREMENTS

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	WARM UP UNIT FOR 20 MINUTES?	Yes

DATE: 3/14/96 **TECHNICIAN** JW Rock

PART A: WELL DATA (DO NOT PURGE)

WELL MW-8 ✓

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	26.2	CALIBRATION DO READING (mg/L)	6.36
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.08
DTW (tob) 8.90	8.90	DTB (tob) 21.99	21.99

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.50	.30	.16

PROBE & CORD RINSED?		
MW-8 Yes	~~ORP~~ N/A	AVERAGED DISSOLVED OXYGEN (ppm)

* REFER TO FIELD DATASHEET

WELL E1-A ✓

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.8	CALIBRATION DO READING (mg/L)	6.73
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.96
DTW (tob)	10.35	DTB (tob)	25.96

DISSOLVED OXYGEN (mg/L) (MW-E1-A CONTINUED)

	30 seconds	60 seconds	90 seconds
2'from TOP	1.10	.93	.94

PROBE & CORD RINSED?	Yes	
E1-A	~~ORP~~ * N/A	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 5/14/98 TECHNICIAN W Rech

PART A: WELL DATA CONTINUED(DO NOT PURGE)

Well MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.0	CALIBRATION DO READING (mg/L)	7.78
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.98
DTW (tob)	7.78	DTB (tob)	23.0

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	1.10	.79	.68

PROBE & CORD RINSED?	Yes

MW-10	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

WELL SP-1

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.8	CALIBRATION DO READING (mg/L)	6.98
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.98
DTW (tob)	8.63	DTB (tob)	20.94

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.56	.33	.29

PROBE & CORD RINSED?	Yes

SP-1	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 3/14/16 TECHNICIAN WPeck

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO	CALIBRATE UNIT?	✓ Yes
CALIBRATION TEMPERATURE (C)	20.1	CALIBRATION DO READING (mg/L)	7.03
COMPARED TO TABLE VALUE?	✓ Yes	CALIBRATION BOTTLE READING (mg/L)	9.06
DTW (tob) 7.78	7.78	DTB (tob)	18.82

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	1.40	1.00	.98

PROBE & CORD RINSED?	Yes	
SP-2	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

✓

WELL 633H

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO	CALIBRATE UNIT?	✓ Yes
CALIBRATION TEMPERATURE (C)	21.2	CALIBRATION DO READING (mg/L)	7.53
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.91
DTW (tob)	n/a	DTB (tob)	n/a

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	2.96	2.66	2.62

PROBE & CORD RINSED?		
633H	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: [illegible] 16 03 TECHNICIAN W Peck

PART A: WELL DATA CONTINUED(DO NOT PURGE)

WELL MW-5

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No	CALIBRATE UNIT?	yes
CALIBRATION TEMPERATURE (C)	20.1	CALIBRATION DO READING (mg/L)	7.63
COMPARED TO TABLE VALUE?	yes	CALIBRATION BOTTLE READING (mg/L)	9.05
DTW (tob)	9.35	DTB (tob)	13.93

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.50	.28	.20

PROBE & CORD RINSED?	Yes	
MW-5	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

Well MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)? yes		CALIBRATE UNIT?	yes
CALIBRATION TEMPERATURE (C)	29.5	CALIBRATION DO READING (mg/L)	7.60
COMPARED TO TABLE VALUE?	yes	CALIBRATION BOTTLE READING (mg/L)	7.62
DTW (tob) 9.61		DTB (tob)	21.41

DISSOLVED OXYGEN (mg/L)

		30 seconds	60 seconds	90 seconds
Before Purge →	2'from TOP	1.69	1.21	1.05

PROBE & CORD RINSED?		
MW-25	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 3/14/96 TECHNICIAN IN Tech

PART B: WELL DATA (AFTER PURGE)

WELL MW-8

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.3	CALIBRATION DO READING (mg/L)	7.46
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	9.01
DTW (tob)	8.70	DTB (tob)	21.99

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.77	.54	.47

PROBE & CORD RINSED?	Yes

MW-8	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

WELL E1-A

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	No	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	21.2	CALIBRATION DO READING (mg/L)	8.06
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.88
DTW (tob)	12.63	DTB (tob)	25.96

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.59	.35	.22

PROBE & CORD RINSED?	Yes

E1-A	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 3/14/96 TECHNICIAN W Pell

PART B: WELL DATA CONTINUED(AFTER PURGE)

Well MW-10

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	20.3	CALIBRATION DO READING (mg/L)	11.21
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	9.05
DTW (tob)	7.23	DTB (tob)	23.0

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	2.24	1.84	1.59

PROBE & CORD RINSED?		
MW-10	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

WELL SP-1

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	NO	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	26.8	CALIBRATION DO READING (mg/L)	7.76
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	7.96
DTW (tob)	8.67	DTB (tob)	20.94

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	1.33	1.10	1.01

PROBE & CORD RINSED?	Yes	
SP-1	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 5/14/96 **TECHNICIAN** W Rich

PART B: WELL DATA CONTINUED(AFTER PURGE)

WELL SP-2

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP			

PROBE & CORD RINSED?		
SP-2	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

WELL 633H Only did before sample OK w/ Dave Marske

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?		CALIBRATE UNIT?	
CALIBRATION TEMPERATURE (C)		CALIBRATION DO READING (mg/L)	
COMPARED TO TABLE VALUE?		CALIBRATION BOTTLE READING (mg/L)	
DTW (tob)		DTB (tob)	

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP			

PROBE & CORD RINSED?		
633H	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

DATE: 3/14/96 TECHNICIAN L.J Tech

PART B: WELL DATA CONTINUED(AFTER PURGE)

WELL MW-5

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	32.7	CALIBRATION DO READING (mg/L)	6.75
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	7.27
DTW (tob) 11.78	11.78	DTB (tob)	13.93

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.88	.63	.56

PROBE & CORD RINSED?	Yes	
MW-5	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

Well MW-25

INSPECT MEMBRANE (DAMAGED OR 1/8"BUBBLES)?	no	CALIBRATE UNIT?	Yes
CALIBRATION TEMPERATURE (C)	21.0	CALIBRATION DO READING (mg/L)	10.09
COMPARED TO TABLE VALUE?	Yes	CALIBRATION BOTTLE READING (mg/L)	8.78
DTW (tob)	9.35	DTB (tob)	21.41

DISSOLVED OXYGEN (mg/L)

	30 seconds	60 seconds	90 seconds
2'from TOP	.39	.33	.26

PROBE & CORD RINSED?		
MW-25 Yes	ORP	AVERAGED DISSOLVED OXYGEN (ppm)

WATER QUALITY MONITORING SYSTEM
(YSI Model 3560)

Notes: Use provided data sheets to record all data.
Do not turn instrument off until after last measurement.
Store probe(s) in calibration bottle(s) with appropriate buffer solution.

The YSI 3560 Water Quality Monitoring System is primarily designed to be used in the field with a well or surface water pump, but use with a bailer is possible. The 3560 system consists of the following:

- YSI 3510 Temperature Probe
- YSI 3520 Flow-Through Conductivity Cell
- YSI 3530 pH Electrode
- YSI 3540 ORP Electrode Assembly
- YSI 3550 Sample Chamber Assembly

As water is pumped from the well through the system, temperature, conductivity, temperature compensated conductivity, pH, temperature compensated pH, and millivolts (Oxydation Reduction Potential or ORP) can all be measured.

For our purposes the YSI 3560 will be used primarily to monitor ORP for bioremediation analysis. The YSI 3540 ORP Electrode Assembly has a 5.5-inch long polymer body, a 36-inch long black cable, a yellow BNC cover and a yellow end cap. The electrode assembly is shipped in a soaker bottle containing pH 4.0 buffer. **The electrode must remain immersed in the buffer solution during storage or transportation.**

CHECKLIST

Before leaving office with the Water Quality Monitoring System please be sure the yellow carry case contains all the neccessary components. Check off the following checklist:

☐	YSI 3500 Water Quality Monitoring Meter	☐	YSI 3510 Temperature Probe
☐	YSI 3520 Flow Through Conductivity Cell	☐	ph Electrode Assembly
☐	YSI 3540 ORP Electrode Assembly	☐	10' of 3/8" plastic ~~hose~~ TUBING
☐	YSI 3550 Sample Chamber Assembly	☐	three tube-hose stem adapters
☐	one 1/2" straight union connector	☐	four elbows
☐	one 1/2" x 3/8" straight union connector		

ASSEMBLY

1. The inlet and outlet lines for the sample chamber are cut to the desired length from a 10 foot long, 3/8" plastic tubing that the operator of the instrument must provide. Insert a tube hose stem adapter into each end of the inlet tubing. This section of plastic tubing connects the pump outlet to the flow though conductivity cell which is inserted into the sample chamber inlet. Insert a third tube-hose stem adapter into one end of the outlet tubing. This goes from the sample chamber to a waste container.

2. Next, the sample chamber inlet tubing is connected to a 1/2" or 3/8" OD pump outlet by using the appropriate straight union connector supplied. For a 3/8" OD pump outlet, use the straight-union

connector which has one 3/8" ID port and one 1/2" ID port. Hand-tighten the appropriate port of the straight union connector at the pump outlet. Insert one end of the previously constructed sample chamber inlet tubing (with tube-hose stem adapter in place) into the opposite port of the straight union connector and hand tighten it. Insert the other end of the constructed inlet tubing (with tube - hose stem adaptor in place) into an elbow until it stops. Then insert the elbow into the top of the YSI Flow thru conductivity cell and push down until it stops. Two internal o-rings in the cell serve as water seals.

3. The constructed end of the oulet tubing with the inserted tube-hose adapter is then pushed into another elbow until it stops. Then the elbow is inserted into the outlet port of the sensor mounting plate (on top of the flow thru conductivity cell) and pushed down until it stops. There is a double o-ring seal here too.

4. Install the sensors that will be used into the sensor mounting plate in their respective ports. The sensor ports not used must have plugs installed to close off the system. Attach each of the sensors to the 3500. The input jacks are marked for proper placement of each connector. The temperature, conductivity, pH ATC probe inputs, and the recorder output have MS connectors. The pH and ORP electrodes come with BNC connectors which have very low water integrity and so should have their "boots" installed over their connectors. The color coding on the boots also helps identify them when they are in the cable harness.

5. With the sensors attached to the 3500, place all cables from the sample chamber into the black cable harness provided with the 3560 system. The harness is slotted for easy cable installation. The system is now ready for operation.

OPERATION

For our purposes the primary function of the Water Quality Monitoring System (WQMS) will be to monitor ORP. The procedures listed below will guide the operator of the WQMS to monitor ORP.

1. With the WQMS connected to the pump, begin pumping according to the pump manufacturer's instructions at a rate no faster than 1.5 gallons per minute (gpm).

2. Turn on the WQMS. Before recording values, make sure the sample chamber is full, that all air is voided, and that all of the displayed values are stable.

3. If the pH input is not in use when an ORP electrode is on the mV input, the shorting cap should be connected to the pH input jack.

4. With the shorting cap installed in the pH input jack, the display should read 000±002. If it does not, call engineer.

The WQMS is now ready for use. Set the pH function switch to mV mode and read the bottom display. **Record the ORP value in the designated box on the DO monitoring data sheet.** Remember, **Do not shut the system off between readings.** To keep the sensors in a suitable environment, the sample chamber should be moved from one well to another with its contained fluid. However, be sure the sample chamber has been thoroughly purged with about two sample chamber volumes of water from the well being monitored before taking readings (about 1 gallon).

If you have any problems operating the Water Quality Monitoring System, please call the engineer in charge and/or Environmental Instruments and request assistance.

SHUTDOWN

1. To shut down the system, simply turn the power switch to OFF. Turn the pump off before disconnecting the plumbing. Remove the straight union connector from the pump outlet, then remove the hose and fittings from the sample chamber ports and drain them. Plug the ports with the plastic plugs provided. .

2. To keep the sensors in a suitable environment, the sample chamber can be moved from one site to another with its contained fluid. When the day's measurements are finished, drain the chamber by removing one of the plugs from its port and pouring out the sample. The pH and ORP electrodes must be stored in their soaker bottles to prevent them from drying out. The conductivity cell should be stored moist to minimize it equilibration period.

3. Decontaminate the system's probes and sample chamber with aloconox and D.I. water, dry them off, then re-pack neatly in the carrying case and return it to the engineers office. It is important to return the equipment to the engineers office immediately upon finishing job so it can be shipped back to Environmental Instruments without additional charge.