PACIFIC
ENVIRONMENTAL
GROUP, INC.

December 1, 1995
Project 330-109.5B

Ms. Sue Jenne
East Bay Municipal Utility District
P.O. Box 24055
Oakland, California 94623-1055

Re: Wastewater Discharge Permit 502-62131 - Annual Sewer Report
ARCO Service Station 4931
731 West MacArthur Boulevard
Oakland, California

Dear Ms. Jenne:

On behalf of ARCO Products Company, Pacific Environmental Group, Inc. (PACIFIC) is performing environmental services at the site referenced above. This report reviews treatment system results for the period from November 1, 1994 through October 31, 1995. Operational data are summarized in the table below:

Current Treatment System Status:	*Non-Operational*
Reporting Period:	11/09/94 - 07/05/95
Period Volume Discharged:	314,406 gallons
Total Volume Discharged:	4,643,696 gallons
Period Average Flow Rate:	0.9 gallon per minute
Certified Analytical Reports:	Attached
Primary Carbon Capacity Remaining:	96.6 percent

As you know, the GWET system was shut down on July 5, 1995 due to continuing low or non-detetcted hydrocarbon concentrations. Although quarterly groundwater monitoring is continuing at the site, PACIFIC intends to leave the GWET system down until site conditions indicate that groundwater extraction is a feasible and effective method of remediation.

2025 Gateway Place, Suite 440, San Jose, California 95110 (408) 441-7500 FAX (408) 441-7539

Treatment system analytical and operational data are presented in Tables 1 and 2. Certified analytical reports and chain-of-custody documentation for the GWET system are included as Attachment A, and field data sheets are included as Attachment B. Monitoring system certified analytical reports and chain-of-custody documentation for this site are presented as Attachment C. If you have any questions or require further information, please do not hesitate to call.

Sincerely,

Pacific Environmental Group, Inc.

Suzanne McClurkin-Nelson
Staff Scientist

David S. Nanstad
Senior Staff Engineer

Attachments:
Table 1 - Groundwater Extraction System Performance Data
Table 2 - Groundwater Extraction System Analytical Data - Total Petroleum Hydrocarbons (TPPH and BTEX Compounds)
Attachment A - Groundwater Treatment System Certified Analytical Reports and Chain-of-Custody Documentation
Attachment B - Groundwater Treatment System Field Data Sheets
Attachment C - Quarterly Groundwater Monitoring Certified Analytical Reports and Chain-of-Custody Documentation

cc: Mr. Michael Whelan, ARCO Products Company
Mr. Kevin Graves, Regional Water Quality Control Board - S.F. Bay Region
Ms. Susan Hugo, Alameda County Health Care Services Agency

Table 1
Groundwater Extraction System Performance Data

ARCO Service Station 4931
731 West MacArthur Boulevard
Oakland, California

Sample I.D.	Date Sampled	Totalizer Reading (gallons)	Net Volume (gallons)	Average Flow Rate (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (lbs)	TPPH as Gasoline: Removed to Date (lbs)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (lbs)	Benzene: Removed to Date (lbs)	Primary Carbon Loading (percent)
INFL	06/28/94 a	4,120,050	N/A	0.9	740	0.000	1.61	38	0.000	0.38	2.0
INFL	07/15/94	4,143,150	23,100	0.9	ND	0.071	1.68	ND	0.004	0.38	2.1
INFL	08/18/94	4,175,310	32,160	0.7	NS	0.099	1.78	NS	0.005	0.39	2.2
INFL	09/30/94	4,243,295 b	67,985	1.1	NS	0.210	1.99	NS	0.011	0.40	2.5
INFL	10/31/94 c	4,311,280	67,985	1.5	ND	0.000	1.99	ND	0.000	0.40	2.5
INFL	11/09/94	4,330,500	19,220	1.5	56	0.004	2.00	ND	0.000	0.40	2.5
INFL	12/16/94	4,352,780	22,280	0.4	NS d	0.005	2.00	NS d	0.000	0.40	2.5
INFL	01/05/95	4,382,610	29,830	1.0	1,000	0.131	2.13	87	0.011	0.41	2.7
INFL	02/07/95	4,430,130 e	47,520	1.0 e	NS d	0.209	2.34	NS d	0.017	0.43	2.9
INFL	03/03/95	4,464,690 e	34,560	1.0 e	NS d	0.152	2.49	NS d	0.013	0.44	3.1
INFL	04/13/95	23 f	59,040	1.0 e	ND	0.246	2.74	ND	0.021	0.46	3.4
INFL	05/01/95	12,138	12,115	0.5	ND	0.000	2.74	ND	0.000	0.46	3.4
INFL	06/09/95	36,412	24,274	0.4	ND	0.000	2.74	ND	0.000	0.46	3.4
INFL	07/05/95 g	121,199	84,787	2.8	ND	0.000	2.74	0.59	0.000	0.46	3.4
REPORTING PERIOD: 11/09/94 - 07/05/95 (g)											
TOTAL POUNDS REMOVED:							2.74			0.46	
TOTAL GALLONS REMOVED:							0.45			0.06	
PERIOD POUNDS REMOVED:						0.74			0.06		
PERIOD GALLONS REMOVED:						0.12			0.01		
TOTAL GALLONS EXTRACTED:					4,643,595 (g)						
PERIOD GALLONS EXTRACTED:					314,406						
PERIOD AVERAGE FLOW RATE (gpm):					0.9						
PRIMARY BED CAPACITY REMAINING (%):					96.6						

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

a. Data prior to October 1, 1994 provided by prior consultant.
b. No operational or analytical data available; totalizer reading, flow rate, and sample estimated from prior event July 15, 1994.
c. Pacific Environmental Group, Inc. became consultant for the site as of October 1, 1994.
d. Sampled quarterly; concentrations assumed from prior sampling event.
e. Totalizer broken; volume estimated using 1.0 gpm based on prior sampling event.
f. Totalizer replaced and re-calibrated on April 13, 1995.
g. System shut down for review, due to low concentrations and removal rates.

Carbon loading assumes an 8% isotherm.
Mass removed is an approximation calculated using averaged concentrations.
Pounds of hydrocarbons removed to date provided by prior consultant.
See certified analytical reports for detection limits. Prior to June 1995, TPPH was reported as "TPH calculated as Gasoline".

Table 2

Groundwater Extraction System Analytical Data

Total Petroleum Hydrocarbons

(TPPH and BTEX Compounds)

ARCO Service Station 4931

731 West MacArthur Boulevard

Oakland, California

Sample I.D.	Date Sampled	TPPH (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
INFL	10/31/94	ND	ND	ND	ND	ND
	11/09/94	56	ND	ND	ND	2.7
	01/05/95	1,000	87	9	ND	160
	04/13/95	ND	ND	ND	ND	ND
	05/01/95	ND	ND	ND	ND	ND
	06/09/95	ND	ND	ND	ND	ND
	07/05/95	ND	0.59	ND	ND	ND
MID-1	11/09/94	ND	ND	ND	ND	ND
	01/05/95	ND	ND	ND	ND	ND
	04/13/95	ND	ND	ND	ND	ND
	05/01/95	ND	ND	ND	ND	ND
MID-2	11/09/94	ND	ND	ND	ND	ND
	01/05/95	ND	ND	ND	ND	ND
	04/13/95	ND	ND	ND	ND	ND
	05/01/95	ND	ND	ND	ND	ND
	06/09/95	ND	ND	ND	ND	ND
	07/05/95	ND	ND	ND	ND	ND
EFFL	10/31/94	ND	ND	ND	ND	ND
	11/09/94	ND	ND	ND	ND	ND
	01/05/95	ND	ND	ND	ND	ND
	04/13/95	ND	ND	ND	ND	ND
	05/01/95	ND	ND	ND	ND	ND
	06/09/95	ND	ND	ND	ND	ND
	07/05/95	ND	ND	ND	ND	ND

TPPH = Total purgeable petroleum hydrocarbons

µg/L = Micrograms per liter

ND = Not detected above detection limits

Pacific Environmental Group, Inc. became consultant to site 10/01/94.

Prior to June 1995, TPPH results were reported as "TPH calculated as Gasoline".

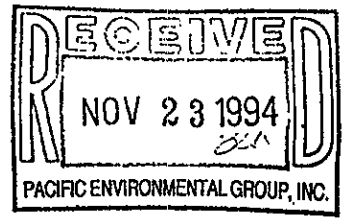
See certified analytical reports for individual detection limits.

ATTACHMENT A

GROUNDWATER TREATMENT SYSTEM
CERTIFIED ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY DOCUMENTATION

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
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: 330-109.5A/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on November 10, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9411796 -01	LIQUID, Infl	11/09/94	TPHGBW Purgeable TPH/BTEX
9411796 -02	LIQUID, Mid-1	11/09/94	TPHGBW Purgeable TPH/BTEX
9411796 -03	LIQUID, Mid-2	11/09/94	TPHGBW Purgeable TPH/BTEX
9411796 -04	LIQUID, Effl	11/09/94	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

Eileen Manning
Project Manager

Quality Assurance Department

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 11/09/94
2025 Gateway Place, Suite 440	Sample Descript: Infl	Received: 11/10/94
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 11/14/94
Attention: Maree Doden	Lab Number: 9411796-01	Reported: 11/22/94

QC Batch Number: GC111494BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**56**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**2.7**
Chromatogram Pattern:		
Weathered Gas		**C7-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical
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Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 11/09/94
2025 Gateway Place, Suite 440	Sample Descript: Mid-1	Received: 11/10/94
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 11/14/94
Attention: Maree Doden	Lab Number: 9411796-02	Reported: 11/22/94

QC Batch Number: GC111494BTEX02A
Instrument ID: GCHP2

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

Eileen Manning
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	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 11/09/94
2025 Gateway Place, Suite 440	Sample Descript: Mid-2	Received: 11/10/94
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 11/14/94
Attention: Maree Doden	Lab Number: 9411796-03	Reported: 11/22/94

QC Batch Number: GC111494BTEX02A
Instrument ID: GCHP2

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	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 11/09/94
2025 Gateway Place, Suite 440	Sample Descript: Effl	Received: 11/10/94
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 11/14/94
Attention: Maree Doden	Lab Number: 9411796-04	Reported: 11/22/94

QC Batch Number: GC111494BTEX02A
Instrument ID: GCHP2

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	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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 Project ID:	330-109.5A/4931, Oakland	
2025 Gateway Place, Suite 440	Matrix:	Liquid	
San Jose, CA 95110			
Attention: Maree Doden	Work Order #:	9411796 01-04	Reported: Nov 22, 1994

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC111494BTEX02A	GC111494BTEX02A	GC111494BTEX02A	GC111494BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	941171003	941171003	941171003	941171003
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	11/14/94	11/14/94	11/14/94	11/14/94
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
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:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	9.5	9.5	9.5	3.2
RPD Limit:	0-50	0-50	0-50	0-50

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

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

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company

Division of AtlanticRichfieldCompany

330-109.5A Task Order No. 4931-94-5A

Chain of Custody

ARCO Facility no. 4931	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) 4084417539
Consultant name PACIFIC ENV GROUP	Address (Consultant) 2025 GATEWAY PL #440 SAN JOSE		Contract number 07.073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	
INFL	7	3		X		X	HCL	11-9-94			X										-01
MID-1																					-02
MID-2																					-03
EFFL																					-04

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9411796

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample: Good

Temperature received: 15°C

Relinquished by sampler	Date 11-10-94	Time 7:00	Received by Denise Alarcon 11/10/94 9:30
Relinquished by Denise Alarcon	Date 11/10/94	Time 11:50	Received by 16/10/94 11:50
Relinquished by	Date 16/10/94	Time 12:30	Received by laboratory Date 11-10-94 Time 1230

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

APPC-3292 (2-91)

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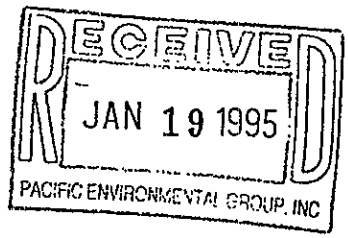
Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden



Project: 330-109.5A/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on January 6, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950129701	LIQUID, A	1/5/95	TPHGB Purgeable TPH/BTEX
950129702	LIQUID, B	1/5/95	TPHGB Purgeable TPH/BTEX
950129703	LIQUID, C	1/5/95	TPHGB Purgeable TPH/BTEX
950129704	LIQUID, D	1/5/95	TPHGB Purgeable TPH/BTEX

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

Very truly yours,

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Quality Assurance Department

Sequoia Analytical

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Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 01/05/95
2025 Gateway Place, Suite 440	Sample Descript: A	Received: 01/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/09/95
Attention: Maree Doden	Lab Number: 9501297-01	Reported: 01/18/95

QC Batch Number: GC010995BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical
680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 01/05/95
2025 Gateway Place, Suite 440	Sample Descript: B	Received: 01/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/09/95
Attention: Maree Doden	Lab Number: 9501297-02	Reported: 01/18/95

QC Batch Number: GC010995BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	*70*	*130*	*92*

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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

Pacific Environmental Group	Client Proj. ID: 330-109.5A/4931, Oakland	Sampled: 01/05/95
2025 Gateway Place, Suite 440	Sample Descript: C	Received: 01/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/09/95
Attention: Maree Doden	Lab Number: 9501297-03	Reported: 01/18/95

QC Batch Number: GC010995BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical
680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Pacific Environmental Group	Client Project ID:	330-109.5A/4931, Oakland	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Maree Doden	Work Order #:	9501297 01, 02, 03	Reported: Jan 18, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC010995BTEX17A	GC010995BTEX17A	GC010995BTEX17A	GC010995BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9412H1602	9412H1602	9412H1602	9412H1602
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	1/9/95	1/9/95	1/9/95	1/9/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	9.8	9.7	30
MS % Recovery:	98	98	97	100
Dup. Result:	9.9	9.9	9.7	29
MSD % Recov.:	99	99	97	97
RPD:	1.0	1.0	0.0	3.4
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

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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: 330-109.5A/4931, Oakland
Matrix: LIQUID
Work Order #: 9501297 04

Reported: Jan 18, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC011095BTEX02A	GC011095BTEX02A	GC011095BTEX02A	GC011095BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	N.A.	N.A.	N.A.	N.A.
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9412I2402	9412I2402	9412I2402	9412I2402
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	1/10/95	1/10/95	1/10/95	1/10/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	10	10	30
MS % Recovery:	98	100	100	100
Dup. Result:	9.8	9.9	9.9	30
MSD % Recov.:	98	99	99	100
RPD:	0.0	1.0	1.0	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	Benzene	Toluene	Ethyl Benzene	Xylenes
	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330109.5A Task Order No. 4931 - 94-5

Chain of Custod

ARCO Facility no. 4931	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 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
A		3		X		X	HCL	1-5-95			X											
B		↓		↓		↓	↓	↓			↓											
C		↓		↓		↓	↓	↓			↓											
D		↓		↓		↓	↓	↓			↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9501297

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample: GOOD		Temperature received: COOL	
Relinquished by sampler	Date 1-5-95 Time 12:00	Received by	1/5/95
Relinquished by	Date 1/6/95 Time 11:10	Received by	
Relinquished by	Date 1/6/95 Time 12:15	Received by laboratory	Date 1/6/95 Time 12:16

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

APC-3292 (2-91)

Sequoia Analytical

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

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

Project: 330-109.5B/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on April 14, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9504A2001	LIQUID, A	4/13/95	TPHGB Purgeable TPH/BTEX
9504A2002	LIQUID, B	4/13/95	TPHGB Purgeable TPH/BTEX
9504A2003	LIQUID, C	4/13/95	TPHGB Purgeable TPH/BTEX
9504A2004	LIQUID, D	4/13/95	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
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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: 330-109.5A/4931, Oakland	Sampled: 01/05/95
2025 Gateway Place, Suite 440	Sample Descript: D	Received: 01/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/10/95
Attention: Maree Doden	Lab Number: 9501297-04	Reported: 01/18/95

QC Batch Number: GC011095BTEX02A
Instrument ID: GCHP2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**100**	**1000**
Benzene	**1.0**	**87**
Toluene	**1.0**	**9.0**
Ethyl Benzene	1.0	N.D.
Xylenes (Total)	**1.0**	**160**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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: 330-109.5B/4931, Oakland	Sampled: 04/13/95
2025 Gateway Place, Suite 440	Sample Descript: A	Received: 04/14/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/25/95
Attention: Maree Doden	Lab Number: 9504A20-01	Reported: 05/09/95

QC Batch Number: GC042595BTEXDM2
Instrument ID: GC2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1197

Eileen Manning
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: 330-109.5B/4931, Oakland	Sampled: 04/13/95
2025 Gateway Place, Suite 440	Sample Descript: B	Received: 04/14/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/25/95
Attention: Maree Doden	Lab Number: 9504A20-02	Reported: 05/09/95

QC Batch Number: GC042595BTEXDM2
Instrument ID: GC2

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1197

Eileen Manning
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: 330-109.5B/4931, Oakland	Sampled: 04/13/95
2025 Gateway Place, Suite 440	Sample Descript: C	Received: 04/14/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/25/95
Attention: Maree Doden	Lab Number: 9504A20-03	Reported: 05/09/95

QC Batch Number: GC042595BTEXDM2
Instrument ID: GC2

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	86

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

SEQUOIA ANALYTICAL - ELAP #1197

Eileen 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	Client Proj. ID: 330-109.5B/4931, Oakland	Sampled: 04/13/95
2025 Gateway Place, Suite 440	Sample Descript: D	Received: 04/14/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/25/95
Attention: Maree Doden	Lab Number: 9504A20-04	Reported: 05/09/95

QC Batch Number: GC042595BTEXDM2
Instrument ID: GC2

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	95

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

SEQUOIA ANALYTICAL - ELAP #1197

Eileen Manning
Project Manager

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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: 330-109.5B/4931, Oakland
Matrix: Liquid
Work Order #: 9504A20 01-02

Reported: May 3, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC042595BTEXDM2	GC042595BTEXDM2	GC042595BTEXDM2	GC042595BTEXDM2
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	W. Thomas	W. Thomas	W. Thomas	W. Thomas
MS/MSD #:	BLK042595	BLK042595	BLK042595	BLK042595
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/25/95	4/25/95	4/25/95	4/25/95
Analyzed Date:	4/25/95	4/25/95	4/25/95	4/25/95
Instrument I.D.#:	GC2	GC2	GC2	GC2
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.6	9.2	9.7	28
MS % Recovery:	96	92	97	93
Dup. Result:	9.9	9.5	9.9	29
MSD % Recov.:	99	95	99	97
RPD:	3.1	3.2	2.0	3.5
RPD Limit:	0-50	0-50	0-50	0-50

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

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

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company Division of AtlanticRichfieldCompany — 330-109.5B — **Task Order No.** 112840 — **Chain of Custody**

ARCO Facility no. 4931	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	Contract number 07-073
Consultant name Pacific Env Group	Address (Consultant) 2025 Gateway pl #440 San Jose		Method of shipment 9504A20

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 8240/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
A	1A-C	3		X		X	HCl	4-13-95			X											
B	2	↓		↓		↓	↓	X			↓											
C	3							X														
D	4 ↓	↓		↓		↓	↓	X			↓											

Condition of sample: — Temperature received:

Relinquished by sampler	Date 4-14-95	Time 7:00	Received by
Relinquished by	Date 4/14/95	Time 11:55	Received by
Relinquished by	Date 4/14/95	Time	Received by laboratory — Date 4/19/95 — Time 1313

Received by: 4/14/95 0830

Remarks

* Please Include Chromatograms on D gas/btex sample only (Pictures only)

Lab number

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

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

Project: 330-109.5B/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on May 2, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9505123 -01	LIQUID, INFL	05/01/95	TPHGBW Purgeable TPH/BTEX
9505123 -02	LIQUID, MID-1	05/01/95	TPHGBW Purgeable TPH/BTEX
9505123 -03	LIQUID, MID-2	05/01/95	TPHGBW Purgeable TPH/BTEX
9505123 -04	LIQUID, EFFL	05/01/95	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

Eileen Manning
Project Manager

Quality Assurance Department

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: 330-109.5B/4931, Oakland	Sampled: 05/01/95
2025 Gateway Place, Suite 440	Sample Descript: INFL	Received: 05/02/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/04/95
Attention: Maree Doden	Lab Number: 9505123-01	Reported: 05/10/95

QC Batch Number: GC050495BTEX20A
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	96

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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: 330-109.5B/4931, Oakland	Sampled: 05/01/95
2025 Gateway Place, Suite 440	Sample Descript: MID-1	Received: 05/02/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/05/95
Attention: Maree Doden	Lab Number: 9505123-02	Reported: 05/10/95

QC Batch Number: GC050495BTEX20A
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	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical
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: 330-109.5B/4931, Oakland	Sampled: 05/01/95
2025 Gateway Place, Suite 440	Sample Descript: MID-2	Received: 05/02/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/05/95
Attention: Maree Doden	Lab Number: 9505123-03	Reported: 05/10/95

QC Batch Number: GC050495BTEX20A
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	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
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: 330-109.5B/4931, Oakland	Sampled: 05/01/95
2025 Gateway Place, Suite 440	Sample Descript: EFFL	Received: 05/02/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/05/95
Attention: Maree Doden	Lab Number: 9505123-04	Reported: 05/10/95

QC Batch Number: GC050495BTEX20A
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	96

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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

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

Client Project ID: 330-109.5B/4931, Oakland
Matrix: LIQUID
Work Order #: 9505123 01-04

Reported: May 10, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC050495BTEX20A	GC050495BTEX20A	GC050495BTEX20A	GC050495BTEX20A
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 #:	9504I6114	9504I6114	9504I6114	9504I6114
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/4/95	5/4/95	5/4/95	5/4/95
Analyzed Date:	5/4/95	5/4/95	5/4/95	5/4/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.6	9.7	9.7	29
MS % Recovery:	96	97	97	97
Dup. Result:	9.7	9.8	9.7	29
MSD % Recov.:	97	98	97	97
RPD:	1.0	1.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company Division of AtlanticRichfieldCompany — 330-1095B — Task Order No. 1703700 — **Chain of Custody**

ARCO Facility no. 4931	City (Facility) OAKLAND	Project manager (Consultant) Shaw Garakani	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 441 7500 (408)	Fax no. (Consultant) 441 7539
Consultant name PACIFIC ENV GROUP	Address (Consultant) 2025 Gate Way 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 ☐		
INFL.	1	3		X		X	HCL	5-1-95	1330		X										950	5123
MID-1	2	X		X		X	X	X	X		X											
Mid-2	3	X		X		X	X	X	X		X											
EFFL	4	X		X		X	X	X	X		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

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	5-2-95	700	Received by	5/2/95	0745
Relinquished by	5/2/95	11:45	Received by	5-2-95	
Relinquished by	5-2	100	Received by laboratory	5/2/95	1308

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

ARC-3292 (3-91)

Sequoia Analytical

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

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

Project: 330-109.5B/4931, 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
950669001	LIQUID, A	6/9/95	TPHGB Purgeable TPH/BTEX
950669002	LIQUID, B	6/9/95	TPHGB Purgeable TPH/BTEX
950669003	LIQUID, D	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
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Pacific Environmental Group	Client Proj. ID: 330-109.5B/4931,Oakland	Sampled: 06/09/95
2025 Gateway Place, Suite 440	Sample Descript: A	Received: 06/12/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/14/95
Attention: Maree Doden	Lab Number: 9506690-01	Reported: 06/23/95

QC Batch Number: GC061495BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher for
Eileen Manning
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	Client Proj. ID: 330-109.5B/4931,Oakland	Sampled: 06/09/95
2025 Gateway Place, Suite 440	Sample Descript: B	Received: 06/12/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/14/95
Attention: Maree Doden	Lab Number: 9506690-02	Reported: 06/23/95

QC Batch Number: GC061495BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

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

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher for

Eileen Manning
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: 330-109.5B/4931,Oakland	Sampled: 06/09/95
2025 Gateway Place, Suite 440	Sample Descript: D	Received: 06/12/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 06/14/95
Attention: Maree Doden	Lab Number: 9506690-03	Reported: 06/23/95

QC Batch Number: GC061495BTEX06A
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher for

Eileen Manning
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: 330-109.5B/4931, Oakland
Matrix: LIQUID
Work Order #: 9506690 01-03

Reported: Jun 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC061495BTEX06A	GC061495BTEX06A	GC061495BTEX06A	GC061495BTEX06A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	Y. Chueh	Y. Chueh	Y. Chueh	Y. Chueh
MS/MSD #:	950668003	950668003	950668003	950668003
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/14/95	6/14/95	6/14/95	6/14/95
Analyzed Date:	6/14/95	6/14/95	6/14/95	6/14/95
Instrument I.D.#:	GCHP6	GCHP6	GCHP6	GCHP6
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	30
MS % Recovery:	100	100	100	100
Dup. Result:	10	10	10	30
MSD % Recov.:	100	100	100	100
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company Division of AtlanticRichfieldCompany — 330-109.5B Task Order No. 1703700 — **Chain of Custody**

ARCO Facility no. 4931	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 Gate way Pl #440 San Jose		Contract number 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
A		3		X		X	HCl	6-9-95			X						01	A-C				
B		1		X		Y	HCl	1			X						02	1				
D		↓		X		Y	HCl	↓			X						03	↓				

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9506696

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	Date 6-12-95 Time 730	Received by M Doden	Date 6/12/95 Time 0730
Relinquished by M Doden	Date 6/12/95 Time	Received by	Date 9:12-9:45 Time
Relinquished by	Date 6:12: 10:45 Time	Received by laboratory	Date 6/12/95 Time 1045

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

Sequoia Analytical

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

Project: 330-109.5D/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on July 6, 1995.. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950729901	LIQUID, D	7/5/95	TPHGB Purgeable TPH/BTEX
950729902	LIQUID, B	7/5/95	TPHGB Purgeable TPH/BTEX
950729903	LIQUID, A	7/5/95	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

Brucie Fletcher
Project Manager

Quality Assurance Department

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: 330-109.5D/4931,Oakland
Sample Descript: D
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9507299-01

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

Analyzed: 07/11/95
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**	**0.59**
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	96

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

SEQUOIA ANALYTICAL - ELAP #1210

Bruce 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: 330-109.5D/4931,Oakland	Sampled: 07/05/95
2025 Gateway Place, Suite 440	Sample Descript: B	Received: 07/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/11/95
Attention: Maree Doden	Lab Number: 9507299-02	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	91

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

SEQUOIA ANALYTICAL - ELAP #1210

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: 330-109.5D/4931,Oakland	Sampled: 07/05/95
2025 Gateway Place, Suite 440	Sample Descript: A	Received: 07/06/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/11/95
Attention: Maree Doden	Lab Number: 9507299-03	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	89

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

SEQUOIA ANALYTICAL - ELAP #1210

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 Project ID:	330-109.5D/4931, Oakland	
2025 Gateway Place, Suite 440	Matrix:	LIQUID	
San Jose, CA 95110			
Attention: Maree Doden	Work Order #:	9507299 01-03	Reported: Jul 19, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071095BTEX02A	GC071095BTEX02A	GC071095BTEX02A	GC071095BTEX02A
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 #:	950713903	950713903	950713903	950713903
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/10/95	7/10/95	7/10/95	7/10/95
Analyzed Date:	7/10/95	7/10/95	7/10/95	7/10/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.4	8.4	8.3	25
MS % Recovery:	84	84	83	83
Dup. Result:	8.8	9.0	8.8	27
MSD % Recov.:	88	90	88	90
RPD:	4.7	6.9	5.8	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

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 330-10950 **Task Order No.** 1783700 **Chain of Custody**

Division of AtlanticRichfieldCompany

ARCO Facility no. 4931	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	Contract number 07-073
Consultant name PACIFIC ENV GROUP		Address (Consultant) 2025 Gateway 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 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 ☐		
D	1A-C	3		X		X	HCL	7-5-95	1410		X											
B	2	↓		↓		↓	X	↓	↓		↓											
A	3 ↓	↓		↓		↓	X	↓	↓		↓											

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number 9507299

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 7-6-95	Time 700	Received by [signature] 7/6/95 0730		
Relinquished by [signature]	Date 7/6/95	Time 11:15	Received by [signature]		
Relinquished by [signature]	Date	Time	Received by laboratory [signature]	Date 7.6.95	Time 13:17

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

ATTACHMENT B

GROUNDWATER TREATMENT SYSTEM
FIELD DATA SHEETS

FIELD SERVICES/O and M REQUEST Work Order # 00489

SITE INFORMATION FORM

Identification

Project # 330-109.5A

Station # 4931

Site Address: 731 MacArthur Blvd

County: Alameda

Project Manager: Sam G

Requestor: Eric Wingfield

Client: Arco

Client P.O.C.: Michael Whelan

Date of request: 10/26/94

Project Type

- [ ] 1st Time visit
- [ ] Quarterly
  - [ ] 1st [ ] 2nd [ ] 3rd [ ] 4th
- [x] Monthly
- [ ] Semi-Monthly
- [ ] Weekly
- [ ] One time event
- [ ] Other:

Ideal field date(s): ASAP

Initials	Date
GG	11/2
Copy/Dist. PS	11/4

Circle Appropriate Category

R/S In Budget Site Visit

O = In Budget Site Visit

S = In Budget Site Visit

Check Appropriate Category

Budget Hrs.

Actual Hrs. 3

Mob de Mob 1

Site Safety

Concerns

Field Tasks: For General Description

Turn System On

Run for 1 hour

Sample EFFL, INFL

BTEX TPH G

Take Totalizer Reading

431128 At 17:22

Silent Night 4 Channel Digital Communicator

model 1410

Acct 436

National Guardian 1800 418 4085

UNIT # 0533 436 Telephone # 601-8811

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

System on on arrival RW 1 and 2 on Product Pump

RW 3 and 4 OFF

YOB 750 5547590 330

Completed by: P.P. Date: 10-31-94

Checked by:

PACIFIC ENVIRONMENTAL GROUP, INC.

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

FIELD SERVICES/O and M REQUEST Work Order # 00800

SITE INFORMATION FORM

Identification

Project # 330-109.5A
Station # 4931
Site Address: 731 MACARTHUR
County: ALAMEDA
Project Manager: SHAW G.
Requestor: ERIC WINGFIELD
Client: ARCO
Client P.O.C.: MICHAEL WHELAN
Date of request: 10/26/94

Project Type

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

Ideal field date(s): MUST BE DONE WEEK of NOV 7 TO BE IN COMPLIANCE

Circle Appropriate Category
I = In Budget Site Visit
O = In Budget Site Visit
S = In Budget Site Visit

Check Appropriate Category
Budget Hrs. ____
Actual Hrs. 2.5
Mob de Mob 1.5

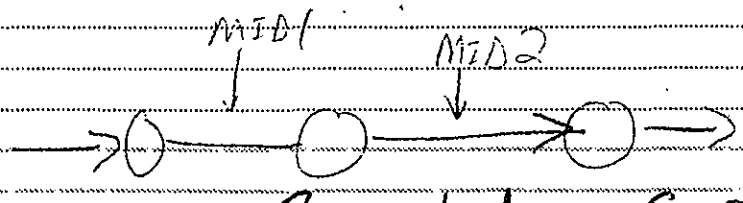
Concerns F/S

Initials	Date
Site Safety RH	11/21/94
Copy/Dist. da	11/22

Field Tasks: For General Description

- SAMPLE: INFL, EFFL, MID1, MID2 FOR TPH-G & BTEX.
- FLOW NOT TO EXCEED 60 gpm
- TAKE TOTALIZER READING
- Complete Field data sheet

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



Sampled System

Completed by: JV Date: 11-9-94
Checked by: ____

PACIFIC ENVIRONMENTAL GROUP, INC.

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Groundwater Extraction System
ARCO Service Station
4931

Revised: January 31, 1994

Name: JV Date/Time: 11-9-94 9:40

TREATMENT SYSTEM READINGS			
System Operational Upon Arrival?	Yes	Hour Meter (hours)	75794
Does Auto-dialer Dial Out?	N/A	Do Float Switches Work?	NO PAD FLOAT SWITCHES
Sewer Level Overflowing?	NO	Number of Spare Filters on Site?	10
~~System totalizer Effluent Totalizer~~ (gallons)	433050	~~System Effluent~~ Flowrate (gpm) When ON	5.4
~~E-1~~ A-9 Flowrate ~~Rotameter~~ (gpm)	5.4	~~E-2 Flowrate Rotometer (gpm)~~	N/A
Bag Filter INFL Pressure (psi)	5	Bag Filter EFFL Pressure (psi)	5
Carbon MID-1 Pressure (psi)	0	Carbon MID-2 EFFL Pressure (psi)	0
Carbon EFFL Pressure (psi)	0	Transfer Pump EFFL Pressure (psi)	N/A
All Visible Leaks Repaired?	Yes	System Enclosure Swept?	
Sump Pump Operational?	NO Sump pump	High Level Alarm Tripped?	N/A
LEL Reading (%)	NO LEL meter	Containment Pad?	

EXTRACTION WELL READINGS			
Well	A-9	E-2	EW-1
Pump Operating?	Yes		NA
Totalizer (gallons)	433050		NA
Flowrate (gpm)	5.4		NA
Hour Meter (hours)	N/A		NA
Well Pressure (psi)	N/A		NA
Pump Current (amp)	1.0		NA

FIELD DATA SHEET

Client: ARCO

Date: 11-9-94

Project No.: 330 109.5A

Job Address: 731 MACArthur
OAKLand

Time Arrived:

Time Departed:

Weather Conditions:

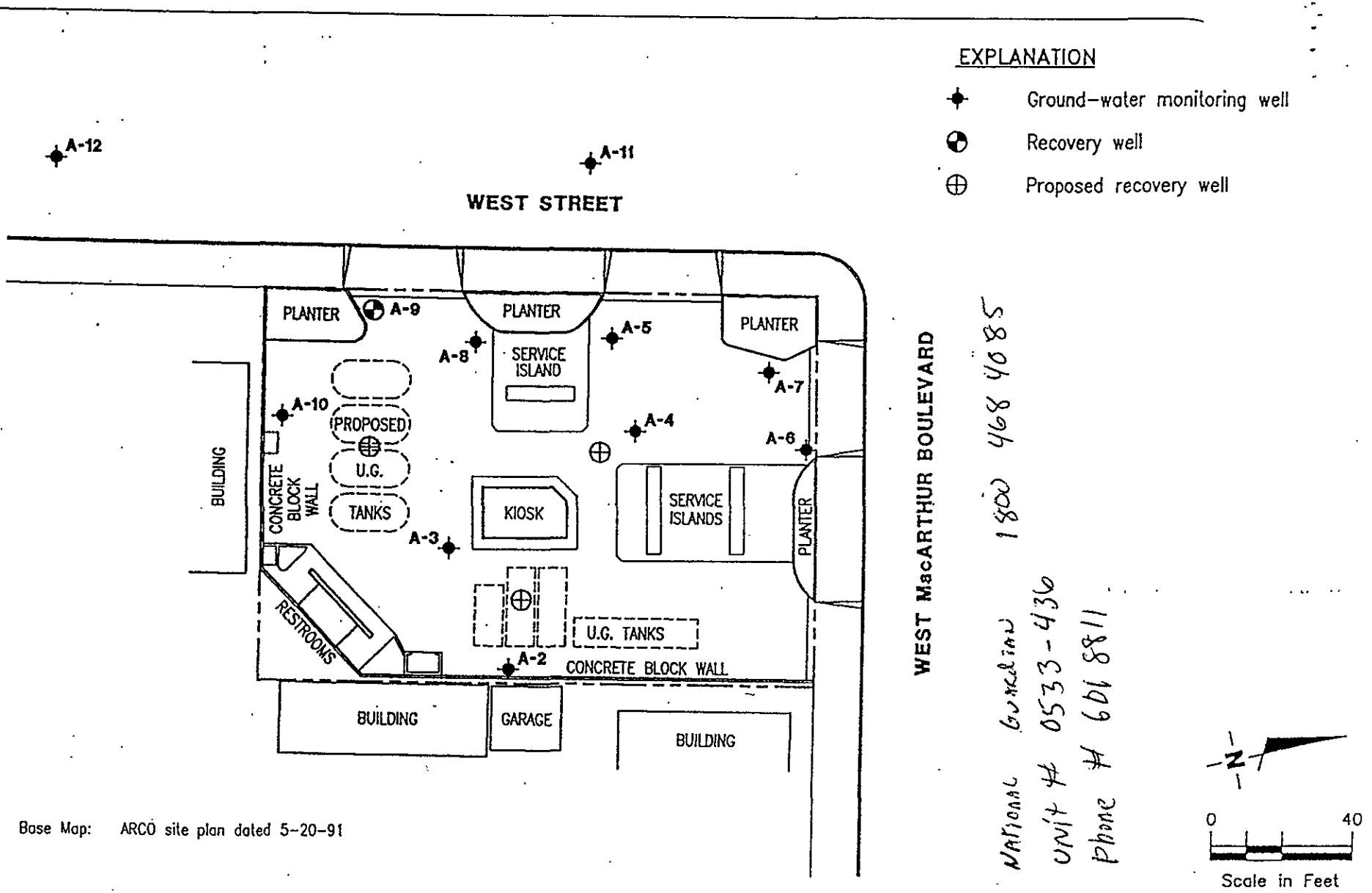
Equipment at Site:

Personnel at Site:

FIELD NOTES

Check out system, Every thing Seem to Be ok, Need To bring Fire Ext & Site SAFTY PLAN And 330 Sign, NO Auto DiAler But it HAS A Silent Night system there AND is Hook up with National Guardian # 1-800 468 4085 unit # 0533-436 And phone # For site is 601-8811 NO Sump pump

Signature



Base Map: ARCO site plan dated 5-20-91

National Guardian 1800 468 4085
Unit # 0533-436
Phone # 601 8811

GeoStrategies Inc.

SITE PLAN
ARCO Service Station #4931
731 West MacArthur Boulevard
Oakland, California

PLATE 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
790901-14A	CMG	1/92	

ARCO ~~P~~oducts Company 330-109 .SA **Task Order No.** 4931-94-5A

Division of AtlanticRichfieldCompany

C... of Custo...

ARCO Facility no. 4931	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 7559	Contract number
Consultant name PAcific Env Grup	Address (Consultant) 2025 Gateway Pl #440 SanJose		

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 ☐		
INFL		3		X		X	HCL	11-9-94			X											
MID-1		↓		↓		↓	↓	↓			↓											
MID-2		↓		↓		↓	↓	↓			↓											
EFFL		↓		↓		↓	↓	↓			↓											

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample:		Temperature received:	
Relinquished by sampler [signature]	Date 11-10-94 Time 700	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date Time

FIELD SERVICES / O&M REQUEST

Work Order # 2647

SITE INFORMATION FORM

Identification

Project # 330-109.5A
Station # 4931
Site Address: 731 W. MacArthur Blvd
OAKLAND
County: ALAMEDA
Project Manager: SHAW G.
Requestor: ERIC W.
Client: ARCO
Client P.O.C.: MIKE WHELAN
Date of request: DEC. 7, 1994

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: ______

Ideal field date(s): THIS WEEK OR NEXT

Prefield Contacts/Permits

	Initials	Date
Trans		
F/S	RY	12/14/94
Copy/Dist.	RY	↓

- ☐ Ca
- ☐ County
- ☐ City
- ☐ Private
- ☐ Multi-Consultant Scheduling date(s): ______

Check Appropriate Category

Budget Hrs. ______
Actual Hrs. 2.5
Mob de Mob 2

Field Tasks: For General Description

SYSTEM SAMPLING:

	A	B	C	D
(1) GAS/BTEX	Q	Q	Q	Q

(2) FILL OUT ATTACHED DATA SHEET MONTHLY

(3) CHECK FOR PROP 65 SIGN, FIRE EXTINGUISHER AND EMERGENCY SIGN

Q = WEEK of NOV. 8
JANUARY 10
APRIL 11
JULY 12

A = ~~EF~~ EFFLUENT
B = MIDPOINT 2
C = MIDPOINT 1
D = INFLUENT

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

INFLUENT → D → O → C → O → B → O → A → to SEWER

Monthly Completed
X10 Samples taken

Completed by: JV Date: 12-16-94
Checked by: ______

PACIFIC ENVIRONMENTAL GROUP, INC.

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Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 12-19-94

Treatment System Readings			
System On Upon Arrival?	NO power outage	Electric Meter (kw-hrs)	76347
Effluent Totalizer (gallons)	435278	Effluent Flowrate (gpm)	3.6
A-9 ~~AR-1~~ Totalizer (gallons)	Same ↑	Bag Filter INFL Pressure (psi)	5
A-9 ~~AR-1~~ Flowrate (gpm)	3.6	Bag Filter EFFL Pressure (psi)	4
A-9 ~~AR-1~~ Hourmeter (hours)	N/A	MID Pressure (psi)	0
A-9 ~~AR-1~~ Throttle Valve Position	cracked	EFFL Pressure (psi)	0
AR-2 Totalizer (gallons)	—	Does Sump Pump Work	N/A
AR-2 Flowrate (gpm)	—	Number of Spare Filters On-Site	9
AR-2 Hourmeter (hours)	—	Enclosure Swept and Bleached?	Yes
AR-2 Throttle Valve Position	—		
Does the Autodialer Work? Batteries Replaced	—		

Comments _____

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

FIELD SERVICES / O&M REQUEST

Work Order # 2726

SITE INFORMATION FORM

Identification

Project # 330-109.5A

Station # 4931

Site Address: 731 W. MacArthur Blvd
OAKLAND

County: ALAMEDA

Project Manager: SHAWN G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: DEC. 7, 1994

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): THIS WEEK OR NEXT

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County F/S	RY	1/9/95
☐ City		
☐ Private Copy/Dist.	RY	↓

☐ Multi-Consultant Scheduling date(s): _____

Check Appropriate Category

Budget Hrs. _____

Actual Hrs. 2

Mob de Mob 2.5

Field Tasks: For General Description

SYSTEM SAMPLING:

	A	B	C	D
(1) GAS/BTEX	Q	Q	Q	Q

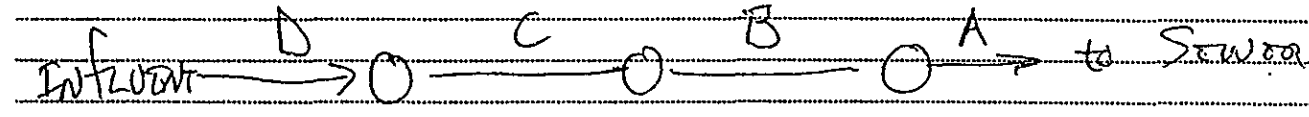
(2) FILL OUT ATTACHED DATA SHEET MONTHLY

(3) CHECK FOR PROPER SIGN, FIRE EXTINGUISHER AND EMERGENCY SIGN

A = ~~TOP~~ EFFLUENT
B = MID POINT 2
C = MID POINT 1
D = INFLUENT

Q = WEEK of Nov. 8
JANUARY 10
APRIL 11
JULY 12

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



Completed by: JV Date: 1-5-95

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 1-5-95

Treatment System Readings			
System On Upon Arrival?	Yes	Electric Meter (kw-hrs)	76403
~~Effluent~~ INFL Totalizer (gallons)	438261	~~Effluent~~ INFL Flowrate (gpm)	5.8 per cycle
~~AR-1~~ A-9 Totalizer (gallons)	438261	Bag Filter INFL Pressure (psi)	8
AR-1 Flowrate (gpm)	5.8 per cycle	Bag Filter EFFL D Pressure (psi)	5
AR-1 Hourmeter (hours)	N/A	MID Pressure C (psi) B	2 0
AR-1 Throttle Valve Position	Yy opn	EFFL Pressure A (psi)	0
AR-2 Totalizer (gallons)	*	Does Sump Pump Work	N/A
AR-2 Flowrate (gpm)	—	Number of Spare Filters On-Site	
AR-2 Hourmeter (hours)	—	Enclosure Swept and Bleached?	OK
AR-2 Throttle Valve Position	—		
~~Does the Autodialer~~ Work? Silent Night ~~Batteries Replaced~~	Yes ?		

Comments *A-9 is the only well pumping all outer wells are Turned off
Need to MAke up New DATA Sheet

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

ARCO Products Company Division of AtlanticRichfieldCompany

330109.5A **Task Order No.** 4931-94-5

Chain of Custody

ARCO Facility no. 4931	City (Facility) OAKLAND	Project manager (Consultant) SHAW GARAMANI	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 ☐		
A		3		X		X	HCL	1-5-95			X											
B		↓		↓		↓	↓	↓			↓											
C																						
D		↓		↓		↓	↓	↓			↓											

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 1-5-95 Time 12:60	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

FIELD SERVICES / O&M REQUEST

Work Order # 3120

SITE INFORMATION FORM

Identification

Project # 330-109.5A

Station # 4931

Site Address: 731 West MACARTHUR
OAK Land

County: Alameda

Project Manager: Shaw G.

Requestor: Eric W

Client: Arco

Client P.O.C.: Mike Whelan

Date of request: 1-16-95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): 1-16-95

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County	F/S	1/16/95
☐ City		
☐ Private	Copy/Dist.	↓

☐ Multi-Consultant Scheduling date(s): _____

Check Appropriate Category

Budget Hrs. ____

Actual Hrs. 3

Mob de Mob 2

Field Tasks: For General Description

Call Out, From Station Manager
He Said Water is Flowing out of
Compound

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

Arrived on Site Found water leaking
From Sewer discharge Line Checked out
problem Found missing parts From pressure relent
valve, Some one has removed the top of vale
Also Found Found piping on first Carbon
vessel to be cracked Repaired and Restated
System

Completed by: JV Date: 1-16-95

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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FIELD SERVICES / O&M REQUEST

Work Order # 2962 RY

SITE INFORMATION FORM

Identification

Project # 330-109.5A

Station # 4931

Site Address: 7321 West MacArthur Blvd Oakland

County: Alameda

Project Manager: Shawn G.

Requestor: Eric W.

Client: ARCO

Client P.O.C.: Mike Whelan

Date of request: 1/12/95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): Week of Jan 16!

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County		
☐ City	F/S	1/19/95
☐ Private		
☐ Multi-Consultant Scheduling date(s):	Copy/Dist. RY	↓

Check Appropriate Category

Budget Hrs. ____

Actual Hrs. 3

Mob de Mob 2

Field Tasks: For General Description

Turn on Wells AR-1, AR-2, AR-3, and A-9 Completed

Check free product thickness in Wells A-4, A-8, and AR-3 completed

Scope out System for Removing SPH

1) Operate Pump in A-8 If manual, If automatic what is the cycling rate Pump is not in well
2) Where does the SPH get stored, and how full is this container It get stored in compond. Drum is empty
3) What is used to measure gallons removed from AR-1 and A-8 Flow meter
4) And much SPH has been removed recently, Record any flow meter readings None
5) Bail manually where Automatic Bailer not possible Completed
6) Are there Electric pumps in AR-1, AR-2, AR-3, A-9 Yes
7) Fill out SPH Data Sheet for Items

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

(B) Call From Field

	Flow Rate	
AR-4	8.5	when cycling
AR-3	10.1	
AR 2	3.4	
A-9	7.2	
Totalizer	014	

Need To Re CALBate Flow meter

Need Battery For Flow meter Could Layne POWERDEX 6 volt Lithium Battery

Completed by: JV Date: 1-16-95

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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

FIELD REPORT

TH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330 1095A LOCATION: 731 W. MacArthur Oakland DATE: 1-16-95

CLIENT/STATION NO.: 4931 FIELD TECHNICIAN: JV DAY OF WEEK: Monday

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
	A-8	14:10		X			X	20.10	600 / 560	600 / 560	650 / 550	1 inch		X					X	.5 gal / .5 gal
	AR-3	14:50		X				19.86	1870 / 1770	1870 / 1770	0 / 0	0								0 / 0
	A-4	15:10		X				20.00	820 / 730	820 / 730	0 / 0	0								0 / 0
																				/
																				/
																				/
																				/
																				/
																				/

Comments: Unable to get Bailer down Hole. Need A Smaller Bailer

17037-00 **FIELD SERVICES / O&M REQUEST** Work Order # 952842

SITE INFORMATION FORM

Identification

Project # 330-109.5B

Station # 4931

Site Address: 731 W. MacArthur Blvd
OAKLAND

County: ALAMEDA

Project Manager: SHAWN G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: DEC. 7, 1994

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): THIS WEEK OR NEXT

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County	F/S	RJ 2/8/95
☐ City		
☐ Private	Copy/Dist.	RJ

☐ Multi-Consultant Scheduling date(s): _____

Check Appropriate Category

Budget Hrs. _____

Actual Hrs. 3

Mob de Mob 1.5

Field Tasks: For General Description

SYSTEM SAMPLING:

	A	B	C	D
(1) GAS/BTEX	Q	Q	Q	Q

(2) FILL OUT ATTACHED DATA SHEET MONTHLY

(3) CHECK FOR PROPER SIGN, FIRE EXTINGUISHER AND EMERGENCY SEAL

A = ~~FOR~~ EFFLUENT
B = MIDPOINT 2
C = MIDPOINT 1
D = INFLUENT

Q = WEEK of NOV. 8
JANUARY 10
APRIL 11
JULY 12

(4) FILL OUT SPH DATA SHEET

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

INFLUENT → D → C → B → A → to SEWER

TASK COMPLETED
NO SAMPLE WAS TAKEN

Completed by: SV Date: 2-7-95

PACIFIC ENVIRONMENTAL GROUP, INC.

Checked by: _____

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: SV Date/Time: 2-7-95 10:00

Treatment System Readings			
System On Upon Arrival?	YES	Electric Meter (kw-hrs)	77158
InFL. Totalizer (gallons)	Broken	INFL. Flowrate (gpm)	Broken
AR-1 Totalizer (gallons)	Broken	Bag Filter INFL Pressure (psi)	10
AR-1 Flowrate (gpm)	" "	Bag Filter EFFL D Pressure (psi)	6
AR-1 Hourmeter (hours)	N/A	MID(1) Pressure (psi) C MID(2) Pressure(psi) B	3
AR-1 Throttle Valve Position	½ TURN OPEN	EFFL Pressure A (psi)	0
AR-2 Totalizer (gallons)	Broken	Does Sump Pump Work	N/A
AR-2 Flowrate (gpm)	" "	Number of Spare Filters On-Site	8
AR-2 Hourmeter (hours)	N/A	Enclosure Swept and Bleached?	yes
AR-2 Throttle Valve Position	½ TURN OPEN		
Does the Silent Night Work?	yes		

Comments Need Batters For Totalizer & Flow Readings
Eric HAS order part For meter.

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name:_____ Date/Time:_____

Treatment System Readings			
AR-3 Totalizer (gallons)	—	Is there anything unusual on-site?	NO
AR-3 Flowrate (gpm)	—	Is the Site Safety Plan on-site?	Yes
AR-3 Hourmeter (hours)	N/A	Is there a Fire Extinguisher on-site?	NO
AR-3 Throttle Valve Position	½ TURN open	Is the Discharge Permit on-site?	NO
A-9 Totalizer (gallons)	—	Does the Free Product Pump Work?	NO
A-9 Flowrate (gpm)	—	What is the System Flow rate?	broken
A-9 Hourmeter (hours)	—	Free Product Level in Storage Tank	About 10 gallons
A-9 Throttle Valve Position	½ TURN open	Was AR-1 Bailed? How Much?	Yes
Does the Digital Communicator Work? Batteries Replaced		Did A-4 have SPH? Depth?	NO

Comments_____

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

A-4 Ar1 Ar2 MW4 AJ

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330109 5B LOCATION: OAKLAND DATE: 2-7-95

CLIENT/STATION NO.: 4931 FIELD TECHNICIAN: JV DAY OF WEEK: TUESDAY

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
1	AR-3	10:55		X				22.0	18.10	18.10	None	None								0 / Vacuum
2	AR 1	11 10		X				21.70	19 68	19 68	None	None								0 / 1/2 gallon
3	AR4	11 20		X		X		20"	10.62	10 62	None	None								0 / 1/2 gallon
4	AR8	11 30		X					9.15	9.15	9 10	.05		X	X		X			.5 / 1 gallon

Comments: _____

FIELD SERVICES / O&M REQUEST JV Work Order # 3585 -

SITE INFORMATION FORM R4

Identification

Project # 330-109.5B

Station # 4931

Site Address: 231 MACARTHUR BLVD

OAKLAND

County: ALAMEDA

Project Manager: SHAWN G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: 2/21/95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): DURING MONTHLY

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County		
☐ City	F/S R4	3/8/95
☐ Private	Copy/Dist. R4	↓

☐ Multi-Consultant Scheduling date(s): _____

Check Appropriate Category

Budget Hrs. ____

Actual Hrs. ____

Mob de Mob ____

Field Tasks: For General Description

DELIVER BATTERY FOR FLOW TOTALIZER

PHOTOGRAPH SITE (GAS STATION, OUTSIDE of COMPOUND, INSIDE INSTRUMENTATION, DONE SO THAT THERE IS SOME PERSPECTIVE) ESPECIALLY PHOTOGRAPH # CHAIN LINK CEILING WHERE PEOPLE ARE WALKING ACROSS

POST NUMBER, ON DIGITAL COMMUNICATOR, THAT GETS CALLED BEFORE O&M WORK ON-SITE BEGINS AND GOES CALLED WHEN DONE WITH O&M

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

Completed with monthly visit

Completed by: JV Date: 3-3-95

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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

Work Auth. 17037

FIELD SERVICES / O&M REQUEST

Work Order # 952968

SITE INFORMATION FORM

Identification

Project # 330-109.5B

Station # 4931

Site Address: 731 West MacArthur Blvd
OAKLAND

County: ALAMEDA

Project Manager: SHAWN G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: 2/9/95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): MONTHLY

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County	F/S	RY 3/8/95
☐ City		
☐ Private Property/Dist.	RY	↓
☐ Multi-Consultant Scheduling date(s):		

Check Appropriate Category

Budget Hrs. _____

Actual Hrs. 2

Mob de Mob 2

Field Tasks: For General Description

SYSTEM SAMPLING

	A	B	C	D
(1) GAS/BTEX	Q	Q	Q	Q

(2) FILL OUT ATTACHED DATA SHEET

Q = WEEK of NOV. 8
JANUARY 10
APRIL 11
JULY 12

A = EFFLUENT
B = MIDPOINT 2
C = MIDPOINT 1
D = INFLUENT

(3) FILL OUT SPH DATA SHEET

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

D (INFLUENT) → C (MID-1) → B (MID-2) → A → to SEWER

Monthly Completed

Completed by: JV Date: _____

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 3-3-95

Treatment System Readings			
AR-3 Totalizer (gallons)	—	Is there anything unusual on-site?	NO
AR-3 Flowrate (gpm)	—	Is the Site Safety Plan on-site?	Yes
AR-3 Hourmeter (hours)	— N/A	Is there a Fire Extinguisher on-site?	NO
AR-3 Throttle Valve Position	½ open	Is the Discharge Permit on-site?	No
A-9 Totalizer (gallons)	—	Does the Free Product Pump Work?	
A-9 Flowrate (gpm)	—	What is the System Flow rate?	—
A-9 Hourmeter (hours)	— N/A	Free Product Level in Storage Tank	
A-9 Throttle Valve Position	½ open	Was AR-1 Bailed? How Much?	Yes NO SPH
Does the Digital Communicator Work? Batteries Replaced	Yes	Did A-4 have SPH? Depth?	NO
		IS A PROP 65 SIGN POSTED?	NO

Comments installed new batteries for totalizer. but Totalizer still does not work

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street

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3301095A/OMDOC109

November 27, 1994

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 3-3-95

Treatment System Readings			
System On Upon Arrival?	Yes	Electric Meter (kw-hrs)	77981
Effluent Totalizer (gallons)	—	Effluent Flowrate (gpm)	—
AR-1 Totalizer (gallons)	—	Bag Filter INFL Pressure (psi)	10
AR-1 Flowrate (gpm)	—	Bag Filter EFFL Pressure (psi)	6
AR-1 Hourmeter (hours)	N/A	MID(1) Pressure (psi) MID(2) Pressure(psi)	3
AR-1 Throttle Valve Position	½ TURN OPEN	EFFL Pressure (psi)	0
AR-2 Totalizer (gallons)	—	Does Sump Pump Work	N/A
AR-2 Flowrate (gpm)	—	Number of Spare Filters On-Site	7
AR-2 Hourmeter (hours)	N/A	Enclosure Swept and Bleached?	Yes
AR-2 Throttle Valve Position	½ TURN OPEN	WAS AR-3 BAILED? How Much?	Yes none Spl
Does the Autodialer Work? Batteries Replaced	N/A	WAS A-8 BAILED? How Much?	Yes Sheen .01

Comments _____

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-109.5B LOCATION: OAKLand DATE: 3-3-95

CLIENT/STATION NO.: 4931 FIELD TECHNICIAN: JV DAY OF WEEK: Friday

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
1	~~AR~~ AR-3			X				22.10	18.14	18.14	None	none								0 / ½ gal
2	AR 1			X				21.10	19.65	19.65	None	None								0 / ½ gal
3	AR 4			X		X		20.00	10.60	10.60	None	None								0 / ½ gal
4	AR 8			X				21.00	9.15	9.15	9.14	.01								Sheen / ½ gal

Comments: _____

Work Auth. 17037

FIELD SERVICES / O&M REQUEST

Work Order # 953123

SITE INFORMATION FORM

Identification

Project # 330-109.5B

Station # 4931

Site Address: 731 West MacArthur Blvd
OAKLAND

County: ALAMEDA

Project Manager: SHAW G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: 2/9/95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☒ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Ideal field date(s): MONTHLY

Prefield Contacts/Permits

	Initials	Date
☐ Cal Trans		
☐ County	F/S	BY 4/19/95
☐ City		
☐ Private	Copy/Dist.	BY ↓

☐ Multi-Consultant Scheduling date(s): _____

Check Appropriate Category

Budget Hrs. _____

Actual Hrs. 2.5

Mob de Mob 2

Field Tasks: For General Description

SYSTEM SAMPLING

	A	B	C	D
(1) GAS/BTEX	Q	Q	Q	Q
(2) FILL OUT ATTACHED DATA SHEET				

Q = WEEK of Nov. 8
JANUARY 10
APRIL 11
JULY 12

A = EFFLUENT
B = MIDPOINT 2
C = MIDPOINT 1
D = INFLUENT

(3) FILL OUT SPH DATA SHEET

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

D (INFLUENT) → C (MID-1) → B (MID-2) → A → to SEWER

MONTHLY Completed
SAMPLES Taken

Completed by: JV Date: 4-13-95

Checked by: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

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Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: SV Date/Time: 4-13-95

Treatment System Readings			
AR-3 Totalizer (gallons)	N/A	Is there anything unusual on-site?	NO
AR-3 Flowrate (gpm)	6.8 when cycles work	Is the Site Safety Plan on-site?	Yes
AR-3 Hourmeter (hours)	N/A	Is there a Fire Extinguisher on-site?	Yes
AR-3 Throttle Valve Position	1/4 open	Is the Discharge Permit on-site?	NO
A-9 Totalizer (gallons)	N/A	Does the Free Product Pump Work?	NO
A-9 Flowrate (gpm)	3.6 when cycles	What is the System Flow rate?	6.9 when cycles
A-9 Hourmeter (hours)	N/A	Free Product Level in Storage Tank	10 gal
A-9 Throttle Valve Position	1/8 open	Was AR-1 Bailed? How Much?	Yes NO SPH
Does the Digital Communicator Work? Batteries Replaced	Yes	Did A-4 have SPH? Depth?	NO
		IS A PREP 65 SIGN POSTED?	NO

Comments

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 4-13-95

Treatment System Readings			
System On Upon Arrival?	Yes	Electric Meter (kw-hrs)	89613
~~Effluent~~ INFL Totalizer (gallons) *	023	~~Effluent~~ INFL Flowrate (gpm)	6.9
AR-1 Totalizer (gallons)	N/A	Bag Filter INFL Pressure (psi)	9
AR-1 Flowrate (gpm)	1.6 when cycles	Bag Filter EFFL Pressure (psi)	8
AR-1 Hourmeter (hours)	N/A	MID(1) Pressure (psi) MID(2) Pressure(psi)	3 3
AR-1 Throttle Valve Position	1/8 open	EFFL Pressure (psi)	0
AR-2 Totalizer (gallons)	N/A	Does Sump Pump Work	NO pump
AR-2 Flowrate (gpm)	0.5 when cycles	Number of Spare Filters On-Site	6
AR-2 Hourmeter (hours)	N/A	Enclosure Swept and Bleached?	Yes
AR-2 Throttle Valve Position	1/8 open	WAS AR-3 BAILED? How Much?	Yes 0 sph
Does the Autodialer Work? Batteries Replaced	Yes	WAS A-8 BAILED? How Much?	Yes .50 sph

Comments: * Replaced Flow meter and Re calib. meter

Rosedale Bag Filter
Modle # 6-18-2P-2150-C-B-N-B

Distrubute a copy of this form to the project supervisor.

FIELD REPORT

EPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-109.5B LOCATION: OAK LAND DATE: 4-13-95

CLIENT/STATION NO.: 4931 FIELD TECHNICIAN: JV DAY OF WEEK: THU

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
1	AR3			Y				22.60	18.14	18.14	NONE	none								0 / ½ gal
2	AR1			Y				21.60	19.65	19.65	none	none								0 / ½ gal
3	AR4			Y				20.00	10.60	10.60	none	none								0 / ½
4	AR8			Y				21.00	9.15	9.15	9.14	.01								Sheen / ½ gal

Comments:

ARCO Products Company Division of AtlanticRichfieldCompany — 330-109.5B — **Task Order No.** 128400 — **Chain of Custody**

ARCO Facility no. 4931	City (Facility) Oakland	Project manager (Consultant) Shaw Garakani	Laboratory name SCG001A
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 ☐		
A		3		X		X	HCl	4-13-95			X											
B		↓		↓		↓	↓	X			↓											
C								X														
D		↓		↓		↓	↓	X			↓											

Special detection Limit/reporting

Special QA/QC

Remarks: Please Include Chromatograms on D gas/btex Sample only

Method of shipment

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 4-14-95 Time 7:00	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)

Work Auth. 17037

FIELD SERVICES / O&M REQUEST

Work O: 953194

SITE INFORMATION FORM

Identification

Project # 330-109.5B

Station # 4931

Site Address: 731 West MacArthur Blvd OAKLAND

County: ALAMEDA

Project Manager: SHAWN G.

Requestor: ERIC W.

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: 2/9/95

Project Type

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

Ideal field date(s): Monthly

~~Profield Contacts/Pe~~

	Initials	Date
☐ Cal Trans		
☐ County		
☐ City	F/S	RL 5/4/95
☐ Private		
☐ Multi-Consultant Scheduling date(s):		

Copy/Dist. RL

Check Appropriate Category

Budget Hrs. ____

Actual Hrs. 2

Mob de Mob 1

Field Tasks: For General Description

SYSTEM SAMPLING

(1) GAS/BTEX

(2) FILL OUT ATTACHED DATA SHEET

	A	B	C	D
Q	Q	Q	Q	

Q = Week of Nov. 8
January 10
April 11
July 12

A = EFFLUENT
B = MIDPOINT 2
C = MIDPOINT 1
D = INFLUENT

(3) FILL OUT SPH DATA SHEET

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

D (INFLUENT) → C (MID-1) → B (MID-2) → A → to SEWER

Completed by: JV Date: 5-1-95

Checked by: ____

PACIFIC ENVIRONMENTAL GROUP, INC.

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

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 5-1-95

Treatment System Readings			
AR-3 Totalizer (gallons)	N/A	Is there anything unusual on-site?	NO
AR-3 Flowrate (gpm)	N/A	Is the Site Safety Plan on-site?	~~NO~~ YES
AR-3 Hourmeter (hours)	N/A	Is there a Fire Extinguisher on-site?	NO
AR-3 Throttle Valve Position	¼ open	Is the Discharge Permit on-site?	NO
A-9 Totalizer (gallons)	N/A	Does the Free Product Pump Work?	NO
A-9 Flowrate (gpm)	N/A	What is the System Flow rate?	7.2
A-9 Hourmeter (hours)	N/A	Free Product Level in Storage Tank	½ Full
A-9 Throttle Valve Position	¼ open	Was AR-1 Bailed? How Much?	YES .5 gal
Does the Digital Communicator Work?	YES	Did A-4 have SPH? Depth?	NO
Batteries Replaced	NO Batteries Needed	IS A prop 65 SIGN POSTED?	NO

Comments_____

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street

Distrubute a copy of this form to the project supervisor.
3301095A/OMDOC109

November 27, 1994

Groundwater Extraction System

ARCO Service Station 4931
731 West MacArthur Boulevard at West Street
Oakland, California

Name: JV Date/Time: 5-1-95

Treatment System Readings			
System On Upon Arrival?	Yes	Electric Meter (kw-hrs)	80187
Effluent Totalizer (gallons)	12138	Effluent Flowrate (gpm)	7.2
AR-1 Totalizer (gallons)	N/A	Bag Filter INFL Pressure (psi)	8
AR-1 Flowrate (gpm)	N/A	Bag Filter EFFL Pressure (psi)	6
AR-1 Hourmeter (hours)	N/A	MID(1) Pressure (psi) MID(2) Pressure(psi)	6
AR-1 Throttle Valve Position	Yes open	EFFL Pressure (psi)	0
AR-2 Totalizer (gallons)	N/A	Does Sump Pump Work	NO Sump pump
AR-2 Flowrate (gpm)	N/A	Number of Spare Filters On-Site	5
AR-2 Hourmeter (hours)	N/A	Enclosure Swept and Bleached?	Yes
AR-2 Throttle Valve Position	Yes open	WAS AR-3 BAILED? How Much?	Yes .5 gal (H20)
Does the Autodialer Work? Batteries Replaced	NO Autodialer on site	WAS A-8 BAILED? How Much?	Yes .5 gal

Comments

Distrubute a copy of this form to the project supervisor.

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-109.56 LOCATION: 731 W. MacArthur DATE: 5-1-15

CLIENT/STATION NO.: 4931 FIELD TECHNICIAN: JV DAY OF WEEK: Mon

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

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	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
	AR1			X			T	21.10	10.82	10.82	None									0	.5gal
	AR3			X			T	22.10	18.00 18.10	18.10	None									0	.5gal
	A4			X			T	20.00	10.85	10.85	None									0	.5gal
	A8			X			T	21.00	10.22	10.22	None									0	.5gal

Comments: _____

ARCO Products Company ◆ Division of AtlanticRichfieldCompany

330-109.5B Task Order No. 1703700

Chain of Custo

ARCO Facility no. 4931	City (Facility) OAKLAND	Project manager (Consultant) SHAW GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 441 7500 (408)	Fax no. (Consultant) 441 7539
Consultant name PACIFIC ENV GROUP		Address (Consultant) 2025 GATE WAY 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 ☐		
INFL		3		X		X	HCL	5-1-95	1330		X											
MID-1		X		X		X	X	X	X		X											
MID-2		X		X		X	X	X	X		X											
EFFL		X		X		X	X	X	X		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

Condition of sample:

Temperature received:

Relinquished by sampler	Date 5-2-95 Time 7:00	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 — Cons

APC-3292 (2-91)

FIELD SERVICES / O&M REQUEST JV Work Order # 3630

SITE INFORMATION FORM

Identification

Project # 23E 1C1.5B

Station # 4731

Site Address: 731 MACARTHUR BLVD @ WEST ESTUARY DR

County: ALAMEDA

Project Manager: SHAW G.

Requestor: ERIC W

Client: ARCO

Client P.O.C.: MIKE WHELAN

Date of request: 5/19/95

Project Type

- ☐ 1st Time visit
- ☐ Quarterly ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly Initials Date
- ☐ Semi-Monthly F/S RJ 6/12/95
- ☐ Weekly Copy/Dist. RJ ↓
- ☐ One time event
- ☐ Other:

Ideal field date(s): NEXT MONTHLY VISIT

Prefield Contacts/Permits

- ☐ Cal Trans
- ☐ County
- ☐ City
- ☐ Private
- ☐ Multi-Consultant Scheduling date(s):

Check Appropriate Category

Budget Hrs.

Actual Hrs. 0 Completed with Monthly

Mob de Mob

Field Tasks: For General Description

COME BY MY OFFICE AND PICK UP FIRE EXTINGUISHER. DELIVER EXTINGUISHER TO SITE. INSIDE BOX IS A PROP. 65 SIGN FOR THE COMPOUND. POST SIGN AT THE SITE

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.

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

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Project #	330-109.5B
Station #	4931
Site Address:	731 West Mac Arthur @ West Street
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Steve Johnston
Client:	ARCO
Client P.O.C.:	Michael Whelan
Revision Date:	June 1, 1995
Laboratory:	Sequoia Analytical

Request Frequency: Monthly

	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, E)	monthly†		2	2	Yes
GWE (F)	quarterly				Yes

† = 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: JV
Date: 6-9-95
Arrival time: 930
Departure time: 1430
Sample this visit?: Yes
Engineer contacted? Yes

Date: 6-1-95

Groundwater Extraction & Treatment System
ARCO Service Station 4931
731 West MacArthur
330-109.5b
May 30, 1995

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
A-9				
AR-1				
AR-2				
AR-3				

Carbon Vessels: Westates 1200 pound vessels (3)
Filter: Rosedale 6-18-2P-2-150 CBNB

PART A: SYSTEM DATA

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

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	36412	36487
FILTER INLET PRESSURE (psig)	8	(ideal range <10 psig) 8
CARBON #1 INLET PRESSURE (psig)	5	(ideal range <10 psig) 5
CARBON #2 INLET PRESSURE (psig)	3	(ideal range <6 psig) 3
CARBON #3 INLET PRESSURE (psig)	0	(ideal range <3 psig) 2
DISCHARGE PRESSURE (psig)	0	(ideal range 0 to 1 psig) 0
DISCHARGE FLOW RATE (gpm)	6.1	6.1

PART B: COMMENTS

PART C: WELL DATA

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS/ ADJUSTMENTS
AR-1	17.90	N/A	N/A	
AR-2	17.70	N/A		
AR-3	18.32	N/A		
A-9	18.20	N/A		

PART D: SAMPLING & READINGS I

SAMPLE	ANALYSIS	COMPLETED
SAMPLE POINT D (INFLUENT)	TPH-gasoline/BTEX compounds	Yes
SAMPLE POINT A (EFFLUENT)	TPH-gasoline/BTEX compounds	Yes
SAMPLE POINT B (MID 2)	TPH-gasoline/BTEX compounds	Yes

PART E: SYSTEM MAINTENANCE

NUMBER OF SPARE FILTERS ON SITE?	4	CHANGE FILTERS? (if necessary)	Yes
ELECTRIC METER READING (kw hrs)	81469	AR-3 PUMP OPERATING	Yes
CLEAN TOTALIZERS	Yes	AR-2 PUMP OPERATING	Yes
A-9 PUMP OPERATING	Yes	AR-1 PUMP OPERATING	Yes
DOES THE DIGITAL COMMUNICATOR WORK?	Yes	DO FLOAT SWITCHES WORK?	Yes
SEWER LEVEL OVERFLOWING?	NO	WHAT IS THE FREE PRODUCT LEVEL IN STORAGE TANK?	Y4 F.11
SUMP PUMP OPERATIONAL?	NO Sump	TEST ALARM SWITCHES	Yes
WAS AR-1 OR A-8 BAILED, IF SO, HOW MUCH?	Yes 100 SPH	HIGH LEVEL ALARM TRIPPED?	N/A
ALL VISIBLE LEAKS REPAIRED?	Yes	SYSTEM ENCLOSURE SWEPT?	Yes
PROPOSITION 65 SIGN ON-SITE?	Yes	FIRE EXTINGUISHER ON-SITE?	Yes

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330-109.5B — Task Order No. 703700 — Chain of Custody

ARCO Facility no. 4931	City (Facility) OAKLAND	Project manager (Consultant) SHAW GRAHAM	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 Gate Way 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 ☐		
A		3		X		X	HCl	6-9-95			X											
B		1		X		X	HCl	1			X											
D		↓		X		X	HCl	↓			X											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Method of shipment

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 6-12-95 Time 700	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 C

QUARTERLY GROUNDWATER MONITORING CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

330-109.2A

I NTEGRATED
W ASTESTREAM
M ANAGEMENT

December 16, 1994

Kelly Brown
Pacific Environmental Group
2025 Gateway Place, Ste# 440
San Jose, CA 95110

Dear Mr. Brown:

Attached are the field data sheets and analytical results for quarterly ground water sampling at ARCO Facility No. 4931 in Oakland, California. Integrated Wastestream Management measured the depth to water and collected samples from wells at this site on November 17, 1994.

Sampling was carried out in accordance with the protocols described in the "Request for Bid for Quarterly Sampling at ARCO Facilities in Northern California".

Please call us if you have any questions.

Sincerely,
Integrated Wastestream Management

Tom DeLon
Project Manager

Walter H. Howe
Registered Geologist

REGISTERED GEOLOGIST
WALTER H. HOWE
No. 730
Exp. 4/96
STATE OF CALIFORNIA

950 AMES AVENUE MILPITAS, CA 95035 (408) 942-8955

INTEGRATED
WASTESTREAM
MANAGEMENT

A4931Q4.XLS

Summary of Ground Water Sample Analyses for ARCO Facility A-4931, Oakland, California

WELL NUMBER	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	AR-1	AR-2	AR-3
DATE SAMPLED	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94	11/17/94
DEPTH TO WATER	5.24	5.85	9.44	9.49	7.91	7.91	9.41	8.51	9.89	9.32	9.17	9.67	17.39	18.10	9.62
SHEEN	NONE	NONE	NONE	NONE	NONE	NONE	FP	NONE	NONE	NONE	NONE	NONE	HEAVY	NONE	NONE
PRODUCT THICKNESS	NA	NA	NA	NA	NA	NA	0.32	NA	NA	NA	NA	NA	NA	NA	NA
TPHg	ND	ND	3,900	ND	53	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND
BTEX															
BENZENE	ND	ND	420	ND	ND	ND	NA	2.5	ND	ND	ND	ND	NA	ND	<1.3#
TOLUENE	ND	ND	11	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND
ETHLYBENZENE	ND	ND	38	ND	ND	ND	NA	0.9	ND	ND	ND	ND	NA	ND	ND
XYLENES	ND	ND	92	ND	ND	ND	NA	3.3	ND	ND	ND	ND	NA	ND	ND

FOOTNOTES:

Concentrations reported in ug/L (ppb)

TPHg = Total Purgeable Petroleum Hydrocarbons (USEPA Method 8015 Modified)

BTEX Distinction (USEPA Method 8020)

PCE = Tetrachloroethene (USEPA Method 8010)

* = Well inaccessible

** = Not sampled per consultant request

DCE = cis-1, 2-Dichloroethene (USEPA Method 8010)

TCE = Trichloroethene (USEAP Method 8010)

ND = Not Detected

NA = Not applicable

FP = Floating product

= See laboratory analytical report

950 AMES AVENUE MILPITAS, CA 95035 (408) 942-8955

FIELD REPORT

Depth To Water / Floating Product Survey

Site Arrival Time: 850

Site Departure Time: 1450

Weather Conditions: Partly Cloudy, Cool

DTW: Well Box or Well Casing (circle one)

Project No.: _____ **Location:** 731 W. MacArthur Blvd. OAK **Date:** November 17, 1994

Client / Station#: Arco 4931 **Field Technician:** Vince / Cisco **Day of Week:** Thursday

DTW ORDER	WELL ID	SURFACE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (Feet)	FIRST DEPTH TO WATER (Feet)	SECOND DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	SHEEN (Y=YES, N=NO) FP=FLOATING PRODUCT	COMMENTS	MATERIALS
12	A-2	OK	Yes	None	OK	None	19.80	5.24	5.24	N/A	N/A	N	4"	Christy
6	A-3	OK	Yes	None	OK	OK	17.15	5.85	5.85	N/A	N/A	N	4"	Christy
13	A-4	OK	Yes	None	OK	None	20.42	9.44	9.44	N/A	N/A	N	4"	Christy
11	A-5	OK	Yes	None	OK	OK	24.01	9.49	9.49	N/A	N/A	N	3"	Christy
9	A-6	OK	Yes	None	OK	None	25.60	7.91	7.91	N/A	N/A	N	3"	Christy
10	A-7	OK	Yes	None	OK	None	22.86	7.91+	7.91+	N/A	N/A	N	3", H2O IN BOX	Christy
15	A-8	OK	Yes	None	OK	OK	N/A	9.41	9.41	9.09	0.32	YES	3"	crowbar screw D
3	A-9	OK	Yes	OK	None	None	36.0	8.51	8.51	N/A	N/A	N	6" YES Plumbing INTACT	crowbar screw-D
4	A-10	OK	Yes	None	OK	None	30.16	9.89	9.89	N/A	N/A	N	3"	Christy
1	A-11	OK	Yes	None	OK	None	28.12	9.32	9.32	N/A	N/A	N	3" ~~DO~~ H2O IN BOX	Christy
2	A-12	OK	Yes	None	OK	None	29.92	9.17	9.17	N/A	N/A	N	3" H2O IN BOX	Christy
8	A-13	OK	Yes	None	OK	OK	29.40	9.67	9.67	N/A	N/A	N	3" H2O in BOX	Christy
14	AR-1	OK	Yes	New	None	None	N/A	17.39	17.39	≈	≈	YES	6" Heavy sheen observed prior to Purging NO SAMPLE.	Crowbar screw D
7	AR-2	OK	Yes	OK	None	None	27.50	18.10	18.10	N/A	N/A	N	6" YES Plumbing intact	crowbar screw D
5	AR-3	OK	Yes	None OK	None	None	27.20	9.62	9.62	N/A	N/A	N	4" YES Plumbing intact	crowbar screw D

PAGE 2 OF 5 DATE: 11-17-94 CLIENT/STATION #: ARCO 4931 ADDRESS: 731 W. MacArthur Blvd. Oak

WELL ID: A-13 TD 29.40 - DTW 9.67 x 0.38 (Gal./Linear Ft.) x 3 (Casing Volume) = 22.49 (Calculated Purge)

DATE PURGED: 11-17-94 START (2400 HR): 1155 END (2400 HR) 1208
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1203 DTW: 18.2

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1157	5	7.03	0.44	66.3	CLEAR
1158	10	6.96	0.44	70.4	CLEAR
1159	15	6.94	0.45	69.8	CLEAR
1200	22.5	6.92	0.43	69.4	CLEAR

Total purge: 22.5
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: A-6 TD 25.60 - DTW 7.91 x 0.38 (Gal./Linear Ft.) x 3 (Casing Volume) = 20.16 (Calculated Purge)

DATE PURGED: 11-17-94 START (2400 HR): 1212 END (2400 HR) 1219
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1222 DTW: 10.7

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1214	5	6.91	0.29	69.6	CLOUDY
1216	10	6.98	0.31	69.1	CLEAR
1217	15	6.92	0.37	68.6	CLEAR
1219	20	6.91	0.38	68.4	CLOUDY

Total purge: 20
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: A-7 TD 22.86 - DTW 7.91 x 0.38 (Gal./Linear Ft.) x 3 (Casing Volume) = 17.04 (Calculated Purge)

DATE PURGED: 11-17-94 START (2400 HR): 1234 END (2400 HR) 1238
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1242 DTW: 16.7

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1235	5	6.89	0.20	67.8	CLOUDY
1236	10	6.87	0.26	67.2	CLEAR
1239	17	6.90	0.33	67.1	CLEAR

Total purge: 17
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: A-5 TD 24.01 - DTW 9.49 x 0.38 (Gal./Linear Ft.) x 3 (Casing Volume) = 16.55 (Calculated Purge)

DATE PURGED: 11-17-94 START (2400 HR): 1249 END (2400 HR) 1259
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1258 DTW: 14.1

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1250	5	6.83	0.60	69.2	CLEAR
1252	10	6.83	054	68.7	CLOUDY
1254	17	6.82	055	68.2	CLOUDY

Total purge: 17
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

PRINT NAME: Francisco Noriega SIGNATURE: Francisco Noriega

CASING DIAMETER (inches):	2	3	4	6	8	12	Other:
GALLON/LINEAR FOOT:	0.17	0.38	0.66	1.5	2.6	5.8	Other:

PAGE 3 OF 5 DATE: 11-17-94 CLIENT/STATION #: Arco 4931 ADDRESS: 731 W. MacArthur Blvd, Oak.

WELL ID: A-2 | 19.80 TD - 5.24 DTW x 0.66 Gal./Linear Ft. x 3 Casing Volume = 28.82 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1305 END (2400 HR) 1308
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1313 DTW: 16.8

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1306	5	6.83	0.29	64.8	CLEAR
1308	9	6.82	0.33	64.1	CLEAR

Total purge: 9
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS: WELL PUMPED DRY AT 9 GALLONS

WELL ID: A-4 | 20.92 TD - 9.44 DTW x 0.66 Gal./Linear Ft. x 3 Casing Volume = 21.74 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1320 END (2400 HR) 1324
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1327 DTW: 18.2

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1322	5	6.86	0.90	69.1	CLEAR
1324	8	6.87	0.92	68.5	CLEAR

Total purge: 8
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS: WELL PUMPED DRY AT 8 GALLONS.

WELL ID: A-12 | 29.92 TD - 9.17 DTW x 0.17 Gal./Linear Ft. x 3 Casing Volume = 10.58 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): END (2400 HR)
DATE SAMPLED: 11-17-94 TIME (2400 HR): DTW:

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
	2				
	6				

WELL DRY

Total purge:
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

2.43

WELL ID: A-11 A-12 | 28.12 TD - 9.32 DTW x 0.38 Gal./Linear Ft. x 5 Casing Volume = 9.55 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1120 END (2400 HR) 1126
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1130 DTW: 9.7

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1121	2	6.91	0.48	65.2	CLEAR
1123	10	6.92	0.47	67.2	CLEAR
1125	16	6.93	0.48	66.9	CLEAR
1126	21.5	6.92	0.47	66.2	CLEAR

Total purge: 21.5
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

PRINT NAME: Francisco Arango SIGNATURE: Francisco Arango

CASING DIAMETER (inches):	2	3	4	6	8	12	Other:
GALLON/LINEAR FOOT:	0.17	0.38	0.66	1.5	2.6	5.8	Other:

PAGE 4 OF 5 DATE: 11-17-94 CLIENT/STATION #: Arco #931 ADDRESS: 731 W. MacArthur Blvd. Oak.

WELL ID: AR-2 TD 27.50 - DTW 18.10 x 1.5 Gal./Linear Ft. x 2 Casing/Volume = 28.20 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1338 END (2400 HR) 1345
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1350 DTW: 25.4

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1341	2	7.21	0.52	68.0	clear
1344	14	7.11	0.49	67.5	clear
1345	15	7.11	0.48	67.3	clear

Total purge: 15
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS: Well pumped dry at 15 gallons.

WELL ID: A-12 TD 29.92 - DTW 9.17 x 0.38 Gal./Linear Ft. x 3 Casing/Volume = 23.65 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1424 END (2400 HR) 1432
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1436 DTW: 13.3

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1426	3	7.04	0.51	67.1	clear
1428	11	6.95	0.48	66.9	clear
1431	20	6.90	0.56	66.8	clear
1432	24	6.89	0.57	66.5	clear

Total purge: 24
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: ____ TD ____ - DTW ____ x Gal./Linear Ft. ____ x Casing/Volume ____ = Calculated Purge

DATE PURGED: ____ START (2400 HR): ____ END (2400 HR) ____
DATE SAMPLED: ____ TIME (2400 HR): ____ DTW: ____

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)

Total purge: ____
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: ____ TD ____ - DTW ____ x Gal./Linear Ft. ____ x Casing/Volume ____ = Calculated Purge

DATE PURGED: ____ START (2400 HR): ____ END (2400 HR) ____
DATE SAMPLED: ____ TIME (2400 HR): ____ DTW: ____

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)

Total purge: ____
PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

PRINT NAME: Vince Valdes SIGNATURE: Vince Valdes

CASING DIAMETER (inches): 2 3 4 6 8 12 Other: ____
GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other: ____

PAGE 5 OF 5 DATE: 11-17-94 CLIENT/STATION #: Arco 4931 ADDRESS: 731 W. MacArthur Blvd. Oak.

WELL ID: A-9 TD 36.0 - DTW 8.51 x 1.5 Gal./Linear Ft. x 2 Casing Volume = 82.47 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1149 END (2400 HR) 1207
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1212 DTW: 10.2

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1152	2	7.48	0.52	68.8	clear
1157	35	7.37	0.53	67.3	clear
1202	55	7.26	0.52	67.0	clear
1207	82	7.24	0.57	66.8	clear

Total purge: 82 gallons
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: A-10 TD 30.16 - DTW 9.89 x 0.38 Gal./Linear Ft. x 3 Casing Volume = 23.10 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1226 END (2400 HR) 1233
DATE SAMPLED: 11-17-94 TIME (2400 HR): ~~1235~~ DTW: 12.3

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1228	3	6.98	0.62	68.1	Black
1230	9	6.90	0.51	67.3	Black
1231	15	6.88	0.49	67.0	clear
1233	24	6.87	0.55	66.9	clear

Total purge: 24 gallons
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: AR-3 TD 27.20 - DTW 9.62 x 0.66 Gal./Linear Ft. x 3 Casing Volume = 34.80 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1248 END (2400 HR) 1300
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1304 DTW: 12.7

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1252	5	7.10	0.54	67.9	brown
1255	15	6.97	0.58	67.3	brown
1258	25	6.94	0.55	67.0	clear
1300	34	6.93	0.55	66.9	clear

Total purge: 34 gallons
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS:

WELL ID: A-3 TD 17.15 - DTW 5.85 x 0.66 Gal./Linear Ft. x 3 Casing Volume = 22.37 Calculated Purge

DATE PURGED: 11-17-94 START (2400 HR): 1314 END (2400 HR) 1320
DATE SAMPLED: 11-17-94 TIME (2400 HR): 1324 DTW: 15.8

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
1316	2	7.11	0.36	67.3	clear
1318	8	7.06	0.28	67.0	clear
1320	9	7.06	0.29	66.8	clear

Total purge: 9 gallons
PURGING EQUIP.: Centrifugal Pump / Bailer Disp. SAMPLING EQUIP: Bailer Disp.
REMARKS: Well pumped dry at 8 and again at 9 gallons.

PRINT NAME: Vince Valdes SIGNATURE:

CASING DIAMETER (inches): 2 3 4 6 8 12 Other:
GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other:

Columbia Analytical Services, Inc.

December 6, 1994

Service Request No. S941482

Gina Austin
Tom DeLon
IWM
950 Ames Avenue
Milpitas, CA 95035

RECEIVED
DEC 07 1994

Re: **ARCO Facility No. 4931**

Dear Ms. Austin/Mr. DeLon:

Attached are the results of the water samples submitted to our lab on November 18, 1994. For your reference, these analyses have been assigned our service request number S941482.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and CAS is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Keoni A. Murphy
Program Director

Annelise J. Bazar
Regional QA Coordinator

KAM/ajb

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

Acronyms

ASTM	American Society for Testing and Materials
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NR	Not Requested
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons

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Analytical Report

Client:	IWM	**Service Request:**	S941482
Project:	ARCO Facility No. 4931	**Date Collected:**	11/17/94
Sample Matrix:	Water	**Date Received:**	11/18/94
		Date Extracted:	NA
		Date Analyzed:	11/29,30/94

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Analyte:	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes, Total
Units:	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)
Method Reporting Limit:	50	0.5	0.5	0.5	0.5
Sample Name	**Lab Code**				
A-2 (16.8)	S941482-001	ND	ND	ND	ND	ND
A-3 (15.8)	S941482-002	ND	ND	ND	ND	ND
A-4 (18.2)	S941482-003	3,900	420	11	38	92
A-5 (14.1)	S941482-004	ND	ND	ND	ND	ND
A-6 (10.7)	S941482-005	53	ND	ND	ND	ND
A-7 (16.7)	S941482-006	ND	ND	ND	ND	ND
A-9 (10.2)	S941482-007	ND	2.5	ND	0.9	3.3
A-10 (12.3)	S941482-008	ND	ND	ND	ND	ND
A-11 (9.7)	S941482-009	ND	ND	ND	ND	ND
A-12 (13.3)	S941482-010	ND	ND	ND	ND	ND
A-13 (18.2)	S941482-011	ND	ND	ND	ND	ND
AR-2 (25.4)	S941482-012	ND	ND	ND	ND	ND
AR-3 (12.7)	S941482-013	ND	<1.3 *	ND	ND	ND
Method Blank	S941129-WB	ND	ND	ND	ND	ND
Method Blank	S941130-WB	ND	ND	ND	ND	ND

* Raised MRL due to matrix interference.

Approved By: _____ Date: December 6, 1994

5ABTXGAS/061694

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APPENDIX A

LABORATORY QC RESULTS

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

QA/QC Report

Client: IWM
Project: ARCO Facility No. 4931
Sample Matrix: Water

Service Request: S941482
Date Collected: 11/17/94
Date Received: 11/18/94
Date Extracted: NA
Date Analyzed: 11/29,30/94

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery α,α,α-Trifluorotoluene
A-2 (16.8)	S941482-001	103
A-3 (15.8)	S941482-002	100
A-4 (18.2)	S941482-003	105 *
A-5 (14.1)	S941482-004	102
A-6 (10.7)	S941482-005	103
A-7 (16.7)	S941482-006	98
A-9 (10.2)	S941482-007	101
A-10 (12.3)	S941482-008	99
A-11 (9.7)	S941482-009	99
A-12 (13.3)	S941482-010	98
A-13 (18.2)	S941482-011	97
AR-2 (25.4)	S941482-012	98
AR-3 (12.7)	S941482-013	98
A-6 (10.7) MS	S941482-005MS	116
A-6 (10.7) DMS	S941482-005DMS	116
Method Blank	S941129-WB	99
Method Blank	S941130-WB	102

CAS Acceptance Limits: 69-116

* The surrogate used for this sample was 4-bromofluorobenzene.

Approved By: Dennis A Murphy Date: December 6, 1994

SUR1/062994

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

Client: IWM
Project: ARCO Facility No. 4931

Service Request: S941482
Date Analyzed: 11/29/94

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppb

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	24.3	97	85-115
Toluene	25	24.6	98	85-115
Ethylbenzene	25	25.5	102	85-115
Xylenes, Total	75	68.4	91	85-115
Gasoline	500	493	99	90-110

Approved By: _____ Date: Dec 6 1994

ICV25AL/060194

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

Client: IWM
Project: ARCO Facility No. 4931
Sample Matrix: Water

Service Request: S941482
Date Collected: 11/17/94
Date Received: 11/18/94
Date Extracted: NA
Date Analyzed: 11/29/94

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Gasoline
EPA Methods 5030/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name: A-6 (10.7)
Lab Code: S941482-005

Analyte	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference
Gasoline	250	250	53	290	291	95	95	67-121	<1

Approved By: Kevin A Murphy Date: Dec 14 Sat 6/1994

DMSIS/060194

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APPENDIX B

CHAIN OF CUSTODY

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. IWM-94-5CC

Chain of Custody

ARCO Facility no. A4931	City (Facility) OAKland		Project manager (Consultant) TOM DeSon	Laboratory name Columbia
ARCO engineer M.W.	Telephone no. (ARCO) 415571 2434		Telephone no. (Consultant) 408/9428955	Fax no. (Consultant) 408/9421499	Contract number 07077
Consultant name IWM		Address (Consultant) 950 Ames av. Milp. CA95035		Method of shipment Sampler deliver

	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 ☐			Special detection Limit/reporting
	FB-1	14	2		✓		✓	✓	11-17-94	900		✓	✓											
16.8	A-2	1	2		✓		✓	✓		1313		✓	✓											
5.8	A-3	2	2		✓		✓	✓		1324		✓	✓											
18.2	A-4	3	2		✓		✓	✓		1327		✓	✓											
1.1	A-5	4	2		✓		✓	✓		1258		✓	✓											
0.7	A-6	5	2		✓		✓	✓		1222		✓	✓											
6.7	A-7	6	2		✓		✓	✓		1242		✓	✓											
0.2	A-9	7	2		✓		✓	✓		1212		✓	✓											
2.3	A-10	8	2		✓		✓	✓		1236		✓	✓											
.7	A-11	9	2		✓		✓	✓		1130		✓	✓											
3.3	A-12	10	2		✓		✓	✓		1436		✓	✓											
8.2	A-13	11	2		✓		✓	✓		1203		✓	✓											
5.4	AR-2	12	2		✓		✓	✓		1350		✓	✓											
2.7	AR-3	13	2		✓		✓	✓		1304		✓	✓											

Special QA/QC

Remarks: Hold on FB-1

Lab number: 9941482

Turnaround time

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

Condition of sample: Okay		Temperature received: Cool	
Relinquished by sampler	Date 11/18/94	Time 1235P	Received by	11/18/94 1235P
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

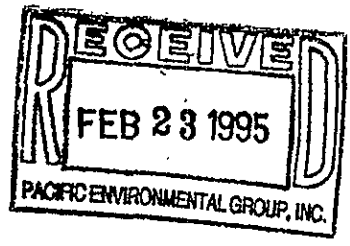
APPC-3292 (2-91)

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Kelly Brown
Pacific Environmental Grp
2025 Gateway, Suite 440
San Jose, CA 95110

Date: 02/20/1995
NET Client Acct. No: 405
NET Pacific Job No: 95.00639
Received: 02/11/1995



Client Reference Information

330-109.2G/731 McArthur Blvd., Oakland, Ca.

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Thomas F. Cullen, Jr.
Division Manager

Linda DeMartino
Project Coordinator

Enclosure(s)

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

REPORT SUMMARY

On February 10, 1995 NET Inc., Santa Rosa Division's courier received sixteen (16) aqueous samples from Pacific Environmental Group in support of ARCO Facility:4931. The samples were received under ARCO chain of custody, intact and at 0.5 degrees C.

METHOD 5030/8020 Gasoline/BTXE
No problems were encountered in the analysis of these samples.

All analytical and QC procedures have been met per the methodologies.

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-2
Date Taken: 02/09/1995
Time Taken: 18:00
NET Sample No: 235725

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/15/1995	2585
DILUTION FACTOR*	1						02/15/1995	2585
as Gasoline	50		50	ug/L	5030		02/15/1995	2585
METHOD 8020 (GC,Liquid)	--						02/15/1995	2585
Benzene	1.7		0.5	ug/L	8020		02/15/1995	2585
Toluene	2.0		0.5	ug/L	8020		02/15/1995	2585
Ethylbenzene	ND		0.5	ug/L	8020		02/15/1995	2585
Xylenes (Total)	1.6		0.5	ug/L	8020		02/15/1995	2585
SURROGATE RESULTS	--						02/15/1995	2585
Bromofluorobenzene (SURR)	79			% Rec.	5030		02/15/1995	2585

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-3
Date Taken: 02/09/1995
Time Taken: 16:30
NET Sample No: 235726

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/15/1995	2585
DILUTION FACTOR*	1						02/15/1995	2585
as Gasoline	90		50	ug/L	5030		02/15/1995	2585
METHOD 8020 (GC,Liquid)	--						02/15/1995	2585
Benzene	0.9		0.5	ug/L	8020		02/15/1995	2585
Toluene	ND		0.5	ug/L	8020		02/15/1995	2585
Ethylbenzene	0.7		0.5	ug/L	8020		02/15/1995	2585
Xylenes (Total)	1.3		0.5	ug/L	8020		02/15/1995	2585
SURROGATE RESULTS	--						02/15/1995	2585
Bromofluorobenzene (SURR)	97			% Rec.	5030		02/15/1995	2585

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-4
Date Taken: 02/09/1995
Time Taken: 17:50
NET Sample No: 235727

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/15/1995	2585
DILUTION FACTOR*	10						02/15/1995	2585
as Gasoline	14,000		500	ug/L	5030		02/15/1995	2585
METHOD 8020 (GC,Liquid)	--						02/15/1995	2585
Benzene	2,900	FF	5	ug/L	8020		02/16/1995	2590
Toluene	7.5		5	ug/L	8020		02/15/1995	2585
Ethylbenzene	420		5	ug/L	8020		02/15/1995	2585
Xylenes (Total)	440		5	ug/L	8020		02/15/1995	2585
SURROGATE RESULTS	--						02/15/1995	2585
Bromofluorobenzene (SURR)	110			% Rec.	5030		02/15/1995	2585

FF : Compound quantitated at a 100X dilution factor.

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-5
Date Taken: 02/09/1995
Time Taken: 17:45
NET Sample No: 235728

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/15/1995	2585
DILUTION FACTOR*	1						02/15/1995	2585
as Gasoline	ND		50	ug/L	5030		02/15/1995	2585
METHOD 8020 (GC,Liquid)	--						02/15/1995	2585
Benzene	ND		0.5	ug/L	8020		02/15/1995	2585
Toluene	ND		0.5	ug/L	8020		02/15/1995	2585
Ethylbenzene	ND		0.5	ug/L	8020		02/15/1995	2585
Xylenes (Total)	ND		0.5	ug/L	8020		02/15/1995	2585
SURROGATE RESULTS	--						02/15/1995	2585
Bromofluorobenzene (SURR)	90			% Rec.	5030		02/15/1995	2585

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-6
Date Taken: 02/09/1995
Time Taken: 17:15
NET Sample No: 235729

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/17/1995	2592
DILUTION FACTOR*	1						02/17/1995	2592
as Gasoline	90		50	ug/L	5030		02/17/1995	2592
METHOD 8020 (GC,Liquid)	--						02/17/1995	2592
Benzene	17		0.5	ug/L	8020		02/17/1995	2592
Toluene	0.8		0.5	ug/L	8020		02/17/1995	2592
Ethylbenzene	1.2		0.5	ug/L	8020		02/17/1995	2592
Xylenes (Total)	6.0		0.5	ug/L	8020		02/17/1995	2592
SURROGATE RESULTS	--						02/17/1995	2592
Bromofluorobenzene (SURR)	89			% Rec.	5030		02/17/1995	2592

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-7
Date Taken: 02/09/1995
Time Taken: 17:30
NET Sample No: 235730

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/17/1995	2592
DILUTION FACTOR*	1						02/17/1995	2592
as Gasoline	ND		50	ug/L	5030		02/17/1995	2592
METHOD 8020 (GC,Liquid)	--						02/17/1995	2592
Benzene	3.7	C	0.5	ug/L	8020		02/17/1995	2592
Toluene	ND		0.5	ug/L	8020		02/17/1995	2592
Ethylbenzene	ND		0.5	ug/L	8020		02/17/1995	2592
Xylenes (Total)	ND		0.5	ug/L	8020		02/17/1995	2592
SURROGATE RESULTS	--						02/17/1995	2592
Bromofluorobenzene (SURR)	95			% Rec.	5030		02/17/1995	2592

C : Positive result confirmed by secondary column or GC/MS analysis.

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-8
Date Taken: 02/09/1995
Time Taken: 18:05
NET Sample No: 235731

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	50						02/16/1995	2590
as Gasoline	68,000		2,000	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	2,400		20	ug/L	8020		02/16/1995	2590
Toluene	500		20	ug/L	8020		02/16/1995	2590
Ethylbenzene	960		20	ug/L	8020		02/16/1995	2590
Xylenes (Total)	5,000		20	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	113			% Rec.	5030		02/16/1995	2590

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-9
Date Taken: 02/09/1995
Time Taken: 15:00
NET Sample No: 235732

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/17/1995	2592
DILUTION FACTOR*	1						02/17/1995	2592
as Gasoline	ND		50	ug/L	5030		02/17/1995	2592
METHOD 8020 (GC,Liquid)	--						02/17/1995	2592
Benzene	ND		0.5	ug/L	8020		02/17/1995	2592
Toluene	ND		0.5	ug/L	8020		02/17/1995	2592
Ethylbenzene	ND		0.5	ug/L	8020		02/17/1995	2592
Xylenes (Total)	ND		0.5	ug/L	8020		02/17/1995	2592
SURROGATE RESULTS	--						02/17/1995	2592
Bromofluorobenzene (SURR)	88			% Rec.	5030		02/17/1995	2592

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-10
Date Taken: 02/09/1995
Time Taken: 15:40
NET Sample No: 235733

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	60	G1	50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	ND		0.5	ug/L	8020		02/16/1995	2590
Toluene	ND		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	ND		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	ND		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	75			% Rec.	5030		02/16/1995	2590

G1 : The result for Gasoline is an unk. HC which consists of a single peak.

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-11
Date Taken: 02/09/1995
Time Taken: 14:45
NET Sample No: 235734

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/17/1995	2592
DILUTION FACTOR*	1						02/17/1995	2592
as Gasoline	ND		50	ug/L	5030		02/17/1995	2592
METHOD 8020 (GC,Liquid)	--						02/17/1995	2592
Benzene	ND		0.5	ug/L	8020		02/17/1995	2592
Toluene	ND		0.5	ug/L	8020		02/17/1995	2592
Ethylbenzene	ND		0.5	ug/L	8020		02/17/1995	2592
Xylenes (Total)	ND		0.5	ug/L	8020		02/17/1995	2592
SURROGATE RESULTS	--						02/17/1995	2592
Bromofluorobenzene (SURR)	78			% Rec.	5030		02/17/1995	2592

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-12
Date Taken: 02/09/1995
Time Taken: 14:20
NET Sample No: 235735

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	ND		50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	ND		0.5	ug/L	8020		02/16/1995	2590
Toluene	ND		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	ND		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	ND		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	97			% Rec.	5030		02/16/1995	2590

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: A-13
Date Taken: 02/09/1995
Time Taken: 17:00
NET Sample No: 235736

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	ND		50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	ND		0.5	ug/L	8020		02/16/1995	2590
Toluene	ND		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	ND		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	ND		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	101			% Rec.	5030		02/16/1995	2590

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: AR-1
Date Taken: 02/09/1995
Time Taken: 18:15
NET Sample No: 235737

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	670		50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	1.5		0.5	ug/L	8020		02/16/1995	2590
Toluene	1.0		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	0.7		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	33		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	98			% Rec.	5030		02/16/1995	2590

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: AR-2
Date Taken: 02/09/1995
Time Taken: 16:10
NET Sample No: 235738

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	60		50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	ND		0.5	ug/L	8020		02/16/1995	2590
Toluene	ND		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	ND		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	ND		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	61	S2		% Rec.	5030		02/16/1995	2590

S2:Analyzed twice with low surrogate recovery, possible matrix interference

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: AR-3
Date Taken: 02/09/1995
Time Taken: 15:50
NET Sample No: 235739

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/16/1995	2590
DILUTION FACTOR*	1						02/16/1995	2590
as Gasoline	50	G1	50	ug/L	5030		02/16/1995	2590
METHOD 8020 (GC,Liquid)	--						02/16/1995	2590
Benzene	ND		0.5	ug/L	8020		02/16/1995	2590
Toluene	ND		0.5	ug/L	8020		02/16/1995	2590
Ethylbenzene	ND		0.5	ug/L	8020		02/16/1995	2590
Xylenes (Total)	ND		0.5	ug/L	8020		02/16/1995	2590
SURROGATE RESULTS	--						02/16/1995	2590
Bromofluorobenzene (SURR)	100			% Rec.	5030		02/16/1995	2590

G1 : The result for Gasoline is an unk. HC which consists of a single peak.

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

SAMPLE DESCRIPTION: TB-1
Date Taken: 02/09/1995
Time Taken:
NET Sample No: 235740

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/15/1995	2585
DILUTION FACTOR*	1						02/15/1995	2585
as Gasoline	ND		50	ug/L	5030		02/15/1995	2585
METHOD 8020 (GC,Liquid)	--						02/15/1995	2585
Benzene	ND		0.5	ug/L	8020		02/15/1995	2585
Toluene	ND		0.5	ug/L	8020		02/15/1995	2585
Ethylbenzene	ND		0.5	ug/L	8020		02/15/1995	2585
Xylenes (Total)	ND		0.5	ug/L	8020		02/15/1995	2585
SURROGATE RESULTS	--						02/15/1995	2585
Bromofluorobenzene (SURR)	82			% Rec.	5030		02/15/1995	2585

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Acceptance Criteria	Units	Date Analyzed	Run Batch Number
TPH (Gas/BTXE,Liquid)							
as Gasoline	111.0	1.11	1.00	85 - 115	mg/L	02/15/1995	2585
Benzene	88.0	4.40	5.00	85 - 115	ug/L	02/15/1995	2585
Toluene	95.4	4.77	5.00	85 - 115	ug/L	02/15/1995	2585
Ethylbenzene	89.8	4.49	5.00	85 - 115	ug/L	02/15/1995	2585
Xylenes (Total)	103.3	15.5	15.0	85 - 115	ug/L	02/15/1995	2585
Bromofluorobenzene (SURR)	93.0	93	100	85 - 115	% Rec.	02/15/1995	2585
TPH (Gas/BTXE,Liquid)							
as Gasoline	108.0	1.08	1.00	85 - 115	mg/L	02/15/1995	2587
Benzene	89.2	4.46	5.00	85 - 115	ug/L	02/15/1995	2587
Toluene	86.4	4.32	5.00	85 - 115	ug/L	02/15/1995	2587
Ethylbenzene	91.2	4.56	5.00	85 - 115	ug/L	02/15/1995	2587
Xylenes (Total)	90.7	13.6	15.0	85 - 115	ug/L	02/15/1995	2587
Bromofluorobenzene (SURR)	87.0	87	100	85 - 115	% Rec.	02/15/1995	2587
TPH (Gas/BTXE,Liquid)							
as Gasoline	100.0	1.00	1.00	85 - 115	mg/L	02/16/1995	2590
Benzene	91.2	4.56	5.00	85 - 115	ug/L	02/16/1995	2590
Toluene	99.2	4.96	5.00	85 - 115	ug/L	02/16/1995	2590
Ethylbenzene	89.2	4.46	5.00	85 - 115	ug/L	02/16/1995	2590
Xylenes (Total)	106.7	16.0	15.0	85 - 115	ug/L	02/16/1995	2590
Bromofluorobenzene (SURR)	92.0	92	100	85 - 115	% Rec.	02/16/1995	2590
TPH (Gas/BTXE,Liquid)							
as Gasoline	93.0	0.93	1.00	85 - 115	mg/L	02/17/1995	2592
Benzene	99.4	4.97	5.00	85 - 115	ug/L	02/17/1995	2592
Toluene	99.8	4.99	5.00	85 - 115	ug/L	02/17/1995	2592
Ethylbenzene	90.8	4.54	5.00	85 - 115	ug/L	02/17/1995	2592
Xylenes (Total)	108.0	16.2	15.0	85 - 115	ug/L	02/17/1995	2592
Bromofluorobenzene (SURR)	96.0	96	100	85 - 115	% Rec.	02/17/1995	2592

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Run Batch Number
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	02/15/1995	2585
Benzene	ND	0.5	ug/L	02/15/1995	2585
Toluene	ND	0.5	ug/L	02/15/1995	2585
Ethylbenzene	ND	0.5	ug/L	02/15/1995	2585
Xylenes (Total)	ND	0.5	ug/L	02/15/1995	2585
Bromofluorobenzene (SURR)	86		% Rec.	02/15/1995	2585
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	02/15/1995	2587
Benzene	ND	0.5	ug/L	02/15/1995	2587
Toluene	ND	0.5	ug/L	02/15/1995	2587
Ethylbenzene	ND	0.5	ug/L	02/15/1995	2587
Xylenes (Total)	ND	0.5	ug/L	02/15/1995	2587
Bromofluorobenzene (SURR)	84		% Rec.	02/15/1995	2587
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	02/16/1995	2590
Benzene	ND	0.5	ug/L	02/16/1995	2590
Toluene	ND	0.5	ug/L	02/16/1995	2590
Ethylbenzene	ND	0.5	ug/L	02/16/1995	2590
Xylenes (Total)	ND	0.5	ug/L	02/16/1995	2590
Bromofluorobenzene (SURR)	95		% Rec.	02/16/1995	2590
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	02/17/1995	2592
Benzene	ND	0.5	ug/L	02/17/1995	2592
Toluene	ND	0.5	ug/L	02/17/1995	2592
Ethylbenzene	ND	0.5	ug/L	02/17/1995	2592
Xylenes (Total)	ND	0.5	ug/L	02/17/1995	2592
Bromofluorobenzene (SURR)	88		% Rec.	02/17/1995	2592

Ref: 330-109.2G/731 McArthur Blvd., Oakland, Ca.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Control Limits	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch Number	Sample Spiked
TPH (Gas/BTXE,Liquid)												235740
as Gasoline	114.0	105.0	8.2	55 - 145	1.00	ND	1.14	1.05	mg/L	02/15/1995	2585	235740
Benzene	100.4	93.8	6.7	60 - 140	22.4	ND	22.5	21.0	ug/L	02/15/1995	2585	235740
Toluene	105.3	98.7	6.4	60 - 140	82.9	ND	87.3	81.8	ug/L	02/15/1995	2585	235740
TPH (Gas/BTXE,Liquid)												235765
as Gasoline	106.0	114.0	7.3	55 - 145	1.00	ND	1.06	1.14	mg/L	02/15/1995	2587	235765
Benzene	96.4	103.6	7.1	60 - 140	19.5	ND	18.8	20.2	ug/L	02/15/1995	2587	235765
Toluene	97.6	104.7	6.9	60 - 140	80.5	ND	78.6	84.3	ug/L	02/15/1995	2587	235765
TPH (Gas/BTXE,Liquid)												235738
as Gasoline	104.0	105.0	1.0	55 - 145	1.00	0.06	1.10	1.11	mg/L	02/16/1995	2590	235738
Benzene	90.8	94.7	4.2	60 - 140	20.7	ND	18.8	19.6	ug/L	02/16/1995	2590	235738
Toluene	105.2	105.0	0.2	60 - 140	77.6	ND	81.6	81.5	ug/L	02/16/1995	2590	235738
TPH (Gas/BTXE,Liquid)												235979
as Gasoline	111.0	111.0	0.0	55 - 145	1.00	ND	1.11	1.11	mg/L	02/17/1995	2592	235979
Benzene	119.4	118.3	0.9	60 - 140	19.1	ND	22.8	22.6	ug/L	02/17/1995	2592	235979
Toluene	121.5	121.4	0.1	60 - 140	70.6	ND	85.8	85.7	ug/L	02/17/1995	2592	235979

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

ARCO Products Company ◆ 330-1091.2G — Task Order No. 17076.017 — **Chain of Custody**

Division of AtlanticRichfieldCompany

ARCO Facility no. 04931	City (Facility) 731 Mc Arthur Blvd. Oakland	Project manager (Consultant) K. Brown	Laboratory name NET
ARCO engineer Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500	Fax no. (Consultant) 408 441 7539
Consultant name Pacific Environmental Group	Address (Consultant) 7025 Gateway Place #110 SJ		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 ☐		
A-2		3		X		X		02/09/95	18:00		X											
A-3								02/09/95	16:30													
A-4									17:50													
A-5									17:45													
A-6									17:15													
A-7									17:30													
A-8									18:05													
A-9									15:00													
A-10									15:40													
A-11									14:45													
A-12									14:20													
A-13									17:00													
AR-1									18:15													
AR-2									16:10													
AR-3									15:50													
TB-1		↓		↓		↓			NA		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

CUSTODY SEALED 2/10/95 BS

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	Date 02/10/95 Time 8:30	Received by	Date 2/10/95 Time 0830
Relinquished by	Date 2/10/95 Time 9:40	Received by	Date 02/10/95 Time 9:40
Relinquished by	Date 2/10/95 Time 16:00	Received by laboratory	Date 2/14/95 Time 1000

TEMP.: 0.5°C.

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

APC-3292 (2-91)

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: 330-109.2G/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on May 9, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950566901	LIQUID, A-2	5/8/95	TPHGB Purgeable TPH/BTEX
950566902	LIQUID, A-3	5/8/95	TPHGB Purgeable TPH/BTEX
950566903	LIQUID, A-4	5/8/95	TPHGB Purgeable TPH/BTEX
950566904	LIQUID, A-5	5/8/95	TPHGB Purgeable TPH/BTEX
950566905	LIQUID, A-6	5/8/95	TPHGB Purgeable TPH/BTEX
950566906	LIQUID, A-7	5/8/95	TPHGB Purgeable TPH/BTEX
950566907	LIQUID, A-8	5/8/95	TPHGB Purgeable TPH/BTEX
950566908	LIQUID, A-9	5/8/95	TPHGB Purgeable TPH/BTEX
950566909	LIQUID, A-10	5/8/95	TPHGB Purgeable TPH/BTEX
950566910	LIQUID, A-11	5/8/95	TPHGB Purgeable TPH/BTEX
950566911	LIQUID, A-12	5/8/95	TPHGB Purgeable TPH/BTEX
950566912	LIQUID, A-13	5/8/95	TPHGB Purgeable TPH/BTEX
950566913	LIQUID, AR-1	5/8/95	TPHGB Purgeable TPH/BTEX
950566914	LIQUID, AR-2	5/8/95	TPHGB Purgeable TPH/BTEX
950566915	LIQUID, AR-3	5/8/95	TPHGB Purgeable TPH/BTEX
950566916	LIQUID, TB-1	5/8/95	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

9505669.PPP <1>

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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-2	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-01	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	**0.50**	**1.4**
Toluene	**0.50**	**1.4**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	**0.50**	**0.50**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-3	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-02	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-4	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-03	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**1000**	**5100**
Benzene	**10**	**700**
Toluene	10	N.D.
Ethyl Benzene	**10**	**79**
Xylenes (Total)	**10**	**160**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	120

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-5	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-04	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-6	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-05	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
nstrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**100**
Benzene	**0.50**	**7.9**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**4.1**
Xylenes (Total)	**0.50**	**8.6**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical
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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-7	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-06	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-8	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-07	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
nstrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**23000**
Benzene	**50**	**3600**
Toluene	**50**	**560**
Ethyl Benzene	**50**	**520**
Xylenes (Total)	**50**	**2100**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-9	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-08	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
nstrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	82

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-10	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-09	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-11	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-10	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
nstrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	74

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-12	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/11/95
Attention: Maree Doden	Lab Number: 9505669-11	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-13	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-12	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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: 330-109.2G/4931, Oakland
Sample Descript: AR-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9505669-13

Sampled: 05/08/95
Received: 05/09/95

Analyzed: 05/12/95
Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
nstrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**3700**
Benzene	**2.5**	**19**
Toluene	2.5	N.D.
Ethyl Benzene	**2.5**	**5.7**
Xylenes (Total)	**2.5**	**47**
Chromatogram Pattern:		
Weathered Gas		C6-C12

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

Eileen 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	Client Proj. ID: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: AR-2	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-14	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: AR-3	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-15	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

Sequoia Analytical

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: 330-109.2G/4931, Oakland	Sampled: 05/08/95
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 05/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/12/95
Attention: Maree Doden	Lab Number: 9505669-16	Reported: 05/18/95

QC Batch Number: GC051195BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	75

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen 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 Project ID: 330-109.2G/4931, Oakland
Matrix: LIQUID
Work Order #: 9505669 01-16

Reported: May 19, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC051195BTEX07A	GC051195BTEX07A	GC051195BTEX07A	GC051195BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	9504J5009	9504J5009	9504J5009	9504J5009
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/11/95	5/11/95	5/11/95	5/11/95
Analyzed Date:	5/11/95	5/11/95	5/11/95	5/11/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.6	9.7	9.7	30
MS % Recovery:	96	97	97	100
Dup. Result:	12	10	10	30
MSD % Recov.:	120	100	100	100
RPD:	22	3.0	3.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

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

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

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

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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

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

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — 330109.26 — Task Order No. 17076 00 — **Chain of Custody**

ARCO Facility no. 4931	City (Facility) OAKLAND	Project manager (Consultant) KELLY BROWN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408 441 7500	Fax no. (Consultant) 408 441-7539
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 2025 GATEWAY PLACE #440, SAN JOSE, CA 95110		Contract number 07-073

Method of shipment: COURIER

Special detection Limit/reporting: 95056697

Special QA/QC:

Remarks: 1 of 1

Lab number:

Turnaround time: Priority Rush 1 Business Day ☐ — Rush 2 Business Days ☐ — Expedited 5 Business Days ☐ — Standard 10 Business Days ☑

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 ☐		
A-2	1A-C	3		X		X	HCL	5-8-95	1515		X											
A-3	2								1500													
A-4	3								1450													
A-5	4								1335													
A-6	5								1310													
A-7	6								1240													
A-8	7								1225													
A-9	8								1210													
A-10	9								1250													
A-11	10								1150													
A-12	11								1125													
A-13	12								1215													
AR-1	13								1350													
AR-2	14								1320													
AR-3	15								1300													
TB-1	16-Add A-B	2							NA													

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	5-9-95	730	Received by	5/9/95	0800
Relinquished by	5/9/95	11:10	Received by		
Relinquished by	5/9/95	12:10	Received by laboratory	5/9/95	1217

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: 330-109.2C/4931, Oakland

Enclosed are the results from samples received at Sequoia Analytical on August 9, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
950874601	LIQUID, A-2	8/8/95	TPHGB Purgeable TPH/BTEX
950874602	LIQUID, A-4	8/8/95	TPHGB Purgeable TPH/BTEX
950874603	LIQUID, A-6	8/8/95	TPHGB Purgeable TPH/BTEX
950874604	LIQUID, A-8	8/8/95	TPHGB Purgeable TPH/BTEX
950874605	LIQUID, A-9	8/8/95	TPHGB Purgeable TPH/BTEX
950874606	LIQUID, AR-1	8/8/95	TPHGB Purgeable TPH/BTEX
950874607	LIQUID, AR-2	8/8/95	TPHGB Purgeable TPH/BTEX
950874608	LIQUID, AR-3	8/8/95	TPHGB Purgeable TPH/BTEX
950874609	LIQUID, TB-1	8/8/95	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

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Pacific Environmental Group	Client Proj. ID: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-2	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/16/95
Attention: Maree Doden	Lab Number: 9508746-01	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

B Fletcher

Brucie Fletcher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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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: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-4	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/16/95
Attention: Maree Doden	Lab Number: 9508746-02	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	4200
Methyl t-Butyl Ether	50	210
Benzene	10	240
Toluene	10	17
Ethyl Benzene	10	88
Xylenes (Total)	10	110
Chromatogram Pattern:		Gas

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

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: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-6	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/16/95
Attention: Maree Doden	Lab Number: 9508746-03	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

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	Client Proj. ID: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-8	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/16/95
Attention: Maree Doden	Lab Number: 9508746-04	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**20000**
Methyl t-Butyl Ether	**250**	**1200**
Benzene	**50**	**2700**
Toluene	**50**	**140**
Ethyl Benzene	**50**	**730**
Xylenes (Total)	**50**	**1600**
Chromatogram Pattern:		**Gas**

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
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
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Pacific Environmental Group	Client Proj. ID: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: A-9	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508746-05	Reported: 08/18/95

QC Batch Number: GC081795BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**80**
Methyl t-Butyl Ether	**2.5**	**17**
Benzene	**0.50**	**2.6**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	96

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: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: AR-1	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/16/95
Attention: Maree Doden	Lab Number: 9508746-06	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	12000
Methyl t-Butyl Ether	100	220
Benzene	20	560
Toluene	20	180
Ethyl Benzene	20	82
Xylenes (Total)	20	1000
Chromatogram Pattern:		Gas

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

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Pacific Environmental Group	Client Proj. ID: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: AR-2	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508746-07	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

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

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: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: AR-3	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508746-08	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	87

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
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Pacific Environmental Group	Client Proj. ID: 330-109.2C/4931,Oakland	Sampled: 08/08/95
2025 Gateway Place, Suite 440	Sample Descript: TB-1	Received: 08/09/95
San Jose, CA 95110	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/17/95
Attention: Maree Doden	Lab Number: 9508746-09	Reported: 08/18/95

QC Batch Number: GC081695BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

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

Client Project ID: 330-109.2C/4931, Oakland
Matrix: LIQUID
Work Order #: 9508746 01-04, 06-09

Reported: Aug 21, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081695BTEX07A	GC081695BTEX07A	GC081695BTEX07A	GC081695BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	950887903	950887903	950887903	950887903
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/16/95	8/16/95	8/16/95	8/16/95
Analyzed Date:	8/16/95	8/16/95	8/16/95	8/16/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	9.8	9.7	29
MS % Recovery:	98	97	97	97
Dup. Result:	9.7	9.7	9.7	29
MSD % Recov.:	97	97	97	97
RPD:	1.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

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

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

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: 330-109.2C/4931, Oakland
Matrix: LIQUID
Work Order #: 9508746 05

Reported: Aug 21, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081795BTEX07A	GC081795BTEX07A	GC081795BTEX07A	GC081795BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	950888606	950888606	950888606	950888606
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.#:	GCHP7	GCHP7	GCHP7	GCHP7
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:	9.6	9.9	9.4	28
MSD % Recov.:	96	99	94	93
RPD:	14	11	16	13
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

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 — 305-109,2C — Task Order No. 1707600 — **Chain of Custody**

ARCO Facility no. 4931	City (Facility) Oakland	Project manager (Consultant) Kelly Brown	Laboratory name SEQUOIA
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 441 7500	Fax no. (Consultant) (408) 441 7539
Consultant name Pacific Environmental	Address (Consultant) 2025 Gateway Pl. #440 San Jose CA		Contract number 07-073

	Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
1	A-2	•	3		X		YES	HCL	8-8-95	13:50		X									
2	A-4	•	↓		↓		↓	↓	↓	14:10		↓									
3	A-6	•								12:50											
4	A-8	•								14:21											
5	A-9	•								11:40											
6	AR-1	•								14:00											
7	A-R2	•								13:40											
8	AR3	•								12:03											
9	TB-1	•	2		↓		↓	↓	↓	N/A		↓									

Special detection Limit/reporting

Special QA/QC

Remarks: ~~A~~ ADD MTBE TO Analyses OF All SAMPLES

Lab number 950875

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:

	Date	Time		Date	Time
Relinquished by sampler: Paul Weinhardt	8-8-95	15:15	Received by:	8/8/95	1515
Relinquished by:	8/9/95	11:25	Received by:		
Relinquished by:	8/9	12:05	Received by laboratory:	8-9-95	1217

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

APC-3292 (2-91)