PACIFIC
ENVIRONMENTAL
GROUP INC.

July 28, 1995
Project 330-048.2B

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

Re: Quarterly Report - Second Quarter 1995
ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, 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 performed and anticipated at the site is included.

QUARTERLY GROUNDWATER MONITORING RESULTS

Groundwater samples were collected by PACIFIC on May 26, 1995, and analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). The certified analytical reports, 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 during the May 1995 sampling event indicate that groundwater elevations in site monitoring wells have risen approximately 1.72 feet since February 27, 1995. Groundwater flow is toward the southwest with a gradient of approximately 0.006. Groundwater elevation data are presented in Table 1. A groundwater elevation contour map based on the May 1995 data is shown on Figure 1.

TPH-g and benzene were below detection limits in Wells MW-1, MW-2, and MW-4 during the May 1995 groundwater sampling event. This is consistent with previous quarterly data. TPH-g was also below detection limits in Well MW-3. The benzene

concentration in Well MW-3 was just above the detection at 0.75 parts per billion, and is attributed to either a sampling or laboratory error. This benzene concentration is the first ever historical concentration of benzene. Separate-phase hydrocarbons have never been observed in any site well. Groundwater analytical data are presented in Table 2. A TPH-g and benzene concentration map is shown on Figure 2.

No: data indicate benzene detected for at least reported at least twice in past

SUMMARY OF WORK

Work Performed Second Quarter 1995

- Prepared and submitted first quarter 1995 groundwater monitoring report.
- Sampled site wells for second quarter 1995 groundwater monitoring program. Sampling was performed by PACIFIC.
- Prepared second quarter 1995 groundwater monitoring report.
- Prepared and submitted a work plan modification letter proposing one angle soil boring.
- Drilled one angle soil boring and one vertical soil boring adjacent to the former product recovery sump.
- Prepared soil boring report.
- Pursued site closure with Alameda County Health Care Services Agency (ACHCSA).

Work Anticipated Third Quarter 1995

- Prepare and submit second quarter 1995 groundwater monitoring report.
- Sample site wells for third quarter 1995 groundwater monitoring program. Sampling to be performed by PACIFIC.
- Prepare third quarter 1995 groundwater monitoring report.
- Prepare and submit soil boring report.
- Continue to pursue site closure with ACHCSA.

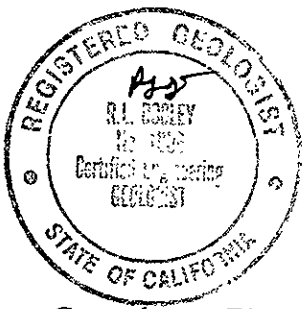
If there are any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Kelly C. Brown
Project Manager

R. Lee Dooley
Senior Geologist
CEG 1006



Attachments:
- Table 1 - Groundwater Elevation Data
- Table 2 - Groundwater Analytical Data - Total Petroleum Hydrocarbons (TPH as Gasoline and BTEX Compounds)
- Figure 1 - Groundwater Elevation Contour Map
- Figure 2 - TPH-g/Benzene Concentration Map
- Attachment A - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment B - Field and Laboratory Procedures

cc: Mr. Scott Seery, Alameda County Health Care Services Agency
Mr. Kevin Graves, Regional Water Quality Control Board - San Francisco Bay Region

Table 1
Groundwater Elevation Data

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-1	06/25/90	217.16	49.80	167.36
	09/07/90		50.00	167.16
	09/26/90		50.09	167.07
	12/14/90		50.44	166.72
	01/08/91		50.45	166.71
	02/21/91		50.51	166.65
	03/19/91		50.16	167.00
	04/02/91		50.14	167.02
	05/02/91		49.77	167.39
	06/18/91		49.75	167.41
	07/08/91		49.80	167.36
	08/22/91		50.08	167.08
	09/18/91		50.11	167.05
	10/15/91		50.30	166.86
	11/13/91		50.30	166.86
	12/27/91		50.28	166.88
	01/18/92		50.39	166.77
	02/20/92		50.16	167.00
	03/13/92		49.75	167.41
	04/24/92		49.18	167.98
	05/15/92		49.22	167.94
	06/08/92		49.30	167.86
	07/25/92		49.42	167.74
	08/23/92		49.52	167.64
	09/04/92		49.71	167.45
	10/19/02		49.98	167.18
	11/23/92		50.10	167.06
	12/18/92		50.29	166.87
	01/14/93		49.81	167.35
	02/24/93		48.71	168.45
	03/30/93		48.02	169.14
	04/09/93		47.81	169.35
	07/30/93		47.61	169.55
	10/29/93		48.00	169.16
	03/04/94		48.34	168.82
	05/17/94		47.51	169.65
	08/25/94		47.86	169.30
	11/22/94		48.36	168.80
	02/27/95		46.42	170.74
	05/26/95		44.70	172.46
MW-2	06/25/90	216.50	49.04	167.46
	09/07/90		49.22	167.28
	09/26/90		49.32	167.18
	12/14/90		49.66	166.84
	01/08/91		49.72	166.78
	02/21/91		49.77	166.73
	03/19/91		49.44	167.06
	04/02/91		49.43	167.07
	05/02/91		49.03	167.47
	06/18/91		48.98	167.52
	07/08/91		49.03	167.47
	08/22/91		49.30	167.20
	09/18/91		49.34	167.16
	10/15/91		49.51	166.99
	11/13/91		49.53	166.97
	12/27/91		49.49	167.01

Table 1 (continued)
Groundwater Elevation Data

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-2	01/18/92		49.60	166.90
(cont.)	02/20/92		49.39	167.11
	03/13/92		48.97	167.53
	04/24/92		48.47	168.03
	05/15/92		48.47	168.03
	06/08/92		48.50	168.00
	07/25/92		48.52	167.98
	08/23/92		44.95	171.55
	09/04/92		48.95	167.55
	10/19/02		49.20	167.30
	11/23/92		49.35	167.15
	12/18/92		49.57	166.93
	01/14/93		49.10	167.40
	02/24/93		47.86	168.64
	03/30/93		47.17	169.33
	04/09/93		47.02	169.48
	07/30/93		46.80	169.70
	10/29/93		47.20	169.30
	03/04/94		47.48	169.02
	05/17/94		46.68	169.82
	08/25/94		47.04	169.46
	11/22/94		47.53	168.97
	02/27/95		45.55	170.95
	05/26/95		43.80	172.70
MW-3	06/25/90	217.57	50.55	167.02
	09/07/90		50.73	166.84
	09/26/90		50.81	166.76
	12/14/90		51.15	166.42
	01/08/91		51.16	166.41
	02/21/91		51.21	166.36
	03/19/91		50.93	166.64
	04/02/91		50.92	166.65
	05/02/91		50.51	167.06
	06/18/91		50.47	167.10
	07/08/91		50.54	167.03
	08/22/91		50.80	166.77
	09/18/91		50.82	166.75
	10/15/91		51.02	166.55
	11/13/91		51.03	166.54
	12/27/91		51.01	166.56
	01/18/92		51.15	166.42
	02/20/92		50.84	166.73
	03/13/92		50.39	167.18
	04/24/92		49.82	167.75
	05/15/92		49.90	167.67
	07/25/92		50.14	167.43
	08/23/92		50.12	167.45
	09/04/92		50.38	167.19
	10/19/02		50.71	166.86
	11/23/92		50.81	166.76
	12/18/92		50.50	167.07
	01/14/93	——— Well Inaccessible ———		
	02/24/93	——— Well Inaccessible ———		
	03/30/93		48.82	168.75
	04/09/93		48.71	168.86
	07/30/93		48.33	169.24

Table 1 (continued)
Groundwater Elevation Data

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-3	10/29/93		48.64	168.93
(cont.)	03/04/94		49.15	168.42
	05/17/94		48.33	169.24
	08/25/94		48.66	168.91
	11/22/94		49.15	168.42
	02/27/95		47.38	170.19
	05/26/95		45.70	171.87
MW-4	06/25/90	215.18	48.06	167.12
	09/07/90		48.25	166.93
	09/26/90		48.35	166.83
	12/14/90		48.68	166.50
	01/08/91		48.70	166.48
	02/21/91		48.76	166.42
	03/19/91		48.44	166.74
	04/02/91		48.43	166.75
	05/02/91		48.04	167.14
	06/18/91		48.00	167.18
	07/08/91		48.04	167.14
	08/22/91		48.34	166.84
	09/18/91		48.35	166.83
	10/15/91		48.54	166.64
	11/13/91		48.56	166.62
	12/27/91		48.52	166.66
	01/18/92		48.68	166.50
	02/20/92		48.37	166.81
	03/13/92		47.96	167.22
	04/24/92		47.41	167.77
	05/15/92		47.46	167.72
	06/08/92		47.52	167.66
	07/25/92		47.67	167.51
	08/23/92		47.78	167.40
	09/04/92		47.78	167.40
	10/19/02		48.22	166.96
	11/23/92		48.34	166.84
	12/18/92		48.50	166.68
	01/14/93		48.03	167.15
	02/24/93		46.95	168.23
	03/30/93		46.25	168.93
	04/09/93		46.18	169.00
	07/30/93		45.96	169.22
	10/29/93		46.12	169.06
	03/04/94		46.60	168.58
	05/17/94		45.78	169.40
	08/25/94		46.11	169.07
	11/22/94		46.60	168.58
	02/27/95		44.73	170.45
	05/26/95		43.00	172.18
VW-2	02/24/93	216.38	38.28	178.10
	03/30/93		38.32	178.06
	04/09/93		38.33	178.05
	07/30/93		38.36	178.02
	10/29/93		Well Dry	
	03/04/94		38.34	178.04
	05/17/94		NM	NM
	08/25/94		NM	NM
	11/22/94		NM	NM
	02/27/95		NM	NM
	05/26/95		NM	NM

Table 1 (continued)
Groundwater Elevation Data

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
VW-3	02/24/93	NM	NM	NM
	03/30/93		38.27	NM
	04/09/93	——— Well Inaccessible ———		
	07/30/93	——— Well Dry ———		
	10/29/93	——— Well Dry ———		
	03/04/94		38.27	NM
	05/17/94		NM	NM
	08/25/94		NM	NM
	11/22/94		NM	NM
	02/27/95		NM	NM
	05/26/95		NM	NM
VW-4	02/24/93	NM	NM	NM
	03/30/93	——— Well Dry ———		
	04/09/93	——— Well Dry ———		
	07/30/93	——— Well Dry ———		
	10/29/93	——— Well Dry ———		
	03/04/94	——— Well Dry ———		
	05/17/94		NM	NM
	08/25/94		NM	NM
	11/22/94		NM	NM
	02/27/95		NM	NM
	05/26/95		NM	NM
VW-5	02/24/93	NM	35.22	NM
	03/30/93	——— Well Dry ———		
	04/09/93	——— Well Inaccessible ———		
	07/30/93	——— Well Dry ———		
	10/29/93	——— Well Inaccessible ———		
	03/04/94	——— Well Dry ———		
	05/17/94		NM	NM
	08/25/94		NM	NM
	11/22/94		NM	NM
	02/27/95		NM	NM
	05/26/95		NM	NM

MSL = Mean sea level
TOC = Top of casing
NM = Not measured

Table 2
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

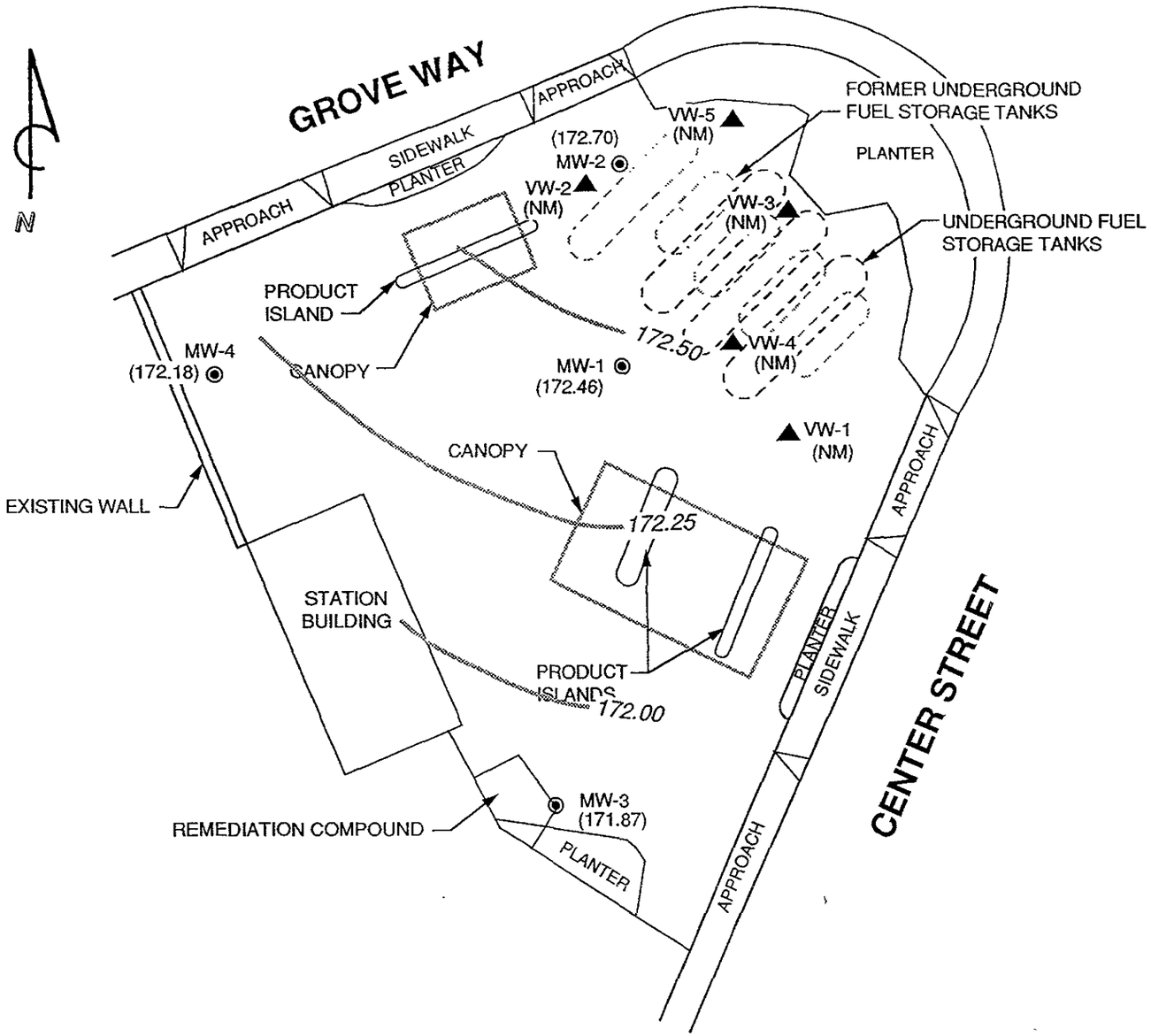
Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-1	06/26/90	64	0.63	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.50	<0.05	<0.05
	07/08/91	120	2.3	4.6	1.3	9.6
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
	01/14/93	<50	<0.50	<0.50	<0.50	<0.50
	04/09/93	<50	<0.5	<0.5	<0.5	<0.5
	07/30/93	<50	<0.50	<0.50	<0.50	<0.50
	10/29/93	<50	<0.50	<0.50	<0.50	<0.50
	03/04/94	<50	<0.5	<0.5	<0.5	<0.5
	05/17/94	<50	<0.5	<0.5	<0.5	<0.5
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5
	11/22/94	<50	<0.5	<0.5	<0.5	<0.5
	02/27/95	<50	<0.50	<0.50	<0.50	<0.50
	05/26/95	<50	<0.50	<0.50	<0.50	<0.50
MW-2	06/26/90	27	<0.50	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	30	0.42	0.47	<0.30	0.89
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
	01/14/93	<50	<0.50	<0.50	<0.50	<0.50
	04/09/93	<50	<0.5	<0.5	<0.5	<0.5
	07/30/93	<50	<0.50	<0.50	<0.50	<0.50
	10/29/93	<50	<0.50	<0.50	<0.50	<0.50
	03/04/94	<50	<0.5	<0.5	<0.5	<0.5
	05/17/94	<50	<0.5	<0.5	<0.5	<0.5
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5
	11/22/94	<50	<0.5	<0.5	<0.5	<0.5
	02/27/95	210	4	0.72	<0.50	1.2
	03/23/95	<50	<0.50	<0.50	<0.50	<0.50
	05/26/95	<50	<0.50	0.61	<0.50	0.6
MW-3	06/26/90	52	0.65	1.5	<0.50	2
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.50	<0.50	<0.50	<0.50
	07/08/91	67	0.69	1.5	0.65	4.7
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
	01/14/93	NS	NS	NS	NS	NS
	04/09/93	<50	<0.5	<0.5	<0.5	<0.5
	07/30/93	<50	<0.50	<0.50	<0.50	<0.50
	10/29/93	<50	<0.50	<0.50	<0.50	<0.50

Table 2 (continued)
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline and BTEX Compounds)

ARCO Service Station 2152
22141 Center Street at Grove Way
Castro Valley, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-3	03/04/94	<50	<0.5	<0.5	<0.5	<0.5
(cont.)	05/17/94	<50	<0.5	<0.5	<0.5	<0.5
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5
	11/22/94	<50	<0.5	<0.5	<0.5	<0.5
	02/27/95	<50	<0.50	<0.50	<0.50	<0.50
	05/26/95	<50	0.75	0.66	<0.50	<0.50
MW-4	06/26/90	<20	<0.50	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	50	1.4	2.4	0.62	4.2
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
	01/14/93	<50	<0.50	<0.50	<0.50	<0.50
	04/09/93	<50	<0.05	<0.5	<0.5	<0.5
	07/30/93	<50	<0.50	<0.50	<0.50	<0.50
	10/29/93	<50	<0.50	<0.50	<0.50	<0.50
	03/04/94	<50	<0.05	<0.5	<0.5	<0.5
	05/17/94	<50	<0.5	<0.5	<0.5	<0.5
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5
	11/22/94	<50	<0.5	<0.5	<0.5	<0.5
	02/27/95	<50	<0.50	<0.50	<0.50	<0.50
	05/26/95	<50	<0.50	<0.50	<0.50	<0.50

ppb = Parts per billion
NS = Not sampled



LEGEND

- MW-4 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- VW-1 ▲ SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
- (172.70) GROUNDWATER ELEVATION IN FEET - MSL, 5-26-95
- 172.50 GROUNDWATER ELEVATION CONTOUR IN FEET - MSL, 5-26-95
- (NM) WELL NOT MEASURED

APPROXIMATE DIRECTION
OF GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.006

Reference: Basemap taken from RESNA

PACIFIC
ENVIRONMENTAL
GROUP, INC.

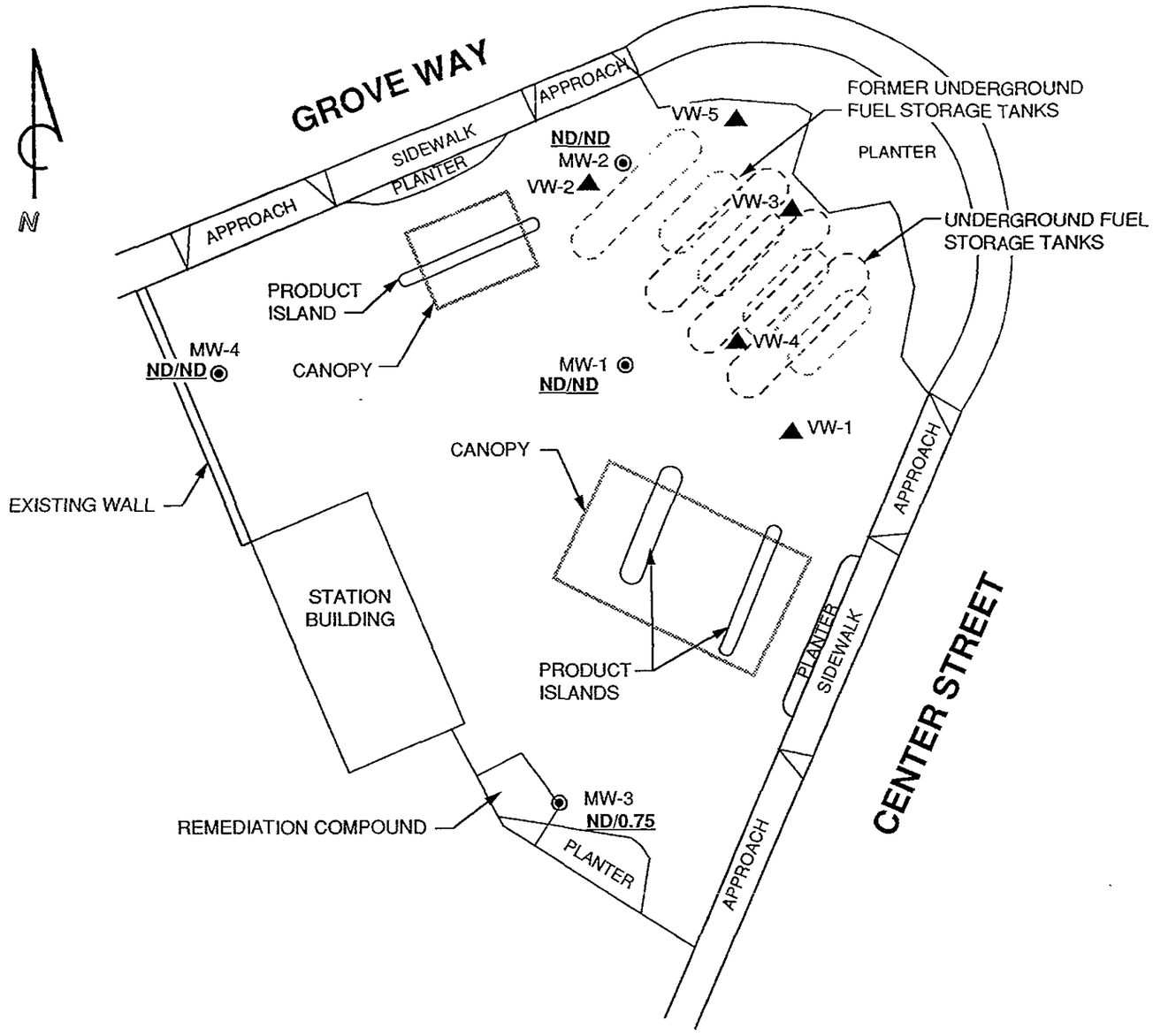
SCALE
0 30 60 FEET

ARCO SERVICE STATION 2152
22141 Center Street at Grove Way
Castro Valley, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE:
1

PROJECT:
330-048.2B



LEGEND

MW-4 ◉	GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
VW-1 ▲	SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
ND/0.75	TPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 5-26-95
ND	NOT DETECTED

APPROXIMATE DIRECTION
OF GROUNDWATER FLOW

Reference: Basemap taken from RESNA

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO SERVICE STATION 2152
22141 Center Street at Grove Way
Castro Valley, California

TPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-048.2B

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: 330-048.2G/2152, 22141 Center

Enclosed are the results from samples received at Sequoia Analytical on May 30, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9505K4801	LIQUID, MW-1	5/26/95	TPHGB Purgeable TPH/BTEX
9505K4802	LIQUID, MW-2	5/26/95	TPHGB Purgeable TPH/BTEX
9505K4803	LIQUID, MW-3	5/26/95	TPHGB Purgeable TPH/BTEX
9505K4804	LIQUID, MW-4	5/26/95	TPHGB Purgeable TPH/BTEX
9505K4805	LIQUID, TB-1	5/26/95	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

Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-048.2G/2152, 22141 Center	Sampled: 05/26/95
2025 Gateway Place, Suite 440	Sample Descript: MW-1	Received: 05/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/05/95
Attention: Maree Doden	Lab Number: 9505K48-01	Reported: 06/12/95

QC Batch Number: GC060595BTEX06A
Instrument ID: GCHP06

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	78

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: 330-048.2G/2152, 22141 Center	Sampled: 05/26/95
2025 Gateway Place, Suite 440	Sample Descript: MW-2	Received: 05/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/05/95
Attention: Maree Doden	Lab Number: 9505K48-02	Reported: 06/12/95

QC Batch Number: GC060595BTEX06A
Instrument ID: GCHP06

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**	**0.61**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**0.60**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	73

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: 330-048.2G/2152, 22141 Center	Sampled: 05/26/95
2025 Gateway Place, Suite 440	Sample Descript: MW-3	Received: 05/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/05/95
Attention: Maree Doden	Lab Number: 9505K48-03	Reported: 06/12/95

QC Batch Number: GC060595BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	**0.50**	**0.75**
Toluene	**0.50**	**0.66**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	70

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: 330-048.2G/2152, 22141 Center	Sampled: 05/26/95
2025 Gateway Place, Suite 440	Sample Descript: MW-4	Received: 05/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/06/95
Attention: Maree Doden	Lab Number: 9505K48-04	Reported: 06/12/95

QC Batch Number: GC060695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	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	100

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: 330-048.2G/2152, 22141 Center	Sampled: 05/26/95
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 05/30/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/05/95
Attention: Maree Doden	Lab Number: 9505K48-05	Reported: 06/12/95

QC Batch Number: GC060595BTEX06A
Instrument ID: GCHP06

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

Pacific Environmental Group	Client Project ID:	330-048.2G/2152, 22141 Center
2025 Gateway Place, Suite 440	Matrix:	LIQUID
San Jose, CA 95110		
Attention: Maree Doden	Work Order #:	9505K48 -01-03, 05

Reported: Jun 13, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060595BTEX06A	GC060595BTEX06A	GC060595BTEX06A	GC060595BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9505J6210	9505J6210	9505J6210	9505J6210
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/5/95	6/5/95	6/5/95	6/5/95
Analyzed Date:	6/5/95	6/5/95	6/5/95	6/5/95
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	7.6	7.5	7.5	23
MS % Recovery:	76	75	75	77
Dup. Result:	8.9	8.8	8.9	27
MSD % Recov.:	89	88	89	90
RPD:	16	16	17	16
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

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

Client Project ID: 330-048.2G/2152, 22141 Center
Matrix: LIQUID
Work Order #: 9505K48-04
Reported: Jun 13, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC060695BTEX07A	GC060695BTEX07A	GC060695BTEX07A	GC060695BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9505L2301	9505L2301	9505L2301	9505L2301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/6/95	6/6/95	6/6/95	6/6/95
Analyzed Date:	6/6/95	6/6/95	6/6/95	6/6/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	29
MS % Recovery:	100	100	100	97
Dup. Result:	10	10	10	29
MSD % Recov.:	100	100	100	97
RPD:	0.0	0.0	0.0	0.0
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: PG&E/Arco
REC. BY (PRINT): RT

WORKORDER: 9505K48
DATE OF LOG-IN: 5-31-95

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: 5/30/95
12. Temp. Rec. at Lab: 4°C
13. Time Rec. at Lab: 1616

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	A-C	MW1	3 VOAs	Liq.	5/26/95	
2		2				
3		3				
4		4				
5	A,D	TB	2 VOAs			

5/30/95

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

ARCO Products Company Division of AtlanticRichfieldCompany 3300 1829 Task Order No. 1707600

Chain of Custody

ARCO Facility no. 2152	City (Facility) 22141 Center St.	Project manager (Consultant) Kelly Brown	Laboratory name LEdward
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 9505K48

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 ☐		
MW1	1	3		X		X	HCL	05-26-95	10:30		X											
MW2	2	↓		↓		↓	↓	↓	11:30		↓											
MW3	3	↓		↓		↓	↓	↓	10:05		↓											
MW4	4	↓		↓		↓	↓	↓	10:55		↓											
TB-1	5	2		↓		↓	↓	↓	NA		↓											

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 [signature]	Date 05-26-95	Time 15:30	Received by M Doden	5/26/95	1530
Relinquished by M Doden	Date 5/30/95	Time 10:15	Received by [signature]	4°C	
Relinquished by [signature]	Date 5/30	Time	Received by laboratory [signature]	Date 5/30/95	Time 1616

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

FILE COPY

FIELD SERVICES / O & M REQUEST W/O# 953298

	Initials	Date
F/S	RY	5/31/95
Copy/Dist.	RY	↓

SITE INFORMATION FORM

Project #:330-048.2G	☐ 1st time visit	
Station #:2152	☐ 1st ☒ 2nd ☐ 3rd ☐ 4th	Date of Request:5/19/95
Site Address:22141 Center st. Castro Valley, California	☐ Monthly	Ideal Field Date:
	☐ Semi-Monthly	
County:Contra Costa	☐ Weekly	Budget Hrs.____
Project Manager:Kelly Brown	☐ One time Event	Actual Hrs. 4
Requestor:Chuck Graves	☐ Other.____	Mob de Mob 1
Client:Arco	Client P.O.C.:Mike Whelan	

Prefield contacts:

Field Tasks: For General Description

Second Quarter groundwater sampling event: DTW/DTL on all wells from TOC
Sample per attached protocol
WA#17076 00

Comments, remarks, from Field Staff (include problems encountered

SAMPLE MW1 => MW4
NEED GROUTING

Completed by: [signature] Date: 05-26-95

Checked by: [signature]

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-048.2G	2152	22141 Center Castro Vlly	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			QLY	GAS/BTEX	TOC	60	4"	NO	
MW-2			QLY	GAS/BTEX	TOC	60	4"	NO	
MW-3			QLY	GAS/BTEX	TOC	60.5	4"	NO	
MW-4			QLY	GAS/BTEX	TOC	60.5	4"	NO	

FIELD REPORT

EPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330048 2G LOCATION: 22141 CENTER, CASTRO VALLEY DATE: 05-26-95

CLIENT/STATION NO.: ARCO/02152 FIELD TECHNICIAN: [illegible] DAY OF WEEK: FRI

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	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)	Fresh	Weathered	Gas	Oil	Viscosity Lite	Medium	Heavy	Liquid Removed (gallons) SPH / H_2O
2"	MW1	9:26	✓	✓		✓	✓	59.90	44.70 / 44.70	45.26 / 45.26										
2"	MW2	9:30	✓	✓		✓	✓	59.95	43.80 / 43.80	44.35 / 44.35										
2"	MW3	9:20	✓	✓		✓	✓	60.35	45.70 / 45.70	46.30 / 46.30										
2"	MW4	9:36	✓	✓		✓	✓	60.26	43.00 / 43.00	43.52 / 43.52										

Color columns: Fresh, Weathered, Gas, Oil. Separate-Phase Hydrocarbons (SPH).

Comments:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330048.76 LOCATION: 2141 Center St WELL ID #: MW1

CLIENT/STATION No.: Arco/07152 FIELD TECHNICIAN: PEDRO DIAZ

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 5.90 - DTW 4.70 = 1.52 x Gal/Linear Foot .66 = 1.003 x Number of Casings 3 = Calculated Purge 3.009

DATE PURGED: 05-26-95 START: 10:10 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 05-26-95 START: 10:30 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:17	10	6.90	1210	67.9	Cloudy	1396	None
10:22	20	6.85	1300	68.4	Cloudy	Mod	None
10:27	30	6.92	1850	68.8	Cloudy	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: ____
- ☐ Airlift Pump: ____
- ☒ Centrifugal Pump: ____
- ☐ Dedicated: ____
- ☐ Other: GROUNDFOS

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 15-7
- ☐ Dedicated: ____
- ☐ Other: ____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW1	05-26-95	10:30	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: ____

SIGNATURE: ____

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330018.76 LOCATION: 2741 Center St WELL ID #: MW-2

CLIENT/STATION No.: ARCO / 02152 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 59.95 - DTW 43.80 = 16.15 x Gal/Linear Foot .66 = 10.65 x Number of Casings 3 = Calculated Purge 31.97

DATE PURGED: 05-26-95 START: 11:10 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 05-26-95 START: 11:30 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:16	105	6.92	1890	68.1	CLEAR	261	FAINT
11:20	21	6.90	1800	67.9	CLEAR	25.9	NONE
11:26	316	6.95	1910	67.9	CLEAR	7.17	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: _____
- ☐ Airlift Pump: _____
- ☒ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: GRUNDFOS

SAMPLING EQUIPMENT/I.D.

- ☒ Bailer: 15-4
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW2	05-26-95	11:30	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330048.76 LOCATION: 2241 Center St WELL ID #: MW 3

CLIENT/STATION No.: Arco/07152 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 60.35 - DTW 45.70 = 14.65 x Gal/Linear Foot .66 = 9.66 x Number of Casings 3 = Calculated Purge 29.00

DATE PURGED: 05-26-95 START: 9:46 END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 05-26-95 START: 10:05 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
9:52	5	6.98	2180	63.8	CLEAR	7.09	NONE
9:58	19	6.93	2300	67.5	CLEAR	6.89	NONE
10:03	28.5	6.88	2300	68.1	CLEAR	7.59	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:
- ☐ Other: GRUNDFOS
- ☐ Airlift Pump:
- ☐ Dedicated:

SAMPLING EQUIPMENT/I.D.

- ☒ Bailer: 16-1
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW3	05-26-95	10:05	3	40ml	VOA	HCL	GAS/BTEX

REMARKS:

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330018.26 LOCATION: 2141 Center St WELL ID #: MW-4

CLIENT/STATION No.: Arco/02152 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 60.75 DTW 43.00 = 17.76 x Gal/Linear Foot .60 = 11.38 x Number of Casings 3 = Calculated Purge 34.16

DATE PURGED: 05-26-95 START: 10:35 END (2400 hr): ~~—~~ PURGED BY: JE

DATE SAMPLED: 05-26-95 START: 10:55 END (2400 hr): ~~—~~ SAMPLED BY: JE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
10:40	11.76	6.93	1700	68.6	CLEAR	36.8	NONE
10:45	22.6	6.98	1760	68.4	CLEAR	33.6	NONE
10:50	34.5	6.96	1730	68.2	CLEAR	32.7	NONE

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

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC

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

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: 15-3
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4	05-26-95	10:55	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: _____

SIGNATURE: _____

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330018.76 LOCATION: 2141 Center St WELL ID #: MW-1

CLIENT/STATION No.: Arco/07152 FIELD TECHNICIAN: Pedro Rojas

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

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	05-26-95	NA	3	40ml	VOA	HCL	GAS/BTEX

REMARKS: _____

SIGNATURE

PACIFIC ENVIRONMENTAL

ARCO Products Company Division of AtlanticRichfieldCompany

3300482G Task Order No. 1707600

Chain of Custody

ARCO Facility no. 2152 | City (Facility) 22141 Center St. | 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 7639 | Contract number

Consultant name Pacific Environmental Group | Address (Consultant) 2025 Gateway Place 440 San Jose CA.

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 ☐		
MW1		3		X		X	HCL	05-26-96	10:30		X											
MW2		↓		↓		↓	↓	↓	11:30		↓											
MW3		↓		↓		↓	↓	↓	10:06		↓											
MW4		↓		↓		↓	↓	↓	10:55		↓											
TB-1		2		↓		↓	↓	↓	NA		↓											

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

Condition of sample: | Temperature received:

Relinquished by sampler [signature] | Date 05-26-96 | Time 15:30 | Received by

Relinquished by | Date | Time | Received by

Relinquished by | Date | Time | Received by laboratory | Date | Time

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

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

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

Laboratory Procedures

The groundwater samples were analyzed for the presence of total 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.