

PACIFIC
ENVIRONMENTAL
GROUP INC.

4/17/97
905

Quarterly Groundwater Monitoring Report Fourth Quarter 1996

ARCO Service Station 2162
15135 Hesperian Boulevard at Ruth Court
San Leandro, California

Prepared for

Mr. Paul Supple
ARCO Products Company

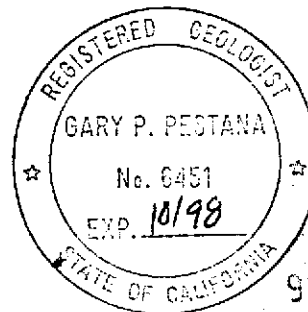
February 11, 1997

Prepared by

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

Project 330-107.2C

Gary P. Pestana
Project Manager
RG 6451



97 FEB 13 AM 9:36
ENVIRONMENTAL
PROTECTION

Date: February 11, 1997

Quarter: 4Q96

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 2162 Address: 15135 Hesperian Boulevard at Ruth Court, San Leandro
ARCO Environmental Engineer: Paul Supple
Consulting Co./Contact Person: Pacific Environmental Group, Inc./Gary P. Pestana
Consultant Project No.: 330-107.2C
Primary Agency/Regulatory ID No.: Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER (Fourth - 1996):

1. Performed fourth quarter 1996 groundwater monitoring event.
2. Prepared fourth quarter 1996 groundwater monitoring report.

WORK PROPOSED FOR NEXT QUARTER (First - 1997):

1. Perform first quarter 1997 groundwater monitoring event.
2. Prepare first quarter 1997 groundwater monitoring report.
3. Pursue site closure with the Alameda County Health Care Service Agency.

Current Phase of Project:	<u>Monitoring</u>	(Assmnt, Remed., etc.)
Frequency of Groundwater Sampling:	<u>Quarterly</u>	(Quarterly, etc.)
Frequency of Groundwater Monitoring:	<u>Quarterly</u>	(Monthly, etc.)
Is Free Product (FP) Present On-Site:	<u>No</u>	(Yes/No)
FP Recovered this Quarter:	<u>None</u>	(gallons)
Cumulative FP Recovered to Date:	<u>None</u>	(gallons)
Bulk Soil Removed This Quarter:	<u>None</u>	(cubic yards)
Bulk Soil Removed to Date:	<u>960</u>	(cubic yards)
Current Remediation Techniques:	<u>Natural Attenuation</u>	(SVE/Sparge/FP Removal, etc.)
Approximate Depth to Groundwater:	<u>8.0 to 9.1</u>	(Measure Feet)
Groundwater Gradient:	<u>South-southwest</u>	(Direction)
	<u>0.011</u>	(Magnitude)

DISCUSSION:

- TPHH-g and benzene remain within historical levels.

ATTACHMENTS:

- Table 1 - Groundwater Sampling Schedule
- Table 2 - Groundwater Elevation and Analytical Data
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPPH-g/Benzene Concentration Map
- Attachment A - Historical Groundwater Elevation and Analytical Data Tables
- Attachment B - Field and Laboratory Procedures
- Attachment C - Certified Analytical Report, Chain-of-Custody Documentation, and Field Data Sheets

cc: Mr. John Jang, Regional Water Quality Control Board - S.F. Bay Region
Mr. Mike Bakaldin, City of San Leandro Fire Department, Hazardous
Materials Division
✓ Mr. Scott Seery, Alameda County Health Care Services Agency

Table 1
Groundwater Sampling Schedule

ARCO Service Station 2162
15135 Hesperian Boulevard at Ruth Court
San Leandro, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
MW-1	a	a	a	a	Quarterly
MW-2	a	a	a	a	Quarterly
MW-3	a	a	a	a	Quarterly
MW-4	a	a	a	a	Quarterly

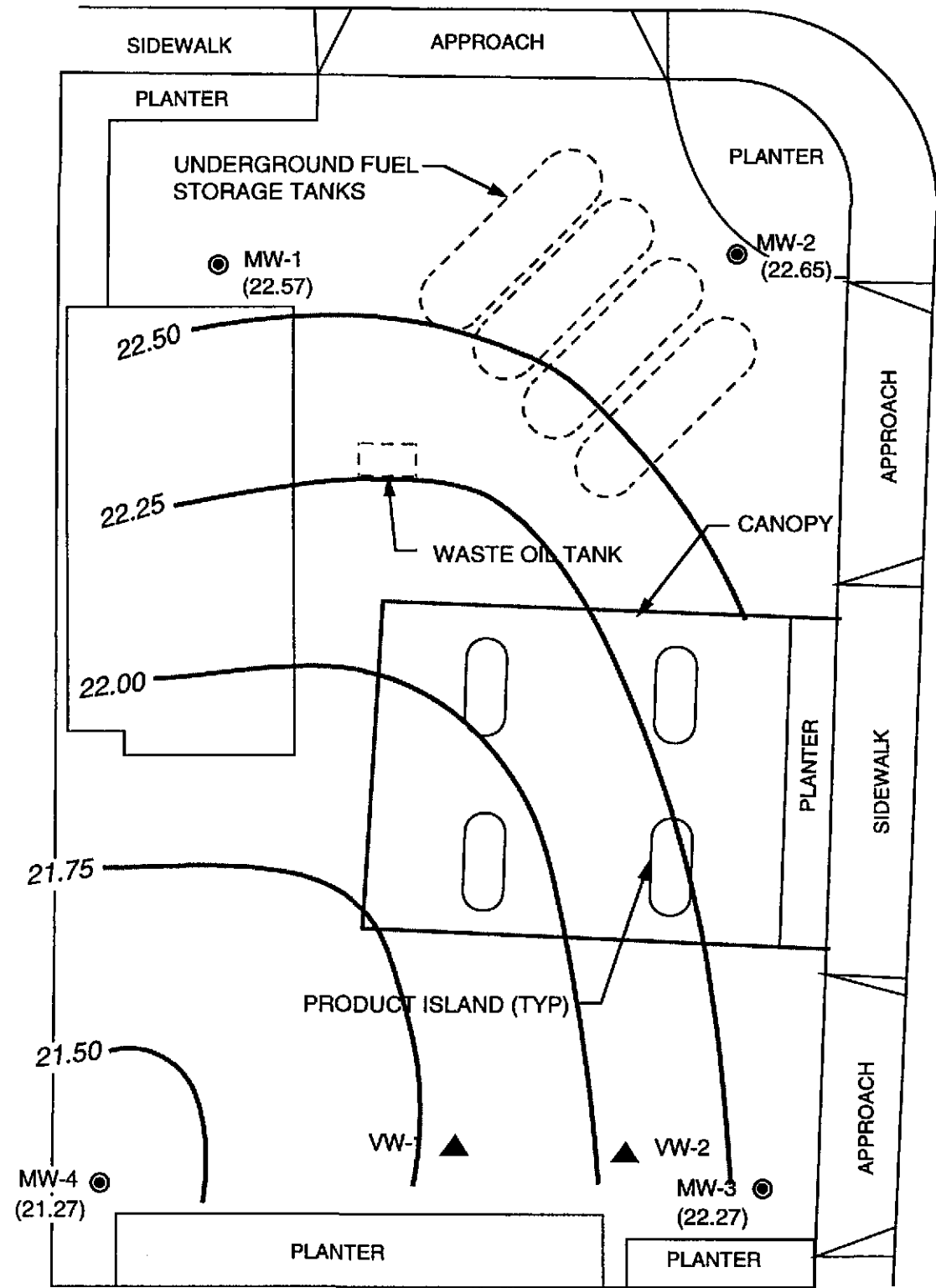
a. Samples analyzed for TPH-g, BTEX compounds, and MtBE according to EPA Methods 8015 (modified) and 8020.

Table 2
Groundwater Elevation and Analytical Data
 Total Purgeable Petroleum Hydrocarbons
 (TPPH as Gasoline, BTEX Compounds, and MtBE)

ARCO Service Station 2162
 15135 Hesperian Boulevard at Ruth Court
 San Leandro, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Xylenes (ppb)	MtBE (ppb)
MW-1	02/26/96	31.19	7.14	24.05	<50	<0.50	<0.50	<0.50	<0.50	NA
	05/23/96		7.70	23.49	<50	<0.50	<0.50	<0.50	<0.50	NA
	08/21/96		8.75	22.44	210	<0.50	<0.50	<0.50	<0.50	<2.5
	11/20/96		8.62	22.57	91	<0.50	<0.50	<0.50	<0.50	2.6
MW-2	02/26/96	30.38	6.41	23.97	770	<0.50	<0.50	45	28	NA
	05/23/96		6.80	23.58	590	0.50	<0.50	35	18	NA
	08/21/96		7.80	22.58	170	<0.50	<0.50	21	6.3	<2.5
	11/20/96		7.73	22.65	88	<0.50	<0.50	7.9	1.1	<2.5
MW-3	02/26/96	30.30	6.72	23.58	120	5.0	<0.50	<0.50	<0.50	NA
	05/23/96		7.18	23.12	140	12	<0.50	<0.50	<0.50	NA
	08/21/96		8.17	22.13	<50	1.1	<0.50	<0.50	<0.50	NA
	11/20/96		8.03	22.27	55	<0.50	<0.50	<0.50	<0.50	NA
MW-4	02/26/96	30.39	7.59	22.80	110	9.9	<0.50	<0.50	<0.50	NA
	05/23/96		8.22	22.17	69	8.0	<0.50	<0.50	<0.50	NA
	08/21/96		9.28	21.11	<50	6.8	<0.50	<0.50	<0.50	<2.5
	11/20/96		9.12	21.27	95	10	0.59	<0.50	0.52	3.8
MtBE	= Methyl tert-butyl ether									
MSL	= Mean sea level									
TOC	= Top of casing									
ppb	= Parts per billion									
NA	= Not analyzed									
<	= Less than the laboratory detection limit stated to the right.									

RUTH COURT



LEGEND

MW-4 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

VW-1 ▲ SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

(22.57) GROUNDWATER ELEVATION IN FEET - MSL, 11-20-96

22.50 — GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 11-20-96



APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.011

SOURCE: MAP BY RESNA



PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE



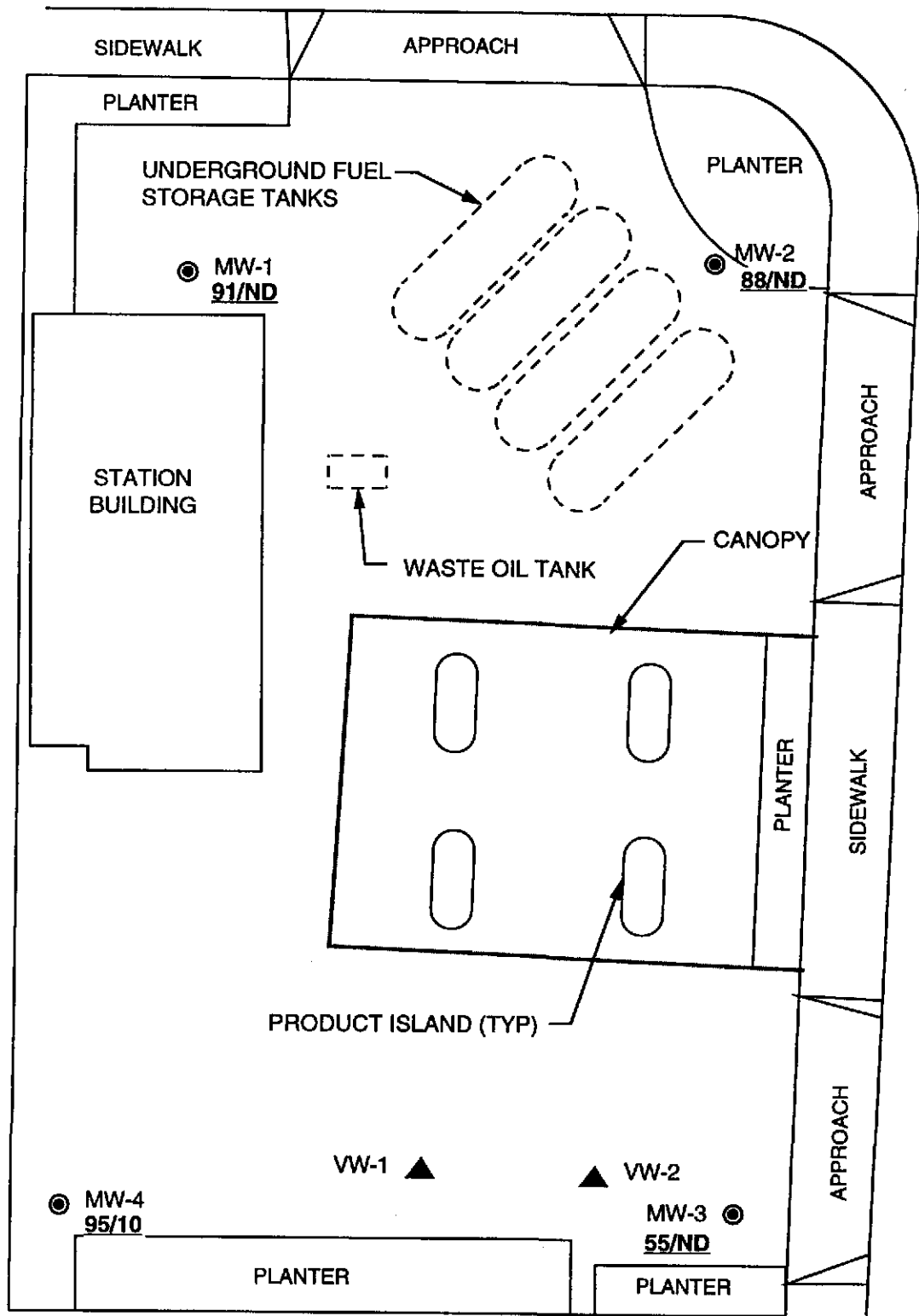
ARCO SERVICE STATION 2162
15135 Hesperian Boulevard at Ruth Court
San Leandro, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:
1

PROJECT:
330-107.2C

RUTH COURT



LEGEND

- MW-4 ● GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- VW-1 ▲ SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- 91/ND TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 11-20-96
- ND NOT DETECTED

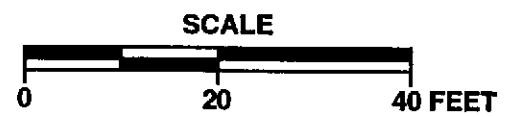


APPROXIMATE DIRECTION OF GROUNDWATER FLOW

SOURCE: MAP BY RESNA



PACIFIC ENVIRONMENTAL GROUP, INC.



ARCO SERVICE STATION 2162
15135 Hesperian Boulevard at Ruth Court
San Leandro, California

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-107.2C

ATTACHMENT A
HISTORICAL GROUNDWATER ELEVATION AND
ANALYTICAL DATA TABLES

Table A-1
 Historical Groundwater Elevation Data

ARCO Service Station 2162
 15135 Hesperian Boulevard at Ruth Court
 San Leandro, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	
MW-1	09/30/92	31.19	10.68	20.51	
	10/16/92		10.83	20.36	
	01/14/93		7.25	23.94	
	02/24/93		7.23	23.96	
	03/30/93		7.58	23.61	
	04/14/93		7.96	23.23	
	05/19/93		8.26	22.93	
	06/17/93		8.42	22.77	
	07/28/93		8.68	22.51	
	08/11/93		9.07	22.12	
	09/28/93		9.60	21.59	
	10/15/93		9.51	21.68	
	11/16/93		— Well Inaccessible —		
	12/16/93		8.70	22.49	
	02/15/94		8.51	22.68	
	03/18/94		8.46	22.73	
	05/05/94		8.66	22.53	
	08/05/94		9.50	21.69	
	11/21/94		8.83	22.36	
	02/24/95		7.90	23.29	
	05/31/95		7.86	23.33	
08/23/95	8.74	22.45			
11/22/95	9.50	21.69			
MW-2	09/30/92	30.38	9.74	20.64	
	10/16/92		9.91	20.47	
	01/14/93		6.56	23.82	
	02/24/93		6.67	23.71	
	03/30/93		6.76	23.62	
	04/14/93		7.10	23.28	
	05/19/93		7.40	22.98	
	06/17/93		7.51	22.87	
	07/28/93		7.73	22.65	
	08/11/93		8.11	22.27	
	09/28/93		8.57	21.81	
	10/15/93		8.56	21.82	
	11/16/93		8.87	21.51	
	12/16/93		7.92	22.46	
	02/15/94		7.62	22.76	
	03/18/94		7.57	22.81	
	05/05/94		7.75	22.63	
08/05/94	8.53	21.85			
11/21/94	7.92	22.46			
02/24/95	6.98	23.40			
05/31/95	6.97	23.41			
08/23/95	7.83	22.55			
11/22/95	8.54	21.84			
MW-3	09/30/92	30.30	9.93	20.37	
	10/16/92		10.13	20.17	
	01/14/93		6.71	23.59	
	02/24/93		6.82	23.48	
	03/30/93		7.07	23.23	
	04/14/93		7.41	22.89	
	05/19/93		7.72	22.58	
	06/17/93		7.86	22.44	
	07/25/93		8.13	22.17	

Table A-1 (continued)
Historical Groundwater Elevation Data

ARCO Service Station 2162
 15135 Hesperian Boulevard at Ruth Court
 San Leandro, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-3	08/11/93		8.45	21.85
(cont.)	09/28/93		8.96	21.34
	10/15/93		8.85	21.45
	11/16/93		9.09	21.21
	12/16/93		8.10	22.20
	02/15/94		7.88	22.42
	03/18/94		7.88	22.42
	05/05/94		8.08	22.22
	08/05/94		8.82	21.48
	11/21/94		8.17	22.13
	02/24/95		7.40	22.90
	05/31/95		7.35	22.95
	08/23/95		8.15	22.15
	11/22/95		8.84	21.46
MW-4	09/30/92	30.39	11.15	19.24
	10/16/92		11.33	19.06
	01/14/93		7.49	22.90
	02/24/93		7.57	22.82
	03/30/93		8.06	22.33
	04/14/93		8.48	21.91
	05/19/93		7.80	22.59
	06/17/93		8.94	21.45
	07/25/93		9.28	21.11
	05/11/93		9.61	20.78
	09/25/93		10.14	20.25
	10/15/93		10.00	20.39
	11/16/93		10.22	20.17
	12/16/93		9.11	21.28
	02/15/94		8.97	21.42
	03/15/94		8.99	21.40
	05/05/94		9.21	21.18
	08/05/94		10.02	20.37
	11/21/94		9.30	21.09
	02/24/95		8.46	21.93
	05/31/95		8.41	21.98
	08/23/95		9.32	21.07
	11/22/95		9.98	20.41
MSL = Mean sea level				
TOC = Top of casing				

Table A-2
Historical Groundwater Analytical Data
 Total Purgeable Petroleum Hydrocarbons
 (TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 2162
 15135 Hesperian Boulevard at Ruth Court
 San Leandro, California

Well Number	Date Sampled	TPPH as			Ethyl-benzene (ppb)	Xylenes (ppb)
		Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)		
MW-1	09/30/92	1,100	6.2	<0.50	6.9	<0.50
	10/16/92	790	3.0	0.8	5.6	2.9
	01/14/93	660	1.2	<1 a	15	4.6
	04/14/93	310	<1 a	<1 a	<1 a	<1 a
	08/11/93	660	0.8	<0.7	9.0	<1 b
	10/15/93	620	0.7	<0.5	5.9	2.2
	02/15/94	650	1.9	<0.5	4.5	4.9 b
	05/05/94	510	<0.5	<0.5	<1	1.6
	08/05/94	310	<0.5	<0.5	1.5	1.2
	11/21/94	330	<0.5	<0.5	1.5	1.1
	02/24/95	120	<0.50	<0.50	<0.50	<0.50
	05/31/95	<50	<0.50	<0.50	<0.50	<0.50
	08/23/95	160	<0.50	<0.50	<0.50	<0.50
11/22/95	70	<0.50	<0.50	<0.50	<0.50	
MW-2	09/30/92	1,000	9.6	<0.50	45	110
	10/16/92	630	8	<1 a	37	64
	01/14/93	7,800	33	5	340	920
	04/14/93	1,600	7	<5 a	220	520
	08/11/93	1,600	4.3	<1 a	80	120
	10/15/93	1,100	1.7	<1 a	62	70
	02/15/94	490	1.8	1.5	49	37
	05/05/94	360	<0.5	<0.5	27	18
	08/05/94	680	<0.5	<0.5	42	37
	11/21/94	500	<0.5	<0.5	40	25
	02/24/95	650	<0.50	<0.50	52	48
	05/31/95	450	<0.50	<0.50	33	33
	08/23/95	180	<0.50	<0.50	12	9.5
11/22/95	88	<0.50	<0.50	2.1	1.3	
MW-3	09/30/92	<50	<0.50	<0.50	<0.50	<0.50
	10/16/92	<50	<0.50	<0.50	<0.50	<0.50
	01/14/93	52	<0.50	<0.50	<0.50	<0.50
	04/14/93	360	86	2.1	5.1	4.0
	08/11/93	69	1.1	<0.5	<0.5	<0.5
	10/15/93	<50	<0.5	<0.5	<0.5	<0.5
	02/15/94	<50	<0.5	<0.5	<0.5	<0.5
	05/05/94	<50	<0.5	<0.5	<0.5	<0.5
	08/05/94	<50	<0.5	<0.5	<0.5	<0.5
	11/21/94	<50	<0.5	<0.5	<0.5	<0.5
	02/24/95	<50	0.93	<0.50	<0.50	<0.50
	05/31/95	120	24	<0.50	<0.50	<0.50
	08/23/95	85	<0.5	<0.5	<0.5	<0.5
11/22/95	<50	<0.50	<0.50	<0.50	<0.50	
MW-4	09/30/92	330	81	<0.50	<0.50	<0.50
	10/16/92	250	44	<0.50	<0.50	0.7
	01/14/93	260	29	0.6	<0.50	1.1
	04/14/93	NS	NS	NS	NS	NS
	08/11/93	150	21	<0.5	<0.5	<0.5
	10/15/93	190	12	<0.5	<0.5	<0.5
	02/15/94	<50	2.0	<0.5	<0.5	<0.5
	05/05/94	160	17	<0.5	<0.5	0.6
	08/05/94	120	10	<0.5	<0.5	<0.5
	11/21/94	120	17	<0.5	<0.5	0.6

Table A-2 (continued)
Historical Groundwater Analytical Data
 Total Purgeable Petroleum Hydrocarbons
 (TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 2162
 15135 Hesperian Boulevard at Ruth Court
 San Leandro, California

Well Number	Date Sampled	TPPH as			Ethyl-benzene (ppb)	Xylenes (ppb)
		Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)		
MW-4 (cont.)	02/24/95	110	14	<0.50	<0.50	<0.50
	05/31/95	97	11	<0.50	<0.50	<0.50
	08/23/95	110	16	<0.50	<0.50	<0.50
	11/22/95	71	6.2	<0.50	<0.50	<0.50
ppb	= Parts per billion					
NS	= Not sampled, separate-phase hydrocarbon entered well during purging.					
<	= Less than the laboratory detection limit stated to the right.					
a.	Raised MRL due to high analyte concentration requiring sample dilution					
b.	Raised MRL due to matrix interference					

Table A-3
Historical Groundwater Analytical Data
Total Methyl tert-Butyl Ether

ARCO Service Station 2162
15135 Hesperian Boulevard at Ruth Court
San Leandro, California

Well Number	Date Sampled	Methyl tert-Butyl Ether (ppb)
MW-1	08/23/95	<2.5
MW-2	08/23/95	<2.5
MW-3	08/23/95	41
MW-4	08/23/95	<2.5

ppb = Parts per billion
< = Less than the detection limit stated to the right.

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

Sampling Procedures

The sampling procedure for each well consists of first measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH) using either an electronic indicator and a clear Teflon® bailer or an oil-water interface probe. Wells not containing SPH are then purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Laboratory Procedures

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

ATTACHMENT C

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



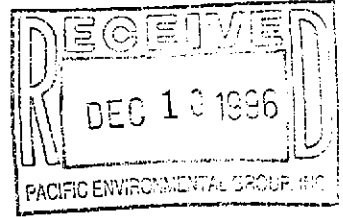
Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Paul Supple

Project: Arco 330-107.21/ 2162

Enclosed are the results from samples received at Sequoia Analytical on November 21, 1996.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9611F35 -01	LIQUID, MW-1	11/20/96	TPGBMW Purgeable TPH/BTEX
9611F35 -02	LIQUID, MW-2	11/20/96	TPGBMW Purgeable TPH/BTEX
9611F35 -03	LIQUID, MW-3	11/20/96	TPGBMW Purgeable TPH/BTEX
9611F35 -04	LIQUID, MW-4	11/20/96	TPGBMW Purgeable TPH/BTEX
9611F35 -05	LIQUID, TB-1	11/20/96	TPGBMW 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



Project Manager





Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: Arco 330-107.21/ 2162 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9611F35-01	Sampled: 11/20/96 Received: 11/21/96 Analyzed: 12/02/96 Reported: 12/04/96
--	--	---

QC Batch Number: GC120296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	91
Methyl t-Butyl Ether	2.5	2.6
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern: Unidentified HC		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	93

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager





Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: Arco 330-107.21/ 2162 Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9611F35-02	Sampled: 11/20/96 Received: 11/21/96 Analyzed: 12/02/96 Reported: 12/04/96
Attention: Paul Supple		


QC Batch Number: GC120296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	88
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	7.9
Xylenes (Total)	0.50	1.1
Chromatogram Pattern:		Gas
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


Tod Granicher
Project Manager





Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: Arco 330-107.2I/ 2162 Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9611F35-03	Sampled: 11/20/96 Received: 11/21/96 Analyzed: 12/02/96 Reported: 12/04/96
--	--	---

QC Batch Number: GC120296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	55
Methyl t-Butyl Ether	2.5	59
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern: Unidentified HC		C6-C9
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

Tod

Tod Granicher
Project Manager





Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: Arco 330-107.21/ 2162 Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9611F35-04	Sampled: 11/20/96 Received: 11/21/96 Analyzed: 12/02/96 Reported: 12/04/96
Attention: Paul Supple		


QC Batch Number: GC120296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	95
Methyl t-Butyl Ether	2.5	3.8
Benzene	0.50	10
Toluene	0.50	0.59
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	0.52
Chromatogram Pattern:		Gas
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



Tod Granicher
Project Manager





Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: Arco 330-107.21/ 2162 Sample Descript: TB-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9611F35-05	Sampled: 11/20/96 Received: 11/21/96 Analyzed: 12/02/96 Reported: 12/04/96
--	--	---


QC Batch Number: GC120296BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		N.D.
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	93

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager





Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Paul Supple

Client Proj. ID: Arco 330-107.2I/ 2162
Lab Proj. ID: 9611F35

Received: 11/21/96
Reported: 12/04/96

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 10 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL


Tod Granicher
Project Manager





Pacific Environmental Group Client Project ID: Arco 330-107.21 / 2162
 2025 Gateway Place, Suite 440 Matrix: LIQUID
 San Jose, CA 95110
 Attention: Paul Supple Work Order #: 9611F35 01-05 Reported: Dec 6, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120296BTEX07A	GC120296BTEX07A	GC120296BTEX07A	GC120296BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	9611E4705	9611E4705	9611E4705	9611E4705
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/2/96	12/2/96	12/2/96	12/2/96
Analyzed Date:	12/2/96	12/2/96	12/2/96	12/2/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
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:	9.9	9.8	9.7	30
MSD % Recov.:	99	98	97	100
RPD:	1.0	2.0	3.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK120296	BLK120296	BLK120296	BLK120296
Prepared Date:	12/2/96	12/2/96	12/2/96	12/2/96
Analyzed Date:	12/2/96	12/2/96	12/2/96	12/2/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
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	10

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

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

SEQUOIA ANALYTICAL

Tod
 Tod Granicher
 Project Manager

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

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

9611F35.PPP <1>



SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
 REC. BY (PRINT) LDC

WORKORDER: 9611F35
 DATE OF LOG-IN: 11/35/96



Sequoia Analytical

688 Chesapeake Drive
 401 N. Wige Line
 819 Sturtevant Avenue, Suite 8
 Redwood City, CA 94063
 Walnut Creek, CA 94598
 Sacramento, CA 95834

(415) 354-9600
 (510) 988-9600
 (916) 901-9600
 FAX (415) 364-9600
 FAX (510) 988-9600
 FAX (916) 921-9600

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION
1. Custody Seal(s)	Present / <u>Absent*</u> Intact / Broken*	1	A-C	mw-1	voa (3)	liq	11/20	
2. Custody Seal #:	Put in Remarks Section	2		mw-2				
3. Chain-of-Custody	<u>Present</u> / Absent*	3		mw-3				
4. Traffic Reports or Packing List:	Present / <u>Absent</u>	4		mw-4				
5. Airbill:	Airbill / Sticker Present / <u>Absent*</u>	5	AB	TB-1	voa (2)			
6. Airbill #:								
7. Sample Tags:	<u>Present</u> / Absent							
Sample Tags #s:	<u>Listed</u> / Not Listed on Chain-of-Custody							
8. Sample Condition:	<u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample tags agree?	<u>Yes</u> / No*							
10. Proper Preservatives used:	<u>Yes</u> / No*							
11. Date Rec. at Lab:	<u>11-21-96</u>							
12. Time Rec. at Lab:	<u>1157</u>							
13. Temp Rec. at Lab:	<u>6°C</u>							

*LDCardenas 11/21

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

ARCO Products Company

Division of AtlanticRichfieldCompany

330 107 21

Task Order No. 173450

Chain of Custody

ARCO Facility no. 2102

City 15135 (Facility) *Hesperian Blvd San Leandro*

Project manager (Consultant) *Kelle Brown*
 Telephone no. (Consultant) *415/755 2750*
 Fax no. (Consultant) *(415) 401 7539*

Laboratory name
Sequoya
 Contract number
200005

ARCO engineer *Paul Supple*

Telephone no. (ARCO)

Consultant name *Pacific Environmental Group Inc*

Address (Consultant) *2025 Anthony Place Suite 440 San Jose CA 95128*

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA 8015 EPA 1602/8020/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 635/8270	TCMP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	Semi Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	CAM Metals EPA 6010/7000	TTLCL <input type="checkbox"/> STLCL <input type="checkbox"/>	Lead Org./DHS <input type="checkbox"/> Lead EPA 7420/7421 <input type="checkbox"/>	Method of shipment			
			Soil	Water	Other	Ice	Acid <i>HCL</i>																			
<i>MW-1</i>	<i>1</i>	<i>3</i>		<i>X</i>		<i>X</i>	<i>X</i>	<i>11/20/96</i>	<i>12:55</i>		<i>X</i>														Special detection Limit/reporting	
<i>MW-2</i>	<i>2</i>	<i>1</i>		<i>↓</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>13:55</i>		<i>↓</i>															
<i>MW-3</i>	<i>3</i>	<i>1</i>		<i>↓</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>13:35</i>		<i>↓</i>															
<i>MW-4</i>	<i>4</i>	<i>↓</i>		<i>↓</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>13:15</i>		<i>↓</i>															
<i>TB-1</i>	<i>5</i>	<i>2</i>		<i>↓</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>11/A</i>		<i>↓</i>															

Special QA/QC

Remarks

Lab number
9611F35

- 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 *W. Alarcón*
 Date *11/20/96* Time *4:30*

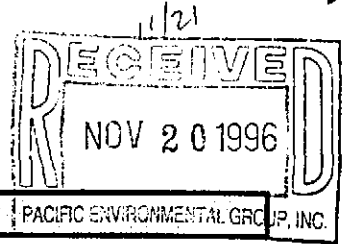
Received by *W. Alarcón* *11/20/96 14:30*

Relinquished by *W. Alarcón*
 Date *11/21/96* Time *10:15*

Received by *W. Alarcón*

Relinquished by *W. Alarcón*
 Date *11/21/96* Time *11:58*

Received by laboratory *W. Alarcón* Date *11/21/96* Time *11:57*



FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM PACIFIC ENVIRONMENTAL GROUP, INC.

Project #:330-107.2I

1st time visit

Station #:2162

1st 2nd 3rd 4th

Date of Request: 4Q

Site Address:15135 Hesperian Blvd.
San Leandro, California

Monthly

Ideal Field Date:

Semi-Monthly

County:Alameda

Weekly

Budget Hrs. _____

Project Manager:Kelly Brown

One time Event

Actual Hrs. 2

Requestor: Denise Alarcon

Other. _____

Mob de Mob 2

Client:Arco

Client P.O.C.:Paul Supple

Purge total : 63

Prefield contacts:

Field Tasks: For General Description

Fourth quarter 1996 groundwater sampling event: DTW/DTL on all wells from TOB/TOC
Sample per attached protocol

WA# 19348 00

Comments, remarks, from Field Staff (include problems encountered)

Completed by: W. Reck Date: 11/20/96

Checked by: _____

FIELD REPORT

PTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 107 21

LOCATION: 15135 Hesperian blvd / ^{Sun} Concord DATE: 11/20/96

CLIENT/STATION NO.: Hyco # 2162

FIELD TECHNICIAN: W. R. Kelly DAY OF WEEK: Wed

PROBE TYPE/ID No.

- Oil/Water IF/ _____
- H₂O level indicator _____
- Other: _____

Casing Size	D/W 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)						LIQUID REMOVED (gallons)									
												SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	Fresh	Weathered	Gas	Oil	VISCOSITY			SPH	H ₂ O					
												COLOR															
4"	1	MW-1	12:02	✓	✓	✓	✓	✓	15.96	8.83 8.62	8.83 8.02																
4"	4	MW-2	12:13	✓	✓	✓	✓	✓	15.95	8.08 7.73	8.08 7.83																
4"	3	MW-3	12:10	✓	✓	✓	✓	✓	14.95	8.25 8.03	8.25 8.03																
4"	2	MW-4	12:06	✓	✓	✓	✓	✓	17.72	9.35 7.12	9.35 9.12																

Comments: * Total Depth taken from last quarter

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 107 21 LOCATION: 15135 Hesperian Blvd ^{San} Leandro WELL ID #: MW-1

CLIENT/STATION No.: Arco # 7162 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
 Depth to water: 8.83 TOB 8.62 TOC
 Total depth: _____ TOB 15.96 TOC
 Date: 11/20/96 Time (2400): 12:02

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

CASING DIAMETER

2 _____
 3 _____
 4 _____
 4.5 _____
 5 _____
 6 _____
 8 _____

GAL/LINEAR FT.

0.17
 0.38
 0.66
 0.83
 1.02
 1.5
 2.6

SAMPLE TYPE

Groundwater
 Duplicate
 Extraction well
 Trip blank
 Field blank
 Equipment blank
 Other: _____

TD 15.96 - DTW 8.62 = 7.34 Gal/Linear .66 = 4.84 Number of 3 Casings
 Calculated = Purge 14.53

DATE PURGED: 11/20/96 START: 12:40 END (2400 hr): 12:51 PURGED BY: W Peck
 DATE SAMPLED: 11/20/96 START: 12:51 END (2400 hr): 12:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:44	5.0	7.10	1430	69.8	Brown	Mod	None
12:47	10.0	7.07	1370	71.0	Brown	Mod	None
12:51		7.08	920	71.4	Cloudy	light	None

Pumped dry Yes No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

PURGING EQUIPMENT/I.D.

Bailer: _____
 Centrifugal Pump: _____
 Other: _____

SAMPLING EQUIPMENT/I.D.

Bailer: G-5
 Dedicated: _____
 Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
<u>MW-1</u>	<u>11/20/96</u>	<u>12:55</u>	<u>3</u>	<u>40ml</u>	<u>VOP</u>	<u>HCC</u>	<u>Gas/BTEX/MTBE</u>

REMARKS: _____

W Peck

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 107 21 LOCATION: 15135 Hesperian Blvd ^{San} Leandro WELL ID #: WU-2

CLIENT/STATION No.: Arco # 2162 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC
 Depth to water: 8.08 TOB 8.73 TOC
 Total depth: TOB 15.95 TOC
 Date: 11/20/96 Time (2400): 17:13

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

CASING DIAMETER **GAL/LINEAR FT.**

<input type="checkbox"/>	2	0.17
<input type="checkbox"/>	3	0.38
<input checked="" type="checkbox"/>	4	0.66
<input type="checkbox"/>	4.5	0.83
<input type="checkbox"/>	5	1.02
<input type="checkbox"/>	6	1.5
<input type="checkbox"/>	8	2.6

SAMPLE TYPE

Groundwater
 Duplicate
 Extraction well
 Trip blank
 Field blank
 Equipment blank
 Other:

TD 15.95 - DTW 7.73 = 8.22 Gal/Linear Foot 1.66 = 5.42 Number of Casings 3 Calculated Purge 16.27

DATE PURGED: 11/20/96 START: 13:40 END (2400 hr): 13:53 PURGED BY: W Peck
 DATE SAMPLED: 11/20/96 START: 13:53 END (2400 hr): 13:55 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
<u>13:43</u>	<u>5.50</u>	<u>7.05</u>	<u>1390</u>	<u>71.5</u>	<u>Orange</u>	<u>Mod</u>	<u>None</u>
<u>13:49</u>	<u>11.0</u>	<u>7.04</u>	<u>1370</u>	<u>71.7</u>	<u>Cloudy</u>	<u>light</u>	<u>None</u>
<u>13:53</u>	<u>16.50</u>	<u>7.00</u>	<u>1350</u>	<u>72.1</u>	<u>Cloudy</u>	<u>light</u>	<u>None</u>

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: G-6
 Dedicated:
 Other:

AMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
<u>WU-2</u>	<u>11/20/96</u>	<u>13:55</u>	<u>3</u>	<u>40ml</u>	<u>VOR</u>	<u>HCL</u>	<u>Gas/BTEX/MTBE</u>

REMARKS:

Water

FIELD DATA SHEET

TER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 107 21 LOCATION: 15135 Hesperian Blvd ^{San} Leandro WELL ID #: MW-2

CLIENT/STATION No.: Arco # 7162 FIELD TECHNICIAN: W Peck

WELL INFORMATION		CASING		GAL/		SAMPLE TYPE	
Depth to Liquid: <u>✓</u> TOB <u>✓</u> TOC	DIAMETER	LINEAR FT.					
Depth to water: <u>8.25</u> TOB <u>8.03</u> TOC	<input type="checkbox"/> 2	<u>0.17</u>			<input checked="" type="checkbox"/> Groundwater		
Total depth: <u> </u> TOB <u>14.95</u> TOC	<input type="checkbox"/> 3	<u>0.38</u>			<input type="checkbox"/> Duplicate		
Date: <u>11/20/96</u> Time (2400): <u>12:10</u>	<input checked="" type="checkbox"/> 4	<u>0.66</u>			<input type="checkbox"/> Extraction well		
Probe Type and I.D. #	<input type="checkbox"/> 4.5	<u>0.83</u>			<input type="checkbox"/> Trip blank		
<input type="checkbox"/> Oil/Water interface	<input type="checkbox"/> 5	<u>1.02</u>			<input type="checkbox"/> Field blank		
<input checked="" type="checkbox"/> Electronic indicator	<input type="checkbox"/> 6	<u>1.5</u>			<input type="checkbox"/> Equipment blank		
<input type="checkbox"/> Other: <u> </u>	<input type="checkbox"/> 8	<u>2.6</u>			<input type="checkbox"/> Other: <u> </u>		

TD 14.95 - DTW 8.03 = 6.92 Gal/Linear x Foot 0.66 = 4.56 Number of Casings 3 Calculated = Purge 13.70

DATE PURGED: 11/20/96 START: 13:20 END (2400 hr): 13:31 PURGED BY: W Peck
 DATE SAMPLED: 11/20/96 START: 13:21 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
<u>13:24</u>	<u>4.75</u>	<u>7.13</u>	<u>1266</u>	<u>73.2</u>	<u>Brown</u>	<u>mod</u>	<u>None</u>
<u>13:27</u>	<u>9.50</u>	<u>7.09</u>	<u>1340</u>	<u>74.0</u>	<u>Brown</u>	<u>mod</u>	<u>None</u>
<u>13:31</u>	<u>14.25</u>	<u>6.91</u>	<u>1396</u>	<u>74.6</u>	<u>Brown</u>	<u>mod</u>	<u>None</u>

Pumped dry Yes No
 FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:
 DTW: TOB/TOC

PURGING EQUIPMENT/I.D. #		SAMPLING EQUIPMENT/I.D. #	
<input type="checkbox"/> Bailer: <u> </u>	<input type="checkbox"/> Airlift Pump: <u> </u>	<input checked="" type="checkbox"/> Bailer: <u>G 11</u>	
<input checked="" type="checkbox"/> Centrifugal Pump: <u> </u>	<input type="checkbox"/> Dedicated: <u> </u>	<input type="checkbox"/> Dedicated: <u> </u>	
<input type="checkbox"/> Other: <u> </u>		<input type="checkbox"/> Other: <u> </u>	

AMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
<u>MW-3</u>	<u>11/20/96</u>	<u>13:35</u>	<u>3</u>	<u>40ml</u>	<u>VOA</u>	<u>HCC</u>	<u>Gas/BTEX/MTBE</u>

MARKS:

W Peck

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 107 21 LOCATION: 15/35 Hesperian Blvd ^{San} Leandro WELL ID #: MW-4

CLIENT/STATION No.: Arco # 7162 FIELD TECHNICIAN: W. Beck

WELL INFORMATION

Depth to Liquid: ✓ TOB ✓ TOC _____
 Depth to water: 9.35 TOB 9.12 TOC _____
 Total depth: _____ TOB 17.72 TOC _____
 Date: 11/20/96 Time (2400): 1200

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

CASING

DIAMETER	GAL/ LINEAR FT.
<input type="checkbox"/> 2	0.17
<input type="checkbox"/> 3	0.38
<input checked="" type="checkbox"/> 4	0.66
<input type="checkbox"/> 4.5	0.83
<input type="checkbox"/> 5	1.02
<input type="checkbox"/> 6	1.5
<input type="checkbox"/> 8	2.6

SAMPLE TYPE

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

TD 17.72 - DTW 9.12 = 8.6 Gal/Linear 66 = 5.67 x Foot 3 = 17.02 Calculated Purge

DATE PURGED: 11/20/96 START: 13:00 END (2400 hr): 13:13 PURGED BY: W. Beck
 DATE SAMPLED: 11/20/96 START: 13:13 END (2400 hr): 13:15 SAMPLED BY: W. Beck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
<u>13:04</u>	<u>5.75</u>	<u>7.17</u>	<u>1310</u>	<u>70.6</u>	<u>Brown</u>	<u>Red</u>	<u>None</u>
<u>13:08</u>	<u>11.50</u>	<u>7.15</u>	<u>1260</u>	<u>71.4</u>	<u>Brown</u>	<u>Mod</u>	<u>None</u>
<u>13:13</u>	<u>17.25</u>	<u>7.14</u>	<u>1420</u>	<u>72.1</u>	<u>Brown</u>	<u>Mod</u>	<u>None</u>

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: G-1
- Dedicated: _____
- Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
<u>MW-4</u>	<u>11/20/96</u>	<u>13:15</u>	<u>3</u>	<u>40ml</u>	<u>VOA</u>	<u>HCC</u>	<u>Gus/BTEX/MTBE</u>

REMARKS: _____

W. Beck

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330 107 21 LOCATION: 15135 Hesperian Blvd ^{San} Leandro WELL ID #: TB-1

CLIENT/STATION No.: Arco # 7162 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: TOB TOC
 Depth to water: TOB TOC
 Total depth: TOB TOC
 Date: 11/20/96 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 - DTW = x Foot = x Casings 3 = Calculated Purge

DATE PURGED: 11/20/96 START: END (2400 hr): PURGED BY: W Peck
 DATE SAMPLED: 11/20/96 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
TRIP BLANK							

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
<u>TB-1</u>	<u>11/20/96</u>	<u>N/A</u>	<u>2</u>	<u>40ml</u>	<u>VOA</u>	<u>HCC</u>	<u>Gas/BTEX/MTBE</u>

REMARKS:

W Peck

ARCO Products Company
Division of AtlanticRichfield Company

330 107 21

Task Order No. 1934800

Chain of Custody

ARCO Facility no. 2162

City 15135 (Facility) Hesperian Blvd San Leandro

Project manager (Consultant) Kelly Brown

ARCO engineer Paul Supple

Telephone no. (ARCO)

Telephone no. (408) 441 7500 (Consultant)

Fax no. (408) 441 7539 (Consultant)

Laboratory name Sequoia

Consultant name Pacific Environmental Group Inc

Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95116

Contract number

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/Gas/MIB EPA 1602/8020/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/> Semi <input type="checkbox"/>	CAM Metals EPA 6010/7000 TTL <input type="checkbox"/> STL <input type="checkbox"/> STL <input type="checkbox"/>	Lead Org./DHS <input type="checkbox"/> Lead EPA 7420/7421 <input type="checkbox"/>	
			Soil	Water	Other	Ice	Acid HCL														
MW-1		3		8		8	8	11/20/96	12:55		X										
MW-2		↓		↓		↓	↓		13:55		↓										
MW-3		↓		↓		↓	↓		13:35		↓										
MW-4		↓		↓		↓	↓		13:15		↓										
IB-1		2		↓		↓	↓		N/A		↓										

Method of shipment

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 *W. Supple*

Date 11/20/96 Time 14:30

Received by

Relinquished by

Date Time

Received by

Relinquished by

Date Time

Received by laboratory

Date

Time