PACIFIC
ENVIRONMENTAL
GROUP INC.

December 20, 1995
Project 330-084.2B

Mr. Michael Whelan
ARCO Products Company
P.O. Box 612530
San Jose, California 95161

Re: Quarterly Report - Third Quarter 1995
Remedial System Performance Evaluation
ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Dear Mr. Whelan:

This letter, prepared by Pacific Environmental Group, Inc. (PACIFIC) on behalf of ARCO Products Company, presents the results of the third quarter 1995 groundwater monitoring and performance evaluation of the groundwater extraction (GWE) system 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 August 7, 1995, and analyzed for the presence of total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds). A groundwater sampling schedule is presented in Table 1. In addition, groundwater samples were analyzed for total methyl t-butyl ether (MTBE). 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 August 7, 1995 sampling event indicate that changes to groundwater elevations across the site are mixed, but on average have decreased 0.62 foot since May 9, 1995. Groundwater flow is to the southwest with an approximate gradient of 0.04. This flow direction and gradient are consistent with historical data. Groundwater elevation data are presented in Table 2. A liquid surface elevation contour map based on the August 1995 data is shown on Figure 1.

Results of groundwater monitoring this quarter are generally consistent with previous results. TPPH-g and benzene were below detection limits in Wells MW-1, MW-4,

MW-5, and MW-6. TPPH-g was below detection limits in Wells MW-2 and MW-3. Benzene concentrations in Wells MW-2 and MW-3 were 0.66 and 2.3 parts per billion (ppb), respectively. Separate-phase hydrocarbons were not observed in any site well this quarter or during any sampling event since December 1991. Groundwater analytical data are presented in Tables 3 and 4. A TPPH-g and benzene concentration map is shown on Figure 2.

REMEDIAL PERFORMANCE EVALUATION

Remedial action consisting of GWE is currently in progress at this site. The GWE system has been in operation since December 21, 1993.

Remedial objectives for the site include: (1) migration control of the impacted groundwater plume, and (2) petroleum hydrocarbon mass reduction. To evaluate GWE system performance, PACIFIC monitors groundwater levels, instantaneous and average flow rate, and evaluates and analyzes samples of system influent and effluent for TPPH-g and BTEX compounds.

Below is a brief description of the GWE system and an evaluation of its performance from June 9 to September 18, 1995.

GROUNDWATER EXTRACTION SYSTEM

System Description

The GWE system utilizes a pneumatic pump in Well W-2, and three 200-pound granular activated carbon (GAC) vessels arranged in series to treat the extracted groundwater. The carbon vessels are connected and valved so that the vessel order can be rotated following a GAC vessel change-out. Sample ports are located at the treatment system influent, between the GAC vessels, at the effluent, and at the extraction well head. GWE system effluent is discharged into the sanitary sewer system under an East Bay Municipal Utility District (EBMUD) sewer discharge Permit No. 502-85611, which expires December 31, 1997.

Migration Control

Progress toward meeting the migration control objective is evaluated by comparison of the groundwater elevation contour map (Figure 1) and TPPH-g and benzene concentration maps (Figure 2) from previous and current groundwater monitoring events.

Although a groundwater depression in response to GWE was not observed during the current quarterly depth to water measurement event (Figure 1), TPPH-g and benzene concentrations in downgradient off-site groundwater monitoring wells were either below detection limits or decreased compared to previous quarters (Figure 2).

Mass Reduction

Progress toward meeting the mass reduction objective is determined by evaluating the GWE system mass removal data and the TPPH-g concentration trends in associated groundwater monitoring wells. GWE system operational data are collected monthly. The system flow and influent sample analysis data are used to estimate TPPH-g mass removal values. During the reporting period, GWE removed approximately 0.11 pound (0.02 gallon) of TPPH-g and 0.01 pound (<0.01 gallon) of benzene from impacted groundwater beneath the site. To date, GWE has removed approximately 2.59 pounds (0.43 gallon) of TPPH-g and 0.38 pound (0.05 gallon) of benzene from impacted groundwater beneath the site. GWE system performance data are presented in Table 5. The GWE system's TPPH-g and benzene mass removal trend and concentration data are graphically shown on Figure 3 and 4, respectively. Treatment system certified analytical reports and chain-of-custody documentation are presented as Attachment C. Progress toward site remediation is presented in the following table.

	Mass Removed			
	06/09/95 through 09/18/95		Cumulative	
Analyte	(lbs)	(gal)	(lbs)	(gal)
Groundwater Extraction				
TPPH-g	0.11	0.02	2.59	0.43
Benzene	0.01	0.00	0.38	0.05

lbs = Pounds
gal = Gallons
TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline

Groundwater Extraction System Operational Data

The GWE system was 100 percent operational during the period. During the reporting period, the GWE system discharged treated groundwater at an average flow rate of approximately 0.11 gallon per minute (gpm) for a period discharge of 16,278 gallons. Average flow rates from Well W-2 ranged from 0.08 to 0.17 gpm. Concentrations for TPPH-g in Well W-2 ranged from 600 to 1,400 ppb. Benzene concentrations ranged from 10 to 420 ppb.

GAC loading is currently estimated at approximately 3.1 percent by weight (assumes an 8-percent isotherm). During this quarter, the GWE system was in compliance with all conditions stipulated in the discharge permit. GWE system analytical data are presented in Table 6. On the certified analytical reports, data have been labeled by sample port numbers which correspond to the following process points: SP-105 is the influent, SP-106 is between the first and second GAC vessels, SP-107 is between the second and third GAC vessels, and SP-108 is the effluent. Operation and maintenance field data sheets are presented as Attachment C.

CONCLUSIONS

During an October 5, 1995 meeting attended by PACIFIC, ARCO, and the Alameda County Health Care Services Agency (ACHCSA), it was agreed that the operation of the

GWE system was no longer required, unless quarterly groundwater monitoring indicates a plume migration during the verification monitoring period, at which point GWE will be resumed. Furthermore, it was agreed that future groundwater monitoring at the site will be conducted in accordance with the following schedule: Wells MW-3, MW-4, and MW-5 will be monitored on a quarterly basis, and Wells MW-1, MW-2, and MW-6 will be monitored annually.

Additionally, at the request of ARCO, PACIFIC will initiate a bioremediation enhancement program at off-site Well MW-3 during fourth quarter 1995. Specifically, PACIFIC will use oxygen releasing compound (ORC) manufactured by Regenesis Bioremediation Products. Dissolved oxygen and total nitrogen concentrations at Well MW-3 will be monitored prior to and following the installation of ORC, to document enhanced bioremediation activity in the vicinity of Well MW-3.

SUMMARY OF WORK

Work Performed Third Quarter 1995

- Monitored and optimized performance of GWE system.
- Prepared and submitted second quarter 1995 groundwater monitoring and remedial system performance evaluation.
- Sampled site wells for third quarter 1995 groundwater monitoring program. Sampling performed by PACIFIC.
- Prepared third quarter 1995 groundwater monitoring and remedial system performance evaluation.
- Installed new system totalizer.
- Issued quarterly self-monitoring report to EBMUD.

Work Anticipated Fourth Quarter 1995

- Deactivate GWE system and continue groundwater monitoring during the verification monitoring period.
- Attend meeting with the ACHCSA to discuss site closure requirements.
- Prepare and submit meeting minutes.
- Prepare and submit third quarter 1995 groundwater monitoring and remedial system performance evaluation report.
- Sample site wells for fourth quarter 1995 groundwater monitoring program. Sampling to be performed by PACIFIC.

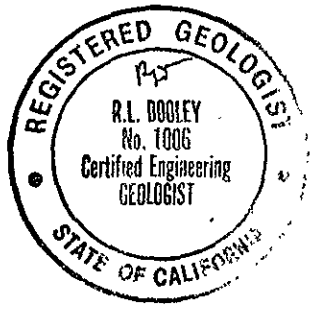
- Prepare fourth quarter 1995 groundwater monitoring and remedial system performance evaluation report.
- Install and monitor ORC in Well MW-3.
- Initiate product line and dispenser replacement activities.

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

Sincerely,

Pacific Environmental Group, Inc.

Shaw Garakani
Project Engineer



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 Purgeable Petroleum Hydrocarbons (TPPH as Gasoline, BTEX Compounds, TEPH as Diesel, and Oil and Grease)
Table 4 - Groundwater Analytical Data - Total Methyl t-Butyl Ether
Table 5 - Groundwater Extraction System Performance Data
Table 6 - Groundwater Extraction System Analytical Data - Total Purgeable Petroleum Hydrocarbons (TPPH as Gasoline and BTEX Compounds)
Figure 1 - Liquid Surface Elevation Contour Map
Figure 2 - TPPH-g/Benzene Concentration Map
Figure 3 - Groundwater Extraction System Mass Removal Trend
Figure 4 - Groundwater Extraction System Hydrocarbon Concentrations
Attachment A - Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
Attachment B - Field and Laboratory Procedures
Attachment C - Treatment System Certified Analytical Reports, Chain-of-Custody Documentation, and Operation and Maintenance Field Data Sheets

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

Table 1
Groundwater Sampling Schedule

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
MW-1			a		Annually
MW-2			a		Annually
MW-3	a	a	a	a	Quarterly
MW-4	a	a	a	a	Quarterly
MW-5	a	a	a	a	Quarterly
MW-6			a		Annually

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

Table 2
Liquid Surface Elevation Data

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-1	07/20/89	159.44	8.04	--	151.40
	08/30/89		8.47	--	150.97
	10/04/89		8.50	--	150.94
	01/10/90		6.74	--	152.70
	08/07/90		6.87	--	152.57
	12/06/90		7.35	--	152.09
	12/19/90		7.22	--	152.22
	01/29/91		8.28	--	151.16
	02/20/91		7.98	--	151.46
	04/25/91		6.89	--	152.55
	05/31/91		7.64	--	151.80
	07/08/91		8.17	--	151.27
	08/09/91		8.58	--	150.86
	09/25/91		8.82	--	150.62
	10/17/91		8.96	--	150.48
	11/20/91		8.60	--	150.84
	12/27/91		8.71	--	150.73
	01/19/92		7.83	--	151.61
	02/19/92		6.68	--	152.76
	03/09/92		4.47	--	154.97
	04/15/92	158.91	6.44	--	152.47
	05/12/92		7.31	--	151.60
	06/16/92		7.97	--	150.94
	07/14/92		8.22	--	150.69
	08/07/92		8.46	--	150.45
	09/22/92		6.76	--	152.15
	10/12/92		7.13	--	151.78
	11/23/92		7.24	--	151.67
	12/16/92		6.44	--	152.47
	01/21/93		5.03	--	153.88
	02/22/93		4.93	--	153.98
	03/25/93		5.13	--	153.78
	04/27/93		5.68	--	153.23
	08/04/93		7.91	--	151.00
	10/13/93		8.81	--	150.10
	02/03/94		7.51	--	151.40
	04/29/94		7.20	--	151.71
	08/02/94		8.02	--	150.89
	11/12/94		6.70	--	152.21
	02/23/95		7.77	--	151.14
	05/09/95		7.82	--	151.09
	08/07/95		7.45		151.46
MW-2	07/20/89	158.46	8.15	--	150.31
	08/30/89		8.42	--	150.04
	10/04/89		8.40	--	150.06
	01/10/90		6.12	--	152.34
	08/07/90		6.35	--	152.11
	12/06/90		7.15	--	151.31
	12/19/90		7.38	--	151.08
	01/29/91		8.41	--	150.05
	02/20/91		8.26	--	150.20
	04/25/91		7.70	--	150.76
	05/31/91		8.10	--	150.36
	07/08/91		8.34	--	150.12
	08/09/91		8.51	--	149.95

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-2	09/25/91		8.66	--	149.80
(cont.)	10/17/91		8.80	--	149.66
	11/20/91		8.66	--	149.80
	12/27/91		8.57	Sheen	149.89
	01/19/92		8.25	--	150.21
	02/19/92		7.50	--	150.96
	03/09/92		7.40	--	151.06
	04/15/92	157.92	7.72	--	150.20
	05/12/92		8.01	--	149.91
	06/16/92		8.25	--	149.67
	07/14/92		8.33	--	149.59
	08/07/92		8.42	--	149.50
	09/22/92		6.13	--	151.79
	10/12/92		6.80	--	151.12
	11/23/92		7.15	--	150.77
	12/16/92		6.66	--	151.26
	01/21/93		5.93	--	151.99
	02/22/93		6.01	--	151.91
	03/25/93		5.91	--	152.01
	04/27/93		6.63	--	151.29
	08/04/93		8.02	--	149.90
	10/13/93		8.64	--	149.28
	02/03/94		8.08	--	149.84
	04/29/94		8.14	--	149.78
	08/02/94		8.31	--	149.61
	11/12/94		7.74	--	150.18
	02/23/95		7.53	--	150.39
	05/09/95		7.57	--	150.35
	08/07/95		8.15		149.77
MW-3	07/20/89	154.18	7.58	--	146.60
	08/30/89		8.00	--	146.18
	10/04/89		7.73	Emulsion	146.45
	01/10/90		7.78	--	146.40
	08/07/90		7.66	--	146.52
	12/06/90		7.75	--	146.43
	12/19/90		7.58	--	146.60
	01/29/91		7.60	--	146.58
	02/20/91		7.51	--	146.67
	04/25/91		6.37	--	147.81
	05/31/91		7.19	--	146.99
	07/08/91		7.60	--	146.58
	08/09/91		7.94	--	146.24
	09/25/91		8.23	--	145.95
	10/17/91		8.44	--	145.74
	11/20/91		8.78	--	145.40
	12/27/91		8.05	Sheen	146.13
	01/19/92		7.65	--	146.53
	02/19/92		6.48	--	147.70
	03/09/92		5.45	--	148.73
	04/15/92	153.64	7.75	--	145.89
	05/12/92		7.45	--	146.19
	06/16/92		7.51	--	146.13
	07/14/92		7.60	--	146.04
	08/07/92		7.85	--	145.79
	09/22/92		7.73	--	145.91

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-3	10/12/92		7.83	--	145.81
(cont.)	11/23/92		6.98	--	146.66
	12/16/92		5.96	--	147.68
	01/21/93		4.62	--	149.02
	02/22/93		5.15	--	148.49
	03/25/93		5.45	--	148.19
	04/27/93		5.79	--	147.85
	08/04/93		7.24	--	146.40
	10/13/93		8.03	--	145.61
	02/03/94		6.66	--	146.98
	04/29/94		7.70	--	145.94
	08/02/94		7.47	--	146.17
	11/12/94		5.91	--	147.73
	02/23/95		7.18	--	146.46
	05/09/95		5.96	--	147.68
	08/07/95		7.83		145.81
MW-4	07/20/89	157.08	8.09	--	148.99
	08/30/89		8.45	Sheen	148.63
	10/04/89		8.57	Sheen	148.51
	01/10/90		7.26	--	149.82
	08/07/90		6.87	--	150.21
	12/06/90		8.02	Sheen	149.06
	12/19/90		7.69	--	149.39
	01/29/91		8.39	Sheen	148.69
	02/20/91		8.16	--	148.92
	04/25/91		7.14	--	149.94
	05/31/91		7.64	--	149.44
	07/08/91		8.34	--	148.74
	08/09/91		8.60	--	148.48
	09/25/91		8.80	--	148.28
	10/17/91		8.98	--	148.10
	11/20/91		8.78	--	148.30
	12/27/91		8.82	--	148.26
	01/19/92		8.18	--	148.90
	02/19/92		7.62	--	149.46
	03/09/92		6.68	--	150.40
	04/15/92	156.53	6.96	--	149.57
	05/12/92		7.45	--	149.08
	06/16/92		7.94	--	148.59
	07/14/92		8.21	--	148.32
	08/07/92		8.41	--	148.12
	09/22/92		6.14	--	150.39
	10/12/92		6.45	--	150.08
	11/23/92		7.48	--	149.05
	12/16/92		6.95	--	149.58
	01/21/93		5.53	--	151.00
	02/22/93		5.83	--	150.70
	03/25/93		5.96	--	150.57
	04/27/93		6.30	--	150.23
	08/04/93		7.71	--	148.82
	10/13/93		8.53	--	148.00
	02/03/94		9.27	--	147.26
	04/29/94		9.50	--	147.03
	08/02/94		8.69	--	147.84
	11/12/94		6.88	--	149.65

Table 2 (continued)
Liquid Surface Elevation Data

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	SPH Thickness (feet)	Liquid Surface Elevation (feet, MSL)
MW-4	02/23/95		9.38	--	147.15
(cont.)	05/09/95		9.00	--	147.53
	08/07/95		9.55		146.98
MW-5	04/15/92	151.33	8.05	--	143.28
	05/12/92		8.44	--	142.89
	06/16/92		8.74	--	142.59
	07/14/92		9.70	--	141.63
	08/07/92		9.10	--	142.23
	09/22/92		9.26	--	142.07
	10/25/92		9.24	--	142.09
	11/23/92		---------- Well Inaccessible ----------		
	12/16/92		8.20	--	143.13
	01/21/93		7.89	--	143.44
	02/22/93		7.29	--	144.04
	03/25/93		7.51	--	143.82
	04/27/93		7.72	--	143.61
	08/05/93		8.66	--	142.67
	10/13/93		9.00	--	142.33
	02/03/94		9.38	--	141.95
	04/29/94		---------- Well Inaccessible ----------		
	08/02/94		8.71	--	142.62
	11/12/94		8.65	--	142.68
	02/23/95		9.23	--	142.10
	05/09/95		7.65	--	143.68
	08/07/95		8.25		143.08
MW-6	04/15/92	153.84	4.55	--	149.29
	05/12/92		5.32	--	148.52
	06/16/92		5.91	--	147.93
	07/14/92		6.08	--	147.76
	08/07/92		6.36	--	147.48
	09/22/92		6.53	--	147.31
	10/25/92		6.54	--	147.30
	11/23/92		5.75	--	148.09
	12/16/92		4.69	--	149.15
	01/21/93		3.82	--	150.02
	02/22/93		3.78	--	150.06
	03/25/93		3.93	--	149.91
	04/27/93		4.30	--	149.54
	08/05/93		5.39	--	148.45
	10/13/93		7.12	--	146.72
	02/03/94		5.17	--	148.67
	04/29/94		4.66	--	149.18
	08/02/94		5.64	--	148.20
	11/12/94		6.32	--	147.52
	02/23/95		5.60	--	148.24
	05/09/95		5.21	--	148.63
	08/07/95		5.68	--	148.16

SPH = Separate-phase hydrocarbons
MSL = Mean sea level
TOC = Top of casing

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

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Sampled		TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TEPH as Diesel (ppb)	Oil and Grease (ppb)
MW-1	07/21/89		33	0.77	1.6	15	5	NA	NA
	08/30/89		<20	<0.50	<0.50	<0.50	<0.50	NA	NA
	10/04/89		<20	<0.50	<0.50	<0.50	<0.50	NA	NA
	01/10/90		<20	<0.50	<0.50	<0.50	<0.50	NA	NA
	08/07/90		<20	<0.50	<0.50	<0.50	<0.50	NA	NA
	12/06/90		<50	3.6	2.7	0.60	5.8	NA	NA
	02/20/91		<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	07/08/91		<30	<0.30	<0.30	<0.30	<0.30	NA	NA
	09/25/91		<30	57	57	54	1.7	NA	NA
	11/20/91		57	9.2	3.7	0.63	25	NA	NA
	03/09/92		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	04/15/92		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	07/14/92		<50	<0.5	0.7	<0.5	1.3	NA	NA
	10/12/92		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	01/21/93		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	04/27/93		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	08/04/93		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	10/13/93		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/03/94		<50	1.4	2.1	<0.5	2	NA	NA
	04/29/94		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	08/02/94		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	11/12/94		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/23/95		<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	05/09/95		<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	08/07/95	a	<500	<5.0	<5.0	<5.0	<5.0	NA	NA
MW-2	07/21/89		4,200	280	210	38	24	NA	NA
	08/30/89		4,200	160	260	45	240	NA	NA
	10/04/89		4,300	860	300	29	330	NA	NA
	01/10/90		8,000	890	710	120	760	NA	NA
	08/07/90		6,000	880	76	25	80	NA	NA
	12/06/90		1,600	330	69	18	63	NA	NA
	02/20/91		1,300	160	46	13	48	NA	NA
	07/08/91		310	76	18	7.7	24	NA	NA
	09/25/91		83	17	0.69	2.2	4.1	NA	NA
	11/20/91		180	46	6.1	3	8.7	NA	NA
	03/09/92		690	170	25	21	58	NA	NA
	04/15/92		86	20	2.3	3.8	85	NA	NA
	07/14/92		160	46	1.4	1.2	35	NA	NA
	10/12/92		230	59	7	55	11	NA	NA
	01/21/93		450	70	6.6	22	54	NA	NA
	04/27/93		<50	6.6	<0.5	0.7	1.1	NA	NA
	08/04/93		<50	2.1	<0.5	<0.5	<0.5	NA	NA
	10/13/93		<50	14	<0.5	<0.5	<0.5	NA	NA
	02/03/94		<50	4.4	<0.5	<0.5	0.8	NA	NA
	04/29/94		150	38	0.7	4.3	4.8	NA	NA
	08/02/94		<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	11/12/94		95	28	0.7	2.5	7.5	NA	NA
	02/23/95		<50	1.8	<0.50	<0.50	<0.50	NA	NA

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

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TEPH as Diesel (ppb)	Oil and Grease (ppb)
MW-2	05/09/95	<50	1.9	<0.50	<0.50	<0.50	NA	NA
(cont.)	08/07/95	<50	0.66	<0.50	<0.50	<0.50	NA	NA
MW-3	07/21/89	430	9	4.8	<0.50	50	NA	NA
	08/30/89	1,200	85	46	84	55	NA	NA
	10/04/89	7,000	580	900	120	670	NA	NA
	01/10/90	940	130	59	21	73	NA	NA
	08/07/90	2,300	180	64	59	120	NA	NA
	12/06/90	460	52	55	14	39	350	NA
	02/20/91	470	36	30	9.3	31	<100	<5,000
	07/08/91	2500	240	470	74	320	NA	NA
	09/25/91	1,100	120	110	34	120	NA	NA
	11/20/91	1,000	180	140	43	140	NA	NA
	03/10/92	1,200	200	110	53	130	NA	NA
	04/15/92	1,600	200	13	110	81	NA	NA
	07/14/92	5,200	620	44	310	250	NA	NA
	10/12/92	850	150	5.2	55	46	NA	NA
	01/21/93	620	100	12	35	35	NA	NA
	04/27/93	1,700	180	83	64	100	NA	NA
	08/04/93	380	70	12	29	41	NA	NA
	10/13/93	780	90	6	40	31	NA	NA
	02/03/94	340	42	8.7	9.2	28	NA	NA
	04/29/94	830	150	38	27	48	NA	NA
	08/02/94	220	25	1.7	7.6	8.3	NA	NA
	11/12/94	160	6.0	<0.5	3.2	4.1	NA	NA
	02/23/95	120	1.3	<0.50	1.1	1.6	NA	NA
	05/09/95	190	20	6.6	8.9	20	NA	NA
	08/07/95	<50	2.3	0.51	0.51	0.57	NA	NA
MW-4	07/21/89	8,700	720	360	120	640	NA	NA
	08/30/89	7,300	630	220	N/A	320	NA	NA
	10/04/89	21,000	2,300	1,300	280	1,300	NA	NA
	01/10/90	4,300	470	250	63	430	NA	NA
	08/07/90	69,000	8,700	4,200	540	4,600	28,000	<5,000
	12/06/90	---------- Separate-Phase Hydrocarbon Sheen ----------						
	02/20/91	5,200	690	200	95	580	<100	<5,000
	07/08/91	1,700	280	68	37	170	NA	NA
	09/25/91	6,300	2,100	290	210	590	NA	NA
	11/20/91	2,700	1,200	200	110	320	NA	NA
	03/10/92	690	180	80	18	43	NA	NA
	04/15/92	8,500	2,100	750	280	1,000	NA	NA
	07/14/92	10,000	2,900	530	290	930	NA	NA
	10/12/92	19,000	5,200	1,600	490	1,800	690	NA
	01/21/93	22,000	4,400	1,300	580	2,200	1,400	NA
	04/27/93	21,000	4,800	1,200	630	2,400	1,100	NA
	08/04/93	23,000	6,600	1,700	770	2,600	1500	NA
	10/13/93	16,000	3,500	800	470	1,800	670	NA
	02/03/94	850	140	84	7.9	59	59	NA
	04/29/94	68	1.1	<0.5	<0.5	1.7	<50	NA

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

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TEPH as Diesel (ppb)	Oil and Grease (ppb)
MW-4	08/02/94	52	5.7	<0.5	1.2	1.9	<50	NA
(cont.)	11/12/94	1,600	230	51	81	190	90	NA
	02/23/95	1,700	340	81	52	130	NA	NA
	05/09/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	08/07/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA
MW-5	04/15/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	07/14/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	10/25/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	01/21/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	04/27/93	<50	0.5	1	<0.5	0.8	NA	NA
	08/05/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	10/14/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/03/94	<50	0.8	1.7	<0.5	15	NA	NA
	04/29/94	Well Inaccessible						
	08/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	11/12/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/23/95	<50	<0.50	0.56	<0.50	0.50	NA	NA
	05/09/95	<50	<0.50	0.56	<0.50	0.50	NA	NA
	08/07/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA
MW-6	04/15/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	07/15/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	10/25/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	01/21/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	04/27/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	08/05/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	10/13/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	04/29/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	08/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	11/12/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	02/23/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	05/09/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA
	08/07/95	<50	<0.50	<0.50	<0.50	<0.50	NA	NA

TEPH = Total extractable petroleum hydrocarbons
ppb = Parts per billion
NA = Not analyzed
a. Detection limits were raised due to analysis for MTBE
Prior to June 1995, TPPH as gasoline and TEPH as diesel were reported as TPH as gasoline and diesel, respectively.

Table 4
Groundwater Analytical Data
Total Methyl t-Butyl Ether

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Well Number	Date Sampled	Methyl t-Butyl Ether (ppb)
MW-1	08/07/95	510
MW-2	08/07/95	37
MW-3	08/07/95	<2.5
MW-4	08/07/95	<2.5
MW-5	08/07/95	<2.5
MW-6	08/07/95	160

ppb = Parts per billion
See certified analytical report for detection limit.

Table 5
Groundwater Extraction System Performance Data

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Sample I.D.	Date Sampled	Totalizer Reading (gallons)	Net Volume (gallons)	Average Flow Rate (gpm)	Influent TPPH as Gasoline: Concentration (µg/L)	Influent TPPH as Gasoline: Net Removed (lbs)	Influent TPPH as Gasoline: Removed to Date (lbs)	Influent Benzene: Concentration (µg/L)	Influent Benzene: Net Removed (lbs)	Influent Benzene: Removed to Date (lbs)	Primary Carbon Loading (percent)
INFL	12/21/93 a	22	22	0.21	NS	0.00	0.00	NS	0.000	0.00	0.0
INFL	12/23/93 a	4,855	4,833	1.6	9,300	0.38	0.38	1,200	0.024	0.02	0.5
INFL	12/27/93 a	6,871	2,016	0.36	5,700	0.13	0.51	820	0.017	0.04	0.6
INFL	12/29/93 a	7,192	371	0.13	5,800	0.02	0.53	950	0.003	0.04	0.7
INFL	01/03/94 a	7,925	733	0.10	6,500	0.01	0.54	860	0.006	0.05	0.7
INFL	01/05/94 a	8,162	237	0.08	5,200	0.01	0.55	970	0.002	0.05	0.7
INFL	01/11/94 a	8,907	745	0.08	6,300	0.03	0.58	900	0.006	0.06	0.7
INFL	01/13/94 a	9,175	268	0.09	8,600	0.02	0.60	950	0.002	0.06	0.7
INFL	01/24/94 a	9,306	131	0.08	NS	0.01	0.60	NS	0.001	0.06	0.8
INFL	02/24/94 a	14,555	5,249	0.21	4,200	0.28	0.88	520	0.011	0.07	1.1
INFL	03/24/94 a	23,723	9,168	0.24	6,200	0.40	1.40	1,100	0.062	0.13	1.8
INFL	04/26/94 b	29,543	5,820	0.12	6,400	0.15	1.55	1,400	0.061	0.19	1.9
INFL	05/24/94 c	35,082	5,539	0.14	NS	0.20	1.75	NS	0.043	0.24	2.2
INFL	11/17/94 d,e	35,507	425	N/A	2,100	0.00	1.75	460	0.001	0.24	2.2
INFL	01/10/95 f	36,493	986	0.01	1,100	0.01	1.76	180	0.003	0.24	2.2
INFL	02/07/95 g	41,399	4,906	0.12	3,500	0.09	1.86	370	0.011	0.25	2.3
INFL	03/03/95 h	53,290	11,891	0.34	NS	0.22	2.08	NS	0.035	0.29	2.6
INFL	04/03/95	62,582	9,292	0.21	5,000	0.19	2.27	1,000	0.039	0.33	2.8
INFL	05/01/95	69,809	7,227	0.18	580	0.17	2.44	40	0.031	0.36	3.0
INFL	06/09/95	75,254	5,445	0.10	1,400	0.04	2.48	420	0.010	0.37	3.1
INFL	07/05/95	81,540	6,286	0.17	750	0.06	2.54	41	0.012	0.38	3.2
INFL	08/10/95	86,868	5,328	0.10	610	0.03	2.57	29	0.002	0.38	3.2
INFL	09/18/95	91,532	4,664	0.08	600	0.02	2.59	10	0.001	0.38	3.2

REPORTING PERIOD:	**06/09/95 - 09/18/95**			
TOTAL POUNDS REMOVED:		**2.59**		**0.38**
TOTAL GALLONS REMOVED:		**0.43**		**0.06**
PERIOD POUNDS REMOVED:	**0.11**		**0.01**	
PERIOD GALLONS REMOVED:	**0.02**		**0.00**	
TOTAL GALLONS EXTRACTED:	**91,582**			
PERIOD GALLONS EXTRACTED:	**16,276**			
PERIOD AVERAGE FLOW RATE (gpm):	**0.11**			
PRIMARY BED CAPACITY REMAINING:	**96.9%**			

TPPH = Total purgeable petroleum hydrocarbons
gpm = Gallons per minute
µg/L = Micrograms per liter
lbs = Pounds
NS = Not sampled
N/A = Not available or not applicable

a. All data prior to 9/1/94 provided by prior consultant.
b. Samples taken 4/21/94; totalizer reading from 4/26/94.
c. Last site visit by Resna on 5/24/94.
d. Pacific Environmental Group, Inc. became consultant for the site 9/1/94.
e. System operated for 2 days in fourth quarter 1994; system down due to extensive repairs required for system and compound.
f. System started on January 10, 1995.
g. System auto shutdown 2/14/95; shut down 3/3/95 for repairs.
h. TPPH/benzene pounds removed estimated from previous data.

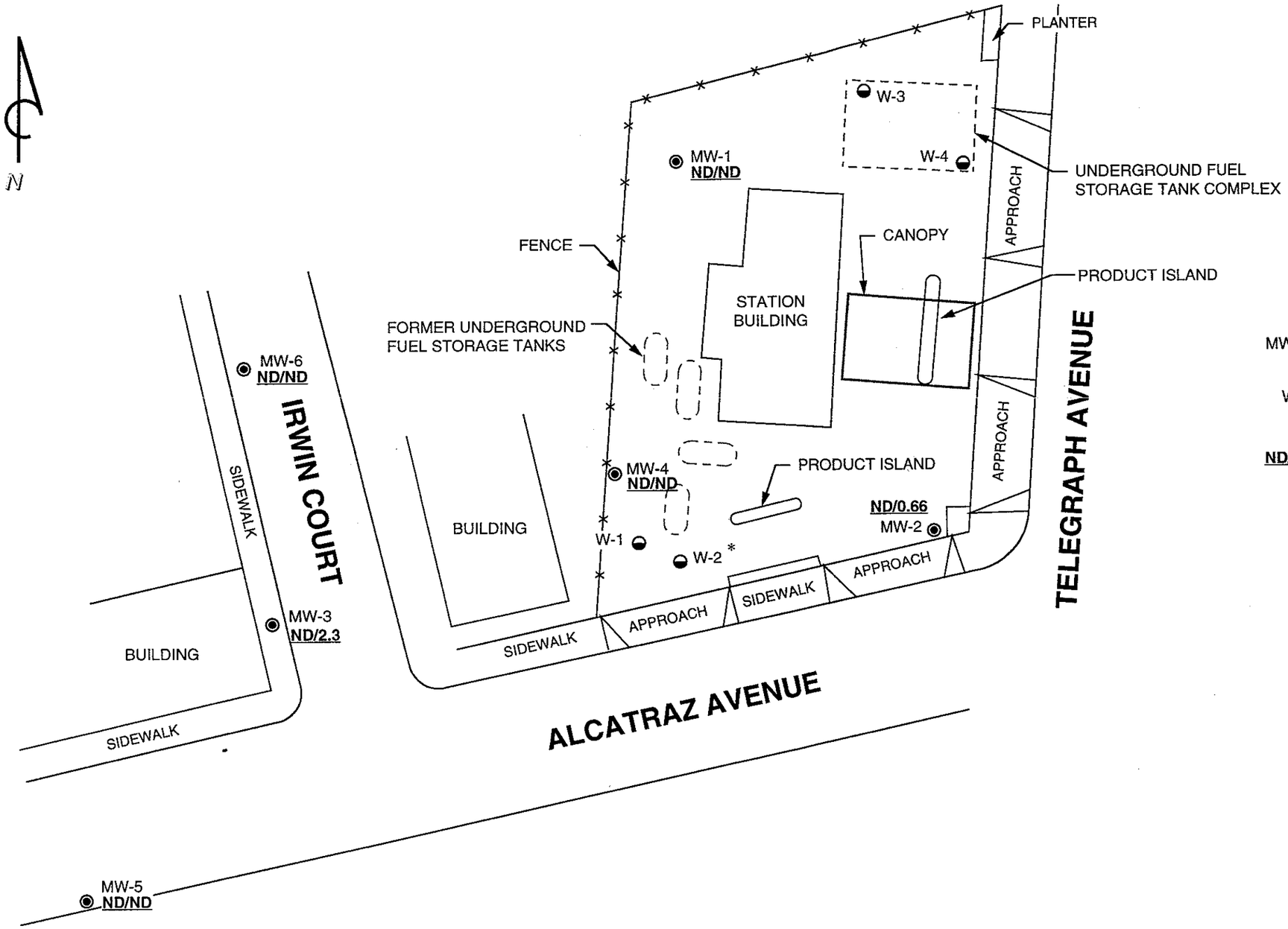
System operation began December 21, 1993, under Resna Industries, Inc.; system shut down 4/27/94 to 11/17/94.
Pounds of hydrocarbons removed to date through March 24, 1994 provided by prior consultant.
Benzene mass removal from 12/21/93 through 4/27/94 estimated from data provided by prior consultant.
Carbon loading assumes an 8% isotherm.
Prior to June 1995, TPPH as gasoline was reported as TPH calculated as gasoline.
See certified analytical reports for detection limits.

Table 6
Groundwater Extraction System Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

Sample I.D.	Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
Influent Samples						
SP-105	01/10/94	1,100	180	2.7	26	51
SP-105	02/07/94	3,500	370	120	67	230
SP-105	04/03/95	5,000	1,000	41	88	300
INFL	05/01/95	580	40	ND	1.2	17
SP-105	06/09/95	1,400	420	7	10	20
SP-105	07/05/95	750	41	ND	2.8	17
SP-105	08/10/95	610	29	0.64	3.4	16
SP-105	09/18/95	600	10	ND	ND	20
Midpoint-1 Samples						
SP-106	01/10/94	ND	ND	ND	ND	ND
SP-106	02/07/94	ND	ND	ND	ND	ND
SP-106	04/03/95	ND	ND	ND	ND	ND
MID-1	05/01/95	ND	ND	ND	ND	ND
SP-106	06/09/95	ND	ND	ND	ND	ND
SP-106	07/05/95	ND	ND	ND	ND	ND
SP-106	08/10/95	ND	ND	ND	ND	ND
SP-106	09/18/95	ND	ND	ND	ND	ND
Midpoint-2 Samples						
MID-2	11/17/94	ND	ND	ND	ND	ND
SP-107	01/10/94	ND	ND	ND	ND	ND
SP-107	02/07/94	ND	ND	ND	ND	ND
SP-107	04/03/95	ND	ND	ND	ND	ND
SP-107	06/09/94	ND	ND	ND	ND	ND
SP-107	09/18/95	ND	ND	ND	ND	ND
Effluent Samples						
SP-108	01/10/94	ND	ND	ND	ND	ND
SP-108	02/07/94	ND	ND	ND	ND	ND
SP-108	04/03/95	ND	ND	ND	ND	ND
EFFL	05/01/95	ND	ND	ND	ND	ND
SP-108	06/09/95	79	ND	ND	ND	ND
SP-108	07/05/95	ND	ND	ND	ND	ND
SP-108	08/10/95	ND	ND	ND	ND	ND
SP-108	09/18/95	ND	ND	ND	ND	ND

µg/L = Micrograms per liter
ND = Not detected above detection limits
System startup on 12/21/93 by RESNA Industries, Inc.
Pacific Environmental Group, Inc. (PACIFIC) became consultant 9/01/94.
PACIFIC restarted system on 11/17/94.
See certified analytical reports for individual detection limits.



LEGEND

MW-1 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

W-1 ◒ TANK PIT GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

ND/0.66 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 8-7-95

ND NOT DETECTED

* USED AS A GROUNDWATER EXTRACTION WELL

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

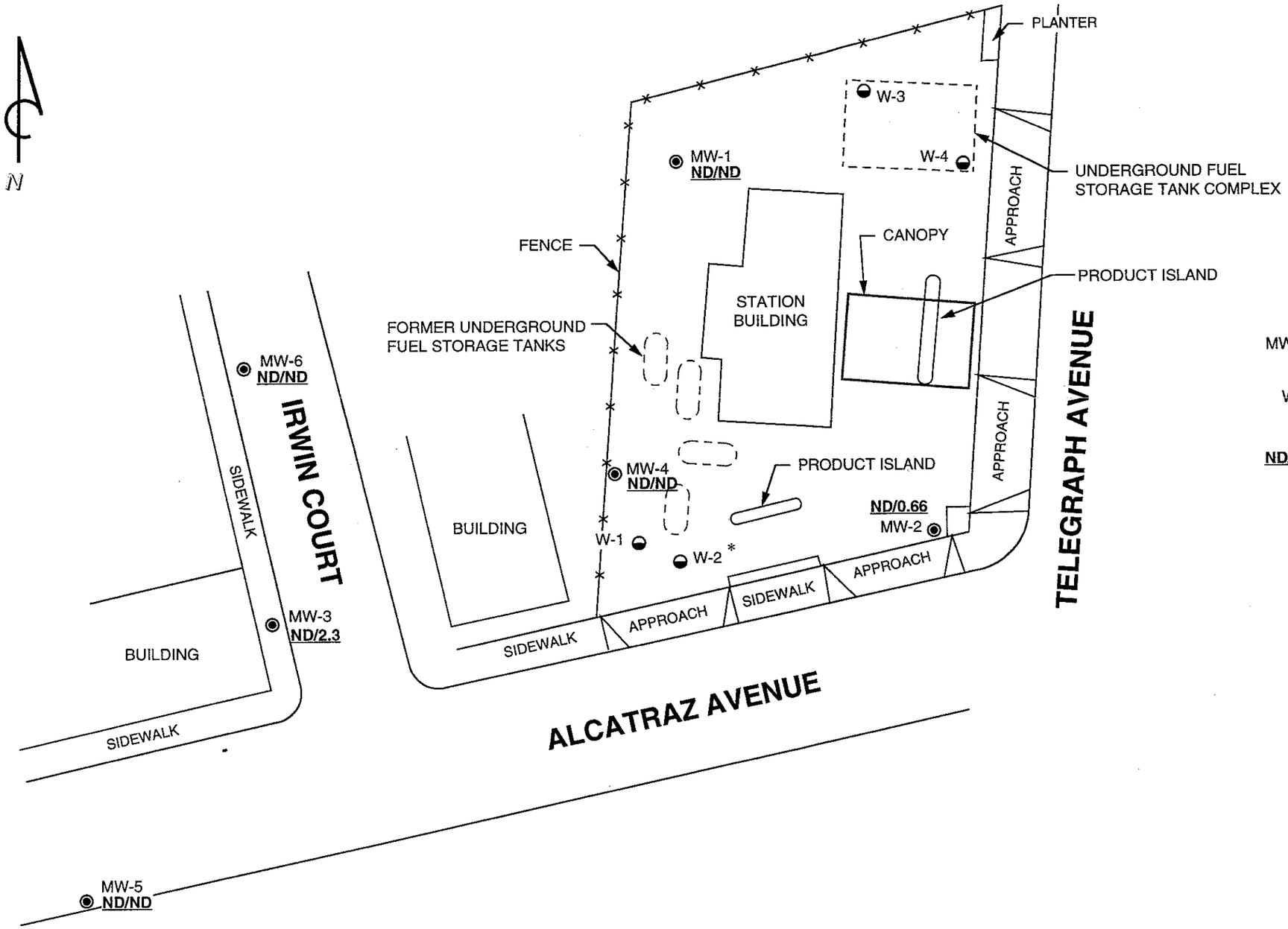
PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO SERVICE STATION 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-084.2B



LEGEND

MW-1 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

W-1 ◒ TANK PIT GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

ND/0.66 TPPH-g/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 8-7-95

ND NOT DETECTED

* USED AS A GROUNDWATER EXTRACTION WELL

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO SERVICE STATION 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

TPPH-g/BENZENE CONCENTRATION MAP

FIGURE:
2
PROJECT:
330-084.2B

Figure 3
Groundwater Extraction System Mass Removal Trend

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California

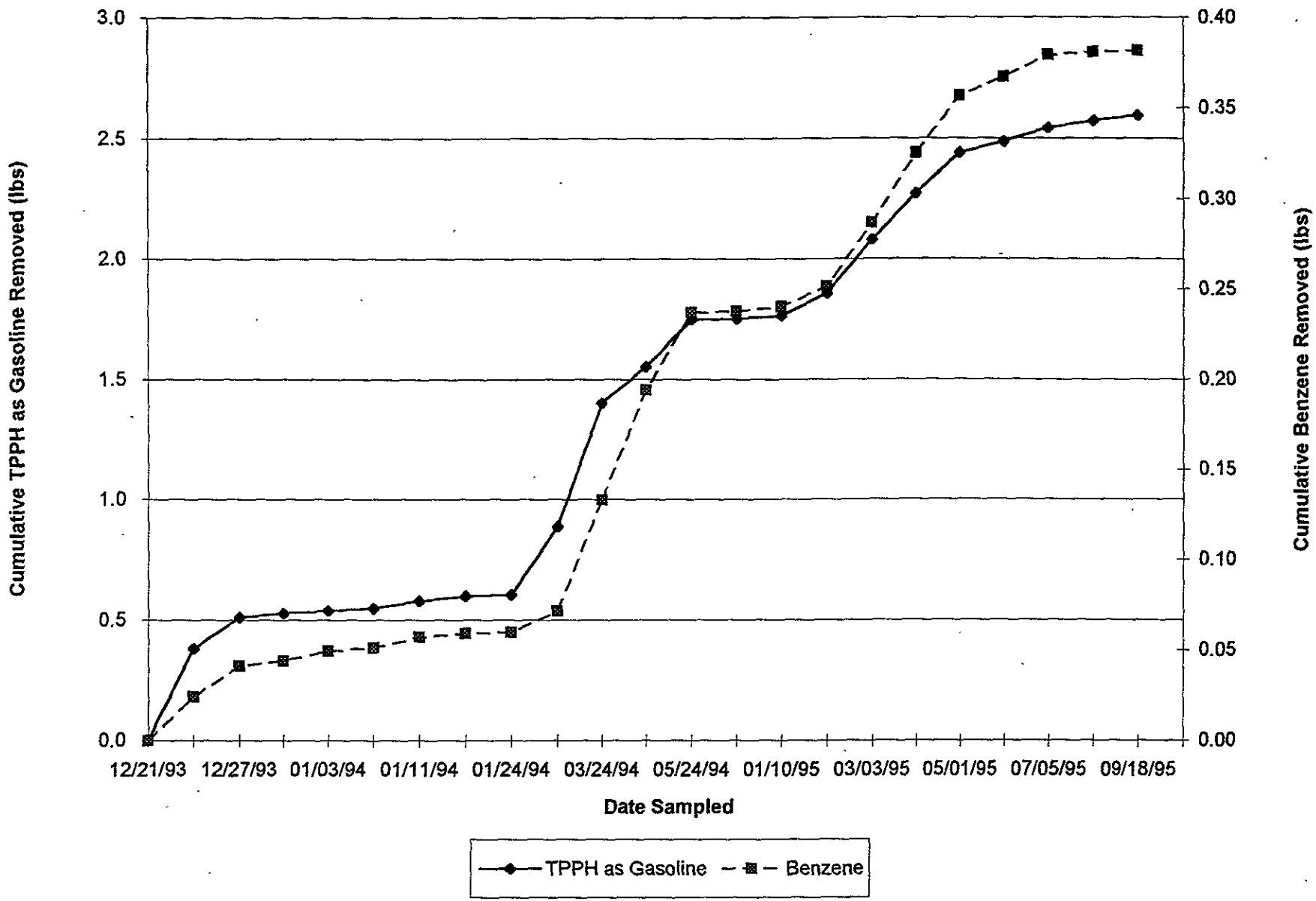
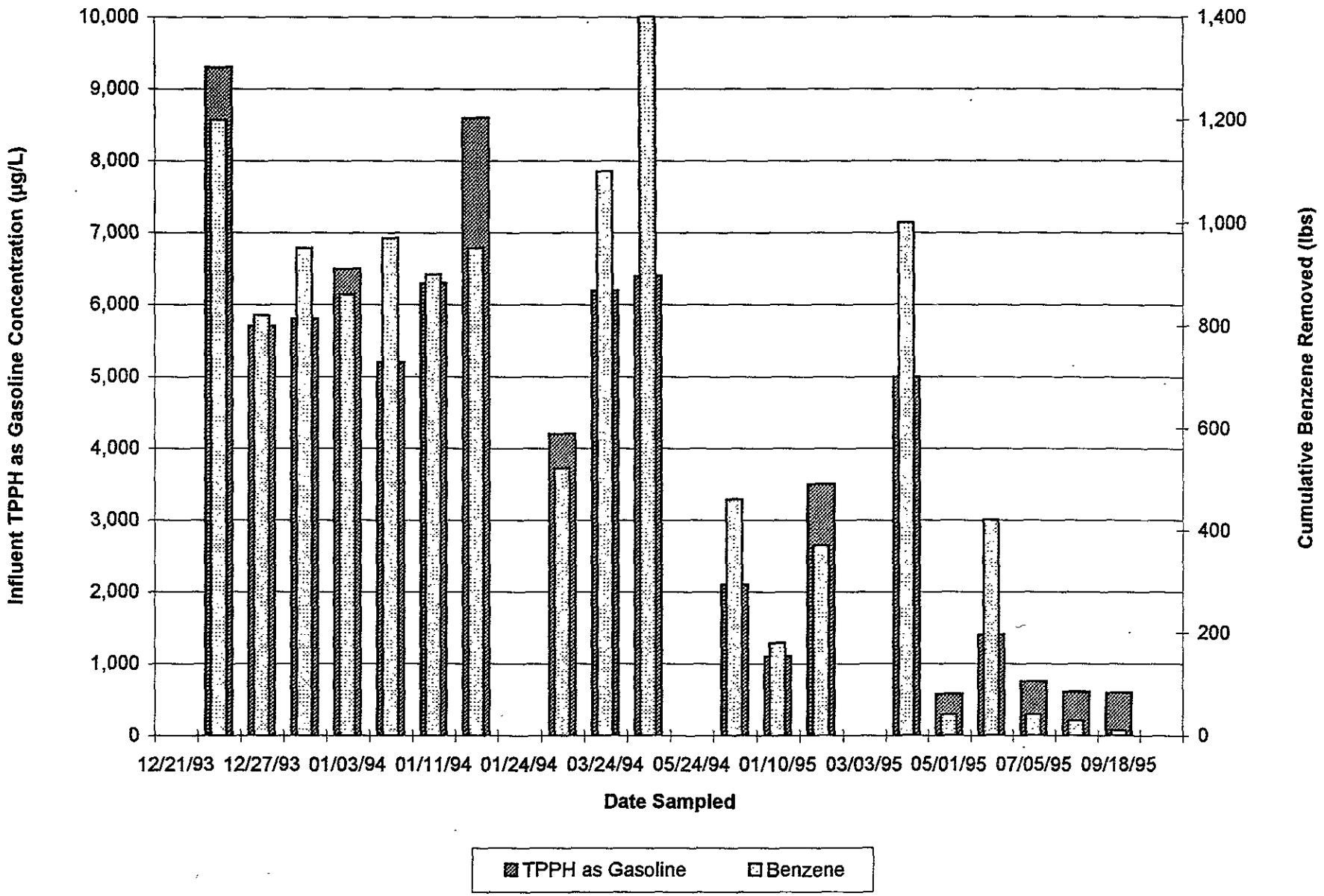


Figure 4
Groundwater Extraction System Hydrocarbon Concentrations

ARCO Service Station 0374
6407 Telegraph Avenue at Alcatraz Avenue
Oakland, California



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: 330-084.2G/374, Berkeley

Enclosed are the results from samples received at Sequoia Analytical on August 8, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950844901	LIQUID, MW-1	8/7/95	TPHGB Purgeable TPH/BTEX
950844902	LIQUID, MW-2	8/7/95	TPHGB Purgeable TPH/BTEX
950844903	LIQUID, MW-3	8/7/95	TPHGB Purgeable TPH/BTEX
950844904	LIQUID, MW-4	8/7/95	TPHGB Purgeable TPH/BTEX
950844905	LIQUID, MW-5	8/7/95	TPHGB Purgeable TPH/BTEX
950844906	LIQUID, MW-6	8/7/95	TPHGB Purgeable TPH/BTEX
950844907	LIQUID, TB-1	8/7/95	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

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-084-2G/374,Berkeley	Sampled: 08/07/95
2025 Gateway Place, Suite 440	Sample Descript: MW-1	Received: 08/08/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/13/95
Attention: Maree Doden	Lab Number: 9508449-01	Reported: 08/17/95

QC Batch Number: GC081395BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	N.D.
Methyl t-Butyl Ether	**25**	**510**
Benzene	5.0	N.D.
Toluene	5.0	N.D.
Ethyl Benzene	5.0	N.D.
Xylenes (Total)	5.0	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-084-2G/374,Berkeley
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-02

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081195BTEX02B
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**37**
Benzene	**0.50**	**0.66**
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	110

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-084-2G/374,Berkeley
Sample Descript: MW-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-03

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081195BTEX02B
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	**0.50**	**2.3**
Toluene	**0.50**	**0.51**
Ethyl Benzene	**0.50**	**0.51**
Xylenes (Total)	**0.50**	**0.57**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
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: 330-084-2G/374,Berkeley
Sample Descript: MW-4
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-04

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081395BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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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: 330-084-2G/374,Berkeley
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-05

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081195BTEX02B
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	108

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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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: 330-084-2G/374,Berkeley
Sample Descript: MW-6
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-06

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081195BTEX02B
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**160**
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	105

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-084-2G/374,Berkeley
Sample Descript: TB-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9508449-07

Sampled: 08/07/95
Received: 08/08/95

Analyzed: 08/13/95
Reported: 08/17/95

QC Batch Number: GC081195BTEX02B
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Client Project ID: 330-084.2G/374, Berkeley
Matrix: LIQUID
Work Order #: 9508449 01

Reported: Aug 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081395BTEX02A	GC081395BTEX02A	GC081395BTEX02A	GC081395BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	950858304	950858304	950858304	950858304
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/13/95	8/13/95	8/13/95	8/13/95
Analyzed Date:	8/13/95	8/13/95	8/13/95	8/13/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.1	9.3	9.5	28
MS % Recovery:	91	93	95	93
Dup. Result:	8.9	9.1	9.1	27
MSD % Recov.:	89	91	91	90
RPD:	2.2	2.2	4.3	3.6
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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

Client Project ID: 330-084.2G/374, Berkeley
Matrix: LIQUID
Work Order #: 9508449 02, 03, 05-07

Reported: Aug 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081195BTEX02B	GC081195BTEX02B	GC081195BTEX02B	GC081195BTEX02B
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 #:	950838702	950838702	950838702	950838702
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/11/95	8/11/95	8/11/95	8/11/95
Analyzed Date:	8/11/95	8/11/95	8/11/95	8/11/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.1	9.3	9.5	27
MS % Recovery:	91	93	95	90
Dup. Result:	8.4	8.5	8.7	25
MSD % Recov.:	84	85	87	83
RPD:	8.0	9.0	8.8	7.7
RPD Limit:	0-50	0-50	0-50	0-50

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

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

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Please Note:
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Sequoia Analytical

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

Client Project ID: 330-084.2G/374, Berkeley
Matrix: LIQUID
Work Order #: 9408449 04

Reported: Aug 18, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081395BTEX21A	GC081395BTEX21A	GC081395BTEX21A	GC081395BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	950858304	950858304	950858304	950858304
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/13/95	8/13/95	8/13/95	8/13/95
Analyzed Date:	8/13/95	8/13/95	8/13/95	8/13/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.1	9.0	9.1	27
MS % Recovery:	91	90	91	90
Dup. Result:	9.2	9.0	9.1	27
MSD % Recov.:	92	90	91	90
RPD:	1.1	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

B Fletcher

Brucie Fletcher
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an allquot 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): M.Y

WORKORDER: 9508449
DATE OF LOG-IN: 8/9/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put in Remarks Section
3. Chain-of-Custody Records: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker
   Present / (Absent)
6. Airbill No.:
7. Sample Tags: (Present) / Absent*
   Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper preservatives used: (Yes) / No*
11. Date Rec. at Lab: 8/5/95
12. Temp. Rec. at Lab: 14C
13. Time Rec. at Lab: 1221

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
01	A-C	MW-1	VOA (3)	L	8/7/95	
02	A-C	MW-2	"	"	"	
03	A-C	MW-3	"	"	"	
04	A-C	MW-4	"	"	"	
05	A-C	MW-5	"	"	"	
06	A-C	MW-6	"	"	"	
07	A,B	TB-1	VOA (2)	"	"	

8/5/95

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330-084-2G **Task Order No.** 1707600 *

Chain of Custody

ARCO Facility no. 374	City (Facility) 6407 Telegraph Ave Berkeley	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no (Consultant) (408) 441-7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place, Suite 440 San Jose, CA 95110		Contract number 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/MTBE EPA M602/8020/8015 *	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
MW-1	01	3		X		X	X	8/7/95	14:50		X									
MW-2	02	↓		↓		↓	↓	↓	16:35		↓									
MW-3	03								16:05											
MW-4	04								17:05											
MW-5	05								15:15											
MW-6	06								15:35											
TB-1	07	2		↓		↓	↓	↓	N/A		↓									

Special detection Limit/reporting

Special QA/QC

Remarks

* Please include MTBE in gas/BTEX run.

Lab number 9508449

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 Hess	8/8/95	5:30	Received by: M Dodea	8/8/95	0700
Relinquished by: M Dodea	8/8/95	11:00	Received by: Steve Ten	8/8/95	11:00
Relinquished by: Steve Ten	8/8/95	12:15	Received by laboratory:	8/8/95	1221

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

APC-3292 (2-91)

W/O 953556

	Initials	Date
F/S	KY	8/4/95
Copy/Dist.	RY	↓

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #:330-084.2G

Station #:374

Site Address:6407 Telegraph ave Berkeley, California

County: Alameda

Project Manager: Kelly Brown

Requestor: Chuck Graves

Client: Arco

Prefield contacts: None

☐ 1st time visit

☐ 1st ☐ 2nd ☒ 3rd ☐ 4th

☐ Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time Event

☐ Other._____

Client P.O.C.: Mike Whelan

Date of Request:8/3/95

Ideal Field Date:8/7//95

FILE COPY

Budget Hrs._____

Actual Hrs. 3.5 hrs

Mob de Mob 2.5 hrs

Field Tasks: For General Description

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

Comments, remarks, from Field Staff (include problems encountered

172.75 gallons

Completed by: W Peck Date: 8/7/95

Checked by: Chuck Graves

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
330-084.2G	374	6407 Telegraph Berkeley	Q2	Kelly Brown		8/7/95	Sequoia	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Well goes Dry?	Comments
MW-1			QLY	GAS/BTEX/MTBE	TOB/TOC	26.5	4"	NO	
MW-2			QLY	GAS/BTEX/MTBE	TOB/TOC	26	4"	NO	
MW-3			QLY	GAS/BTEX/MTBE	TOB/TOC	27	4"	NO	
MW-4			QLY	GAS/BTEX/MTBE	TOB/TOC	27	4"	NO	
MW-5			QLY	GAS/BTEX/MTBE	TOB/TOC	22	4"	NO	
MW-6			QLY	GAS/BTEX/MTBE	TOB/TOC	14.5	4"	NO	
TB-1			QLY	GAS/BTEX/MTBE					

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-084.26 LOCATION: 6407 Telegraph Ave DATE: 8/7/95

CLIENT/STATION NO.: Arco #0374 FIELD TECHNICIAN: C.J. Peck DAY OF WEEK: Mon

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

Casing Size	Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	TOC Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH) SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons) SPH / H_2O
4"	1	mw-1	13:40	Y	Y		Y	Y	26.48	7.45 / 7.45	7.65 / 7.65										/
"	5	mw-2	13:55	Y	Y		Y	Y	26.08	8.15 / 8.15	8.43 / 8.43										/
"	4	mw-3	14:00	Y	Y		Y	Y	26.52	7.83 / 7.83	8.09 / 8.09										/
"	6	mw-4	14:05	Y	Y		Y	Y	26.72	9.55 / 9.55	10.25 / 10.25										/
"	2	mw-5	13:45	Y	Y	Y	Y	Y	22.82	8.25 / 8.25	8.64 / 8.64										/
"	3	mw-6	13:50	Y	Y	Y	Y	Y	14.35	5.68 / 5.68	6.07 / 6.07										/
										/	/										/
										/	/										/
										/	/										/

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 6407 Telegraph Ave Oakland WELL ID #: MW-1

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid:	— TOB	TOC
Depth to water:	7.65 TOB	7.45 TOC
Total depth:	— TOB	26.48 TOC
Date:	8/7/95 Time (2400):	13:40

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

CASING DIAMETER / GAL/LINEAR FT.

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

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

TD 26.48 - DTW 7.45 = 19.03 x Gal/Linear Foot .66 = 12.55 x Number of Casings 3 = Calculated Purge 37.67

DATE PURGED: 8/7/95 START: 14:25 END (2400 hr): 14:40 PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: 14:45 END (2400 hr): 14:50 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:30	12.75	6.23	1660	74.5	Cloudy	Light	None
14:35	25.50	6.50	1730	70.6	Cloudy	Light	None
14:40	35.50	6.54	1730	70.4	Brown	Mod	None

Pumped dry Yes / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 23.47 TOB/(TOC) 6.80 1640 69.4 Brown Mod None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: G-2
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-1	8/7/95	14:50	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

All 4 wells sampled

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 6407 Telegraph Ave Oakland WELL ID #: MW-2

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.43 TOB 8.15 TOC
Total depth: — TOB 26.08 TOC
Date: 8/7/95 Time (2400): 13:55

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

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

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

TD 26.08 - DTW 8.15 = 17.93 x Gal/Linear Foot .66 = 11.83 x Number of Casings 3 = Calculated Purge 35.50

DATE PURGED: 8/7/95 START: 16:15 END (2400 hr): 16:30 PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: 16:30 END (2400 hr): 16:35 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
16:20	12.0	6.53	2760	77.3	Brown	Mod	None
16:25	24.0	6.97	840	74.2	Cloudy	Light	None
16:30		6.95	580	72.4	Clear	Trace	None

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: G-2
- ☐ Airlift Pump:
- ☐ Dedicated:
- ☐ Other:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-2	8/7/95	16:35	3	40ml	VOA	HCL	Gas/Btex/BTBE

REMARKS:

W Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 6407 Telegraph Ave Oakland WELL ID #: MW-3

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.09 TOB 7.83 TOC
Total depth: — TOB 26.52 TOC
Date: 8/7/95 Time (2400): 14:00

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

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

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

TD 26.52 - DTW 7.83 = 18.69 x Gal/Linear Foot .66 = 12.33 x Number of Casings 3 = Calculated Purge 37.00

DATE PURGED: 8/7/95 START: 15.40 END (2400 hr): 15.53 PURGED BY: W Peck
DATE SAMPLED: 8/7/95 START: 16:00 END (2400 hr): 16:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
15:45	12.50	6.36	720	72.5	Cloudy	Light	None
15:50	25.00	6.77	600	70.0	Clear	Trace	None
15:53	32.00	7.07	560	69.1	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						
24.20	TOB/(TOC)	6.86	580	70.6	Cloudy	Light	None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☒ Centrifugal Pump: G-2
- ☐ 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-3	8/7/95	16:05	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

W.L. & T.D.

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 6407 Telegraph Ave Oakland WELL ID #: MW-4

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: ~~—~~ TOB ~~—~~ TOC
Depth to water: 10.25 TOB 9.55 TOC
Total depth: ~~—~~ TOB 26.72 TOC
Date: 8/7/95 Time (2400): 14:05

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

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

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

TD 26.72 - DTW 9.55 = 17.17 x Gal/Linear Foot .66 = 11.33 x Number of Casings 3 = Calculated Purge 33.99

DATE PURGED: 8/7/95 START: 16:40 END (2400 hr): 16:53 PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: 17:00 END (2400 hr): 17:05 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
16:45	11.50	6.99	720	71.3	Brown	Mod	None
16:50	23.00	6.93	580	70.5	Cloudy	light	None
16:53	29.00	6.98	610	70.8	Brown	Mod	None

Pumped dry (Yes) / No

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

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 23.20 TOB (TOC) 7.31 600 69.4 Cloudy light None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: G-2
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-4	8/7/95	17:05	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

W. Peck

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 5407 Telegraph Ave Oakland WELL ID #: MW-5

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 8.64 TOB 8.25 TOC
Total depth: — TOB 22.82 TOC
Date: 8/7/95 Time (2400): 13:45

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

CASING DIAMETER / GAL/LINEAR FT.

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

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

TD 22.82 - DTW 8.25 = 14.57 x Gal/Linear Foot .66 = 9.61 x Number of Casings 3 = Calculated Purge 28.84

DATE PURGED: 8/7/95 START: 14:55 END (2400 hr): 15:08 PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: 15:10 END (2400 hr): 15:15 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
15:00	9.75	6.56	620	76.9	Clear	Trace	None
15:05	19.50	7.11	510	73.0	Clear	Trace	None
15:08	23.50	6.98	520	71.6	Brown	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)	pH	E.C.	TEMPERATURE	COLOR	TURBIDITY	ODOR
21.50	(TOC)	7.05	510	70.7	Brown	light	None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☒ Centrifugal Pump: G-2
- ☐ Other:
- ☐ Airlift Pump:
- ☐ Dedicated:

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	8/7/95	15:15	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

Not to P.D.

PACIFIC ENVIRONMENTAL

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 6407 Telegraph Ave Oakland WELL ID #: MW-6

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 6.07 TOB 5.68 TOC
Total depth: — TOB 14.35 TOC
Date: 8/7/95 Time (2400): 13:50

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

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

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

TD 14.35 - DTW 5.68 = 8.67 x Gal/Linear Foot .66 = 5.72 x Number of Casings 3 = Calculated Purge 17.16

DATE PURGED: 8/7/95 START: 15:18 END (2400 hr): 15:33 PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: 15:33 END (2400 hr): 15:35 SAMPLED BY: W Peck

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
15:23	5.75	6.43	470	81.6	Cloudy	Light	None
15:28	11.50	6.83	450	76.5	Clear	Trace	None
15:33	17.25	6.71	460	73.3	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:
- ☐ 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-6	8/7/95	15:35	3	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS:

SIGNATURE: W Peck

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-084.2G LOCATION: 5407 Telegraph Ave Oakland WELL ID #: ~~MW2~~ TB-1

CLIENT/STATION No.: Arco #0374 FIELD TECHNICIAN: W Peck

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: 8/7/95 Time (2400): _____

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

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

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

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

DATE PURGED: 8/7/95 START: _____ END (2400 hr): _____ PURGED BY: W Peck

DATE SAMPLED: 8/7/95 START: _____ END (2400 hr): _____ SAMPLED BY: W Peck

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

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

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
TB-1	8/7/95	N/A	2	40ml	VOA	HCL	Gas/Btex/MTBE

REMARKS: TRIP Blank

PACIFIC ENVIRONMENTAL

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330-084.2G **Task Order No.** 1707600

Chain of Custody

ARCO Facility no. 374	City (Facility) 6407 Telegraph Ave Berkeley	Project manager (Consultant) Kelly Brown	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place, Suite 440 San Jose CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid HCL	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH/MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1		3		X		X	X	8/7/95	14:50		X											
MW-2		↓		↓		↓	↓	↓	16:35		↓											
MW-3									16:05													
MW-4									17:05													
MW-5									15:15													
MW-6		↓							15:35													
TB-1		2		↓		↓	↓	↓	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 ☒

Method of shipment

Condition of sample:

Temperature received:

Relinquished by sampler: Walter J Rech	Date 8/8/95 Time 6:30	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

APC-3292 (2-91)

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon® bailer or an oil-water interface probe. Wells not containing SPH are then purged of approximately 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 purgeable 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.

ATTACHMENT C

TREATMENT SYSTEM
CERTIFIED ANALYTICAL REPORTS
CHAIN-OF-CUSTODY DOCUMENTATION, AND
OPERATION AND MAINTENANCE FIELD DATA SHEETS

ATTACHMENT C

TREATMENT SYSTEM
CERTIFIED ANALYTICAL REPORTS
CHAIN-OF-CUSTODY DOCUMENTATION, AND
OPERATION AND MAINTENANCE 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: 330-084.5B/0374,Alameda

Enclosed are the results from samples received at Sequoia Analytical on September 19, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9509C72 -01	LIQUID, 105	09/18/95	TPHGBW Purgeable TPH/BTEX
9509C72 -02	LIQUID, 106	09/18/95	TPHGBW Purgeable TPH/BTEX
9509C72 -03	LIQUID, 107	09/18/95	TPHGBW Purgeable TPH/BTEX
9509C72 -04	LIQUID, 108	09/18/95	TPHGBW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

Quality Assurance Department

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-084.5B/0374,Alameda	Sampled: 09/18/95
2025 Gateway Place, Suite 440	Sample Descript: 105	Received: 09/19/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/22/95
Attention: Maree Doden	Lab Number: 9509C72-01	Reported: 09/27/95

QC Batch Number: GC092295BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**600**
Benzene	**2.5**	**10**
Toluene	2.5	N.D.
Ethyl Benzene	2.5	N.D.
Xylenes (Total)	**2.5**	**20**
Chromatogram Pattern:		**Gas**
Unidentified HC		**<C8**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-084.5B/0374,Alameda	Sampled: 09/18/95
2025 Gateway Place, Suite 440	Sample Descript: 106	Received: 09/19/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/22/95
Attention: Maree Doden	Lab Number: 9509C72-02	Reported: 09/27/95

QC Batch Number: GC092295BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-084.5B/0374,Alameda	Sampled: 09/18/95
2025 Gateway Place, Suite 440	Sample Descript: 107	Received: 09/19/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/22/95
Attention: Maree Doden	Lab Number: 9509C72-03	Reported: 09/27/95

QC Batch Number: GC092295BTEX20A
Instrument ID: GCHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	101

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
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: 330-084.5B/0374,Alameda	Sampled: 09/18/95
2025 Gateway Place, Suite 440	Sample Descript: 108	Received: 09/19/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 09/22/95
Attention: Maree Doden	Lab Number: 9509C72-04	Reported: 09/27/95

QC Batch Number: GC092295BTEX20A
Instrument ID: GCHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

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

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

Client Project ID: 330-084.5B/0374, Alameda
Matrix: LIQUID
Work Order #: 9509C72 01, 02

Reported: Sep 27, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC092295BTEX21A	GC092295BTEX21A	GC092295BTEX21A	GC092295BTEX21A
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 #:	950977401	950977401	950977401	950977401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/22/95	9/22/95	9/22/95	9/22/95
Analyzed Date:	9/22/95	9/22/95	9/22/95	9/22/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	9.7	10	11	33
MSD % Recov.:	97	100	110	110
RPD:	3.0	0.0	9.5	6.3
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

Sequoia Analytical

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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 Project ID: 330-084.5B/0374, Alameda
Matrix: LIQUID
Work Order #: 9509C72 03, 04

Reported: Sep 27, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC092295BTEX20A	GC092295BTEX20A	GC092295BTEX20A	GC092295BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	950977401	950977401	950977401	950977401
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/22/95	9/22/95	9/22/95	9/22/95
Analyzed Date:	9/22/95	9/22/95	9/22/95	9/22/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	32
MS % Recovery:	110	110	110	107
Dup. Result:	11	11	11	33
MSD % Recov.:	110	110	110	110
RPD:	0.0	0.0	0.0	3.1
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330-0845B **Task Order No.** 170180 — **Chain of Custody**

ARCO Facility no. 0374	City (Facility) Alameda CA	Project manager (Consultant) Shaw Garakani	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500	Fax no. (Consultant) 441 7539
Consultant name Pacific Environmental Group	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	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH gas EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
105		3		X		X	HCL	9-18-95	1240		X											1
106		3		X		↓	↓	↓	1235		X											2
107		3		X		↓	↓	↓	1230		X											3
108		3		X		↓	↓	↓	1225		X											4

Special detection Limit/reporting

Special QA/QC

Remarks

SEP 12 5

Lab number 9509C72

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: Paul Priebe	Date: 9-9-95	Time: 7:30	Received by: 9/19/95 0730
Relinquished by:	Date: 9/19/95	Time:	Received by: 9/19/95 11:20
Relinquished by:	Date: 9/19/95	Time: 12:56	Received by laboratory: Date: 9/19/95 Time: 1256

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

APC-3292 (2-91)

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: 330-084.5B/0374,Oakland	Sampled: 08/10/95
2025 Gateway Place, Suite 440	Sample Descript: SP108	Received: 08/11/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508A18-01	Reported: 08/21/95

QC Batch Number: GC081795BTEX02A
Instrument ID: GCHP02

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

R Fletcher

Bru. Fletcher
Project Manager

Sequoia Analytical

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

Pacific Environmental Group	Client Proj. ID: 330-084.5B/0374,Oakland	Sampled: 08/10/95
2025 Gateway Place, Suite 440	Sample Descript: SP106	Received: 08/11/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508A18-02	Reported: 08/21/95

QC Batch Number: GC081795BTEX02A
Instrument ID: GCHP02

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

R Fletcher

Bruce Fletcher
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: 330-084.5B/0374,Oakland	Sampled: 08/10/95
2025 Gateway Place, Suite 440	Sample Descript: SP105	Received: 08/11/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508A18-03	Reported: 08/21/95

QC Batch Number: GC081795BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	610
Benzene	0.50	29
Toluene	0.50	0.64
Ethyl Benzene	0.50	3.4
Xylenes (Total)	0.50	16
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	112

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

SEQUOIA ANALYTICAL - ELAP #1210

R Fletcher

Bruce Fletcher
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 Project ID: 330-084.5B/0374, Oakland
Matrix: LIQUID
Work Order #: 9508A18 01-03

Reported: Aug 22, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081795BTEX02A	GC081795BTEX02A	GC081795BTEX02A	GC081795BTEX02A
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 #:	950888201	950888201	950888201	950888201
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/17/95	8/17/95	8/17/95	8/17/95
Analyzed Date:	8/17/95	8/17/95	8/17/95	8/17/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.1	9.0	8.8	27
MS % Recovery:	81	90	88	90
Dup. Result:	9.6	9.8	9.6	29
MSD % Recov.:	96	98	96	97
RPD:	17	8.5	8.7	7.1
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

B Fletcher

Brucie Fletcher
Project Manager

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

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

SEQUOIA ANALYTIC SAMPLE RECEIPT LOG

CLIENT NAME: PEG
REC. BY (PRINT): M.Y.

WORKORDER: 9508A18
DATE OF LOG-IN: 8/14/95

CIRCLE THE APPROPRIATE RESPONSE

1. Custody Seal(s): Present / (Absent)
   Intact / Broken*
2. Custody Seal Nos.: Put In Remarks Section
3. Chain-of-Custody Records: (Present) / Absent*
4. Traffic Reports or Packing List: Present / (Absent)
5. Airbill: Airbill / Sticker
   Present / (Absent)
6. Airbill No.: ———
7. Sample Tags: (Present) / Absent*
   Sample Tag Nos.: (Listed) / Not Listed on Chain-of-Custody
8. Sample Condition: (Intact) / Broken* / Leaking*
9. Does information on custody reports, traffic reports and sample tags agree? (Yes) / No*
10. Proper preservatives used: (Yes) / No*
11. Date Rec. at Lab: 8/11/95
12. Temp. Rec. at Lab: 10C
13. Time Rec. at Lab: 1504

LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1	A-C	SP108	VOA (3)	L	8/10/95	
2	↓	SP106	↓	↓	↓	
3	↓	SP105	↓	↓	↓	

8/11/95

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

ARCO Products Company
Division of AtlanticRichfieldCompany

330-084.5B Task Order No. 1701800

Chain of Custody

ARCO Facility no. 0374	City (Facility) OAKland CA	Project manager (Consultant) Shaw Garakani	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441-7500	Fax no. (Consultant) (408) 441-7539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		Contract number 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 (Grs)	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 ☐		
SP108	1	3		X		X	HCl	8-10-95	1130		X											
SP106	2	3		X		X	"	"	1135		X											
SP105	3	3		X		X	"	"	1140		X											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9508A18

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Busir. days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Paul Priebe	Date 8-10-95 Time 14:30	Received by: M Doden	8/10/95 14:30
Relinquished by: M Doden	Date 8/11/95 Time 2:00	Received by: [signature]	
Relinquished by: [signature]	Date 8/11/95 Time	Received laboratory: [signature]	Date 8/11/95 Time 1504

Sequoia Analytical

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: SP105 INA
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9507297-01

Sampled: 07/05/95
Received: 07/06/95

Analyzed: 07/10/95
Reported: 07/18/95

QC Batch Number: GC071095BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	750
Benzene	0.50	41
Toluene	0.50	N.D.
Ethyl Benzene	0.50	2.8
Xylenes (Total)	0.50	17
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	119

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: SP106 MW-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9507297-02

Sampled: 07/05/95
Received: 07/06/95

Analyzed: 07/10/95
Reported: 07/18/95

QC Batch Number: GC071095BTEX02A
Instrument ID: GCHP02

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	101

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucle Fletcher
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: SP108 EPRL
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9507297-03

Sampled: 07/05/95
Received: 07/06/95

Analyzed: 07/10/95
Reported: 07/18/95

QC Batch Number: GC071095BTEX02A
Instrument ID: GCHP02

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	97

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330-084.5S Task Order No. ~~330-084.50~~ 170180

Chain of Custody

ARCO Facility no. 0374	City (Facility) OAKLAND	Project manager (Consultant) SHAW GAIAKANI	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 ENV GROUP	Address (Consultant) 2025 GATEWAY PL #440 SAN JOSE		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
SP105		3		X		X	HCL	7-5-95	12:10		X											
SP106		↓		↓		↓	↓	↓	↓		↓											
SP108		↓		↓		↓	↓	↓	↓		↓											

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: 07.3

Relinquished by sampler	Date 7-6-95	Time 700	Received by [signature] 7/6/95
Relinquished by [signature]	Date 7/6/95	Time 11:15	Received by [signature]
Relinquished by	Date	Time	Received by laboratory [signature] Date	Time

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

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: 330-084.5B/0374, Oakland

Enclosed are the results from samples received at Sequoia Analytical on June 12, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950669101	LIQUID, Sp105 INFL	6/9/95	TPHGB Purgeable TPH/BTEX
950669102	LIQUID, Sp106 W101	6/9/95	TPHGB Purgeable TPH/BTEX
950669103	LIQUID, Sp107 W102	6/9/95	TPHGB Purgeable TPH/BTEX
950669104	LIQUID, Sp108 EFFL	6/9/95	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

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

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: Sp105
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9506691-01

Sampled: 06/09/95
Received: 06/12/95

Analyzed: 06/16/95
Reported: 06/23/95

QC Batch Number: GC061595BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1400
Benzene	5.0	420
Toluene	5.0	7.0
Ethyl Benzene	5.0	10
Xylenes (Total)	5.0	20
Gas & Unidentified HC		<C8

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	75

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

SEQUOIA ANALYTICAL - ELAP #1210

Eli Manning
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: Sp106
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9506691-02

Sampled: 06/09/95
Received: 06/12/95

Analyzed: 06/13/95
Reported: 06/23/95

QC Batch Number: GC061395BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	123

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

SEQUOIA ANALYTICAL - ELAP #1210

Russel Fletcher for

Ei . Manning
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: Sp107
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9506691-03

Sampled: 06/09/95
Received: 06/12/95

Analyzed: 06/15/95
Reported: 06/23/95

QC Batch Number: GC061495BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Eric Manning
Project Manager

Sequoia Analytical

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

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

Attention: Maree Doden

Client Proj. ID: 330-084.5B/0374,Oakland
Sample Descript: Sp108
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9506691-04

Sampled: 06/09/95
Received: 06/12/95

Analyzed: 06/14/95
Reported: 06/23/95

QC Batch Number: GC061395BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	79
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Discrete Peak		C6-C7

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Eile Manning
Project Manager

ARCO Products Company Division of AtlanticRichfieldCompany 330-084.5B **Task Order No.** 1701800 **Chain of Custody**

ARCO Facility no. 0374	City (Facility) OAKLAND	Project manager (Consultant) SHAN GANAHAN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500 / Fax no. (Consultant) 408 441 7539	Contract number 07-073
Consultant name PACIFIC ENV GROUP	Address (Consultant) 2025 GATEWAY PL # 440 SAN JOSE		Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
SP105		3		X		X	HCL	6-9-95			X					01	A-C					
SP106		↓		↓		↓	↓	↓			↓					02	↓					
SP107		↓		↓		↓	↓	↓			↓					03	↓					
SP108		↓		↓		↓	↓	↓			↓					04	↓					

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9506691

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 6-12-95	Time 700	Received by N Doden	6/12/95	0730
Relinquished by N Doden	Date 6/12/95	Time	Received by [signature]	6-12	9:45
Relinquished by [signature]	Date 6-12	Time 10:45	Received by laboratory [signature]	Date 6/12/95	Time 1045

Distribution: W... copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consu...

APC-3292 (2-91)

TA# 1701800

Work Order # 2953731

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-084.5B
Station #	0374
Site Address:	6407 Telegraph Avenue @ Alcatraz Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Steve Johnston
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	June 1, 1995
Laboratory:	Sequoia Analytical

Request Frequency: Monthly

	Initials	Date
F/S	RH	9-20-95
Copy/Dist.	RH	↓

Site Remedial Technologies:

Groundwater Extration (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE(A, B, C, D, F)	monthly †			~~1.5~~	X
GWE(A,B,C,D,E,F,G)	quarterly †		2.5	1.5	X

† = sampling to be performed

Definition of frequencies:

weekly = N/A
semi-monthly = N/A
monthly = once every month on week 1
quarterly = once every quarter in months 3, 6, 9,12 on week 1
semi-annually = N/A

Field Technician Response:

Completed by: PSP Date: 9-18-95
Arrival time: 11:00 Departure time: ~~1:30~~ 1:30
Sample this visit?: yes Engineer contacted? yes

Date: 7-18-95

Groundwater Extraction & Treatment System
ARCO Service Station 0374
6407 Telegraph Avenue
330-084.5B
June 1, 1995

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
W-2	pneumatic	4"		26'

Carbon Vessels: Three SunAg GAC Transfer Pump: ORCA
Filter: 6-18-1P-1-150-CBNB, PE-25 P85

PART A: SYSTEM DATA

System on upon arrival? Yes (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	03228	AIR COMPRESSOR HOURS (hrs)	2976

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	91496	91532
FILTER INLET PRESSURE (psig)	9	(ideal range 8 psig) 8
CARBON #1 INLET PRESSURE (psig)	5	(ideal range 7 to 8 psig) 5
CARBON #2 INLET PRESSURE (psig)	3	(ideal range 3 to 5 psig) 3
CARBON #3 INLET PRESSURE (psig)	1	(ideal range 1 to 3 psig) 1
DISCHARGE PRESSURE (psig)	0	(ideal range 0 to 1 psig) 0
TRANSFER PUMP FLOWRATE (gpm)	5.5	(ideal range 4 to 5 gpm) 5

PART B: COMMENTS Carbon #1 Leaks From under Drum no way to Fix with out Replacing Carbon

PART C: WELL DATA

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

EXTRACTION WELL	DTW (TOB)	REGULATOR PRESSURE
W-2	11.35	56

WELL	DTW (TOB)	WELL	DTW (TOB)	WELL	DTW (TOB)
W-1	10.90	MW-2	↗ Under Truck	MW-4	10.55

PART D: SAMPLING I

SAMPLE	ANALYSIS	COMPLETED
SP 105 (Influent)	TPH-gasoline/BTEX compounds	✓
SP 108 (Effluent)	TPH-gasoline/BTEX compounds	✓
SP 106 (Mid 1)	TPH-gasoline/BTEX compounds	✓

PART E: SAMPLING & READINGS II

SAMPLE	ANALYSIS	COMPLETED
SP 107 (Mid 2)	TPH-gasoline, BTEX compounds	✓

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?	>20	CHANGE FILTERS? (if necessary)	Yes
TEST IRRIGATION SYSTEM	ok	ADD CHLORINE TO HOLDING TANK	need Chlorine
INSPECT HOLDING TANK	ok	WATER POTTED PLANTS MANUALLY	yes
TEST PARAFAX	ok		

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES	ok	CLEAN HOLDING TANK	ok
BACKFLUSH CARBON VESSELS	ok	CHANGE COMPRESSOR OIL	ok
PULL PUMP AND CLEAN/INSPECT	ok		

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 170180

Chain of Custody

ARCO Facility no. 0374	City (Facility) Alameda CA	Project manager (Consultant) Shaw Gacakani	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500	Fax no. (Consultant) 4417539
Consultant name Pacific Environmental Group	Address (Consultant) 2025 Gateway Place Suite 440 San Jose CA 95110		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
105		3		X		X	HCL	9-18-95	1240		X									
106		3		X		↓	↓	↓	1235		X									
107		3		X		↓	↓	↓	1230		X									
108		3		X		↓	↓	↓	1225		X									

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 X

Condition of sample:		Temperature received:	
Relinquished by sampler Paul Priebe	Date 9-19-95 Time 7:30	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
APC-3292 (2-91)

TA 1701800

Work Order # 953577

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-084.5B
Station #	0374
Site Address:	6407 Telegraph Avenue @ Alcatraz Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Steve Johnston
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	June 1, 1995
Laboratory:	Sequoia Analytical

Request Frequency: Monthly

	Initials	Date
F/S	RY	8/14/95
Copy/Dist.	RY	8/14/95

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE(A, B, C, D, F)	monthly †		3	1.5	Y
GWE(E,G)	quarterly †				

† = sampling to be performed

Definition of frequencies:

weekly = N/A
semi-monthly = once every other week on weeks 1 & 3
monthly = N/A
quarterly = once every quarter in months 3, 6, 9,12 on week 1
semi-annually = N/A

Field Technician Response:

Completed by: P.P. Date: 8-10-95
Arrival time: 10:00 Departure time: 1:00
Sample this visit?: Yes Engineer contacted? Yes

Date: 8.10.95

Groundwater Extraction & Treatment System
ARCO Service Station 0374
6407 Telegraph Avenue
330-084.5B
June 1, 1995

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
W-2	pneumatic	4"	panel	26'

Carbon Vessels: Three SunAg GAC Transfer Pump: ORCA
Filter: 6-18-1P-1-150-CBNB, PE-25 P85

PART A: SYSTEM DATA

System on upon arrival? Yes (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	2949	AIR COMPRESSOR HOURS (hrs)	271.2

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	86868	86921
FILTER INLET PRESSURE (psig)	8	(ideal range 8 psig) 8
CARBON #1 INLET PRESSURE (psig)	4.5	(ideal range 7 to 8 psig) 4.5
CARBON #2 INLET PRESSURE (psig)	1.5	(ideal range 3 to 5 psig) 1.5
CARBON #3 INLET PRESSURE (psig)	0	(ideal range 1 to 3 psig) 0
DISCHARGE PRESSURE (psig)	NA	(ideal range 0 to 1 psig) NA
TRANSFER PUMP FLOWRATE (gpm)	6	(ideal range 4 to 5 gpm) 6

PART B: COMMENTS Carbons Leak
Should Probly Put a man Drain on Air Comp.

PART C: WELL DATA

*** *ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS***

REQUEST	YES/NO
SYTEM RUNNING FOR 1 HOUR BEFORE DTW READINGS TAKEN	✓
GWE PUMP OPTIMIZED: (1)INCREASE FILL TIME (2)DECREASE EMPTY TIME UNTIL A REDUCTION IN AMOUNT OF WATER DISCHARGED (3)DECREASE FILL TIME UNTIL A REDUCTION IN AMOUNT OF WATER	NA

EXTRACTION WELL	DTW (TOB)	FILL TIME BEFORE/AFTER ADJUSTMENT	EMPTY TIME BEFORE/AFTER ADJUSTMENT	REGULATOR PRESSURE BEFORE/AFTER ADJUSTMENT
W-2	11.56	NA	NA	60 , 60

WELL	DTW (TOB)	WELL	DTW (TOB)	WELL	DTW (TOB)
W-1	10.86	MW-2	8.52	MW-4	10.40

PART D: SAMPLING I

SAMPLE	ANALYSIS	COMPLETED
SP 105 (Influent)	TPH-gasoline/BTEX compounds	✓
SP 108 (Effluent)	TPH-gasoline/BTEX compounds	✓
SP 106 (Mid 1)	TPH-gasoline/BTEX compounds	✓

PART E: SAMPLING & READINGS II

SAMPLE	ANALYSIS	COMPLETED
SP 107 (Mid 2)	TPH-gasoline, BTEX compounds	

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?	> 2	CHANGE FILTERS? (if necessary)	yes
DRAIN COMPRESSOR	auto	ADD CHLORINE TO HOLDING TANK	out of Chlorine
INSPECT HOLDING TANK	OK	WATER POTTED PLANTS MANUALLY	Yes
TEST PARAFAX	OK	TEST IRRIGATION SYSTEM	OK

ARCO Pr[illegible]cts Company
Div. of AtlanticRichfieldCompany

330-0845B Task Order No. i ,1800

Chain Custody

ARCO Facility no.	0374
City (Facility)	OAKLand CA
Project manager (Consultant)	Shaw Garakani
Laboratory name	Sequoia
ARCO engineer	Mike Whelen
Telephone no. (ARCO)	
Telephone no. (Consultant)	408 441 7500
Fax no. (Consultant)	441 7539
Contract number	
Consultant name	Pacific Environmental Group
Address (Consultant)	2025 Gateway Place Suite 440 San Jose CA 95110
Method of shipment	

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
SP108		3				X	HCl	8-10-95	1130		X											
SP106		3				X	↓	↓	1135		X											
SP105		3				X	↓	↓	1140		X											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Condition of sample:

Temperature received:

	Date	Time			
Relinquished by sampler: Paul Priebe	8-10-95	14:30	Received by		
Relinquished by			Received by		
Relinquished by			Received by laboratory	Date	Time

Turnaround time

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

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APC-3292 (2-91)

Work Order # 953445

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Request Frequency: Monthly

Project #	330-084.5B
Station #	0374
Site Address:	6407 Telegraph Avenue @ Alcatraz Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Steve Johnston
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	June 1, 1995
Laboratory:	Sequoia Analytical

	Initials	Date
F/S	RY	7/6/95
Copy/Dist.	RY	1

Site Remedial Technologies:

Groundwater Extration (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE(A, B, C, D, F)	monthly †		3	1	yes
GWE(E,G)	quarterly †				

† = sampling to be performed

Definition of frequencies:

weekly = N/A
semi-monthly = once every other week on weeks 1 & 3
monthly = N/A
quarterly = once every quarter in months 3, 6, 9,12 on week 1
semi-annually = N/A

Field Technician Response:

Completed by: JV
Date: 7-5-95
Arrival time: 900
Departure time: 1215
Sample this visit?: yes
Engineer contacted? yes

Date: 7/5/95

Groundwater Extraction & Treatment System
ARCO Service Station 0374
6407 Telegraph Avenue
330-084.5B
June 1, 1995

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
W-2	pneumatic	4"	panel	26'

Carbon Vessels: Three SunAg GAC Transfer Pump: ORCA
Filter: 6-18-1P-1-150-CBNB, PE-25 P85

PART A: SYSTEM DATA

System on upon arrival? Yes (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	02685	AIR COMPRESSOR HOURS (hrs)	00245.6

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	00081540	00081565
FILTER INLET PRESSURE (psig)	8	(ideal range 8 psig) 8
CARBON #1 INLET PRESSURE (psig)	4	(ideal range 7 to 8 psig) 4
CARBON #2 INLET PRESSURE (psig)	2	(ideal range 3 to 5 psig) 2
CARBON #3 INLET PRESSURE (psig)	1	(ideal range 1 to 3 psig) 1
DISCHARGE PRESSURE (psig)	0	(ideal range 0 to 1 psig) 0
TRANSFER PUMP FLOWRATE (gpm)	6	(ideal range 4 to 5 gpm) 6

PART B: COMMENTS

PART C: WELL DATA

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

REQUEST	YES/NO
SYTEM RUNNING FOR 1 HOUR BEFORE DTW READINGS TAKEN	Yes
GWE PUMP OPTIMIZED: (1)INCREASE FILL TIME (2)DECREASE EMPTY TIME UNTIL A REDUCTION IN AMOUNT OF WATER DISCHARGED (3)DECREASE FILL TIME UNTIL A REDUCTION IN AMOUNT OF WATER	N/A

EXTRACTION WELL	DTW (TOB)	FILL TIME BEFORE/AFTER ADJUSTMENT	EMPTY TIME BEFORE/AFTER ADJUSTMENT	REGULATOR PRESSURE BEFORE/AFTER ADJUSTMENT
W-2	11.48	N/A / N/A	N/A	60 / 60

WELL	DTW (TOB)	WELL	DTW (TOB)	WELL	DTW (TOB)
W-1	10.84	MW-2	10.23	MW-4	10.10

PART D: SAMPLING I

SAMPLE	ANALYSIS	COMPLETED
SP 105 (Influent)	TPH-gasoline/BTEX compounds	Yes
SP 108 (Effluent)	TPH-gasoline/BTEX compounds	Yes
SP 106 (Mid 1)	TPH-gasoline/BTEX compounds	Yes

PART E: SAMPLING & READINGS II

SAMPLE	ANALYSIS	COMPLETED
SP 107 (Mid 2)	TPH-gasoline, BTEX compounds	

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?	15	CHANGE FILTERS? (if necessary)	Yes
DRAIN COMPRESSOR	Yes	ADD CHLORINE TO HOLDING TANK	ok
INSPECT HOLDING TANK	ok	WATER POTTED PLANTS MANUALLY	Yes
TEST PARAFAX	ok	TEST IRRIGATION SYSTEM	OK

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES		CLEAN HOLDING TANK	
BACKFLUSH CARBON VESSELS		CHANGE COMPRESSOR OIL	
PULL PUMP AND CLEAN/INSPECT			

ARCO Products Company Division of AtlanticRichfieldCompany 330-084.5B **Task Order No.** ~~330-084.50~~ 1701800 **Chain of Custody**

ARCO Facility no. 0374	City (Facility) OAKLAND	Project manager (Consultant) Shaw Garakani
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500 — Fax no. (Consultant) 408 441 7539
Consultant name PACIFIC ENV Group		Address (Consultant) 2025 Gate Way Pl #440 San Jose

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 ☐		
sp105		3		X		X	HCL	7-5-95	12:10		X											
sp106		↓		↓		↓	↓	↓	↓		↓											
sp108		↓		↓		↓	↓	↓	↓		↓											

FAXED

Laboratory name: Sequoia

Contract number:

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	Date	Time	Received by
[signature]	7-6-95	700	
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

FIELD SERVICES / O&M REQUEST JV Work Order # 4317

SITE INFORMATION FORM

Identification

Project # 330-084.5B

Station # 0374

Site Address: 6407 TELEGRAPH AVE OAKLAND, CA

County: ALAMEDA

Project Manager: SG

Requestor: SJ

Client: ARCO

Project Type

- ☐ 1st Time Visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly F/S
- ☐ Weekly
- ☒ One time event
- ☐ Other:

	Initials	Date
Copy/Dist.	RJ	↓

Client P.O.C.: MW

Date of Request 6/22/95

Ideal field date(s): NEXT VISIT

Check Appropriate Category

Budget Hrs. 0.5

Actual Hrs. .5

Mob de Mob

Field Tasks: For General Description

circle one:
Priority: 1. (emergency, must be done within 24 hrs); 2. (next visit); 3. (when available)

- INSTALL FLOWMETER AT CONVENIENT LOCATION BETWEEN WELLS & HOLDING TANK (FLOWMETER WITH JV)

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

Task Completed

☐ Samples taken ☐ Samples not required ☐ Soil Vapor ☐ Groundwater

☐ Weekly ☐ Semi-Monthly ☐ Monthly ☐ Quarterly ☐ Semi-Annual

PACIFIC ENVIRONMENTAL GROUP, INC.

Completed by: JV Date: 7-5-95

Checked by:

White Copy - Originator Yellow Copy - O & M Tech Pink Copy - File

Work Order # 953346

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency: Monthly

Identification

Project #	330-084.5B
Station #	0374
Site Address:	6407 Telegraph Avenue @ Alcatraz Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Steve Johnston
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	June 1, 1995
Laboratory:	Sequoia Analytical

	Initials	Date
F/S	RY	6/12/95
Copy/Dist.	RY	↓

Site Remedial Technologies:

Groundwater Extration (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE(A, B, C, D, F)	monthly †		2	2	Yes
GWE(E,G)	quarterly †				Yes

† = sampling to be performed

Definition of frequencies:

weekly = N/A
semi-monthly = once every other week on weeks 1 & 3
monthly = N/A
quarterly = once every quarter in months 3, 6, 9, 12 on week 1
semi-annually = N/A

Field Technician Response:

Completed by: JV
Arrival time: 9:00 1:45
Sample this visit?: Yes

Date: 6-9-95
Departure time: 1:45
Engineer contacted? Yes

ARCO Service Station 0374

Date: 6-9-95

Groundwater Extraction & Treatment System
ARCO Service Station 0374
6407 Telegraph Avenue
330-084.5B
May 24, 1995

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
W-2	pneumatic	4"	panel	26'

Carbon Vessels: Three SunAg GAC Transfer Pump: ORCA
Filter: 6-18-1P-1-150-CBNB, PE-25 P85

PART A: SYSTEM DATA

System on upon arrival? NO (if no, specify reason in comments)

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	00075254	00075359
FILTER INLET PRESSURE (psig)	8	(ideal range 8 psig)
CARBON #1 INLET PRESSURE (psig)	3.5	(ideal range 7 to 8 psig) 3.5
CARBON #2 INLET PRESSURE (psig)	2	(ideal range 3 to 5 psig) 2
CARBON #3 INLET PRESSURE (psig)	0	(ideal range 1 to 3 psig) 0
DISCHARGE PRESSURE (psig)	0	(ideal range 0 to 1 psig) 0
TRANSFER PUMP FLOWRATE (gpm)	7	(ideal range 4 to 5 gpm) 7

PART B: COMMENTS System down on Arrival
Found ~~Con~~ Air Compressure off Restarted
Compressure and check out. Compressure
Runs Fine at This Time Compressure Turns
off at 110 psi and comes on at 80 psi
* Carbon Vessel #1 ORT HAS A Little Leak
on bottom of Vessel. System was Left Running
as per S.J.

3300845B/GWE.doc

ARCO Service Station 0374

PART C: WELL DATA

WELL	DTW/DTL (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS/ ADJUSTMENTS
W-2	12.10	N/A	N/A	

PART D: SAMPLING & READINGS I

SAMPLE	ANALYSIS	COMPLETED
SP 105 (Influent)	TPH-gasoline/BTEX compounds	Yes
SP 108 (Effluent)	TPH-gasoline/BTEX compounds	Yes
SP 106 (Mid 1)	TPH-gasoline/BTEX compounds,	Yes

PART E: SAMPLING & READINGS II

SAMPLE	ANALYSIS	COMPLETED
SP 107 (Mid 2)	TPH-gasoline, BTEX compounds	Yes

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?		CHANGE FILTERS? (if necessary)	Yes
DRAIN COMPRESSOR	Yes	ADD CHLORINE TO HOLDING TANK	NO Will Bring CHLORINE Next VISIT

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES	Yes	TEST IRRIGATION SYSTEM	Yes
BACKFLUSH CARBON VESSELS	NO	WATER POTTED PLANTS MANUALLY	Yes
CHANGE COMPRESSOR OIL	oil Less (NO) Compressure	CLEAN SURGE TANK	Ok
TEST PARAFAX	Yes	TEST SURGE TANK	Yes
ELECTRIC METER READING (kw hrs)	02452	W-2 HOUR METER READING	N/A
AIR COMPRESSOR HOURS (hrs)	06225.0	W-2 FLOW METER READING (gpm)	N/A

ARCO Products Company
Division of AtlanticRichfieldCompany

Chain of Custody

Task Order No. 330-084.5 '70180

ARCO Facility no. 0374	City (Facility) OAKLAND	Project manager (Consultant) SHAW GARAKANI	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 ENV GROUP	Address (Consultant) 2025 GATEWAY PL # 440 SAN JOSE		Contract number

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 ☐		
SP105		3		X		X	HCL	6-9-95			X											
SP106		↓		↓		↓	↓	↓														
SP107																						
SP108		↓		↓		↓	↓	↓														

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler	6-12-95	7:00	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory

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

ARCO 3292 (2-91)

FIELD SERVICES / O&M REQUEST JV Work Order # 3622

SITE INFORMATION FORM

RY

Identification

Project # 330-084.5B

Station # 0374

Site Address: 6407 Telegraph @ Alcatraz, Oakland

County: Alameda

Project Manager: SHAWG.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MICHAEL WHELAN

Date of request: 5/17/95

Project Type

☐ 1st Time visit

☐ Quarterly

☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

☐ Monthly

☐ Semi-Monthly

☐ Weekly

☒ One time event

☐ Other:

	Initials	Date
F/S	RY	6/12/95
Copy/Dist.	RY	↓

Ideal field date(s): DURING MONTHLY

Prefield Contacts/Permits

☐ Cal Trans

☐ County

☐ City

☐ Private

☐ Multi-Consultant Scheduling date(s):

Check Appropriate Category

Budget Hrs.

Actual Hrs. 8 Completed with monthly

Mob de Mob

Field Tasks: For General Description STOP BY MY DESK BEFORE GOING TO FIELD

(1) START IRRIGATION SYSTEM Completed

(2) RECORD FILTER SIZE FOR SYSTEM Rose Dale 6-18-1P-1-150 LB

3) (a) CALL FROM FIELD
(b) TRIP PARAFAX

(4) If FLOW ~~GAUGE~~ METER HAS ARRIVED IN MAIL, THEN INSTALL IN FIELD & INSIDE THE COMPOUND OR AT THE WELL HEAD (WHICHEVER IS MORE APPROPRIATE). Meter NOT IN

DRAFT

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

TASK Completed

Completed by: JV Date: 6-9-95

Checked by:

PACIFIC ENVIRONMENTAL GROUP, INC.

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: 330-084.5B/0374, Oakland

Enclosed are the results from samples received at Sequoia Analytical on August 11, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9508A1801	LIQUID, SP108 E	8/10/95	TPHGB Purgeable TPH/BTEX
9508A1802	LIQUID, SP106 M	8/10/95	TPHGB Purgeable TPH/BTEX
9508A1803	LIQUID, SP105 I	8/10/95	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

B Fletcher
Brucie Fletcher
Project Manager

Quality Assurance Department