PACIFIC
ENVIRONMENTAL
GROUP, INC.

October 26, 1995
Project 330-041.2B

Mr. Michael Whelan
ARCO Products Company
2155 South Bascom Avenue, Suite 202
Campbell, California 95008

Re: Quarterly Report - Third Quarter 1995
ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Dear Mr. Whelan:

This letter, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company, presents the results of the third quarter 1995 groundwater monitoring at the site referenced above. In addition, a summary of work completed and anticipated at the site is included.

QUARTERLY GROUNDWATER MONITORING RESULTS

A groundwater sample was collected from Well RW-1 by PACIFIC on August 23, 1995, and analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). In addition, the groundwater sample from Well RW-1 was analyzed for total methyl t-butyl ether (MTBE) this quarter. Groundwater samples from Wells MW-1 through MW-7 will be analyzed for MTBE in the second quarter 1996. A groundwater sampling schedule is presented in Table 1. The certified analytical report, chain-of-custody documentation, and field data sheets are presented as Attachment A. Field and laboratory procedures are presented as Attachment B.

Depth to water data collected on August 23, 1995 indicate that changes to groundwater levels across the site are mixed, but on average have risen 0.02 foot since May 24, 1995. Groundwater flow was to the north-northwest with an approximate gradient of 0.02. This flow direction and gradient are consistent with historical data. Liquid surface

elevation data are presented in Table 2. A groundwater elevation contour map based on the August 23, 1995 data is shown on Figure 1.

Well RW-1 was the only on-site well analyzed for total petroleum hydrocarbons this quarter. TPH-g and benzene concentrations were 620 and 2.1 parts per billion, respectively. Separate-phase hydrocarbons were not observed in any site well this quarter. Groundwater analytical data are presented in Tables 3 and 4. A TPH-g and benzene concentration map is shown on Figure 2.

SUMMARY OF WORK

Work Performed Third Quarter 1995

- Prepared and submitted second quarter 1995 groundwater monitoring report.
- Performed third quarter 1995 groundwater monitoring event. Groundwater sampling was performed by PACIFIC.
- Prepared third quarter 1995 groundwater monitoring report.

Work Anticipated Fourth Quarter 1995

- Preparation and submittal of third quarter 1995 groundwater monitoring report.
- Performance of fourth quarter 1995 groundwater monitoring event. Groundwater sampling to be performed by PACIFIC.
- Preparation of fourth quarter 1995 groundwater monitoring report.
- Meet with Barney Chan of the Alameda County Health Care Services Agency to discuss site closure.

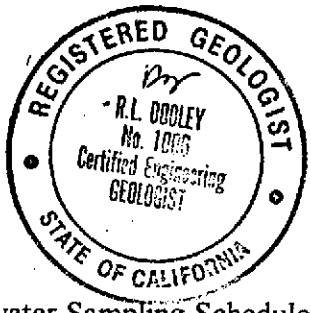
If there are any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Kelly C. Brown
Project Manager

R. Lee Dooley
Senior Geologist
CEG 1006



Attachments:
- Table 1 - Groundwater Sampling Schedule
- Table 2 - Liquid Surface Elevation Data
- Table 3 - Groundwater Analytical Data - Total Petroleum Hydrocarbons (TPH as Gasoline, BTEX Compounds, TPH as Diesel, and Total Oil and Grease)
- Table 4 - Groundwater Analytical Data - Total Methyl t-Butyl Ether
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPH-g/Benzene Concentration Map
- Attachment A - Certified Analytical Report, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment B - Field and Laboratory Procedures

cc: Mr. Kevin Graves, Regional Water Quality Control Board - S.F. Bay Region
Mr. Barney Chan, Alameda County Health Care Services Agency

Table 1
Groundwater Sampling Schedule

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sample Frequency
MW-1		a			Annually
MW-3		a			Annually
MW-4		a			Annually
MW-5		a			Annually
MW-6		a			Annually
MW-7		a			Annually
RW-1	a	a	a	a	Quarterly

a. Samples analyzed for TPH-g and BTEX compounds according to EPA Methods 8015 (modified), and 8020.
Note: Well MW-2 was destroyed.

Table 2
Liquid Surface Elevation Data

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Depth to Liquid (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-1	06/06/90	105.31	6.65	6.05	0.00	98.66
	08/16/90		7.00	7.00	0.00	98.31
	08/21/90		7.05	7.05	0.00	98.26
	09/07/90		7.24	7.24	0.00	98.07
	11/20/90		7.46	7.46	0.00	97.85
	11/29/90		7.40	7.40	0.00	97.91
	12/19/90		6.99	6.99	0.00	98.32
	01/29/91		7.23	7.23	0.00	98.08
	02/27/91		7.45	7.45	0.00	97.86
	03/07/91		6.96	6.96	0.00	98.35
	03/26/91		6.02	6.02	0.00	99.29
	05/02/91		7.04	7.04	0.00	98.27
	06/27/91		6.71	6.71	0.00	98.60
	07/24/91		6.91	6.91	0.00	98.40
	08/22/91		6.85	6.85	0.00	98.46
	09/30/91		7.04	7.04	0.00	98.27
	10/17/91		7.22	7.22	0.00	98.09
	11/21/91		7.17	7.17	0.00	98.14
	12/18/91		7.46	7.46	0.00	97.85
	01/19/92		7.44	7.44	0.00	97.87
	02/20/92		6.25	6.25	0.00	99.06
	03/20/92		6.40	6.40	0.00	98.91
	04/20/92		6.88	6.88	0.00	98.43
	05/19/92		7.10	7.10	0.00	98.21
	06/08/92		7.22	7.22	0.00	98.09
	07/15/92		7.92	7.92	0.00	97.39
	08/06/92	106.10	7.29	7.29	0.00	98.81
	10/29/92		7.34	7.34	0.00	98.76
	11/23/92		8.15	8.15	0.00	97.95
	08/16/93		7.23	7.23	0.00	98.87
	11/17/93		7.51	7.51	0.00	98.59
	02/21/94		6.56	6.56	0.00	99.54
	05/11/94		6.57	6.57	0.00	99.53
	08/12/94		7.12	7.12	0.00	98.98
	11/17/94		6.85	6.85	0.00	99.25
	02/22/95		7.35	7.35	0.00	98.75
	05/24/95		7.07	7.07	0.00	99.03
	08/23/95		7.10	7.10	0.00	99.00
MW-2	06/06/90	105.78	9.92 *	9.00	0.92	95.86
	08/16/90		NM	NM	0.17	NM
	08/21/90		NM	NM	0.17	NM
	09/07/90		9.34 *	9.17	0.17	96.44
	11/20/90		9.20 *	9.20	Sheen	96.58
	11/29/90		9.92 *	9.92	Sheen	95.86
	12/19/90		8.95	8.95	0.00	96.83
	01/29/91		9.01	9.01	Sheen	96.77
	02/27/91		9.14	9.14	Sheen	96.64
	03/07/91		8.94	8.94	Sheen	96.84
	03/26/91		8.11	8.11	Sheen	97.67
	05/02/91		8.72	8.72	0.00	97.06

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Depth to Liquid (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-2	06/27/91		9.20	9.20	Sheen	96.58
(cont.)	07/24/91		9.25	9.25	0.00	96.53
	08/22/91		9.20	9.20	0.00	96.58
	09/30/91		9.31	9.31	Sheen	96.47
	10/17/91		9.39	9.39	Sheen	96.39
	11/21/91		9.20	9.20	0.00	96.58
	12/18/91		9.23	9.23	Sheen	96.55
	01/19/92		9.96 **	9.96	Skimmer	95.82
	02/20/92		9.13 **	9.13	Skimmer	96.65
	03/20/92		9.31 **	9.31	Skimmer	96.47
	04/20/92		9.69	9.69	Skimmer	96.09
	05/19/92		9.92	9.92	Skimmer	95.86
	06/08/92		9.84	9.84	Skimmer	95.94
	07/15/92		10.19	10.19	Skimmer	95.59
	08/06/92	106.57	10.05	10.05	Skimmer	96.52
	10/29/92		10.00	10.00	Skimmer	96.57
	11/23/92		9.88	9.87	0.01	96.69
	12/08/92	---------- Well Destoyed ----------				
MW-3	08/16/90	105.51	8.87	8.87	0.00	96.64
	08/21/90		8.85	8.85	0.00	96.66
	09/07/90		8.98	8.98	0.00	96.53
	11/20/90		9.10	9.10	0.00	96.41
	11/29/90		9.05	9.05	0.00	96.46
	12/19/90		8.67	8.67	0.00	96.84
	01/29/91		8.96	8.96	0.00	96.55
	02/27/91		8.71	8.71	0.00	96.80
	03/07/91		8.49	8.49	0.00	97.02
	03/26/91		7.65	7.65	0.00	97.86
	05/02/91		8.62	8.62	0.00	96.89
	06/27/91		8.94	8.94	0.00	96.57
	07/24/91		8.96	8.96	0.00	96.55
	08/22/91		8.92	8.92	0.00	96.59
	09/30/91		9.04	9.04	0.00	96.47
	10/17/91		9.12	9.12	0.00	96.39
	11/21/91		8.92	8.92	0.00	96.59
	12/18/91		8.97	8.97	0.00	96.54
	01/19/92		8.69	8.69	0.00	96.82
	02/20/92		7.78	7.78	0.00	97.73
	03/20/92		8.15	8.15	0.00	97.36
	04/20/92		8.57	8.57	0.00	96.94
	05/19/92		8.76	8.76	0.00	96.75
	06/08/92		8.74	8.74	0.00	96.77
	07/15/92		9.12	9.12	0.00	96.39
	08/06/92	106.29	8.95	8.95	0.00	97.34
	10/29/92		8.78	8.78	0.00	97.51
	11/23/92		9.91	9.91	0.00	96.38
	08/16/93		8.62	8.62	0.00	97.67
	11/17/93		8.72	8.72	0.00	97.57
	02/21/94		7.91	7.91	0.00	98.38
	05/11/94		8.09	8.09	0.00	98.20

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Depth to Liquid (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-3	08/12/94		8.78	8.78	0.00	97.51
(cont.)	11/17/94		8.45	8.45	0.00	97.84
	02/22/95		8.95	8.95	0.00	97.34
	05/24/95		8.67	8.67	0.00	97.62
	08/23/95		9.17	9.17	0.00	97.12
MW-4	08/16/90	106.61	8.16	8.16	0.00	98.45
	08/21/90		8.22	8.22	0.00	98.39
	09/07/90		8.39	8.39	0.00	98.22
	11/20/90		8.57	8.57	0.00	98.04
	11/29/90		8.53	8.53	0.00	98.08
	12/19/90		8.13	8.13	0.00	98.48
	01/29/91		8.66	8.66	0.00	97.95
	02/27/91		8.44	8.44	0.00	98.17
	03/07/91		8.18	8.18	0.00	98.43
	03/26/91		7.56	7.56	0.00	99.05
	05/02/91		8.25	8.25	0.00	98.36
	06/27/91		7.75	7.75	0.00	98.86
	07/24/91		8.12	8.12	0.00	98.49
	08/22/91		7.98	7.98	0.00	98.63
	09/30/91		8.26	8.26	0.00	98.35
	10/17/91		8.42	8.42	0.00	98.19
	11/21/91		8.65	8.65	0.00	97.96
	12/18/91		8.77	8.77	0.00	97.84
	01/19/92		8.42	8.42	0.00	98.19
	02/20/92		7.60	7.60	0.00	99.01
	03/20/92		7.61	7.61	0.00	99.00
	04/20/92		8.15	8.15	0.00	98.46
	05/19/92		8.14	8.14	0.00	98.47
	06/08/92		8.40	8.40	0.00	98.21
	07/15/92		8.72	8.72	0.00	97.89
	08/06/92	107.40	8.52	8.52	0.00	98.88
	10/29/92		8.63	8.63	0.00	98.77
	11/23/92		8.75	8.75	0.00	98.65
	08/16/93		8.69	8.69	0.00	98.71
	11/17/93		9.11	9.11	0.00	98.29
	02/21/94		8.16	8.16	0.00	99.24
	05/11/94		8.29	8.29	0.00	99.11
	08/12/94		8.75	8.75	0.00	98.65
	11/17/94		8.40	8.40	0.00	99.00
	02/22/95		8.72	8.72	0.00	98.68
	05/24/95		8.63	8.63	0.00	98.77
	08/23/95		6.50	6.50	0.00	100.90
MW-5	08/06/92	105.19	7.19	7.19	0.00	98.00
	10/29/92		6.99	6.99	0.00	98.20
	11/23/92		6.90	6.90	0.00	98.29
	08/16/93		7.06	7.06	0.00	98.13
	11/17/93		6.91	6.91	0.00	98.28
	02/21/94		5.52	5.52	0.00	99.67
	05/11/94		6.18	6.18	0.00	99.01
	08/12/94		6.81	6.81	0.00	98.38
	11/17/94		5.38	5.38	0.00	99.81
	02/22/95		6.25	6.25	0.00	98.94

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Depth to Liquid (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
	05/24/95		6.30	6.30	0.00	98.89
	08/23/95		6.90	6.90	0.00	98.29
MW-6	08/06/92	105.07	7.01	7.01	0.00	98.06
	10/29/92		6.70	6.70	0.00	98.37
	11/23/92		6.75	6.75	0.00	98.32
	08/16/93		6.71	6.71	0.00	98.36
	11/17/93		6.67	6.67	0.00	98.40
	02/21/94		5.31	5.31	0.00	99.76
	05/11/94		5.98	5.98	0.00	99.09
	08/12/94		6.60	6.60	0.00	98.47
	11/17/94		5.09	5.09	0.00	99.98
	02/22/95		5.85	5.85	0.00	99.22
	05/24/95		5.92	5.92	0.00	99.15
	08/23/95		6.50	6.50	0.00	98.57
MW-7	08/06/92	105.52	8.28	8.28	0.00	97.24
	10/29/92		8.62	8.62	0.00	96.90
	11/23/92		8.21	8.21	0.00	97.31
	08/16/93		8.11	8.11	0.00	97.41
	11/17/93		8.11	8.11	0.00	97.41
	02/21/94		7.34	7.34	0.00	98.18
	05/11/94		7.45	7.45	0.00	98.07
	08/12/94		8.13	8.13	0.00	97.39
	11/17/94		7.90	7.90	0.00	97.62
	02/22/95		8.40	8.40	0.00	97.12
	05/24/95		8.29	8.29	0.00	97.23
	08/23/95		8.60	8.60	0.00	96.92
RW-1	08/16/93	NM	---------- Well Dry ----------			
	11/17/93		---------- Well Dry ----------			
	02/21/94		7.69	7.69	0.00	NM
	05/11/94		7.96	7.96	0.00	NM
	08/12/94		7.58	7.58	0.00	NM
	11/17/94		7.66	7.66	0.00	NM
	02/22/95		8.00	8.00	0.00	NM
	05/24/95		8.10	8.10	0.00	NM
	08/23/95		8.67	8.67	0.00	NM

MSL = Mean sea level
TOC = Top of casing
* = Separate-phase hydrocarbons present in well.
** = Skimmer installed (12/24/91).
NM = Not measured

Table 3
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline, BTEX Compounds, TPH as Diesel, and Total Oil and Grease)

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TPH as Diesel (ppb)	Total Oil and Grease (ppm)
MW-1	06/19/90	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5,000
	08/16/90	<20	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	09/07/90	N/A	N/A	N/A	N/A	N/A	N/A	<5,000
	11/29/90	<50	<0.50	0.7	<0.50	<0.50	N/A	N/A
	03/07/91	<50	<0.30	<0.30	<0.30	<0.50	N/A	N/A
	06/27/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	09/30/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	12/18/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	03/20/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	06/08/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	---------- Well Sampled Annually ----------						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/23/95	---------- Well Sampled Annually ----------						
MW-2	06/19/90	---------- 0.92 foot of Separate-Phase Hydrocarbons ----------						
	08/16/90	---------- 0.17 foot of Separate-Phase Hydrocarbons ----------						
	09/07/90	---------- 0.17 foot of Separate-Phase Hydrocarbons ----------						
	11/29/90	---------- Separate-Phase Hydrocarbon Sheen ----------						
	03/07/91	---------- Separate-Phase Hydrocarbon Sheen ----------						
	06/27/91	---------- Separate-Phase Hydrocarbon Sheen ----------						
	09/30/91	---------- Separate-Phase Hydrocarbon Sheen ----------						
	12/18/91	---------- Separate-Phase Hydrocarbon Sheen ----------						
	03/20/92	48,000	2,000	580	2,300	7,000	N/A	N/A
	06/08/92	43,000	2,900	940	2,400	5,100	N/A	N/A
	08/06/92	78,000	2,500	6,700	2,900	16,000	N/A	N/A
	10/29/92	NS	NS	NS	NS	NS	NS	NS
	12/08/92	---------- Well Destroyed ----------						
MW-3	06/19/90	<20	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/16/90	N/A	N/A	N/A	N/A	N/A	N/A	<5,000
	09/07/90	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	11/29/90	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	03/07/91	<50	<0.30	<0.30	<0.30	<0.50	N/A	N/A
	06/27/91	<30	<0.30	<0.30	<0.50	<0.30	N/A	N/A
	09/30/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	12/18/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	03/20/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	06/08/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A

Table 3 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline, BTEX Compounds, TPH as Diesel, and Total Oil and Grease)

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TPH as Diesel (ppb)	Total Oil and Grease (ppm)
MW-3	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
(cont.)	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	----------Well Sampled Annually----------						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/23/95	----------Well Sampled Annually----------						
MW-4	08/16/90	<20	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	09/07/90	N/A	N/A	N/A	N/A	N/A	N/A	<5,000
	11/29/90	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	03/07/91	<50	<0.30	<0.30	<0.30	<0.50	N/A	N/A
	06/27/91	<30	0.75	1.1	<0.30	1.6	N/A	N/A
	09/30/91	<30	<0.30	<0.30	<0.30	<0.30	N/A	N/A
	12/18/91	<30	0.83	1.2	<0.30	0.58	N/A	N/A
	03/20/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	06/08/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	----------Well Sampled Annually----------						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/23/95	----------Well Sampled Annually----------						
MW-5	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/94	<50	<0.5	<0.5	<0.5	0.6	N/A	N/A
	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	----------Well Sampled Annually----------						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/23/95	----------Well Sampled Annually----------						
MW-6	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	----------Well Sampled Annually----------						

Table 3 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline, BTEX Compounds, TPH as Diesel, and Total Oil and Grease)

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TPH as Diesel (ppb)	Total Oil and Grease (ppm)
MW-6	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
(cont.)	08/23/95	----------Well Sampled Annually----------						
MW-7	08/06/92	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	10/29/92	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/93	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	02/22/95	----------Well Sampled Annually----------						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	N/A	N/A
	08/23/95	----------Well Sampled Annually----------						
RW-1	08/16/93	NS	NS	NS	NS	NS	NS	NS
	11/17/93	NS	NS	NS	NS	NS	NS	NS
	02/22/94	280	2,100	19	40	66	N/A	N/A
	05/11/94	3,300	32	28	87	310	N/A	N/A
	08/12/94	4,600	42	59	190	400	N/A	N/A
	11/17/94	1,400	56	21	28	210	N/A	N/A
	02/22/95	8,100	140	<10	550	560	N/A	N/A
	05/24/95	940	53	0.75	11	1.4	N/A	N/A
	08/23/95	620	2.1	2.3	0.67	0.67	N/A	N/A

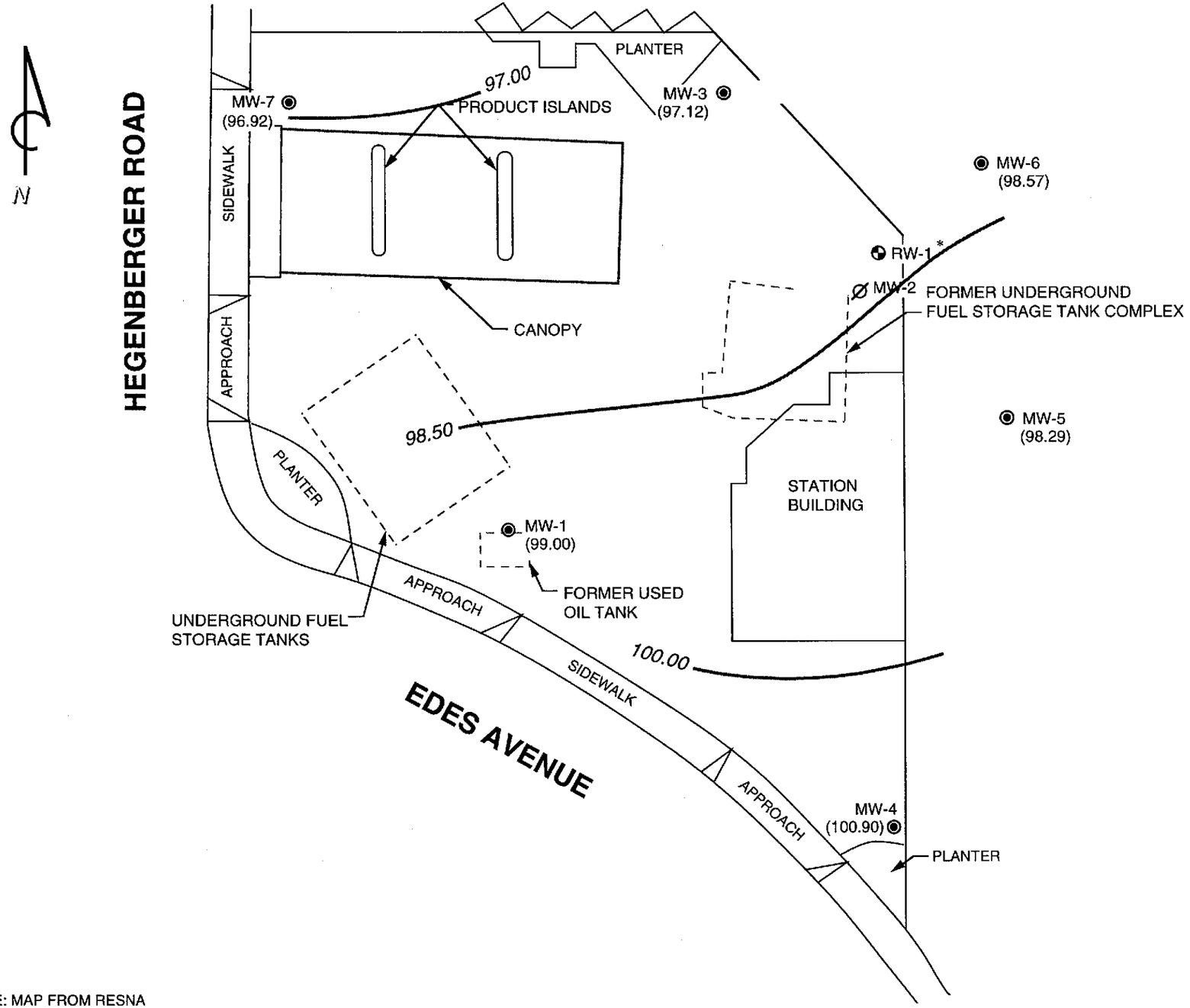
ppb = Parts per billion
ppm = Parts per million
N/A = Not applicable
NS = Not sampled

Table 4
Groundwater Analytical Data
Total Methyl t-Butyl Ether

ARCO Service Station 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

Well Number	Date Sampled	Methyl t-Butyl Ether (ppb)
MW-1	08/23/95	NS
MW-2	08/23/95	NS
MW-3	08/23/95	NS
MW-4	08/23/95	NS
MW-5	08/23/95	NS
MW-6	08/23/95	NS
MW-7	08/23/95	NS
RW-1	08/23/95	13

ppb = Parts per billion
NS = Not sampled
See certified analytical report for detection limit.



LEGEND

MW-6 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

MW-2 ⌀ DESTROYED WELL LOCATION AND DESIGNATION

RW-1 ◓ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

(97.12) LIQUID SURFACE ELEVATION IN FEET - MSL, 8-23-95

98.50 LIQUID SURFACE ELEVATION CONTOUR IN FEET - 8-23-95

* WELL NOT SURVEYED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.02

SOURCE: MAP FROM RESNA

PACIFIC ENVIRONMENTAL GROUP, INC.

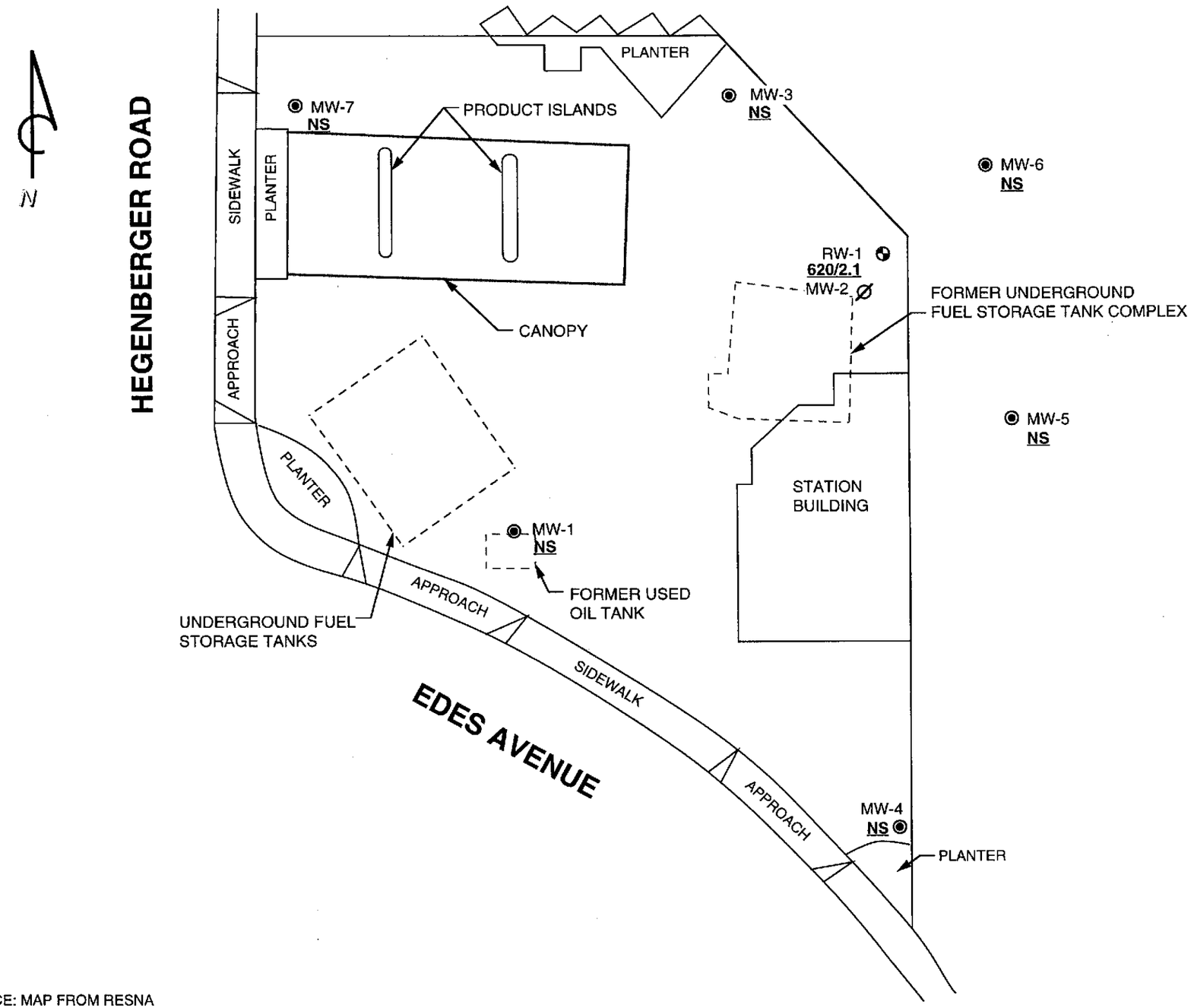
SCALE
0 30 60 FEET

ARCO SERVICE STATION 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 1

PROJECT: 330-041.2B



LEGEND

MW-6 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

MW-2 Ø DESTROYED WELL LOCATION AND DESIGNATION

RW-1 ⊕ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

620/2.1 TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 8-23-95

ND NOT SAMPLED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

SOURCE: MAP FROM RESNA

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO SERVICE STATION 4494
566 Hegenberger Road at Edes Avenue
Oakland, California

TPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-041.2B

ATTACHMENT A

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

Sequoia Analytical

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

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

Project: 330-041.2G/4494,Hegenberger

Enclosed are the results from samples received at Sequoia Analytical on August 24, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9508J76 -01	LIQUID, RW-1	08/23/95	TPGBMW Purgeable TPH/BTEX
9508J76 -02	LIQUID, TB-1	08/23/95	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

B Fletcher

Project Manager

Quality Assurance Department

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494,Hegenberger	Sampled: 08/23/95
2025 Gateway Place, Suite 440	Sample Descript: RW-1	Received: 08/24/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/29/95
Attention: Maree Doden	Lab Number: 9508J76-01	Reported: 09/06/95

QC Batch Number: GC082995BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	620
Methyl t-Butyl Ether	2.5	13
Benzene	0.50	2.1
Toluene	0.50	2.3
Ethyl Benzene	0.50	0.67
Xylenes (Total)	0.50	0.67
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494,Hegenberger	Sampled: 08/23/95
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 08/24/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/29/95
Attention: Maree Doden	Lab Number: 9508J76-02	Reported: 09/06/95

QC Batch Number: GC082995BTEX21A
Instrument ID: GCHP21

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:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Client Project ID: 330-041.2G/4494, Hegenberger
Matrix: LIQUID
Work Order #: 9508J76 01-02
Reported: Sep 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC082995BTEX21A	GC082995BTEX21A	GC082995BTEX21A	GC082995BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9508D9703	9508D9703	9508D9703	9508D9703
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/29/95	8/29/95	8/29/95	8/29/95
Analyzed Date:	8/29/95	8/29/95	8/29/95	8/29/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	12	11	12	36
MS % Recovery:	120	110	120	120
Dup. Result:	11	10	11	31
MSD % Recov.:	110	100	110	103
RPD:	8.7	9.5	8.7	15
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

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

WORKORDER: 9508J76
DATE OF LOG-IN: 8/28/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
3. Chain-of-Custody Records: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker
   Present / (Absent)
6. Airbill No.: ———
7. Sample Tags: (Present) / Absent*
   Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper preservatives used: (Yes) / No*
11. Date Rec. at Lab: 8-24-95
12. Temp. Rec. at Lab: 12°
13. Time Rec. at Lab: 1520

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
01		RW-1	3 VOAs	Li	8-23-95	
02		TB-1	2 VOAs	↓	↓	

8-24-95 TB

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

ARCO Products Company Division of AtlanticRichfieldCompany 33004.26 **Task Order No.** 17076.00 **Chain of Custody**

ARCO Facility no.	4494
City (Facility)	566 Hegenberger
Project manager (Consultant)	Kelly Brown
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 #440 San Jose CA
Laboratory name	Sequoia
Contract number	07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
RW1		3		X		Yes	HCL	8-23-95	9:40		X										01	
TB1		2		|		|	|	|	NA		|										02	

Method of shipment:

Special detection Limit/reporting:

Special QA/QC:

Remarks: 8/25 Please add MTBE w/ Gas/BTEX per Marnell Doden

JUN 2 3

Lab number: 9508J76

Condition of sample:

Temperature received:

Relinquished by sampler	Date	Time	Received by	Date	Time
[signature]	8-23-95	15:00	M Doden	8/23/95	1500

Relinquished by	Date	Time	Received by
M Doden	8/24/95	2:00	[signature]

Relinquished by	Date	Time	Received by laboratory	Date	Time
[signature]	8/24/95		J. Doug	8-24-95	1520

Turnaround time

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

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

APC-3292 (2-91)

W/O# 953617

	Initials	Date
F/S	RH	8/24/95
Copy/Dist.	RH	↓

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-041.2G

Station #:4494

Site Address:566 Hegenberger
Oakland, California

County: Alameda

Project Manager:Kelly Brown

Requestor:Chuck Graves

Client:Arco

Prefield contacts:

☐ 1st time visit

☐ 1st ☐ 2nd ☒ 3rd ☐ 4th

☐ Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time Event

☐ Other._____

Client P.O.C.:Mike Whelan

Date of Request:8/3/95

Ideal Field Date:8/23/95

FILE COPY

Budget Hrs._____

Actual Hrs. 3 1/2

Mob de Mob_____

Field Tasks: For General Description

Third Quarter groundwater sampling event: DTW/DTL from all wells TOB/ TOC sample per attached protocol.

WA#17076 00

Comments, remarks, from Field Staff (include problems encountered

Completed by: _____ Date: 8-23-96

Checked by: _____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-041.2G	4494	566 Hegenberger Oakland	Q2	Kelly Brown	KB	8/23/95	Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goes Dry?	Comments
MW-1			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	23.5	4"	?	
MW-3			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	18	4"	?	
MW-4			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	17	4"	?	
MW-5			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	17	2"	?	
MW-6			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	18	2"	?	
MW-7			ANNUALLY	WATER LEVELS ONLY	TOB/TOC	14.5	4"	?	
RW-1			QLY	GAS/BTEX/MTBE	TOB/TOC	11.5	2"	NO	

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330041261 LOCATION: 566 HOGENBURGER DATE: 8-23-95

CLIENT/STATION NO.: 04494 FIELD TECHNICIAN: KE DAY OF WEEK: WED

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator 8
- ☐ Other: _____

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
	MW1	9:00	✓	✓				22.78	7.22 / 7.22	7.10 / 7.10										
	MW2	Destroyed																		
	MW3	9:10	✓	✓		✓	✓	17.62	9.72 / 9.72	9.17 / 9.17										
	MW4	9:25	✓	✓		✓	✓	16.35	7.31 / 7.31	6.50 / 6.50										
	MW5	9:22	✓	✓				16.74	8.00 / 8.00	6.90 / 6.90										
	MW6	9:20	✓	✓		✓	✓	17.90	~~7.31~~ 7.31	~~6.50~~ 6.50										
	MW7	9:06	✓	✓		✓	✓	14.13	9.06 / 9.06	8.60 / 8.60										
	RW1	9:14	✓	✓		✓	✓	10.90	9.25 / 9.25	8.67 / 8.67										

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: RW-1

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: PEDRO RUIZ

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 10.90 - DTW 9.26 = 1.66 x Gal/Linear Foot .17 = .28 x Number of Casings 3 = Calculated Purge .84

DATE PURGED: 08-23-96 START: 9:30 END (2400 hr): — PURGED BY: PR

DATE SAMPLED: 08-23-96 START: 9:40 END (2400 hr): — SAMPLED BY: PR

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:33	.20	6.77	3460	74.0	Cloudy	Mod	FAINT
9:35	.60	6.90	3480	73.7	Cloudy	Mod	FAINT
9:37	.76	6.88	3470	73.9	Cloudy	Mod	FAINT

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: 16-8
- ☒ Centrifugal Pump:
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 16-8
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
RW1	8-23-96	9:40	3	40ml	VOA	HCL	GRAV/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 33004126 LOCATION: 04494 WELL ID #: TB-1

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: PEDRO R[illegible]

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 (circled)
☐ Field blank
☐ Equipment blank
☐ Other; ______

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

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

DATE SAMPLED: 08-23-95 START: NA END (2400 hr): — SAMPLED BY: PR

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

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ______ TOB (TOC)

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	8-23-95	NA	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: ______

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 330012.6 / 170760.00

Chain of Custody

ARCO Facility no. 4494	City (Facility) 566 Hegenberger	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408/441/7500	Fax no. (Consultant) 408/441/7539	Contract number
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place #440 San Jose CA			Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH 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 ☐		
Rw1		3		X		4Eq	HCl	8-23-95	9:40		X											
TB1		2		1		1	1	1	NA		1											

Special detection Limit/reporting

Special QA/QC

Remarks
MTBE ADDED TO C.O.C. ON 8/25/95 by C.G./M.D.

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	8-23-95	15:00	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)

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 four casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Laboratory Procedures

The groundwater samples were analyzed for the presence of total petroleum hydrocarbons calculated as gasoline, benzene, toluene, ethylbenzene, and xylenes. The analyses were performed according to EPA Methods 8015 (modified), 8020, and 5030 utilizing a purge-and-trap extraction technique. Final detection was by gas chromatography using flame- and photo-ionization detectors. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical report, chain-of-custody documentation, and field data sheets are presented as Attachment A.