PACIFIC
ENVIRONMENTAL
GROUP, INC.

ENVIRONMENTAL
PROTECTION

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July 13, 1995
Project 330-041.2B

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

Re: Quarterly Report - Second 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 second 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

Groundwater samples were collected from Wells MW-1, MW-3 through MW-7, and RW-1 by PACIFIC on May 24, 1995, and analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). 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 May 24, 1995 indicate that changes to groundwater levels across the site are mixed but, on average, have risen 0.08 foot since February 22, 1995. Groundwater flow was to the northwest with an approximate gradient of 0.029. This flow direction and gradient are consistent with historical data. Groundwater elevation data are presented in Table 1. A groundwater elevation contour map based on the May 24, 1995 data is shown on Figure 1.

TPH-g and benzene were below detection limits in Wells MW-1, and MW-3 through MW-7. TPH-g and benzene were detected in Well RW-1 at concentrations of 940 and 53 parts per billion, respectively. Separate-phase hydrocarbons were not observed in any site well this quarter. Groundwater analytical data are presented in Table 2. A TPH-g and benzene concentration map is shown on Figure 2.

SUMMARY OF WORK

Work Performed Second Quarter 1995

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

Work Anticipated Third Quarter 1995

- Preparation and submittal of second quarter 1995 groundwater monitoring report.
- Performance of third quarter 1995 groundwater monitoring event. Groundwater sampling to be performed by PACIFIC.
- Preparation of third quarter 1995 groundwater monitoring report.

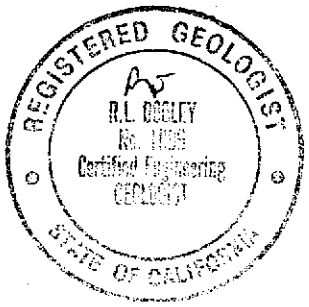
If there are any questions regarding the contents of this letter, please call.

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)
- 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), 8020, and 5030.
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
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
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
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
	05/24/95		6.30	6.30	0.00	98.89

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-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
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
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

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
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

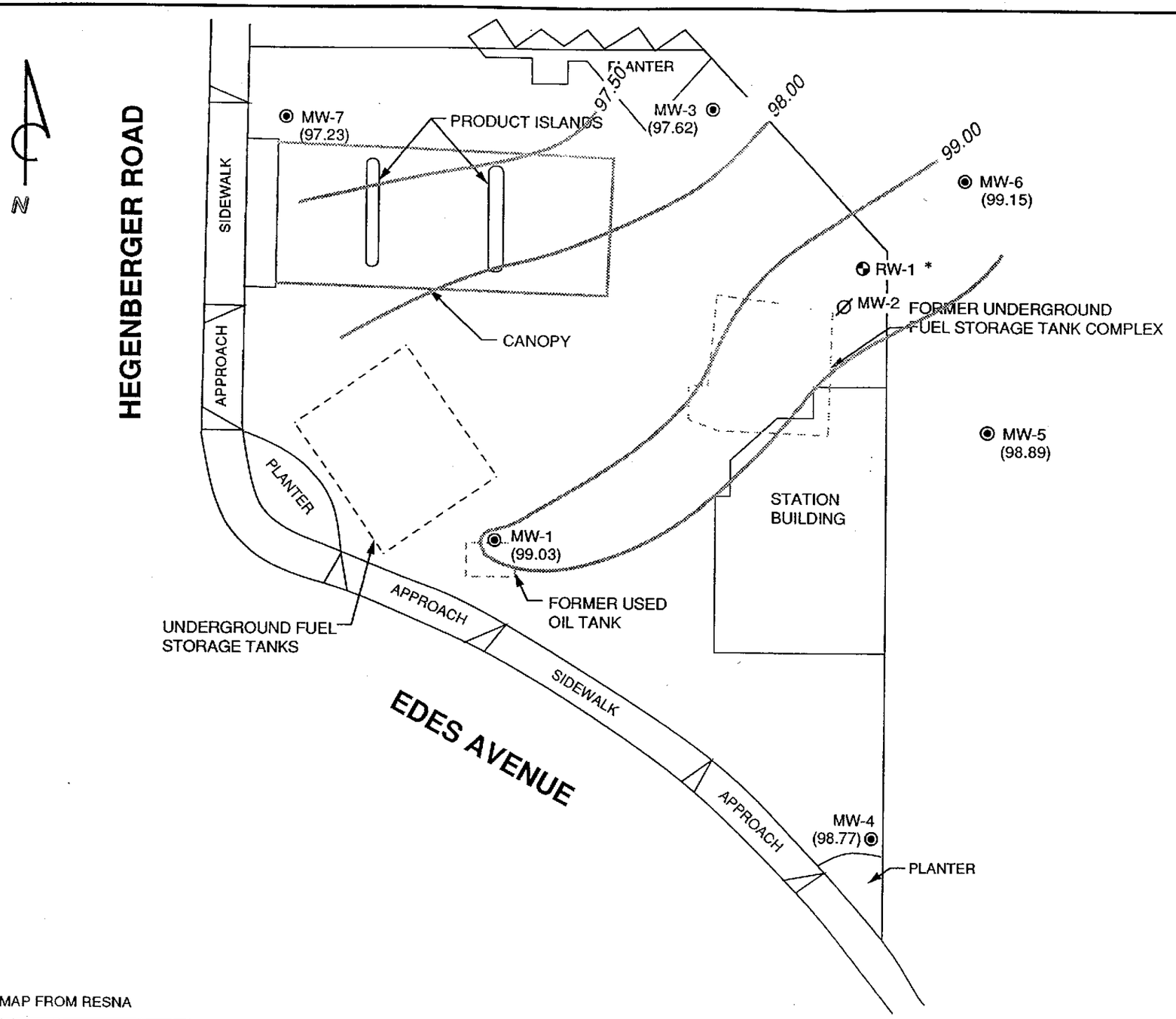
Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TPH as Diesel (ppb)	Total Oil and Grease (ppm)
MW-3	02/22/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
(cont.)	05/11/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	08/12/94	<50	<0.5	<0.5	<0.5	<0.5	N/A	N/A
	11/17/94	<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
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
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
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---						
	05/24/95	<50	<0.50	<0.50	<0.50	<0.50	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-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
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

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



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

(98.89) LIQUID SURFACE ELEVATION IN FEET - MSL, 5-24-95

99.00 LIQUID SURFACE ELEVATION CONTOUR IN FEET - 5-24-95

* WELL NOT SURVEYED

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.029

SOURCE: MAP FROM RESNA

PACIFIC ENVIRONMENTAL GROUP, INC.

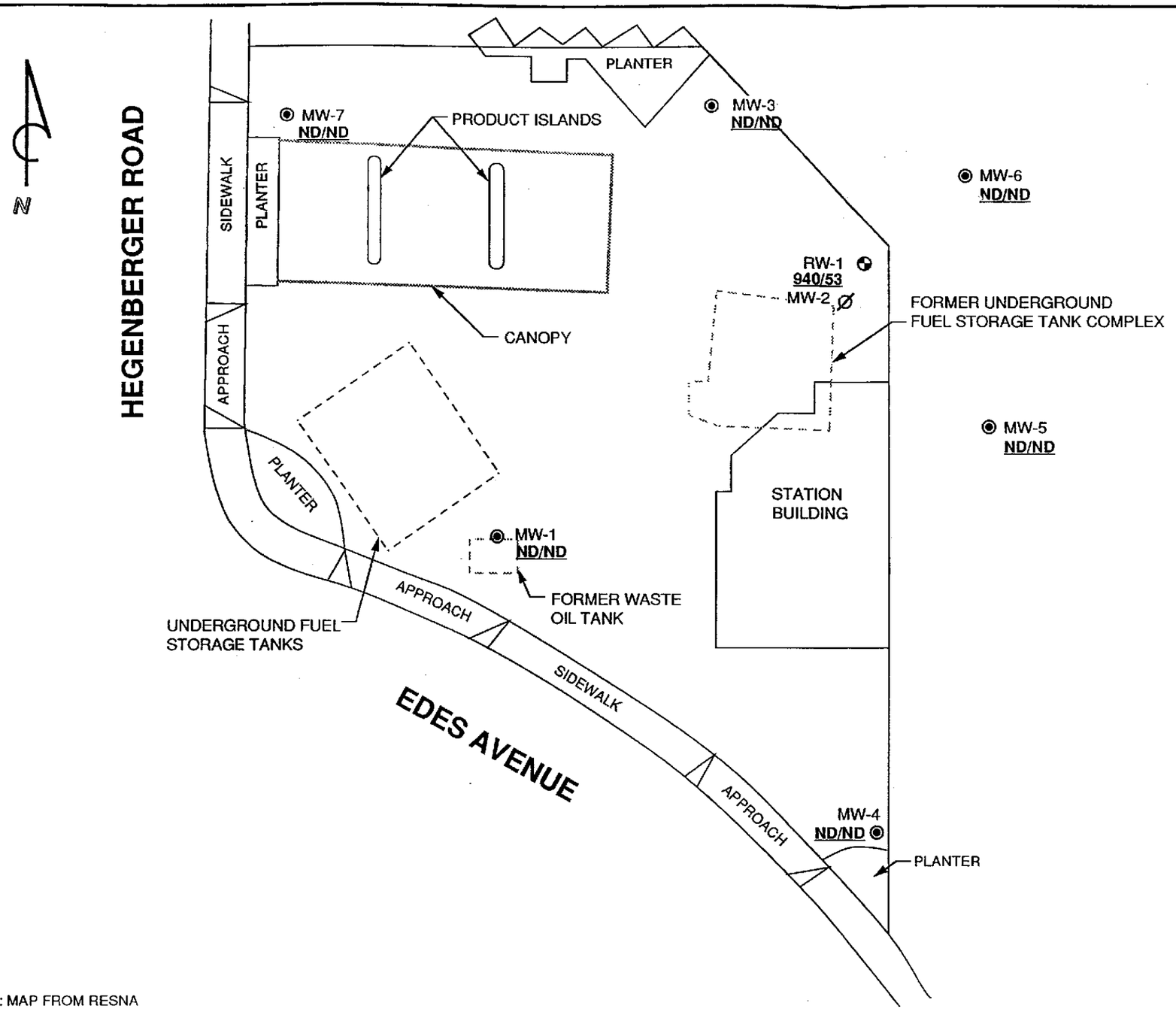
SCALE
0 30 60 FEET

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 ∅ DESTROYED WELL LOCATION AND DESIGNATION

RW-1 ◒ GROUNDWATER EXTRACTION WELL LOCATION AND DESIGNATION

940/53 TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 5-24-95

ND NOT DETECTED

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

07/07/95

ATTACHMENT A

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

Sequoia Analytical

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

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

Project: 330-041.2G/4494, Oakland

Enclosed are the results from samples received at Sequoia Analytical on May 25, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9505I9001	LIQUID, MW-1	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9002	LIQUID, MW-3	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9003	LIQUID, MW-4	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9004	LIQUID, MW-5	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9005	LIQUID, MW-6	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9006	LIQUID, MW-7	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9007	LIQUID, RW-1	5/24/95	TPHGB Purgeable TPH/BTEX
9505I9008	LIQUID, TB-1	5/24/95	TPHGB 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

Eileen A. Manning
Project Manager

Bruce Fletcher
Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: MW-1	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505l90-01	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	72

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-041.2G/4494, Oakland
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9505l90-02

Sampled: 05/24/95
Received: 05/25/95
Extracted: 06/03/95
Analyzed: 06/03/95
Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
nstrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: MW-4	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505190-03	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: MW-5	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505l90-04	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: MW-6	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505190-05	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: MW-7	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/05/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/05/95
Attention: Maree Doden	Lab Number: 9505190-06	Reported: 06/08/95

QC Batch Number: GC060595BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: RW-1	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505l90-07	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	940
Benzene	0.50	53
Toluene	0.50	0.75
Ethyl Benzene	0.50	11
Xylenes (Total)	0.50	1.4
Chromatogram Pattern:		
Gas & Unidentified HC		C8-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	213 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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Pacific Environmental Group	Client Proj. ID: 330-041.2G/4494, Oakland	Sampled: 05/24/95
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 05/25/95
San Jose, CA 95110	Matrix: LIQUID	Extracted: 06/03/95
	Analysis Method: 8015Mod/8020	Analyzed: 06/03/95
Attention: Maree Doden	Lab Number: 9505I90-08	Reported: 06/08/95

QC Batch Number: GC060295BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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

Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Maree Doden	Client Proj. ID: 330-041.2G/4494, Oakland Lab Proj. ID: 9505I90	Received: 05/25/95 Reported: 06/08/95

LABORATORY NARRATIVE

Please note:

Q: Co-elution confirmed.

SEQUOIA ANALYTICAL

Eileen Manning
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Project ID:	330-041.2G/4494, Oakland		
2025 Gateway Place, Suite 440	Matrix:	LIQUID		
San Jose, CA 95110				
Attention: Maree Doden	Work Order #:	9505I90	-01- 05, 07, 08	Reported: Jun 9, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060295BTEX17A	GC060295BTEX17A	GC060295BTEX17A	GC060295BTEX17A
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 #:	9505H9505	9505H9505	9505H9505	9505H9505
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/2/95	6/2/95	6/2/95	6/2/95
Analyzed Date:	6/2/95	6/2/95	6/2/95	6/2/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	10	9.7	29
MS % Recovery:	110	100	97	97
Dup. Result:	9.2	8.7	8.3	24
MSD % Recov.:	92	87	83	80
RPD:	18	14	16	19
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

Eileen A. Manning
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): LKrause

WORKORDER: 9505I90
DATE OF LOG-IN: 5/27/95

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: 5/25/95
12. Temp. Rec. at Lab: 14°C
13. Time Rec. at Lab: 1139

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
01	A-C	mw-1	3voa	liq	5/24	
02		mw-3				
03		mw-4				
04		mw-5				
05		mw-6				
06		mw-7				
07	↓	Rw-1	↓	↓	↓	
08	A-B	TB-1	2voa			

5/25

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330.041.2G — **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. # 4494	City (Facility) 566 Hagenberger Oakland	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 07-073

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 S EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1	01	3		X		X	X	5/24/95	13:45		X											
MW-3	02	↓		↓		↓	↓	5/24/95	12:55		↓											
MW-4	03							5/24/95	14:10													
MW-5	04							5/24/95	12:00													
MW-6	05							5/24/95	12:15													
MW-7	06							5/24/95	13:15													
RW-1	07	↓						5/24/95	12:30													
TB-1	08	2		↓		↓	↓	5/24/95	N/A		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9505I90

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: Walter F. Reed	5/24/95	3:15	Received by: M Dodson	5/24/95	1515
Relinquished by: M Dodson	5/25/95	10:20	Received by: Fulton		
Relinquished by: Fulton	5/25		Received by laboratory:	5/25/95	1139

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

WIO # 953336

	Initials	Date
F/S	RY	6/9/95
Copy/Dist.	↓	↓

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:5/19/95

Ideal Field Date:

Budget Hrs._____

Actual Hrs. 5.5

Mob de Mob 2.5

Field Tasks: For General Description

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

WA#17076 00

Comments, remarks, from Field Staff (include problems encountered

Completed by: C J Peck Date: 5/24/95

Checked by: Chuck Graves

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			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	GAS/BTEX	TOC	23.5	4"	?	
MW-3			ANNUALLY	GAS/BTEX	TOC	18	4"	?	
MW-4			ANNUALLY	GAS/BTEX	TOC	17	4"	?	
MW-5			ANNUALLY	GAS/BTEX	TOC	17	2"	?	
MW-6			ANNUALLY	GAS/BTEX	TOC	18	2"	?	
MW-7			ANNUALLY	GAS/BTEX	TOC	14.5	4"	?	
RW-1			QLY	GAS/BTEX	TOC	11.5	2"	NO	

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330041261 LOCATION: 566 HEGENBERGER DATE: 5/24/95

CLIENT/STATION NO.: 04494 FIELD TECHNICIAN: W. Peck DAY OF WEEK: Wed

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	TOC Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SERARATE-PHASE HYDROCARBONS (SPH) SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	COLOR: Weathered	COLOR: Gas	COLOR: Oil	VISCOSITY: Lite	VISCOSITY: Medium	VISCOSITY: Heavy	LIQUID REMOVED (gallons) SPH / H_2O
4"	MW1	10:32	X	X				22.98	7.17 / 7.17	7.07 / 7.07	—	—								
—	MW2	—	—	—	—	—	—	Well has been destroyed												
4"	MW3	10:27	X	X	X	X	X	17.62	9.22 / 9.22	8.67 / 8.67	—	—								
4"	MW4	10:35	X	X	X		X	16.35	8.98 / 8.98	8.63 / 8.63	—	—								
2"	MW5	10:20	X	X	X		X	16.74	7.31 / 7.31	6.30 / 6.30	—	—								
2"	MW6	10:23	X	X	X	X	X	17.90	6.73 / 6.73	5.92 / 5.92	—	—								
4"	MW7	10:30	X	X	X	X	X	14.13	8.75 / 8.75	8.29 / 8.29	—	—								
2"	RW1	10:38	X	X	X	X	X	10.90	8.70 / 8.70	8.10 / 8.10	—	—								
									/											/

Comments: MW-1 Needs well casing cut. Not enough room to put cap on casing when well box lid is on

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.20 LOCATION: 04494 WELL ID #: MW-1

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: C.J. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: — TOB 8.10 (TOC)
Total depth: 8.70 — TOB 10.90 (TOC)
Date: 5/24/95 Time (2400): 10:38

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 8.10 = 2.8 x Gal/Linear Foot .17 = .47 x Number of Casings 3 = Calculated Purge 1.42

DATE PURGED: 5/24/95 START: 12:20 END (2400 hr): 12:27 PURGED BY: C.J. Peck
DATE SAMPLED: 5/24/95 START: 12:27 END (2400 hr): 12:30 SAMPLED BY: C.J. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:22	.50	7.18	6630	71.7	Brown	Mod	Faint
12:25	1.00	7.39	4590	71.2	Cloudy	Light	Faint
12:27	1.50	7.27	5350	70.7	Cloudy	Lt.	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: G-4
- ☐ Airlift Pump:
- ☒ Centrifugal Pump: (cp)
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	5/24/95	12:30	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

C.J. Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

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

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.07 TOB 7.07 (TOC)
Total depth: — TOB 22.98 (TOC)
Date: 5/24/95 Time (2400): 10:32

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 22.98 - DTW 7.07 = 15.91 x Gal/Linear Foot .66 = 10.50 x Number of Casings 3 = Calculated Purge 31.50

DATE PURGED: 5/24/95 START: 13:20 END (2400 hr): 13:30 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 13:40 END (2400 hr): 13:45 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:25	10.50	7.72	3820	73.9	Cloudy	Mod	None
13:30	18.50	6.69	11270	73.0	Cloudy	Light	None
	WP	7.50	5620	76.6			

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)						
18.99	TOC	7.50	5620	76.6	Cloudy	Light	None

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G10
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	5/24/95	13:45	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE: W. Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW3

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 9.22 TOB 8.67 (TOC)
Total depth: — TOB 17.62 (TOC)
Date: 5/24/95 Time (2400): 10:27

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 17.62 - DTW 8.67 = 8.95 x Gal/Linear Foot .66 = 5.90 x Number of Casings 3 = Calculated Purge 17.72

DATE PURGED: 5/24/95 START: 12:37 END (2400 hr): 12:49 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 12:49 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
12:42	6	7.53	3960	79.1	Brown	Mod	None
12:46	12	7.41	4980	77.1	Brown	Mod	None
12:49	18	7.29	6400	76.8	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:
- ☒ Centrifugal Pump: #15
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-3	5/24/95	12:55	3	40ml	VOA	HCL	GRAV/BTEX

REMARKS:

SIGNATURE: Walter P. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.20 LOCATION: 04494 WELL ID #: MW-4

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: ~~8.98~~ — TOB 8.63 (TOC)
Total depth: — TOB 16.35 (TOC)
Date: 5/24/95 Time (2400): 10:35

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 16.35 - DTW 8.63 = 7.72 x Gal/Linear Foot .66 = 5.09 x Number of Casings 3 = Calculated Purge 15.28

DATE PURGED: 5/24/95 START: 13:50 END (2400 hr): 14:05 PURGED BY: W. Peck

DATE SAMPLED: 5/24/95 START: 14:05 END (2400 hr): 14:10 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:55	5.25	7.52	4760	73.9	Brown	Heavy	None
14:00	10.50	7.45	5740	72.8	Brown	Mod.	None
14:05	15.75	7.26	6750	73.0	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: # 13
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4	5/24/95	14:10	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE: W. Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-5

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.31 — TOB 6.30 (TOC)
Total depth: — TOB 16.74 (TOC)
Date: 5/24/95 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 16.74 - DTW 6.30 = 10.44 x Gal/Linear Foot 1.17 = 1.77 x Number of Casings 3 = Calculated Purge 5.32

DATE PURGED: 5/24/95 START: 11:45 END (2400 hr): 11:53 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 11:53 END (2400 hr): 12:00 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:47	1.75	6.59	6360	71.6	Cloudy	Light	None
11:50	3.50	7.11	6480	70.3	Cloudy	Light	None
11:53	5.25	7.29	6340	71.2	Cloudy	Light	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: 13-2
- ☐ Airlift Pump:
- ☒ Centrifugal Pump: (WP) ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-2
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	5/24/95	12:00	3	40ml	VOA	HCL	GRAV/BTEX

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-6

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 5.73 TOB 5.92 (TOC)
Total depth: — TOB 17.90 (TOC)
Date: 5/24/95 Time (2400): 10:23

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 17.90 - DTW 5.92 = 11.98 x Gal/Linear Foot .17 = 2.03 x Number of Casings 3 = Calculated Purge 6.10

DATE PURGED: 5/24/95 START: 12:02 END (2400 hr): 12:10 PURGED BY: W. Peck

DATE SAMPLED: 5/24/95 START: 12:10 END (2400 hr): 12:15 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:05	2	7.37	4400	75.0	Cloudy	light	None
12:08	4	7.47	3870	73.7	Cloudy	light	None
12:10	6	7.46	3700	72.2	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: G-8
- ☒ ~~Centrifugal Pump:~~ (WP)
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D.

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-6	5/24/95	12:15	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE: (Walter L. Peck)

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-7

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.75 TOB 8.29 (TOC)
Total depth: — TOB 14.13 (TOC)
Date: 5/24/95 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 14.13 - DTW 8.29 = 5.84 x Gal/Linear Foot .66 = 3.85 x Number of Casings 3 = Calculated Purge 11.56

DATE PURGED: 5/24/95 START: 12:58 END (2400 hr): 13:10 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 13 10 END (2400 hr): 13:15 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:02	4	7.45	5230	72.9	Brown	Mod	None
13:06	8	7.03	5700	70.8	Brown	Mod	None
13:10	12	6.93	7380	69.4	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:
- ☒ 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	5/24/95	13:15	3	40ml	VOA	HCL	GRAV/BTEX

REMARKS:

SIGNATURE: (W. Peck)

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.20 LOCATION: 04492 WELL ID #: MW-1

CLIENT/STATION No.: ARCO 04492 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 3 = 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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____	TOB (TOC)						

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW	5/24/95	1411	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330.041.2G — **Task Order No.** 1707600 — **Chain of Custody**

ARCO Facility no. # 4494	City (Facility) 566 Hagenberger Oakland	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 Semi Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1		3		X		X	X	5/24/95	13:45		X											
MW-3								5/24/95	12:55													
MW-4								5/24/95	14:10													
MW-5								5/24/95	12:00													
MW-6								5/24/95	12:15													
MW-7								5/24/95	13:15													
RW-1		↓						5/24/95	12:30													
TB-1		2		↓		↓	↓	5/24/95	N/A		↓											

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. Peak	Date 5/24/95 Time 5:15	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date Time

Method of shipment

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

W10T4355??

FIELD SERVICES / O & M REQUEST

	Initials	Date
F/S	KY	6/9/95
Copy/Dist.	↓	↓

SITE INFORMATION FORM

Project #:330-041.2G

☐ **1st time visit**

Station #:4494

☐ **1st** ☒ **2nd** ☐ **3rd** ☐ **4th**

Date of Request:5/19/95

Site Address:566 Hegenberger
Oakland, California

☐ **Monthly**

Ideal Field Date:

☐ **Semi-Monthly**

County: Alameda

☐ **Weekly**

Budget Hrs.________

Project Manager:Kelly Brown

☐ **One time Event**

Actual Hrs. 5.5

Requestor:Chuck Graves

☐ **Other.**____________

Mob de Mob 2.5

Client:Arco

Client P.O.C.:Mike Whelan

Prefield contacts:

Field Tasks: For General Description

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

WA#17076 00

Comments, remarks, from Field Staff (include problems encountered

Completed by: W Peck Date: 5/24/95

Checked by: [signature]

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			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	GAS/BTEX	TOC	23.5	4"	?	
MW-3			ANNUALLY	GAS/BTEX	TOC	18	4"	?	
MW-4			ANNUALLY	GAS/BTEX	TOC	17	4"	?	
MW-5			ANNUALLY	GAS/BTEX	TOC	17	2"	?	
MW-6			ANNUALLY	GAS/BTEX	TOC	18	2"	?	
MW-7			ANNUALLY	GAS/BTEX	TOC	14.5	4"	?	
RW-1			QLY	GAS/BTEX	TOC	11.5	2"	NO	

5/19/95SMPLRQST.XLS

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330041261 LOCATION: 566 HOGENBERGER DATE: 5/24/95

CLIENT/STATION NO.: 04494 FIELD TECHNICIAN: W. Peck DAY OF WEEK: Wed

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	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)	SPH COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
4"	MW1	10:32	X	X				22.98	7.17 / 7.17	7.07 / 7.07	—									X / X
—	MW2							Well has been destroyed												
4"	MW3	10:27	X	X	X	X	X	17.62	9.22 / 9.22	8.67 / 8.67	—									X / X
4"	MW4	10:35	X	X	X		X	16.35	8.98 / 8.98	8.63 / 8.63	—	—								X / X
2"	MW5	10:20	X	X	X		X	16.74	7.31 / 7.31	6.30 / 6.30	—	—								X / X
2"	MW6	10:23	X	X	X	X	X	17.90	6.73 / 6.73	5.92 / 5.92	—	—								X / X
4"	MW7	10:30	X	X	X	X	X	14.13	8.75 / 8.75	8.29 / 8.29	—	—								X / X
2"	RW1	10:38	X	X	X	X	X	10.90	8.70 / 8.70	8.10 / 8.10	—	—								X / X
									/											/

Comments: MW-1 Needs well casing cut. Not enough room to put cap on casing when well box lid is on.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041?6 LOCATION: 04494 WELL ID #: RW-1

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: —— TOB —— TOC
Depth to water: —— TOB 8.10 (TOC)
Total depth: 8.70 —— TOB 10.90 (TOC)
Date: 5/24/95 Time (2400): 10:38

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 8.10 = 2.8 x Gal/Linear Foot .17 = .47 x Number of Casings 3 = Calculated Purge 1.42

DATE PURGED: 5/24/95 START: 12:20 END (2400 hr): 12:27 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 12:27 END (2400 hr): 12:30 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:22	.50	7.18	6630	71.7	Brown	Mod	Faint
12:25	1.00	7.39	4590	71.2	Cloudy	light	Faint
12:27	1.50	7.27	5380	70.7	Cloudy	Light	Faint

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.4
- ☒ ~~Centrifugal Pump:~~ (up)
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
RW-1	5/24/95	12:30	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE: W. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.20 LOCATION: 04494 WELL ID #: MW-1

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.07 TOB 7.07 (TOC)
Total depth: — TOB 22.98 (TOC)
Date: 5/24/95 Time (2400): 1032

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 22.98 - DTW 7.07 = 15.91 x Gal/Linear Foot .66 = 10.50 x Number of Casings 3 = Calculated Purge 31.50

DATE PURGED: 5/24/95 START: 13:20 END (2400 hr): 13:30 PURGED BY: W. Peck

DATE SAMPLED: 5/24/95 START: 13:40 END (2400 hr): 13:45 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:25	10.50	7.72	3820	73.9	Cloudy	Mod	None
13:30	18.50	6.69	11270	730	Cloudy	Light	None
	WP	7.50	5620	76.6			

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: 18.99 TOB (TOC) 7.50 5620 76.6 Cloudy Light None

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: G10
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	5/24/95	13:45	3	40ml	VOA	HCL	GRO/BTEX

REMARKS:

SIGNATURE: W. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-3

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.22 TOB 8.67 (TOC)
Total depth: — TOB 17.62 (TOC)
Date: 5/24/95 Time (2400): 10:27

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 17.62 - DTW 8.67 = 8.95 x Gal/Linear Foot .66 = 5.90 x Number of Casings 3 = Calculated Purge 17.72

DATE PURGED: 5/24/95 START: 12:37 END (2400 hr): 12:49 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 12:49 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
12:42	6	7.53	3960	79.1	Brown	Mod	None
12:46	12	7.41	4980	77.1	Brown	Mod	None
12:49	18	7.29	6400	76.8	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:
- ☒ Centrifugal Pump: #5
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-3	5/24/95	12:55	3	40ml	VOA	HCL	GRO/BTEX

REMARKS:

SIGNATURE: Walter L. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-4

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.98 — TOB 8.63 (TOC)
Total depth: — TOB 16.35 (TOC)
Date: 5/24/95 Time (2400): 10:35

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 16.35 - DTW 8.63 = 7.72 x Gal/Linear Foot .66 = 5.09 x Number of Casings 3 = Calculated Purge 15.28

DATE PURGED: 5/24/95 START: 13:50 END (2400 hr): 14:05 PURGED BY: W. Peck
DATE SAMPLED: 5/24/95 START: 14:05 END (2400 hr): 14:10 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:55	5.25	7.52	4760	73.9	Brown	Heavy	None
14:00	10.50	7.45	5740	72.8	Brown	Mod	None
14:05	15.75	7.26	6750	73.0	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
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4	5/24/95	14:10	3	40ml	VOA	HCL	GRAV/BTEX

REMARKS:

SIGNATURE: W. Peck

PACIFIC ENVIRONMENTAL GROUP INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-5

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 7.31 — TOB 6.30 (TOC)
Total depth: — TOB 16.74 (TOC)
Date: 5/24/95 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 16.74 - DTW 6.30 = 10.44 x Gal/Linear Foot .17 = 1.77 x Number of Casings 3 = Calculated Purge 5.32

DATE PURGED: 5/24/95 START: 11:45 END (2400 hr): 11:53 PURGED BY: W. Peck

DATE SAMPLED: 5/24/95 START: 11:53 END (2400 hr): 12:00 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:47	1.75	6.59	6360	71.6	Cloudy	Light	None
11:50	3.50	7.11	6480	70.3	Cloudy	Light	None
11:53	5.25	7.29	6340	71.2	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: 13-2
- ☐ Airlift Pump:
- ☒ ~~Centrifugal Pump~~: WP
- ☐ Dedicated:
- ☐ Other:

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 13-2
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	5/24/95	12:00	3	40ml	VOA	HCL	GRO/BTEX

REMARKS:

SIGNATURE: Walter L. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-6

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 5.73 TOB 5.92 TOC
Total depth: — TOB 17.90 TOC
Date: 5/24/95 Time (2400): 10:23

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 17.90 - DTW 5.92 = 11.98 x Gal/Linear Foot .17 = 2.03 x Number of Casings 3 = Calculated Purge 6.10

DATE PURGED: 5/24/95 START: 12:02 END (2400 hr): 12:10 PURGED BY: W. Peck.
DATE SAMPLED: 5/24/95 START: 12:10 END (2400 hr): 12:15 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:05	2	7.37	4400	75.0	Cloudy	light	None
12:08	4	7.47	3870	73.7	Cloudy	light	None
12:10	6	7.46	3700	72.2	Cloudy	light	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: G-8
- ☒ ~~Centrifugal Pump:~~ (GP)
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-6	5/24/95	12:15	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE: Wabert. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330041.26 LOCATION: 04494 WELL ID #: MW-7

CLIENT/STATION No.: ARCO 04494 FIELD TECHNICIAN: W. Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.75 TOB 8.29 (TOC)
Total depth: — TOB 14.13 (TOC)
Date: 5/24/95 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 14.13 - DTW 8.29 = 5.84 x Gal/Linear Foot .66 = 3.85 x Number of Casings 3 = Calculated Purge 11.56

DATE PURGED: 5/24/95 START: 17:58 END (2400 hr): 13:10 PURGED BY: W. Peck

DATE SAMPLED: 5/24/95 START: 13 10 END (2400 hr): 13:15 SAMPLED BY: W. Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
13:02	4	7.45	5230	72.9	Brown	Mod	None
13:06	8	7.03	5700	70.8	Brown	Mod	None
13:10	12	6.93	7380	69.4	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
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D.

- ☒ Bailer: G-7
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW	5/24/95	13:15	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.: 330041.20 LOCATION: 04494 WELL ID #: MW-1

CLIENT/STATION No.: ARCO 04494 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 Foot (Gal/Linear) ——— = ——— x Number of Casings 3 = 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

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
MW	5/24/95	1101	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: ———

SIGNATURE: Walter T. Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330-041.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. # 4494	City (Facility) 566 Hagenberger Oakland	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 Semi Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1		3		X		X	X	5/24/95	13:45		X											
MW-3		↓		↓		↓	↓	5/24/95	12:55		↓											
MW-4								5/24/95	14:10													
MW-5								5/24/95	12:00													
MW-6								5/24/95	12:15													
MW-7								5/24/95	13:15													
RW-1		↓						5/24/95	12:30													
TB-1		2		↓		↓	↓	5/24/95	N/A		↓											

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 5/24/95 Time 5:15	Received by
Relinquished by	Date Time	Received by
Relinquished by	Date Time	Received by laboratory / Date / Time

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.