



A RESNA Company

**RESNA**

Working To Restore Nature

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
Fax: (408) 264-2435

June 18, 1992  
0618BCHA.276  
61026.01

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94624

Subject: Site Status Update for ARCO Station 276, 10600 MacArthur Boulevard,  
Oakland, California.

Dear Mr. Chan:

This letter provides an update on investigation and remedial activities conducted for the above-referenced site. This update covers site activities performed during May 1992, and site activities anticipated for the month of June 1992.

#### **May 1992 Activities**

- Performed groundwater monitoring.
- Monthly observation for product accumulation in the Horner EZY Floating Product Skimmer and bailing product from well MW-2.
- Informed Underground Service Alert of the scheduled drilling on and possibly offsite.
- Contracted a private underground locator to designate the locations of underground utilities at the site.
- Prepared and submitted to Alameda County Health Care Services Agency (ACHCSA) a revised Site Specific Health and Safety Plan for the proposed VES installation.

Site Status Update  
ARCO Station 276, Oakland, California

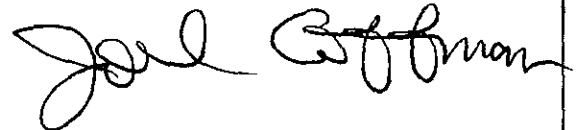
June 18, 1992  
61026.01

**Work Anticipated for June 1992**

- Monthly groundwater monitoring will continue.
- Monthly observation and bailing of product accumulation in well MW-2.
- Schedule drilling and installation of offsite monitoring wells at the site.

If you have any questions or comments regarding this letter, please call us at (408) 264-7723.

Sincerely,  
RESNA Industries



Joel Coffman  
Project Geologist

cc: Mr. Michael Whelan, ARCO Products Company

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
Fax: (408) 264-2435

July 24, 1992  
0724BCHA.276  
61026.01

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94624

Subject: Site Status Update for ARCO Station 276, 10600 MacArthur Boulevard,  
Oakland, California.

Dear Mr. Chan:

This letter provides an update on investigation and remedial activities conducted for the above-referenced site. This update covers site activities performed during June 1992, and site activities anticipated for the month of July 1992.

#### **June 1992 Activities**

- Performed groundwater monitoring.
- Monthly observation for product accumulation in the Horner EZY Floating Product Skimmer and bailing product from well MW-2.
- Informed Underground Service Alert of the scheduled drilling on and offsite.
- Contracted a private underground locator to designate the locations of underground utilities at the site.
- Prepared and submitted to Alameda County Health Care Services Agency (ACHCSA) a revised Site Specific Health and Safety Plan for the proposed Vapor Extraction System (VES) installation.
- Drilled and installed two offsite wells MW-6 and MW-7.

- A licensed waste hauler removed the drill cuttings from the subject site.
- Developed offsite wells MW-6 and MW-7.

**Work Anticipated for July 1992**

- Continue monthly groundwater monitoring, and submit draft Second Quarter Monitoring Report to ARCO for review.
- Monthly observation and bailing of product accumulation in well MW-2.
- Inform Underground Service Alert of proposed drilling and installation of 7 vapor extraction and 1 groundwater monitoring well at the subject site.
- Subcontract a private locator to clear underground utilities at the site.
- Drill and install 7 vapor extraction wells and 1 groundwater monitoring well at the site.
- Remove drill cuttings generated during well installation.
- Initiate installation of vapor extraction system piping to connect new on-site wells to existing vapor extraction system.

If you have any questions or comments regarding this letter, please call us at (408) 264-7723.

Sincerely,  
RESNA Industries



Joel Coffman  
Project Geologist

cc: Mr. Michael Whelan, ARCO Products Company



3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
Fax: (408) 264-2435

August 21, 1992  
0811BCHA.276  
61026.01

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94624

Subject: Site Status Update for ARCO Station 276, 10600 MacArthur Boulevard,  
Oakland, California.

Dear Mr. Chan:

This letter provides an update on investigation and remedial activities conducted for the above-referenced site. This update covers site activities performed during July 1992, and site activities anticipated for the month of August 1992. A report including installation of 7 onsite vapor extraction wells and 1 onsite and 2 offsite groundwater monitoring wells and the results of the investigation is being initiated. The soil and groundwater analytical results for the borings and the wells and a copy of the survey data are attached for your review.

#### **July 1992 Activities**

- Performed groundwater monitoring.
- Additional offsite access for additional assessment is being pursued.
- Monthly observation for product accumulation in the Horner EZY Floating Product Skimmer and bailing product from well MW-2.
- Informed underground Service Alert of proposed drilling and installation of 7 vapor extraction and 1 groundwater monitoring well at the subject site.
- Subcontracted a private utilities locator to clear underground utilities at the site.

- Drilled and installed 7 vapor extraction wells and 1 groundwater monitoring well at the site.
- Initiated installation of vapor extraction system piping to connect new on-site wells to existing vapor extraction system.

**Work Anticipated for August 1992**

- Continue monthly groundwater monitoring.
- Submit Draft Second Quarter Groundwater Monitoring Report to ARCO for review.
- Monthly observation and bailing of product accumulation in well MW-2 will continue.
- Complete Installation of vapor extraction system piping to existing vapor extraction system piping.
- Conduct a performance test on vapor extraction system.

If you have any questions or comments regarding this letter, please call us at (408) 264-7723.

Sincerely,  
RESNA Industries Inc.



Joel Coffman  
Project Geologist

cc: Mr. Michael Whelan, ARCO Products Company

20831  
CL



3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
FAX: (408) 264-2435

September 2, 1993  
0902BCHA.276  
61026.02

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94624

Subject: Site Status Update for ARCO Station 276, 10600 MacArthur Boulevard,  
Oakland, California.

Dear Mr. Chan:

This letter provides an update on investigation and remedial activities conducted for the above-referenced site. This update covers site activities performed during June, July and August 1993, and site activities anticipated for the month of September 1993.

#### **June, July and August 1993 Activities**

- Performed monthly groundwater monitoring at the site. The interim onsite vapor extraction system (VES) continued to be non-operational through July 18, 1993 due to an increase in water levels in vapor extraction wells from heavy rains of past winter. This rise in water levels resulted in a loss of up to six (6) feet of screened intervals in the vapor extraction wells.
- Performed monthly inspections for product in wells MW-2 and MW-7.
- Performed Third Quarter 1993 groundwater sampling.
- Submitted Second Quarter 1993 quarterly groundwater monitoring report.
- Based on a decrease in groundwater elevations the VES was restarted on July 19, 1993.

Site Status Update  
ARCO Station 276, Oakland, California

September 2, 1993  
61026.02

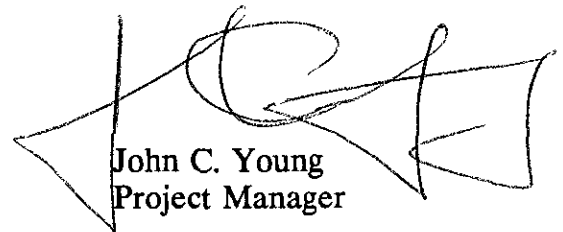
---

**Work Anticipated for September 1993**

- Based on a consistent groundwater flow direction over the past year of monthly monitoring at the subject site, ARCO will discontinue monthly monitoring as of September 1993, and continue quarterly sampling.
- Continue operations of VES in accordance with the requirements set forth by BAAQMD permit.

If you have any questions or comments regarding this letter, please call us at (408) 264-7723.

Sincerely,  
RESNA Industries Inc.



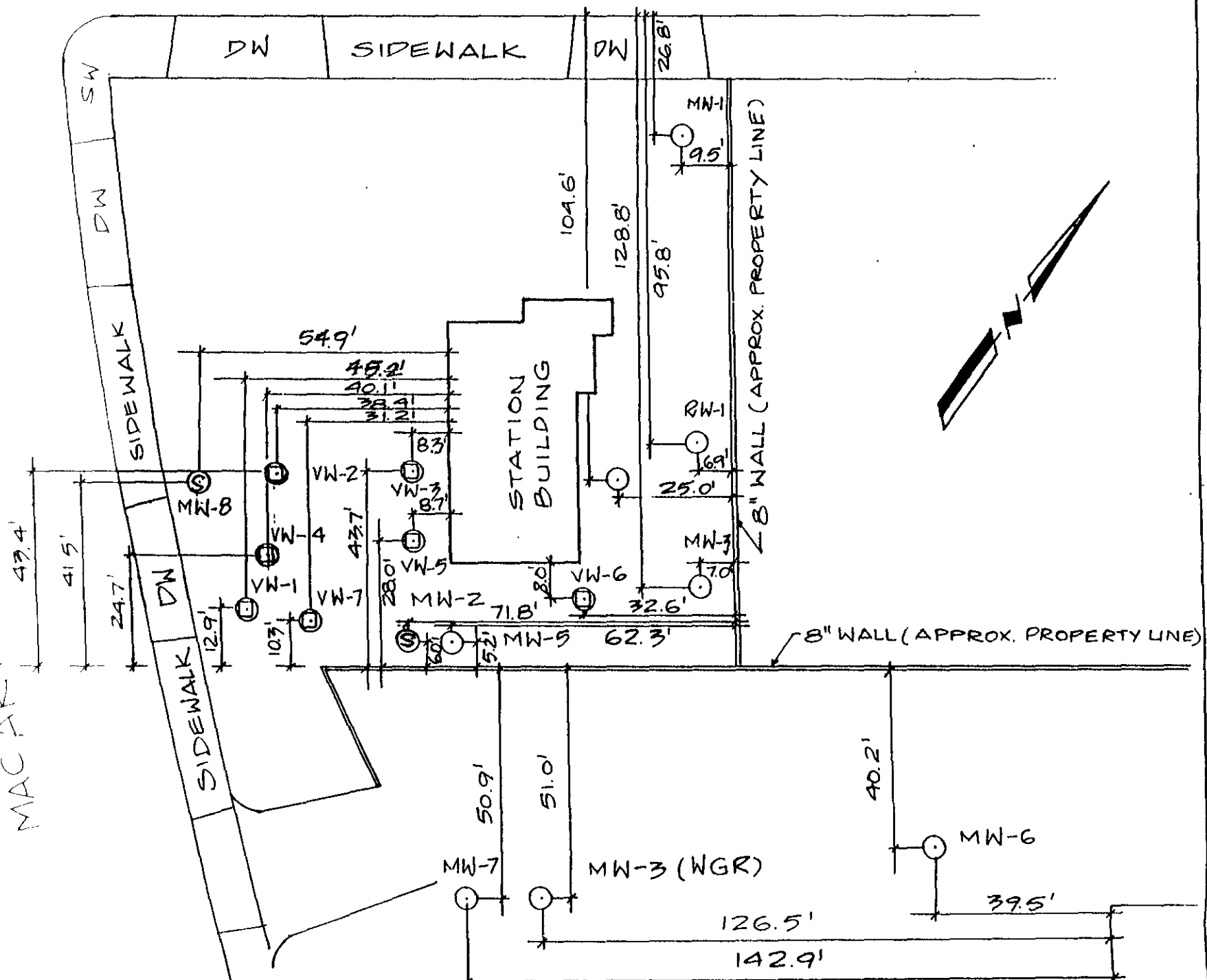
John C. Young  
Project Manager

cc: Mr. Michael Whelan, ARCO Products Company  
Mark Thomson, Alameda County District Attorney's Office  
Richard Hiett, Regional Water Quality Control Board



106<sup>TH</sup> AVENUE

MACARTHUR BOULEVARD



ELEVATIONS

WELL NUMBER	TOP OF CASING	TOP OF BOX
MW-1	55.92	56.25
MW-2	55.10	55.64
MW-3	56.55	56.81
MW-4	55.98	56.51
MW-5	55.43	55.89
MW-6	61.21	61.54
MW-7	58.22	58.54
MW-8	53.65	54.75
VW-1	53.58	54.95
VW-2	54.46	55.32
VW-3	54.6A	55.89
VW-4	54.44	55.11
VW-5	54.85	55.81
VW-6	55.68	56.43
VW-7	54.21	55.20
RW-1	56.32	56.60

LEGEND

- MW; RW
- ⊙ VW
- SW - SIDEWALK
- DW - DRIVEWAY



SCALE: 1" = 30'



<p><b>SITE:</b> ARCO STATION 276 10600 MACARTHUR BLVD OAKLAND, CA RESNA PROJECT 60026.05</p> <p><b>CLIENT:</b> RESNA: 3315 ALMADEN EXPRESSWAY SUITE 3A SAN JOSE, CA 95118</p>	<p><b>JOHN E. KOCH</b> LAND SURVEYOR CA. STATE LIC. NO. LS4811 5427 TELEGRAPH AVE., SUITE A OAKLAND, CA. 94609 (510) 655-9956 (510) 655-9745</p>	
	<p><b>JOB #</b> 92069</p>	<p><b>DRAWN BY</b> T. ROSU</p>



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RECEIVED

JUL 1 1992

RESNA  
3315 Aimaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Project: ARCO 276, Oakland

Enclosed are the results from 34 soil samples received at Sequoia Analytical on July 17, 1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2072905	Soil. S-5-B13	7/15/92	EPA 5030/8015/8020
2072906	Soil. S-10-B13	7/15/92	EPA 5030/8015/8020
2072907	Soil. S-15-B13	7/15/92	EPA 5030/8015/8020
2072908	Soil. S-18-B13	7/15/92	EPA 5030/8015/8020
2072909	Soil. S-5-B16	7/15/92	EPA 5030/8015/8020
2072910	Soil. S-10-B16	7/15/92	EPA 5030/8015/8020
2072911	Soil. S-15-B16	7/15/92	EPA 5030/8015/8020
2072912	Soil. S-19-B16	7/15/92	EPA 5030/8015/8020
2072913	Soil. S-5.5-B18	7/15/92	EPA 5030/8015/8020
2072914	Soil. S-10.5-B18	7/15/92	EPA 5030/8015/8020
2072915	Soil. S-15.5-B18	7/15/92	EPA 5030/8015/8020
2072916	Soil. S-17.5-B18	7/15/92	EPA 5030/8015/8020
2072917	Soil. S-9.5-B12	7/16/92	EPA 5030/8015/8020
2072918	Soil. S-15.5-B12	7/16/92	EPA 5030/8015/8020
2072919	Soil. S-19-B12	7/16/92	EPA 5030/8015/8020
2072920	Soil. S-24.5-B12	7/16/92	EPA 5030/8015/8020
2072921	Soil. S-29-B12	7/16/92	EPA 5030/8015/8020
2072922	Soil. S-50-B12	7/16/92	EPA 5030/8015/8020 EPA 8240
2072923	Soil. S-5-B14	7/16/92	EPA 5030/8015/8020
2072924	Soil. S-10-B14	7/16/92	EPA 5030/8015/8020



# SEQUOIA ANALYTICAL

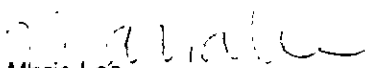
580 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2072925	Soil, S-15-B14	7/16/92	EPA 5030/8015/8020
2072926	Soil, S-17.5-B14	7/16/92	EPA 5030/8015/8020
2072927	Soil, S-5-B19	7/17/92	EPA 5030/8015/8020
2072928	Soil, S-10-B19	7/17/92	EPA 5030/8015/8020
2072929	Soil, S-15-B19	7/17/92	EPA 5030/8015/8020
2072930	Soil, S-17.5-B19	7/17/92	EPA 5030/8015/8020
2072931	Soil, S-5-B15	7/17/92	EPA 5030/8015/8020
2072932	Soil, S-10-B15	7/17/92	EPA 5030/8015/8020
2072933	Soil, S-15-B15	7/17/92	EPA 5030/8015/8020
2072934	Soil, S-18-B15	7/17/92	EPA 5030/8015/8020
2072935	Soil, S-5-B17	7/17/92	EPA 5030/8015/8020
2072936	Soil, S-10-B17	7/17/92	EPA 5030/8015/8020
2072937	Soil, S-15-B17	7/17/92	EPA 5030/8015/8020
2072938	Soil, S-18-B17	7/17/92	EPA 5030/8015/8020

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

  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2905

Sampled: Jul 15, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2905 S-5-B13	Sample I.D. 207-2906 S-10-B13	Sample I.D. 207-2907 S-15-B13	Sample I.D. 207-2908 S-18-B13	Sample I.D. 207-2909 S-5-B16	Sample I.D. 207-2910 S-10-B16
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.	0.084	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.	0.013	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	0.034	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.	0.14	N.D.	N.D.
Chromatogram Pattern:		--	--	--	Gas	--	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-1
Surrogate Recovery, %: (QC Limits = 70-130%)	76	96	97	93	77	100

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

2072905.RES <1>



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Exowwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2911

Sampled: Jul 15, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2911 S-15-B16	Sample I.D. 207-2912 S-19-B16	Sample I.D. 207-2913 S-5.5-B18	Sample I.D. 207-2914 S-10.5-B18	Sample I.D. 207-2915 S-15.5-B18	Sample I.D. 207-2916 S-17.5-B18
Purgeable Hydrocarbons	<i>THG</i> 10	94	N.D.	N.D.	N.D.	470	690
Benzene	0.0050	0.16	0.28	N.D.	N.D.	0.50	3.0
Toluene	0.0050	0.18	0.018	N.D.	N.D.	9.6	15
Ethyl Benzene	0.0050	2.1	0.048	N.D.	N.D.	8.7	15
Total Xylenes	0.0050	11	0.082	N.D.	N.D.	81	92
Chromatogram Pattern:		Gas	Gas	--	--	Gas	Gas

### Quality Control Data

Report Limit Multiplication Factor:	10	1.0	1.0	1.0	50	100
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92
Instrument Identification:	GHCP-1	GHCP-1	GHCP-1	GHCP-1	GHCP-7	GHCP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	107	105	100	101	91	102

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard  
Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

2072905.RES <2>



# SEQUOIA ANALYTICAL

380 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2917

Sampled: Jul 16, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2917 S-9.5-B12	Sample I.D. 207-2918 S-15.5-B12	Sample I.D. 207-2919 S-19-B12	Sample I.D. 207-2920 S-24.5-B12	Sample I.D. 207-2921 S-29-B12	Sample I.D. 207-2922 S-50-B12
Purgeable Hydrocarbons	1.0	N.D.	6.6	2.8	N.D.	N.D.	N.D.
Benzene	0.0050	0.22	0.90	1.2	N.D.	N.D.	N.D.
Toluene	0.0050	N.D.	0.78	0.79	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	0.031	0.17	0.043	N.D.	N.D.	N.D.
Total Xylenes	0.0050	0.034	0.78	0.23	N.D.	N.D.	N.D.
Chromatogram Pattern:		Gas	Gas	Gas	--	--	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92
Instrument Identification:	GCHP-1	GCHP-1	GCHP-7	GCHP-7	GCHP-7	GCHP-1
Surrogate Recovery, %: (QC Limits = 70-130%)	92	130	90	78	91	96

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

2072905.RES <3>



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy, Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2923

Sampled: Jul 16, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2923 S-5-B14	Sample I.D. 207-2924 S-10-B14	Sample I.D. 207-2925 S-15-B14	Sample I.D. 207-2926 S-17.5-B14
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	83
Benzene	0.0050	N.D.	N.D.	N.D.	0.14
Toluene	0.0050	N.D.	N.D.	N.D.	0.40
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	1.0
Total Xylenes	0.0050	N.D.	N.D.	N.D.	5.0
Chromatogram Pattern:		--	--	--	Gas

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	20
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/23/92
Instrument Identification:	GCHP-7	GCHP-1	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	92	101	99	96

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard  
Analytes reported as N.D. were not detected above the stated reporting limit.

### SEQUOIA ANALYTICAL

Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2927

Sampled: Jul 17, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2927 S-5-B19	Sample I.D. 207-2928 S-10-B19	Sample I.D. 207-2929 S-15-B19	Sample I.D. 207-2930 S-17.5-B19	Sample I.D. 207-2931 S-5-B15	Sample I.D. 207-2932 S-10-B15
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	0.21	0.16
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	0.014	0.065
Total Xylenes	0.0050	N.D.	N.D.	N.D.	N.D.	0.027	0.11
Chromatogram Pattern:		--	--	--	--	--	--

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	99	87	98	108	90	77

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

2072905.RES <5>





# SEQUOIA ANALYTICAL

380 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Matrix: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 207-2933

Sampled: Jul 17, 1992  
Received: Jul 17, 1992  
Reported: Jul 31, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 207-2933 S-15-B15	Sample I.D. 207-2934 S-18-B15	Sample I.D. 207-2935 S-5-B17	Sample I.D. 207-2936 S-10-B17	Sample I.D. 207-2937 S-15-B17	Sample I.D. 207-2938 S-18-B17
Purgeable Hydrocarbons	1.0	6.5	N.D.	N.D.	N.D.	690	3,700
Benzene	0.0050	0.83	0.21	N.D.	0.059	2.1	48
Toluene	0.0050	0.47	0.47	N.D.	N.D.	3.1	160
Ethyl Benzene	0.0050	0.22	0.021	N.D.	N.D.	11	94
Total Xylenes	0.0050	0.81	0.11	N.D.	0.0090	42	420
Chromatogram Pattern:		--	--	--	Gas	Gas	Gas

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	100	1,000
Date Analyzed:	7/22/92	7/22/92	7/22/92	7/22/92	7/22/92	7/23/92
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	92	91	101	97	88	92

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard  
Analytes reported as N.D. were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-50-B12  
Analysis Method: EPA 8240  
Lab Number: 207-2922

Sampled: Jul 15, 1992  
Received: Jul 17, 1992  
Analyzed: Jul 28, 1992  
Reported: Jul 31, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2072905-38

Reported: Jul 31, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 22, 1992	Jul 22, 1992	Jul 22, 1992	Jul 22, 1992
QC Sample #:	GBLK072292	GBLK072292	GBLK072292	GBLK072292
	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.18	0.13	0.18	0.53
Matrix Spike % Recovery:	90	90	90	88
Conc. Matrix Spike Dup.:	0.18	0.19	0.19	0.56
Matrix Spike Duplicate % Recovery:	90	95	95	93
Relative % Difference:	0.0	5.4	5.4	5.5

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

SEQUOIA ANALYTICAL

Mana Lee  
Project Manager

% Recovery	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{\text{Conc. of M.S.} + \text{Conc. of M.S.D.}} \times 100$



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2072905-38

Reported: Jul 31, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. MirafTAB	A. MirafTAB	A. MirafTAB	A. MirafTAB
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 22, 1992	Jul 22, 1992	Jul 22, 1992	Jul 22, 1992
QC Sample #:	GBLK072292	GBLK072292	GBLK072292	GBLK072292
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.21	0.20	0.20	0.61
Matrix Spike % Recovery:	105	100	100	102
Conc. Matrix Spike Dup.:	0.21	0.20	0.20	0.61
Matrix Spike Duplicate % Recovery:	105	100	100	102
Relative % Difference:	0.0	0.0	0.0	0.0

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

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

% Recovery	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{\frac{\text{Conc. of M.S.} + \text{Conc. of M.S.D.}}{2}} \times 100$



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
 (415) 364-9600 • FAX (415) 364-9233

RESNA  
 3315 Almaden Expwy., Suite 34  
 San Jose, CA 95118  
 Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2072905-38

Reported: Jul 31, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Marant	A. Marant	A. Marant	A. Marant
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 23, 1992	Jul 23, 1992	Jul 23, 1992	Jul 23, 1992
QC Sample #:	GBLK072392	GBLK072392	GBLK072392	GBLK072392
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.16	0.16	0.16	0.48
Matrix Spike % Recovery:	80	80	80	80
Conc. Matrix Spike Dup.:	0.16	0.16	0.16	0.48
Matrix Spike Duplicate % Recovery:	80	80	80	80
Relative % Difference:	0.0	0.0	0.0	0.0

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

SEQUOIA ANALYTICAL

Maria Lee  
 Project Manager

% Recovery	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{\frac{\text{Conc. of M.S.} + \text{Conc. of M.S.D.}}{2}} \times 100$



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
 (415) 364-9600 • FAX (415) 364-9233

RESNA  
 3315 Almaden Expwy., Suite 34  
 San Jose, CA 95118  
 Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
 Method (units): EPA 8240 (µg/L purged)  
 Analyst(s): S. Scott  
 QC Sample #: BLK072892

Q.C. Sample Dates

Analyzed: Jul 28, 1992  
 Reported: Jul 31, 1992

## QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike % Recovery	Relative % Difference
1,1-Dichloroethene	N.D.	50	68	126	62	124	1.6
Trichloroethene	N.D.	50	47	94	49	98	4.2
Benzene	N.D.	50	51	102	51	102	0.0
Toluene	N.D.	50	51	102	52	104	1.9
Chlorobenzene	N.D.	50	51	102	52	104	1.9

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

SEQUOIA ANALYTICAL

Manana Lee  
 Project Manager

% Recovery	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{\text{Conc. of M.S.} + \text{Conc. of M.S.D.}} \times 100$



ARCO Facility no 176 City (Facility) Dakland Project manager (Consultant) Jock Coffman  
 ARCO engineer Michael Whelan Telephone no (ARCO) (915) 571-2434 Telephone no (Consultant) (408) 264-7723 Fax no (Consultant) (408) 264-2435  
 Consultant name RESNA Address (Consultant) 3315 Alameda Exp. Suite 31, San Jose, CA 95118

Laboratory name Sevens  
 Contract number 07-01-1

Sample I.D.	Lab no	Container no	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 801	BTEX/TPH EPA 1602/802/8015	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	Sewer Metals VOA	CAN Metals EPA 601/8010 TLC L-1 STL	Lead Org./DHS Lead EPA 7420/7421
			Soil	Water	Other	Ice	Acid														
S-5	B12	1	✓			✓		7/16/92													
S-2	B12	1	✓			✓		7/16/92		X											
S-15	B12	1	✓			✓		7/16/92		X											
S-19	B12	1	✓			✓		7/16/92		X											
S-20	B12	1	✓			✓		7/16/92													
S-21	B12	1	✓			✓		7/16/92		X											
S-24	B12	1	✓			✓		7/16/92		X											
S-27	B12	1	✓			✓		7/16/92		X											
S-31	B12	1	✓			✓		7/16/92													
S-33	B12	1	✓			✓		7/16/92													
S-34	B12	1	✓			✓		7/16/92													
S-315	B12	1	✓			✓		7/16/92													
S-445	B12	1	✓			✓		7/16/92													
S-50	B12	1	✓			✓		7/16/92		X											

Method of shipment regular container

Special detection Limit/reporting X

Special QA/QC X

Remarks Re-STAT full will regarding up samples to be analyzed

Lab number 21122

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample:

Relinquished by sampler Barbara Dickman Date 07/17/92 Time 3:59 PM

Relinquished by [Signature] Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Temperature received:

Received by PH Heekin Date 7/17 1800

Received by [Signature] Date 7/17 1800

Received by laboratory [Signature] Date 7/17/92 Time 10:00



# ARCO Products Company

Environmental Analytical Methods Company

Task Order No. 111 11 11

## Chain of Custody

ARCO Facility No. 10 City (Facility) Chattanooga Project manager (Consultant) Joe Coffey  
 ARCO Request Chattanooga Telephone no (ARCO) (423) 576 4424 Telephone no (Consultant) (404) 264 2455 Fax no (Consultant) (404) 264 2455  
 Consultant name Joe Coffey Address (Consultant) 3200 Alameda Exp, Suite 34, Chattanooga, TN 37405

Laboratory name  
 Contract number  
 Method of shipment

Sample ID	Lab no	Container no	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 8020	BTEX/TPH EPA 8020/8010	TPH Modified B015 Gas Diesel	Oil and Grease 4131 4132	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/824C	EPA 625/827C	TCLP Methyls VOC VOA SVOC	CAN Metals EPA 601/0700C TLC STLC	Lead Org./DHS Lead EPA 7420/7421	Special detection limit/reporting
			Soil	Water	Other	Ice	Acid														
111	011	1	✓			✓		1/16/92		✓											923
112	011	1	✓			✓		1/16/92		✓											924
113	011	1	✓			✓		1/16/92		✓											925
114	011	1	✓			✓		1/16/92		✓											926
115	011	1	✓			✓		7/17/92		✓											
116	011	1	✓			✓		1/17/92		✓											927
117	011	1	✓			✓		1/17/92		✓											928
118	011	1	✓			✓		1/17/92		✓											1129
119	011	1	✓			✓		1/17/92		✓											1130
120	011	1	✓			✓		7/17/92		✓											
121	011	1	✓			✓		7/17/92		✓											

Special detection limit/reporting  
 Special QA/QC

Remarks  
See attached  
copy of  
to be reviewed

Lab number  
 Turnaround time  
 Priority Rush 1 Business Day  
 Rush 2 Business Days  
 Expedited 5 Business Days  
 Standard 10 Business Days

Condition of sample  
 Relinquished by sampler Joe Coffey Date 07/17/92 Time 3:50 PM  
 Relinquished by Joe Coffey Date \_\_\_\_\_ Time \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 Received by laboratory \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

# ARCO Products Company

Division of AtlanticRichfieldCompany

Task G

## Chain of Custody

ARCO Facility no 276 City (Facility) Oakland  
 ARCO engineer Michael Whelan Telephone no. (ARCO) (415) 264 2434  
 Consultant name REMA Address (Consultant) 2515 Alameda Exp, Suite 21500, Rose, CA 94715

Project manager (Consultant) Jed Coffman  
 Telephone no. (Consultant) (415) 264 7723 Fax no. (Consultant) (415) 264 2435

Laboratory name \_\_\_\_\_  
 Contract number \_\_\_\_\_

Sample I.D.	Lab no	Container no	Matrix			Preservation		Sampling date	Sampling time	BTEX 602/EPA 802C	BTEX/TPH EPA 1602/8020/8015	TPH Modified BQLE Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/824C	EPA 625/827C	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/>	Sewer Metals <input type="checkbox"/> VOA <input type="checkbox"/>	CAM Metals EPA 601/7000 TTLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org./DHS Lead EPA 7420/7421 <input type="checkbox"/>			
			Soil	Water	Other	Ice	Acid																	
1011		1	✓			✓		7/11/92		✓														
1012		1	✓			✓		7/11/92		✓														
1013		1	✓			✓		7/17/92		✓														
1015		1	✓			✓		7/11/92		✓														
1018		1	✓			✓		7/17/92		✓														
1011		1	✓			✓		7/11/92		✓														
1011		1	✓			✓		7/17/92		✓														
1011		1	✓			✓		7/11/92		✓														
1011		1	✓			✓		7/17/92		✓														
1011		1	✓			✓		7/17/92		✓														

Method of shipment \_\_\_\_\_

Special detection Limit/reporting \_\_\_\_\_

Special QA/QC \_\_\_\_\_

Remarks  
REMA  
will call regarding samples to be analyzed

Lab number \_\_\_\_\_

Turnaround time \_\_\_\_\_

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

Condition of sample \_\_\_\_\_  
 Relinquished by sampler Barbara Silvestro Date 07/17/92 Time 3:50 PM  
 Relinquished by [Signature] Date \_\_\_\_\_ Time \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Temperature received \_\_\_\_\_  
 Received by PA [Signature]  
 Received by \_\_\_\_\_  
 Received by laboratory \_\_\_\_\_ Date 7/21/92 Time 11:00



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Project: ARCO 276, Oakland

Enclosed are the results from 15 soil samples received at Sequoia Analytical on June 17, 1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2063383	Soil, S10.5-B10	6/16/92	EPA 5030/8015/8020 EPA 8240
2063384	Soil, S20-B10	6/16/92	EPA 5030/8015/8020 EPA 8240
2063385	Soil, S30-B10	6/16/92	EPA 5030/8015/8020 EPA 8240
2063386	Soil, S39.5-B10	6/16/92	EPA 5030/8015/8020 EPA 8240
2063387	Soil, S-45-B10	6/16/92	Particle Size Distribution by Weight
2063388	Soil, S-50-B10	6/16/92	Particle Size Distribution by Weight
2063389	Soil, S-55-B10	6/16/92	Particle Size Distribution by Weight
2063390	Soil, S60.5-B10	6/16/92	EPA 5030/8015/8020 EPA 8240
2063391	Soil, S10-B11	6/16/92	EPA 5030/8015/8020 EPA 8240
2063392	Soil, S20.5-B11	6/16/92	EPA 5030/8015/8020 EPA 8240



# SEQUOIA ANALYTICAL

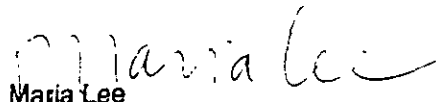
680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

2063393	Soil, S-24.5-B11	6/16/92	Particle Size Distribution by Weight
2063394	Soil, S-29.5-B11	6/16/92	Particle Size Distribution by Weight
2063395	Soil, S30-B11	6/16/92	EPA 5030/8015/8020 EPA 8240
2063396	Soil, S-35-B11	6/16/92	Particle Size Distribution by Weight
2063397	Soil, S36.5-B11	6/16/92	EPA 5030/8015/8020 EPA 8240

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

  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Matrix Descript: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 206-3383

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 19, 1992  
Reported: Jun 24, 1992

## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons				
		Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	
206-3383	S10.5-B10	N.D.	N.D.	N.D.	N.D.	
206-3384	S20-B10	N.D.	N.D.	N.D.	N.D.	
206-3385	S30-B10	N.D.	N.D.	N.D.	N.D.	
206-3386	S39.5-B10	N.D.	N.D.	N.D.	N.D.	
206-3390	S60.5-B10	N.D.	N.D.	N.D.	N.D.	
206-3391	S10-B11	N.D.	N.D.	N.D.	N.D.	

<b>Detection Limits:</b>	<b>1.0</b>	<b>0.0050</b>	<b>0.0050</b>	<b>0.0050</b>	<b>0.0050</b>
--------------------------	------------	---------------	---------------	---------------	---------------

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.  
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Matrix Descript: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 206-3392

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 21, 1992  
Reported: Jun 24, 1992

## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons		Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
		mg/kg (ppm)	Benzene mg/kg (ppm)			
206-3392	S20.5-B11	6.3	0.072	0.069	0.21	1.7

Detection Limits:

2.5

0.013

0.013

0.013

0.013

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

2063383.RES <2>



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Matrix Descript: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 206-3395

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 21, 1992  
Reported: Jun 24, 1992

## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl	Xylenes
		Hydrocarbons			Benzene	
		mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)
206-3395	S30-B11	32	0.26	0.65	0.56	2.9

<b>Detection Limits:</b>	<b>10</b>	<b>0.050</b>	<b>0.050</b>	<b>0.050</b>	<b>0.050</b>
--------------------------	-----------	--------------	--------------	--------------	--------------

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Mani Lee  
Project Manager

2063383.RES <3>



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Matrix Descript: Soil  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 206-3397

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 21, 1992  
Reported: Jun 24, 1992

## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl Benzene	Xylenes
		Hydrocarbons mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)
206-3397	S36.5-B11	23	0.13	0.36	0.33	1.8

**Detection Limits:****5.0****0.025****0.025****0.025****0.025**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

  
Maria Lee  
Project Manager

2063383.RES <4>





# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S10.5-B10  
Analysis Method: EPA 8240  
Lab Number: 206-3383

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 24, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S20-B10  
Analysis Method: EPA 8240  
Lab Number: 206-3384

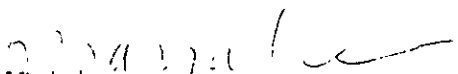
Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 24, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S30-B10  
Analysis Method: EPA 8240  
Lab Number: 206-3385

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 24, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S39.5-B10  
Analysis Method: EPA 8240  
Lab Number: 206-3386

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S60.5-B10  
Analysis Method: EPA 8240  
Lab Number: 206-3390

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 24, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
<b>Tetrachloroethene.....</b>	<b>100</b>	<b>220</b>
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S10-B11  
Analysis Method: EPA 8240  
Lab Number: 206-3391

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
Total Xylenes.....	100	N.D.

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S36.5-B11  
Analysis Method: EPA 8240  
Lab Number: 206-3397

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
Ethylbenzene.....	100	N.D.
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
<b>Total Xylenes</b> .....	<b>100</b>	<b>360</b>

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S30-B11  
Analysis Method: EPA 8240  
Lab Number: 206-3395

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
<b>Benzene.....</b>	<b>100</b>	<b>190</b>
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
<b>Ethylbenzene.....</b>	<b>100</b>	<b>120</b>
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
<b>Toluene.....</b>	<b>100</b>	<b>310</b>
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
<b>Total Xylenes.....</b>	<b>100</b>	<b>600</b>

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager





# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S20.5-B11  
Analysis Method: EPA 8240  
Lab Number: 206-3392

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone.....	500	N.D.
Benzene.....	100	N.D.
Bromodichloromethane.....	100	N.D.
Bromoform.....	100	N.D.
Bromomethane.....	100	N.D.
2-Butanone.....	500	N.D.
Carbon disulfide.....	100	N.D.
Carbon tetrachloride.....	100	N.D.
Chlorobenzene.....	100	N.D.
Chloroethane.....	100	N.D.
2-Chloroethyl vinyl ether.....	500	N.D.
Chloroform.....	100	N.D.
Chloromethane.....	100	N.D.
Dibromochloromethane.....	100	N.D.
1,1-Dichloroethane.....	100	N.D.
1,2-Dichloroethane.....	100	N.D.
1,1-Dichloroethene.....	100	N.D.
cis-1,2-Dichloroethene.....	100	N.D.
trans-1,2-Dichloroethene.....	100	N.D.
1,2-Dichloropropane.....	100	N.D.
cis-1,3-Dichloropropene.....	100	N.D.
trans-1,3-Dichloropropene.....	100	N.D.
<b>Ethylbenzene.....</b>	<b>100</b>	<b>390</b>
2-Hexanone.....	500	N.D.
Methylene chloride.....	250	N.D.
4-Methyl-2-pentanone.....	500	N.D.
Styrene.....	100	N.D.
1,1,2,2-Tetrachloroethane.....	100	N.D.
Tetrachloroethene.....	100	N.D.
Toluene.....	100	N.D.
1,1,1-Trichloroethane.....	100	N.D.
1,1,2-Trichloroethane.....	100	N.D.
Trichloroethene.....	100	N.D.
Trichlorofluoromethane.....	100	N.D.
Vinyl acetate.....	100	N.D.
Vinyl chloride.....	100	N.D.
<b>Total Xylenes.....</b>	<b>100</b>	<b>3,000</b>

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-45-B10  
Lab Number: 206-3387

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	0.0	0.0
6	6.0	0.02
7	6.2	0.03
9	1.4	1.6
10	2.9	3.2
12	6.3	7.0
16	17.1	18.8
24	26.3	29.
28	10.9	12
32	5.7	6.3
42	7.8	8.6
48	2.5	2.8
80	3.4	3.7
120	3.3	3.6
200	2.1	2.3
Pan	0.81	0.9

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-50-B10  
Lab Number: 206-3388

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	0.24	0.2
6	0.15	0.1
7	0.34	0.31
9	2.2	2.0
10	2.1	1.9
12	2.8	2.5
16	8.2	7.6
24	10	9.7
28	11	10.3
32	6.8	6.3
42	28	25.8
48	12	11.2
80	16	14.7
120	3.4	3.2
200	2.6	2.4
Pan	2.0	1.9

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-55-B10  
Lab Number: 206-3389

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	0.0	0.0
6	0.0	0.0
7	0.27	0.4
9	3.8	5.2
10	4.7	6.5
12	6.3	8.7
16	13	18.6
24	13	18
28	5.7	7.8
32	3.5	4.7
42	6.8	9.4
48	4.0	5.5
80	4.6	5.6
120	2.9	4.0
200	2.9	4.0
Pan	1.2	1.6

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

580 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-24.5-B11  
Lab Number: 206-3393

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	0.0	0.0
6	0.050	0.04
7	0.28	0.30
9	0.33	1.3
10	1.5	1.5
12	1.5	1.5
16	6.0	6.0
24	7.6	7.6
28	9.0	9.0
32	7.1	7.1
42	19	18.5
48	12	11.8
80	17	17.3
120	6.3	6.3
200	8.3	8.2
Pan	3.6	3.6

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-29.5-B11  
Lab Number: 206-3394

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	1.0	0.9
6	0.94	0.8
7	1.6	1.4
9	9.1	8.0
10	8.4	7.4
12	8.4	7.3
16	14	12.6
24	14	12.4
28	7.2	6.3
32	5.8	5.0
42	7.2	6.3
48	7.7	6.7
80	7.6	6.6
120	6.9	6.0
200	6.1	5.4
Pan	7.9	7.0

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063

(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Sample Descript: Soil, S-35-B11  
Lab Number: 206-3396

Sampled: Jun 16, 1992  
Received: Jun 17, 1992  
Analyzed: Jun 22, 1992  
Reported: Jul 1, 1992

## PARTICLE SIZE DISTRIBUTION BY WEIGHT

Seive # Tyler Sieve Units	Weight grams	Percent Distribution
5	0.28	0.3
6	0.76	0.7
7	1.9	1.8
9	7.5	7.2
10	6.8	6.5
12	7.8	7.5
16	0.030	0.02
24	6.0	0.03
28	0.38	0.4
32	15	14.4
42	13	12.9
48	7.8	7.4
80	26	25.3
120	5.7	5.4
200	7.6	7.3
Pan	3.0	2.8

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2063383-6, 90-2, 95, 97

Reported: Jul 1, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	B. Ali	B. Ali	B. Ali	B. Ali
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jun 19, 1992	Jun 19, 1992	Jun 19, 1992	Jun 19, 1992
QC Sample #:	GBLK061992	GBLK061992	GBLK061992	GBLK061992
	MS/MSD-A	MS/MSD-A	MS/MSD-A	MS/MSD-A
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.17	0.17	0.17	0.50
Matrix Spike % Recovery:	85	85	85	83
Conc. Matrix Spike Dup.:	0.18	0.18	0.18	0.52
Matrix Spike Duplicate % Recovery:	90	90	90	87
Relative % Difference:	5.7	5.7	5.7	3.9

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$





# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2063383-6, 90-2, 95, 97

Reported: Jul 1, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Donohue	C. Donohue	C. Donohue	C. Donohue
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jun 19, 1992	Jun 19, 1992	Jun 19, 1992	Jun 19, 1992
QC Sample #:	GBLK061992 MS/MSD	GBLK061992 MS/MSD	GBLK061992 MS/MSD	GBLK061992 MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.21	0.21	0.21	0.61
Matrix Spike % Recovery:	105	105	105	102
Conc. Matrix Spike Dup.:	0.21	0.20	0.20	0.62
Matrix Spike Duplicate % Recovery:	105	100	100	103
Relative % Difference:	0.0	4.9	4.9	1.6

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

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{\text{Conc. of M.S.} + \text{Conc. of M.S.D.}} \times 100$

2063383.RES <21>



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA

3315 Almaden Expwy., Suite 34  
San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland

QC Sample Group: 2063383-6, 90-2, 95, 97

Reported: Jul 1, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Mirattab	A. Mirattab	A. Mirattab	A. Mirattab
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jun 21, 1992	Jun 21, 1992	Jun 21, 1992	Jun 21, 1992
QC Sample #:	BLK061992	BLK061992	BLK061992	BLK061992
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.20	0.20	0.20	0.59
Matrix Spike % Recovery:	100	100	100	98
Conc. Matrix Spike Dup.:	0.18	0.18	0.18	0.54
Matrix Spike Duplicate % Recovery:	90	90	90	90
Relative % Difference:	11	11	11	8.8

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA  
3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Method (units): EPA 8240 (µg/L purged)  
Analyst(s): S. Scott  
QC Sample #: BLK062592

Q.C. Sample Dates

Analyzed: Jun 25, 1992  
Reported: Jul 1, 1992

## QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike % Recovery	Relative % Difference
1,1-Dichloroethene	N.D.	50	44	88	46	92	4.4
Trichloroethene	N.D.	50	48	92	51	102	6.1
Benzene	N.D.	50	51	102	53	106	3.8
Toluene	N.D.	50	49	98	54	108	9.7
Chlorobenzene	N.D.	50	51	102	54	108	5.7

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

SEQUOIA ANALYTICAL

*Maria Lee*  
Maria Lee  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RESNA

3315 Almaden Expwy., Suite 34  
San Jose, CA 95118  
Attention: Joel Coffman

Client Project ID: ARCO 276, Oakland  
Method (units): EPA 8240 ( $\mu\text{g/L}$  purged)  
Analyst(s): S. Scott  
QC Sample #: BLK062492

Q.C. Sample Dates

Analyzed: Jun 24, 1992  
Reported: Jul 1, 1992

## QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike % Recovery	Relative % Difference
1,1-Dichloroethene	N.D.	50	60	120	55	110	8.7
Trichloroethene	N.D.	50	62	124	56	112	10
Benzene	N.D.	50	66	132	59	118	11
Toluene	N.D.	50	60	120	58	116	3.4
Chlorobenzene	N.D.	50	64	128	58	116	9.8

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

SEQUOIA ANALYTICAL

Maria Lee  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

ARCO Facility no. <b>276</b>	City (Facility) <b>Orlando</b>	Project manager (Consultant) <b>Bob Lefman</b>	Laboratory name <b>Sejovla</b>
ARCO engineer <b>Michael Whelan</b>	Telephone no. (408) 764 7723 (ARCO)	Telephone no. (408) 764 7723 (Consultant)	Contract number <b>OT-OT?</b>
Consultant name <b>RESNA Industries</b>	Address (Consultant) <b>2315 Alhambra Exp. Suite 201, San Jose, CA 95128</b>		

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 602/EPA 8020	BTEX/TPH EPA 801/8020/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	Semi Metals <input type="checkbox"/> VOA <input type="checkbox"/>	CAMP Metals EPA 601/67000 TTLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org/DHS <input type="checkbox"/> Lead EPA 7420/7421 <input type="checkbox"/>	HPLC	7100	
			Soil	Water	Other	Ice	Acid																	
5-B10			X			X		6-16-92															X	
15-B10			X			X																	X	
10-B10			X			X																	X	
05-B10			X			X				X					X								X	
15-B10			X			X																	X	
15-B10			X			X																	X	
5-B10			X			X				X					X								X	
20-B10			X			X																	X	
25-B10			X			X																	X	
30-B10			X			X																	X	
40-B10			X			X				X					X								X	
05-B10			X			X																	X	
15-B10			X			X																	X	
20-B10			X			X																	X	
25-B10			X			X				X													X	
45-B10			X			X									X								X	

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: <b>60</b>
Relinquished by sampler <b>Michael Whelan</b> Date <b>6/17/92</b> Time <b>11:00</b>	Received by <b>Patricia Smith</b>
Relinquished by <b>Michael Whelan</b> Date <b>6/17/92</b> Time <b>1:35</b>	Received by
Relinquished by	Received by laboratory <b>Sejovla</b> Date <b>6-17</b> Time <b>1:35</b>

ARCO Facility no. **276** City (Facility) **Oakland** Project manager (Consultant) **Joel Coffman**  
 ARCO engineer **Michael Whelan** Telephone no (ARCO) **(413) 271-2435** Telephone no. (Consultant) **(408) 264-7773** Fax no. (Consultant) **(408) 264-2435**  
 Consultant name **RESNA Industries** Address (Consultant) **3315 Alameda Exp. route 24, San Jose, CA, 95118**

Laboratory name **Sogolife**  
 Contract number **01-017**

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 802	BTEX/TPH EPA 802/802/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/>	Semi VOA <input type="checkbox"/>	CAMP Metals EPA 6010/7000 TLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org./DHS Lead EPA 7420/7421 <input type="checkbox"/>	Hold	Size
			Soil	Water	Other	Ice	Acid																
15.5 B10			X			X		6-16-92														X	
10-B10			X			X		↓														X	X
20.5-B10			X			X		↓														X	
4.5-B10			X			X		↓														X	
5-B10			X			X		↓														X	X
10.5-B10			X			X		↓		X						X						X	
15-B10			X			X		↓														X	
20-B10			X			X		↓														X	
25-B10			X			X		↓														X	
30-B10			X			X		↓		X						X						X	
35-B10			X			X		↓														X	
40-B10			X			X		↓														X	
45-B10			X			X		↓														X	

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 **100% OK**  
 Relinquished by sampler **Michael Whelan** Date **6/17/92** Time **1100** Temperature received: **cool**  
 Relinquished by **[Signature]** Date **6/17/92** Time **1235** Received by **[Signature]**  
 Relinquished by **[Signature]** Date **6/17** Time **1331** Received by laboratory **[Signature]** Date **6/17** Time **1331**

ARCO Facility no. **276**  
 ARCO engineer **Michael Whelan**  
 Consultant name **RESNA Industries**

Project manager (Consultant) **Joel Colman**  
 Telephone no. (408) 264-7723  
 Telephone no. (408) 264-7723  
 Fax no. (408) 264-7935  
 Address (Consultant) **1515 Alameda Exp. Site 34, San Jose, CA 95118**

Laboratory name  
 Contract number **207110102**

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 8020	BTEX/TPH EPA 16020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 413.2	TPH EPA 418.1/SM80E	EPA 6016010	EPA 6248240	EPA 6258270	TCLP Metals VOA YOA	Semi Metals EPA 6010/7000 TLC STLC	Lead Org./DHS Lead EPA 7420/7421	Hold	Sieve
			Soil	Water	Other	Ice	Acid															
6-25-B1			X			X		6/11/92													X	X
287.5-B1			X			X															X	
30-B1			X			X				X											X	
45-B1			X			X															X	X
35-B1			X			X															X	
36-B1			X			X				X											X	
37-B1			X			X				X											X	

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  
 Relinquished by sampler **[Signature]** Date **6/17/92** Time **11:00**  
 Relinquished by **[Signature]** Date **6/17/92** Time **1:35**  
 Relinquished by **[Signature]** Date **6/17/92** Time **1:35**

Temperature received:  
 Received by **[Signature]**  
 Received by **[Signature]**  
 Received by laboratory **[Signature]** Date **6/17** Time **1:35**



**EMCON**  
ASSOCIATES

Consultants in Wastes  
Management and  
Environmental Control

Date April 27, 1992  
Project G70-02.01

To:  
Mr. Joel Coffman  
RESNA/ Applied Geosystems  
3315 Almaden Expressway, Suite 34  
San Jose, California 95118

We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u>          </u>	<u>April 1992 monthly water level survey, ARCO</u>
<u>          </u>	<u>station 276, 10600 MacArthur Boulevard, Oakland, CA</u>

For your:   X   Information      Sent by:   X   Mail

Comments:

Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-2266.

Reviewed by:



Mark Knuttel *MK*

Robert Porter  
Robert Porter, Senior Project Engineer.





**FIELD REPORT**  
**DEPTH TO WATER / FLOATING PRODUCT SURVEY**

PROJECT # : G70-02.01

STATION ADDRESS : 10600 MacArthur Blvd. Oakland

DATE : 04-20-92

ARCO STATION # : 276

FIELD TECHNICIAN : LARRY NESS

DAY : MONDAY

DIW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-1	OK	OK	BAD	OK	OK	32.82	32.82	ND	ND	38.84	-
2	MW-5	OK	OK	OK	OK	OK	31.80	31.80	ND	ND	47.0	-
3	MW-3	OK	OK	OK	OK	OK	33.20	33.20	ND	ND	38.6	-
4	RW-1	OK	OK	OK	-	-	32.90	32.90	ND	ND	48.90	-
5	MW-4	OK	OK	OK	CUT	OK	32.60	32.60	ND	ND	48.80	CUT LOCK. CHANGED TO 04164
6	MW-2	OK	OK	OK	OK	OK	16.13	16.13	ND	ND	25.62	-



**emcon**  
ASSOCIATES

Consultants in Wastes  
Management and  
Environmental Control

RECEIVED

MAY 27 1992

RESNA  
SAN JOSE

Date May 21, 1992  
Project G70-02.01

To:  
Mr. Joel Coffman  
RESNA/ Applied Geosystems  
3315 Almaden Expressway, Suite 34  
San Jose, California 95118

We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u>          </u>	<u>May 1992 monthly water level survey, ARCO</u>
<u>          </u>	<u>station 276, 10600 MacArthur Boulevard, Oakland, CA</u>

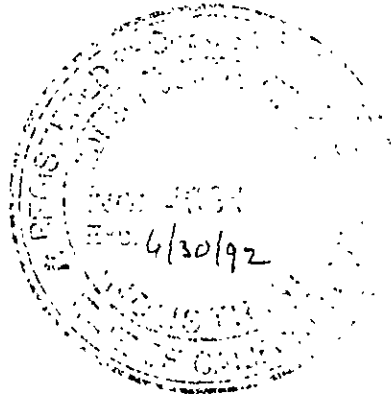
For your:   X   Information      Sent by:   X   Mail

Comments:

Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-2266.

Jim Butera

Reviewed by:



Robert Porter

Robert Porter, Senior Project  
Engineer.



**FIELD REPORT  
DEPTH TO WATER / FLOATING PRODUCT SURVEY**

PROJECT # : G70-02.01

STATION ADDRESS : 10600 MacArthur Blvd. Oakland

DATE : 5-13-76

ARCO STATION # : 276

FIELD TECHNICIAN : C. (P.L.) / M. KUTTEL

DAY : Friday

D/W Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-1	OK	YSS	YSS	3259	YES	33.17	33.17	ND	ND	38.88	Broken well cap
2	MW-5	OK	Y	Y	3259	Y	32.37	32.36	ND	ND	41.06	—
3	RW-1	OK	YSS	NO	NO	NO	33.43	33.44	ND	ND	48.60	—
4	MW-3	OK	YPS	YPS	3259	YPS	33.70	33.70	ND	ND	38.6	—
5	MW-4	OK	YPS	YPS	YPS	YPS	33.12	33.12	ND	ND	48.8	UNSURE OF LOCK # CAP PULLS OFF
6	MW-2	OK	Y	Y	3259	Y	17.66	17.65	ND	ND	25.6	Strong odor



**emcon**  
ASSOCIATES

Consultants in Wastes  
Management and  
Environmental Control

Date July 15, 1992  
Project G70-02.01

To:  
Mr. Joel Coffman  
RESNA/ Applied Geosystems  
3315 Almaden Expressway, Suite 34  
San Jose, California 95050

We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water / Floating Product Survey Results</u>
<u>2</u>	<u>Summary of Groundwater Monitoring Data</u>
<u>1</u>	<u>Certified Analytical Reports with Chain-of-Custody</u>
<u>8</u>	<u>Water Sample Field Data Sheets</u>

For your:  X  Information Sent by:  X  Mail

Comments:

Enclosed are the data from the second quarter 1992 monitoring event at ARCO service station 276, 10600 MacArthur Boulevard, Oakland, CA. Groundwater monitoring is conducted consistent with applicable regulatory guidelines. Please call if you have any questions: (408) 453-2266.

Jim Butera JB

Reviewed by:

clj/9c

Robert Porter  
Robert Porter, Senior Project  
Engineer.

FIELD REPORT  
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : G70-02.01

STATION ADDRESS : 10600 MacArthur Blvd. Oakland

DATE : 6.30.92

ARCO STATION # : 276

FIELD TECHNICIAN : MG / JW / KLR

DAY : TUESDAY

Well Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-1	OK	OK	OK	OK	OK	34.55	34.55	ND	ND	39.20	—
2	MW-5	OK	OK	OK	OK	BAD	34.00	34.00	ND	ND	47.62	NEEDS NEW L.W.C.
3	MW-3	OK	OK	OK	OK	OK	34.97	34.97	ND	ND	38.75	—
4	RW-1	OK	OK	OK	<del>OK</del>	BAD	34.55	34.55	ND	ND	48.80	WATER IN BOX, NO LOCK, NEEDS NEW L.W.C.
5	MW-4	OK	OK	OK	OK	OK	34.06	34.06	ND	ND	48.90	—
6	MW-6	OK	yes	yes	NO	yes	35.5	35.5	ND	ND	55.70	—
7	MW-7	OK	yes	yes	NO	yes	23.7	23.7	ND	ND	51.5	NO LOCK
8	MW-2	OK	OK	OK	OK	yes	21.1	21.1	ND	ND	25.50	SKIMMER WASN'T IN WATER

Summary of Groundwater Monitoring Data  
 Second Quarter 1992  
 ARCO Service Station 276  
 10600 MacArthur Boulevard, Oakland, California  
 micrograms per liter (µg/l) and milligrams per liter (mg/l)

Well ID and Sample Depth	Sampling Date	Depth To Water (feet)	Floating Product Thickness (feet)	TPH <sup>1</sup> as Gasoline (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	Total Oil and Grease (mg/l)
MW 1(39)	06/30/92	34.55	ND <sup>2</sup>	<50	<0.5	<0.5	<0.5	<0.5	NR <sup>3</sup>
MW 2(25)	06/30/92	19.11	ND.	130,000	10,000	16,000	4,700	24,000.	NR
MW 3(38)	06/30/92	34.97	ND.	<530	<0.5	<0.5	<0.5	<0.5	NR
MW 4(48)	06/30/92	34.06	ND	<670	<0.5	<0.5	<2.3	<0.5	0.5
MW-5(47)	06/30/92	34.00	ND.	<50	<0.5	<0.5	<0.5	<0.5	NR
MW 6(55)	06/30/92	35.50	ND	<850	<0.5	<0.5	<0.5	<0.5	NR
MW 7(36)	06/30/92	23.70	ND	71,000	5,100	6,600	2,300	14,000	NR
RW 1(48)	06/30/92	34.74	ND.	<400	<0.5	<0.5	<0.5	<0.5	NR
FB 1 <sup>4</sup>	06/30/92	NA <sup>5</sup>	NA.	<50	<0.5	<0.5	<0.5	<0.5	NR

1 TPH = Total petroleum hydrocarbons

2 ND = Not detected

3 NR = Not reported; sample was not scheduled for analysis of the selected parameter

4 FB = Field blank

5 NA = Not applicable

**Columbia  
Analytical  
Services<sup>inc.</sup>**

July 13, 1992

Jim Butera  
EMCON Associates  
1921 Ringwood Avenue  
San Jose, CA 95131

Re: EMCON Project No. G70-02.01  
Arco Facility No. 276

Dear Mr. Butera:

Enclosed are the results of the water samples submitted to our lab on July 1, 1992.  
For your reference, our service request number for this work is SJ92-0792.

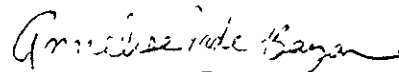
All analyses were performed in accordance with the laboratory's quality assurance program.

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

  
Keoni A. Murphy  
Laboratory Manager

  
Annelise J. Bazar  
Regional QA Coordinator

le/KAM

Analytical Report

Client: EMCON Associates  
Project: EMCON Project No. G70-02.01  
Arco Facility No. 276

Date Received: 07/01/92  
Work Order #: SJ92-0792  
Sample Matrix: Water

Inorganic Parameters  
mg/L (ppm)

Sample Name: MW-4 (48)    Method Blank  
Date Sampled: 06/30/92

<u>Analyte</u>	<u>Method</u>	<u>MRL</u>		
Total Oil and Grease	413.1	0.5	0.5	ND

**MRL** Method Reporting Limit  
**ND** None Detected at or above the method reporting limit  
Unless otherwise noted, all analyses were performed within EPA recommended maximum holding times specified in *Test Methods for Evaluating Solid Waste*, (SW-846, 3<sup>rd</sup> Edition) and *Methods for Chemical Analysis of Water and Waste* (EPA-600/4-79-020, Revised March 1983).

Approved by Kenneth M. ... Date July 13, 1992



Analytical Report

Client: EMCCN Associates  
 Project: EMCCN Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 µg/L (ppb)

Sample Name:	<u>MW-1 (39)</u>	<u>MW-2 (25)</u>	<u>MW-3 (38)</u>
Date Analyzed:	07/02/92	07/01/92	07/02/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	ND	10,000.	ND
Toluene	0.5	ND	16,000.	ND
Ethylbenzene	0.5	ND	4,700.	ND
Total Xylenes	0.5	ND	24,000.	ND
TPH as Gasoline	50	ND	130,000.	<530.*

TPH Total Petroleum Hydrocarbons

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

\* Sample matrix contains discrete, non-fuel peaks. The chromatogram does not match the typical gasoline fingerprint.

Approved by K. E. M. [Signature] Date July 13, 1992

Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 µg/L (ppb)

Sample Name: MW-4 (48)      MW-5 (47)      MW-6 (55)  
 Date Analyzed: 07/02/92      07/02/92      07/07/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	<2.3**	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	<670.*	ND	<850.*

TPH Total Petroleum Hydrocarbons

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

\* Sample matrix contains discrete, non-fuel peaks. The chromatogram does not match the typical gasoline fingerprint.

\*\* Raised MRL due to matrix interference.

Approved by *Scott M. ...* Date July 13, 1992

Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 µg/L (ppb)

Sample Name: MW-7 (36)      RW-1 (48)      FB-1  
 Date Analyzed: 07/02/92      07/02/92      07/02/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	5,100.	ND	ND
Toluene	0.5	6,600.	ND	ND
Ethylbenzene	0.5	2,300.	ND	ND
Total Xylenes	0.5	14,000.	ND	ND
TPH as Gasoline	50	71,000.	< 400.*	ND

TPH Total Petroleum Hydrocarbons  
 MRL Method Reporting Limit  
 ND None Detected at or above the method reporting limit  
 \* Sample matrix contains, discrete non-fuel peaks. The chromatogram does not match the typical gasoline fingerprint.

Approved by K. [Signature] Date July 13, 1992

Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 µg/L (ppb)

Sample Name: \_\_\_\_\_  
 Date Analyzed: \_\_\_\_\_

Method Blank      Method Blank      Method Blank  
 07/01/92            07/02/92            07/07/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND

TPH Total Petroleum Hydrocarbons  
 MRL Method Reporting Limit  
 ND None Detected at or above the method reporting limit

Approved by *Kenneth Murphy* Date July 13, 1992

## Analytical Report

Client: EMCCN Associates  
 Project: EMCCN Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

Volatile Organic Compounds  
 EPA Method 624  
 µg/L (ppb)

Sample Name:		<u>MW-1 (39)</u>	<u>MW-2 (25)*</u>	<u>MW-3 (38)*</u>
Date Analyzed:		07/07/92	07/08/92	07/09/92
<u>Analyte</u>	<u>MRL</u>			
Chloromethane	1	ND	< 100.	< 20.
Vinyl Chloride	1	ND	< 100.	< 20.
Bromomethane	1	ND	< 100.	< 20.
Chloroethane	1	ND	< 100.	< 20.
Trichlorofluoromethane (Freon 11)	1	ND	< 100.	< 20.
Trichlorotrifluoroethane (Freon 113)	10	ND	< 1,000.	< 200.
1,1-Dichloroethene	1	ND	< 100.	< 20.
Acetone	20	ND	< 2,000.	< 400.
Carbon Disulfide	1	ND	< 100.	< 20.
Methylene Chloride	10	ND	< 1,000.	< 200.
<i>trans</i> -1,2-Dichloroethene	1	ND	< 100.	< 20.
<i>cis</i> -1,2-Dichloroethene	1	ND	< 100.	< 20.
2-Butanone (MEK)	10	ND	< 1,000.	< 200.
1,1-Dichloroethane	1	ND	< 100.	< 20.
Chloroform	1	ND	< 100.	< 20.
1,1,1-Trichloroethane (TCA)	1	ND	< 100.	< 20.
Carbon Tetrachloride	1	ND	< 100.	< 20.
Benzene	1	ND	9,300.	< 20.
1,2-Dichloroethane	1	ND	< 100.	< 20.
Vinyl Acetate	10	ND	< 1,000.	< 200.
Trichloroethene (TCE)	1	ND	< 100.	< 20.
1,2-Dichloropropane	1	ND	< 100.	< 20.
Bromodichloromethane	1	ND	< 100.	< 20.
2-Chloroethyl Vinyl Ether	10	ND	< 1,000.	< 200.
<i>trans</i> -1,3-Dichloropropene	1	ND	< 100.	< 20.
2-Hexanone	10	ND	< 1,000.	< 200.
4-Methyl-2-pentanone (MIBK)	10	ND	< 1,000.	< 200.
Toluene	1	ND	18,000.	< 20.
<i>cis</i> -1,3-Dichloropropene	1	ND	< 100.	< 20.
1,1,2-Trichloroethane	1	ND	< 100.	< 20.
Tetrachloroethene (PCE)	1	15.	< 100.	1,500.
Dibromochloromethane	1	ND	< 100.	< 20.
Chlorobenzene	1	ND	< 100.	< 20.
Ethylbenzene	1	ND	4,200.	< 20.
Styrene	1	ND	< 100.	< 20.
Total Xylenes	1	ND	27,000.	< 20.
Bromoform	1	ND	< 100.	< 20.
1,1,2,2-Tetrachloroethane	1	ND	< 100.	< 20.
1,3-Dichlorobenzene	1	ND	< 100.	< 20.
1,4-Dichlorobenzene	1	ND	< 100.	< 20.
1,2-Dichlorobenzene	1	ND	< 100.	< 20.

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

\* Raised MRL due to high analyte concentration requiring sample dilution.

Approved by

*Kenneth M. ...*

Date

*July 13, 1992*

## Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

Volatile Organic Compounds  
 EPA Method 624  
 µg/L (ppb)

Analyte	MRL	Sample Name:	MW-4 (48)*	MW-5 (47)	MW-6 (55)*
		Date Analyzed:	07/09/92	07/09/92	07/09/92
Chloromethane	1		< 20.	ND	< 20.
Vinyl Chloride	1		< 20.	ND	< 20.
Bromomethane	1		< 20.	ND	< 20.
Chloroethane	1		< 20.	ND	< 20.
Trichlorofluoromethane (Freon 11)	1		< 20.	ND	< 20.
Triclorotrifluoroethane (Freon 113)	10		< 200.	ND	< 200.
1,1-Dichloroethene	1		< 20.	ND	< 20.
Acetone	20		< 400.	ND	< 400.
Carbon Disulfide	1		< 20.	ND	< 20.
Methylene Chloride	10		< 200.	ND	< 200.
<i>trans</i> -1,2-Dichloroethene	1		< 20.	ND	< 20.
<i>cis</i> -1,2-Dichloroethene	1		< 20.	ND	< 20.
2-Butanone (MEK)	10		< 200.	ND	< 200.
1,1-Dichloroethane	1		< 20.	ND	< 20.
Chloroform	1		< 20.	ND	< 20.
1,1,1-Trichloroethane (TCA)	1		< 20.	ND	< 20.
Carbon Tetrachloride	1		< 20.	ND	< 20.
Benzene	1		< 20.	ND	< 20.
1,2-Dichloroethane	1		< 20.	ND	< 20.
Vinyl Acetate	10		< 200.	ND	< 200.
Trichloroethene (TCE)	1		< 20.	ND	< 20.
1,2-Dichloropropane	1		< 20.	ND	< 20.
Bromodichloromethane	1		< 20.	ND	< 20.
2-Chloroethyl Vinyl Ether	10		< 200.	ND	< 200.
<i>trans</i> -1,3-Dichloropropene	1		< 20.	ND	< 20.
2-Hexanone	10		< 200.	ND	< 200.
4-Methyl-2-pentanone (MIBK)	10		< 200.	ND	< 200.
Toluene	1		< 20.	ND	< 20.
<i>cis</i> -1,3-Dichloropropene	1		< 20.	ND	< 20.
1,1,2-Trichloroethane	1		< 20.	ND	< 20.
Tetrachloroethene (PCE)	1		1,800.	30.	2,400.
Dibromochloromethane	1		< 20.	ND	< 20.
Chlorobenzene	1		< 20.	ND	< 20.
Ethylbenzene	1		< 20.	ND	< 20.
Styrene	1		< 20.	ND	< 20.
Total Xylenes	1		< 20.	ND	< 20.
Bromoform	1		< 20.	ND	< 20.
1,1,2,2-Tetrachloroethane	1		< 20.	ND	< 20.
1,3-Dichlorobenzene	1		< 20.	ND	< 20.
1,4-Dichlorobenzene	1		< 20.	ND	< 20.
1,2-Dichlorobenzene	1		< 20.	ND	< 20.

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

\* Raised MRL due to high analyte concentration requiring sample dilution.

Approved by KEVIN H. MANNING Date JULY 13 1992

Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

Volatlie Organic Compounds  
 EPA Method 624  
 µg/L (ppb)

Sample Name:	MW-7 (36)*	RW-1 (48)*	FB-1	
Date Analyzed:	07/09/92	07/09/92	07/09/92	
Analyte	MRL			
Chloromethane	1	< 50.	< 20.	ND
Vinyl Chloride	1	< 50.	< 20.	ND
Bromomethane	1	< 50.	< 20.	ND
Chloroethane	1	< 50.	< 20.	ND
Trichlorofluoromethane (Freon 11)	1	< 50.	< 20.	ND
Trichlorotrifluoroethane (Freon 113)	10	< 500.	< 200.	ND
1,1-Dichloroethene	1	< 50.	< 20.	ND
Acetone	20	< 1,000.	< 400.	ND
Carbon Disulfide	1	< 50.	< 20.	ND
Methylene Chloride	10	< 500.	< 200.	ND
trans-1,2-Dichloroethene	1	< 50.	< 20.	ND
cis-1,2-Dichloroethene	1	< 50.	< 20.	ND
2-Butanone (MEK)	10	< 500.	< 200.	ND
1,1-Dichloroethane	1	< 50.	< 20.	ND
Chloroform	1	< 50.	< 20.	ND
1,1,1-Trichloroethane (TCA)	1	< 50.	< 20.	ND
Carbon Tetrachloride	1	< 50.	< 20.	ND
Benzene	1	5,100.	< 20.	ND
1,2-Dichloroethane	1	< 50.	< 20.	ND
Vinyl Acetate	10	< 500.	< 200.	ND
Trichloroethene (TCE)	1	< 50.	< 20.	ND
1,2-Dichloropropane	1	< 50.	< 20.	ND
Bromodichloromethane	1	< 50.	< 20.	ND
2-Chloroethyl Vinyl Ether	10	< 500.	< 200.	ND
trans-1,3-Dichloropropene	1	< 50.	< 20.	ND
2-Hexanone	10	< 500.	< 200.	ND
4-Methyl-2-pentanone (MIBK)	10	< 500.	< 200.	ND
Toluene	1	6,800.	< 20.	ND
cis-1,3-Dichloropropene	1	< 50.	< 20.	ND
1,1,2-Trichloroethane	1	< 50.	< 20.	ND
Tetrachloroethene (PCE)	1	< 50.	1,100.	ND
Dibromochloromethane	1	< 50.	< 20.	ND
Chlorobenzene	1	< 50.	< 20.	ND
Ethylbenzene	1	2,300.	< 20.	ND
Styrene	1	< 50.	< 20.	ND
Total Xylenes	1	16,000.	< 20.	ND
Bromoform	1	< 50.	< 20.	ND
1,1,2,2-Tetrachloroethane	1	< 50.	< 20.	ND
1,3-Dichlorobenzene	1	< 50.	< 20.	ND
1,4-Dichlorobenzene	1	< 50.	< 20.	ND
1,2-Dichlorobenzene	1	< 50.	< 20.	ND

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

\* Raised MRL due to high analyte concentration requiring sample dilution.

Approved by APC/MTM/MLM Date July 13, 1992

## Analytical Report

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

Volatile Organic Compounds  
 EPA Method 624  
 $\mu\text{g:L}$  (ppb)

Sample Name: Date Analyzed:	Method Blank 07/07/92	Method Blank 07/08/92	Method Blank 07/09/92
<u>Analyte</u>	<u>MRL</u>		
Chloromethane	1	ND	ND
Vinyl Chloride	1	ND	ND
Bromomethane	1	ND	ND
Chloroethane	1	ND	ND
Trichlorofluoromethane (Freon 11)	1	ND	ND
Trichlorotrifluoroethane (Freon 113)	10	ND	ND
1,1-Dichloroethene	1	ND	ND
Acetone	20	ND	ND
Carbon Disulfide	1	ND	ND
Methylene Chloride	10	ND	ND
<i>trans</i> -1,2-Dichloroethene	1	ND	ND
<i>cis</i> -1,2-Dichloroethene	1	ND	ND
2-Butanone (MEK)	10	ND	ND
1,1-Dichloroethane	1	ND	ND
Chloroform	1	ND	ND
1,1,1-Trichloroethane (TCA)	1	ND	ND
Carbon Tetrachloride	1	ND	ND
Benzene	1	ND	ND
1,2-Dichloroethane	1	ND	ND
Vinyl Acetate	10	ND	ND
Trichloroethene (TCE)	1	ND	ND
1,2-Dichloropropane	1	ND	ND
Bromodichloromethane	1	ND	ND
2-Chloroethyl Vinyl Ether	10	ND	ND
<i>trans</i> -1,3-Dichloropropene	1	ND	ND
2-Hexanone	10	ND	ND
4-Methyl-2-pentanone (MIBK)	10	ND	ND
Toluene	1	ND	ND
<i>cis</i> -1,3-Dichloropropene	1	ND	ND
1,1,2-Trichloroethane	1	ND	ND
Tetrachloroethene (PCE)	1	ND	ND
Dibromochloromethane	1	ND	ND
Chlorobenzene	1	ND	ND
Ethylbenzene	1	ND	ND
Styrene	1	ND	ND
Total Xylenes	1	ND	ND
Bromoform	1	ND	ND
1,1,2,2-Tetrachloroethane	1	ND	ND
1,3-Dichlorobenzene	1	ND	ND
1,4-Dichlorobenzene	1	ND	ND
1,2-Dichlorobenzene	1	ND	ND

MRL Method Reporting Limit

ND None Detected at or above the method reporting limit

Approved by

*See attached*

Date

July 13, 1992



# WATER SAMPLE FIELD DATA SHEET



**EMCON**  
ASSOCIATES

PROJECT NO: L70-02-C1  
 PURGED BY: E.W. Williams  
 SAMPLED BY: E.W. Williams

SAMPLE ID: RW-1(48)  
 CLIENT NAME: ARCO 776  
 LOCATION: Orkland

TYPE: Ground Water  Surface Water  Treatment Effluent  Other   
 CASING DIAMETER (inches): 2  3  4  4.5  6  Other

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): ~~2154~~ 209  
 DEPTH TO WATER (feet): ~~2~~ 34.55 CALCULATED PURGE (gal.): 104.89  
 DEPTH OF WELL (feet): 48.80 ACTUAL PURGE VOL (gal.): 105

DATE PURGED: 6-16-07 Start (2400 Hr) 11:15 End (2400 Hr) 11:59  
 DATE SAMPLED: 6-16-07 Start (2400 Hr) 12:01 End (2400 Hr) 12:05

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1126</u>	<u>21</u>	<u>6.48</u>	<u>1158</u>	<u>66.5</u>	<u>CLEAR</u>	<u>0</u>
<u>1135</u>	<u>42</u>	<u>6.14</u>	<u>996</u>	<u>64.3</u>	<u>L</u>	<u>L</u>
<u>1145</u>	<u>63</u>	<u>6.07</u>	<u>859</u>	<u>61.0</u>	<u>L</u>	<u>L</u>
<u>1152</u>	<u>84</u>	<u>6.00</u>	<u>954</u>	<u>62.9</u>	<u>L</u>	<u>L</u>
<u>1159</u>	<u>105</u>	<u>6.05</u>	<u>820</u>	<u>66.7</u>	<u>L</u>	<u>L</u>

D. O. (ppm): NR ODCR: None (COBALT 0 - 100) (NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): FB-1

**PURGING EQUIPMENT**

**SAMPLING EQUIPMENT**

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump             | <input type="checkbox"/> Bailor (Teflon®)         | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailor (Teflon®) |
| <input checked="" type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailor (PVC)             | <input type="checkbox"/> DDL Sampler     | <input type="checkbox"/> Bailor (Stainless Steel)    |
| <input checked="" type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailor (Stainless Steel) | <input type="checkbox"/> Dipper          | <input type="checkbox"/> Submersible Pump            |
| <input type="checkbox"/> Well Wizard™                | <input type="checkbox"/> Dedicated                | <input type="checkbox"/> Well Wizard™    | <input type="checkbox"/> Dedicated                   |
| Other: _____   |   | Other: _____                             |  |

WELL INTEGRITY: WATER IN BOX LOCK #: ON LOCK  
 REMARKS: KAP IS BROKEN OR LOCKING  
CHR

Meter Calibration: Date: 6-7-07 Time: \_\_\_\_\_ Meter Serial #: 9203 Temperature °F: 91.4  
 (EC 1000 949 / 1000) (DI \_\_\_\_\_) (pH 7 6.67 / 7.00) (pH 10 993 / 1000) (pH 4 9.73 / 10.00)

Location of previous calibration: \_\_\_\_\_

TR



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 470-02 C1  
PURGED BY: S. J. H. [unclear]  
SAMPLED BY: S. J. H. [unclear]

SAMPLE ID: MLL-1(39)  
CLIENT NAME: ARCC 276  
LOCATION: Cricklewood, CA

TYPE: Ground Water  Surface Water  Treatment Effluent  Other

CASING DIAMETER (inches): 2  3  4  4.5  6  Other

CASING ELEVATION (feet/MSL): WTC VOLUME IN CASING (gal.): .75  
DEPTH TO WATER (feet): 34.55 CALCULATED PURGE (gal.): 3.75  
DEPTH OF WELL (feet): 29.20 ACTUAL PURGE VOL (gal.): 5

DATE PURGED: 06-29-92 Start (2400 Hr) 14:07 End (2400 Hr) 14:32  
DATE SAMPLED: 06-29-92 Start (2400 Hr) 14:55 End (2400 Hr) 14:57

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
14:14	1	6.37	3640	68.1	BROWN	HEAVY
14:19	2	6.49	3700	67.9	-	1
14:22	3	6.46	3700	67.0	L	L
14:28	4	6.51	3750	67.0	L	-
14:32	5	6.53	3800	66.8	L	-

D. O. (ppm): 10 ODCR: 100 (COBALT 0-100) (NTU 0-200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): 2.17

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailor (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailor (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailor (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailor (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: \_\_\_\_\_

Meter Calibration: Date: 12-22-91 Time: 12:00 Meter Serial #: 9203 Temperature °F: 72.9  
(EC 1000 17100) (DI 100) (pH 7 7.00) (pH 10 10.00) (pH 4 3.94)  
Location of previous calibration: \_\_\_\_\_



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 670 02.01  
PURGED BY: J WILLIAMS  
SAMPLED BY: J. WILLIAMS

SAMPLE ID: MW-2( )  
CLIENT NAME: ARCO 276  
LOCATION: 10600 MacARTHUR BLVD  
OAKLAND

TYPE: Ground Water  Surface Water  Treatment Effluent  Other

CASING DIAMETER (inches): 2  3  4  4.5  6  Other

CASING ELEVATION (feet/MSL): — VOLUME IN CASING (gal.): 4.19  
DEPTH TO WATER (feet): 19.11 CALCULATED PURGE (gal.): 20.95  
DEPTH OF WELL (feet): 25.5 ACTUAL PURGE VOL (gal.): 16.50

DATE PURGED: 6-30-92 Start (2400 Hr) 1423 End (2400 Hr) 1444  
DATE SAMPLED: 6-30-92 Start (2400 Hr) 1440 End (2400 Hr) 1441

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1423</u>	<u>4.25</u>	<u>6.18</u>	<u>955</u>	<u>70.2</u>	<u>CLOUDY</u>	<u>LIGHT</u>
<u>1427</u>	<u>8.50</u>	<u>6.29</u>	<u>948</u>	<u>71.0</u>		
	<u>12.75</u>	<u>6.34</u>	<u>928</u>	<u>70.3</u>		
<del>1433</del>	<del>17.50</del>	<u>DRIED @ 16.50 GALLONS</u>				
<u>1444</u>	<del>17.50</del>	<u>6.42</u>	<u>946</u>	<u>73.7</u>	<u>✓</u>	<u>✓</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>STRONG</u>		<u>NR</u>	<u>NR</u>
					(COBALT 0 - 100)	(NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

### PURGING EQUIPMENT

### SAMPLING EQUIPMENT

- |   |   |  |  |
|---|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump  | <input type="checkbox"/> Bailer (Teflon®)         | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input type="checkbox"/> Centrifugal Pump | <input checked="" type="checkbox"/> Bailer (PVC)  | <input type="checkbox"/> DDL Sampler     | <input type="checkbox"/> Bailer (Stainless Steel)    |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper          | <input type="checkbox"/> Submersible Pump            |
| <input type="checkbox"/> Well Wizard™     | <input type="checkbox"/> Dedicated                | <input type="checkbox"/> Well Wizard™    | <input type="checkbox"/> Dedicated                   |
| Other: _____                              |   | Other: _____                             |  |

WELL INTEGRITY: GOOD LOCK #: 3259

REMARKS: SHEEN ON TOP OF WATER  
SKIMMER WASN'T IN WATER  
DRIED WELL @ 16.50 GALLONS (1433)

Meter Calibration: Date: 6-30-92 Time: \_\_\_\_\_ Meter Serial #: 9203 Temperature °F: \_\_\_\_\_  
( EC 1000 \_\_\_\_\_ / \_\_\_\_\_ ) ( DI \_\_\_\_\_ ) ( pH 7 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 10 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 4 \_\_\_\_\_ / \_\_\_\_\_ )

Location of previous calibration: RW-1

Signature: J. Williams Reviewed By: JTB Page 3 of 5

# WATER SAMPLE FIELD DATA SHEET



**EMCON**  
ASSOCIATES

PROJECT NO: G70-0201  
 PURGED BY: M. Collins  
 SAMPLED BY: M. Collins

SAMPLE ID: MW-3  
 CLIENT NAME: ARCO - 770  
 LOCATION: Palmdale

TYPE: Ground Water  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2  3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION (feet/MSL): \_\_\_\_\_ VOLUME IN CASING (gal.): 0.61  
 DEPTH TO WATER (feet): 2097 CALCULATED PURGE (gal.): 303  
 DEPTH OF WELL (feet): 2275 ACTUAL PURGE VOL. (gal.): 35

DATE PURGED: 6-29-92 Start (2400 Hr) 1532 End (2400 Hr) 1554  
 DATE SAMPLED: 6-29-92 Start (2400 Hr) 1600 End (2400 Hr) 1602

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
1534	.5	6.84	1390	66.4	Brown	Heavy
1541	1.0	6.77	1380	65.9	"	"
1545	1.5	6.68	1365	66.2	"	"
1550	2.0	6.65	1442	66.2	"	"
1554	3.0	6.66	1455	66.1	"	"
D. O. (ppm):	<u>NR</u>		ODCR: <u>NR</u>		<u>NR</u>	<u>NR</u>
					(COBALT 0 - 100)	(NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): \_\_\_\_\_

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailer (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: All samples taken

Meter Calibration: Date: \_\_\_\_\_ Time: \_\_\_\_\_ Meter Serial #: \_\_\_\_\_ Temperature °F: \_\_\_\_\_  
 ( EC 1000 \_\_\_\_\_ / \_\_\_\_\_ ) ( DI \_\_\_\_\_ ) ( pH 7 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 10 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 4 \_\_\_\_\_ / \_\_\_\_\_ )  
 Location of previous calibration: Palmdale  
 Reviewed By: JH Page 4 of 5



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 670-02.01 SAMPLE ID: MW-4  
 PURGED BY: K REICHELDERFER CLIENT NAME: ARCO 276  
 SAMPLED BY: K REICHELDERFER LOCATION: 10600 Mac ARTHUR BL  
OAKLAND

TYPE: Ground Water  Surface Water  Treatment Effluent  Other   
 CASING DIAMETER (inches): 2  3  4  4.5  6  Other

CASING ELEVATION (feet/MSL):       -       VOLUME IN CASING (gal.): 2.42  
 DEPTH TO WATER (feet): 34.06 CALCULATED PURGE (gal.): 12.11  
 DEPTH OF WELL (feet): 48.90 ACTUAL PURGE VOL (gal.): 12.50

DATE PURGED: 6-30-92 Start (2400 Hr) 1119 End (2400 Hr) 1146  
 DATE SAMPLED: 6-30-92 Start (2400 Hr) 1203 End (2400 Hr) 1209

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1119</u>	<u>2.50</u>	<u>6.81</u>	<u>1320</u>	<u>67.6</u>	<u>BROWN</u>	<u>HEAVY</u>
<u>1124</u>	<u>5.00</u>	<u>6.67</u>	<u>1233</u>	<u>66.0</u>	<u> </u>	<u> </u>
<u>1131</u>	<u>7.50</u>	<u>6.48</u>	<u>1230</u>	<u>64.6</u>	<u> </u>	<u> </u>
<u>1138</u>	<u>10.00</u>	<u>6.30</u>	<u>843</u>	<u>62.0</u>	<u> </u>	<u> </u>
<u>1146</u>	<u>12.50</u>	<u>6.38</u>	<u>885</u>	<u>61.2</u>	<u>↓</u>	<u>↓</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>MILD</u>		<u>NR</u>	<u>NR</u>
					(CCBALT 0 - 100)	(NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailer (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: GOOD LOCK #: 3259  
 REMARKS: SUSPECT PROBLEM W/ METER - CHANGED TO J. WILLIAMS' METER  
PH METER, NOT WATER METER

Meter Calibration: Date: 6-30-92 Time: \_\_\_\_\_ Meter Serial #: 9203 Temperature °F: \_\_\_\_\_  
 ( EC 1000 \_\_\_\_\_ / \_\_\_\_\_ ) ( DI \_\_\_\_\_ ) ( pH 7 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 10 \_\_\_\_\_ / \_\_\_\_\_ ) ( pH 4 \_\_\_\_\_ / \_\_\_\_\_ )  
 Location of previous calibration: RW-1  
 Signature: [Signature] Reviewed By: JR Page 5 of 8



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 670-02.01  
PURGED BY: S W Williams  
SAMPLED BY: S W Williams

SAMPLE ID: MW-5  
CLIENT NAME: ARCO 271  
LOCATION: OAKLAND CA

TYPE: Ground Water  Surface Water  Treatment Effluent  Other

CASING DIAMETER (inches): 2  3  4  4.5  6  Other

CASING ELEVATION (feet/MSL): 10.2 VOLUME IN CASING (gal.): 8.93  
DEPTH TO WATER (feet): 940 CALCULATED PURGE (gal.): 44.67  
DEPTH OF WELL (feet): 44.2 ACTUAL PURGE VOL (gal.): 4.5

DATE PURGED: 06-29-92 Start (2400 Hr) 15:26 End (2400 Hr) 14:00  
DATE SAMPLED: 06-29-92 Start (2400 Hr) 14:02 End (2400 Hr) 14:05

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
13:44	9	6.71	571	68.9	CLEAR	0
15:40	14	6.70	577	68.1	2	
15:52	27	<del>6.70</del> 6.64	563	68.6	2	2
15:55	36	6.67	554	68.3	2	2
17:00	45	6.61	564	68.2	2	2

D. O. (ppm): 1.2 ODCR: None (COBALT 0-100) 1.8 (NTU 0-200) 1.8

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): 4 A

### PURGING EQUIPMENT

### SAMPLING EQUIPMENT

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump             | <input type="checkbox"/> Bailer (Teflon®)         | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input type="checkbox"/> Centrifugal Pump            | <input type="checkbox"/> Bailer (PVC)             | <input type="checkbox"/> ODL Sampler     | <input type="checkbox"/> Bailer (Stainless Steel)    |
| <input checked="" type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper          | <input type="checkbox"/> Submersible Pump            |
| <input type="checkbox"/> Well Wizard™                | <input type="checkbox"/> Dedicated                | <input type="checkbox"/> Well Wizard™    | <input type="checkbox"/> Dedicated                   |
| Other: _____   |   | Other: _____                             |  |

WELL INTEGRITY: OK WITH WELL LOCKING LOCK #: 2259

REMARKS: CAP

Meter Calibration: Date: \_\_\_\_\_ Time: \_\_\_\_\_ Meter Serial #: \_\_\_\_\_ Temperature °F: \_\_\_\_\_

(EC 1000 \_\_\_\_\_ / \_\_\_\_\_) (DI \_\_\_\_\_) (pH 7 \_\_\_\_\_ / \_\_\_\_\_) (pH 10 \_\_\_\_\_ / \_\_\_\_\_) (pH 4 \_\_\_\_\_ / \_\_\_\_\_)

Location of previous calibration: MW-1



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 470-02.01 SAMPLE ID: MW-6  
 PURGED BY: K. REICHELDERFER CLIENT NAME: ARCO 276  
 SAMPLED BY: K. REICHELDERFER LOCATION: 10600 MacARTHUR BLVD  
OAKLAND

TYPE: Ground Water  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_  
 CASING DIAMETER (inches): 2 X 3 \_\_\_\_\_ 4 \_\_\_\_\_ 4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

CASING ELEVATION (feet/MSL):                      VOLUME IN CASING (gal.): 2.57  
 DEPTH TO WATER (feet): 39.26 CALCULATED PURGE (gal.): 12.84  
 DEPTH OF WELL (feet): 55.66 ACTUAL PURGE VOL (gal.): 13.75

DATE PURGED: 6-30-92 Start (2400 Hr) 1305 End (2400 Hr) 1339  
 DATE SAMPLED: 6-30-92 Start (2400 Hr) 1350 End (2400 Hr) 1353

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1308</u>	<u>2.75</u>	<u>6.30</u>	<u>2050</u>	<u>70.1</u>	<u>BROWN</u>	<u>HEAVY</u>
<u>1314</u>	<u>5.50</u>	<u>6.56</u>	<u>2650</u>	<u>67.8</u>	<u> </u>	<u> </u>
<u>1324</u>	<u>8.25</u>	<u>6.63</u>	<u>2640</u>	<u>67.5</u>	<u> </u>	<u> </u>
<u>1332</u>	<u>11.00</u>	<u>6.60</u>	<u>2600</u>	<u>68.2</u>	<u> </u>	<u> </u>
<u>1339</u>	<u>13.75</u>	<u>6.67</u>	<u>2400</u>	<u>68.3</u>	<u>↓</u>	<u>↓</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>NONE</u>		<u>NR</u>	<u>NR</u>
					(CCBALT 0 - 100)	(NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailor (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailor (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailor (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailor (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: GOOD LOCK #: NO LOCK

REMARKS: WATER IN C-BOX

---



---

Meter Calibration: Date: 6-30-92 Time: \_\_\_\_\_ Meter Serial #: 9203 Temperature °F: \_\_\_\_\_  
 (EC 1000 \_\_\_\_\_ / \_\_\_\_\_) (DI \_\_\_\_\_) (pH 7 \_\_\_\_\_ / \_\_\_\_\_) (pH 10 \_\_\_\_\_ / \_\_\_\_\_) (pH 4 \_\_\_\_\_ / \_\_\_\_\_)

Location of previous calibration: RW-1  
 Signature: Kenneth Reichelderfer Reviewed By: TH Page 7 of 8



**EMCON ASSOCIATES**

# WATER SAMPLE FIELD DATA SHEET

PROJECT NO: G70-02.01  
 PURGED BY: SW Williams  
 SAMPLED BY: SW Williams

SAMPLE ID: MLW-17  
 CLIENT NAME: ARCO 276  
 LOCATION: Oakland, CA

TYPE: Ground Water  Surface Water  Treatment Effluent  Other   
 CASING DIAMETER (inches): 2.75 3  4  4.5  6  Other

CASING ELEVATION (feet/MSL): 1212 VOLUME IN CASING (gal.): 2.3  
 DEPTH TO WATER (feet): 22.99 CALCULATED PURGE (gal.): 11.51  
 DEPTH OF WELL (feet): 37 ACTUAL PURGE VOL (gal.): 12.0

DATE PURGED: 6-30-92 Start (2400 Hr) 13:05 End (2400 Hr) 13:35  
 DATE SAMPLED: 6-30-92 Start (2400 Hr) 13:38 End (2400 Hr) 13:40

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
13:10	2.5	6.29	936	70.1	BLUISH	HEAVY
13:15	5	6.34	999	69.1	L	L
13:20	7.5	6.35	981	69.4	L	L
13:25	10	6.33	981	69.1	L	V
13:35	12	6.35	979	69.5	L	L

D. O. (ppm): NR ODOR: STRONG (CCBALT 0 - 100) (NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailor (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailor (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailor (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailor (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: OK LOCK #: NO LOCK

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Meter Calibration: Date: \_\_\_\_\_ Time: \_\_\_\_\_ Meter Serial #: \_\_\_\_\_ Temperature °F: \_\_\_\_\_  
 (EC 1000 \_\_\_\_\_) (DI \_\_\_\_\_) (pH 7 \_\_\_\_\_) (pH 10 \_\_\_\_\_) (pH 4 \_\_\_\_\_)  
 Location of previous calibration: MLW-17



Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Continuing Calibration Summary  
 BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 Nanograms

Date Analyzed: 07/01/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	239.	96.	85-115
Toluene	250.	254.	102.	85-115
Ethylbenzene	250.	253.	101.	85-115
Total Xylenes	750.	698.	93.	85-115
TPH as Gasoline	2,500.	2,482.	99.	90-110

Date Analyzed: 07/02/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	263.	105.	85-115
Toluene	250.	280.	112.	85-115
Ethylbenzene	250.	280.	112.	85-115
Total Xylenes	750.	776.	103.	85-115
TPH as Gasoline	2,500.	2,511.	100.	90-110

TPH Total Petroleum Hydrocarbons

Approved by *[Signature]* Date July 13, 1992

Client: EMCCN Associates  
 Project: EMCCN Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Continuing Calibration Summary  
 BTEX and TPH as Gasoline  
 EPA Methods 5030/8020/DHS LUFT Method  
 Nanograms

Date Analyzed: 07/07/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	248.	99.	85-115
Toluene	250.	262.	105.	85-115
Ethylbenzene	250.	260.	104.	85-115
Total Xylenes	750.	710.	95.	85-115
TPH as Gasoline	2,500.	2,331.	93.	90-110

TPH Total Petroleum Hydrocarbons

Approved by *Kenneth Williams* Date July 13, 1992

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

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

<u>Sample Name</u>	<u>Date Analyzed</u>	<u>Percent Recovery</u> <i>a,a,a</i> -Trifluorotoluene
MW-1 (39)	07/02/92	107.
MW-2 (25)	07/01/92	109.
MW-3 (38)	07/02/92	116.
MW-4 (48)	07/02/92	110.
MW-5 (47)	07/02/92	111.
MW-6 (55)	07/07/92	103.
MW-7 (36)	07/02/92	117.
RW-1 (48)	07/02/92	111.
FB-1	07/02/92	110.
MW-1 (39) MS	07/02/92	113.
MW-1 (39) DMS	07/02/92	115.
Method Blank	07/01/92	111.
Method Blank	07/02/92	103.
Method Blank	07/07/92	98.

CAS Acceptance Criteria 70-130

TPH Total Petroleum Hydrocarbons

Approved by

*K. C. Smith*

Date

*July 13, 1992*

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Matrix Spike/Duplicate Matrix Spike Summary  
 TPH as Gasoline  
 EPA Method 5030/DHS LUFT Method  
 µg/L (ppb)

Sample Name: MW-1 (39)  
 Date Analyzed: 07/02,92

Percent Recovery

<u>Analytes</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>Spike Result</u>		<u>Percent Recovery</u>		<u>Acceptance Criteria</u>
			<u>MS</u>	<u>DMS</u>	<u>MS</u>	<u>DMS</u>	
TPH as Gasoline	250.	ND	271.	260.	108.	104.	70-140

TPH Total Petroleum Hydrocarbons  
 ND None Detected at or above the method reporting limit

Approved by *AE in it, Murphy* Date *July 13, 1992*

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Continuing Calibration Summary  
 Volatile Organic Compounds  
 EPA Method 624  
 $\mu\text{g/L}$  (ppb)

Date Analyzed: 07/07/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Chloromethane	50	53.5	107.	70-130
Vinyl Chloride	50	53.4	107.	70-130
Bromomethane	50	57.9	116.	70-130
Chloroethane	50	54.0	108.	70-130
Acetone	50	48.2	96.	70-130
1,1-Dichloroethene	50	49.5	99.	70-130
Carbon Disulfide	50	46.1	92.	70-130
Methylene Chloride	50	48.2	96.	70-130
<i>trans</i> -1,2-Dichloroethene	50	48.8	98.	70-130
<i>cis</i> -1,2-Dichloroethene	50	47.7	95.	70-130
1,1-Dichloroethane	50	45.7	91.	70-130
Vinyl Acetate	50	43.2	86.	70-130
2-Butanone	50	45.5	91.	70-130
Chloroform	50	47.3	95.	70-130
1,1,1-Trichloroethane (TCA)	50	47.3	95.	70-130
Carbon Tetrachloride	50	49.6	99.	70-130
Benzene	50	47.3	95.	70-130
1,2-Dichloroethane	50	47.4	95.	70-130
Trichloroethene (TCE)	50	50.4	101.	70-130
1,2-Dichloropropane	50	45.8	92.	70-130
Bromodichloromethane	50	47.6	95.	70-130
2-Chloroethyl Vinyl Ether	50	46.0	92.	70-130
2-Hexanone	50	45.3	91.	70-130
<i>trans</i> -1,3-Dichloropropene	50	48.9	98.	70-130
Toluene	50	48.8	98.	70-130
<i>cis</i> -1,3-Dichloropropene	50	47.9	96.	70-130
1,1,2-Trichloroethane	50	48.3	97.	70-130
Tetrachloroethene (PCE)	50	49.9	100.	70-130
Dibromochloromethane	50	50.7	101.	70-130
Chlorobenzene	50	49.7	99.	70-130
Ethylbenzene	50	48.7	97.	70-130
<i>o</i> Xylene	50	48.2	96.	70-130
Styrene	50	48.6	97.	70-130
Bromoform	50	49.8	100.	70-130
1,1,2,2-Tetrachloroethane	50	46.9	94.	70-130

Approved by Kenneth M. Lynch Date July 13, 1992

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Continuing Calibration Summary  
 Volatile Organic Compounds  
 EPA Method 624  
 $\mu\text{g/L}$  (ppb)

Date Analyzed: 07/08/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Chloromethane	50	58.2	116.	70-130
Vinyl Chloride	50	57.0	114.	70-130
Bromomethane	50	59.7	119.	70-130
Chloroethane	50	59.2	118.	70-130
Acetone	50	49.2	98.	70-130
1,1-Dichloroethene	50	51.0	102.	70-130
Carbon Disulfide	50	46.8	94.	70-130
Methylene Chloride	50	49.5	99.	70-130
<i>trans</i> -1,2-Dichloroethene	50	50.6	101.	70-130
<i>cis</i> -1,2-Dichloroethene	50	49.0	98.	70-130
1,1-Dichloroethane	50	46.0	92.	70-130
Vinyl Acetate	50	54.5	109.	70-130
2-Butanone	50	49.5	99.	70-130
Chloroform	50	48.8	98.	70-130
1,1,1-Trichloroethane (TCA)	50	48.1	96.	70-130
Carbon Tetrachloride	50	49.6	99.	70-130
Benzene	50	48.6	97.	70-130
1,2-Dichloroethane	50	48.5	97.	70-130
Trichloroethene (TCE)	50	49.6	99.	70-130
1,2-Dichloropropane	50	46.3	93.	70-130
Bromodichloromethane	50	48.3	97.	70-130
2-Chloroethyl Vinyl Ether	50	47.5	95.	70-130
2-Hexanone	50	48.2	96.	70-130
<i>trans</i> -1,3-Dichloropropene	50	51.3	103.	70-130
Toluene	50	49.4	99.	70-130
<i>cis</i> -1,3-Dichloropropene	50	49.2	98.	70-130
1,1,2-Trichloroethane	50	51.1	102.	70-130
Tetrachloroethene (PCE)	50	52.3	105.	70-130
Dibromochloromethane	50	52.2	104.	70-130
Chlorobenzene	50	51.8	104.	70-130
Ethylbenzene	50	50.7	101.	70-130
<i>o</i> Xylene	50	49.6	99.	70-130
Styrene	50	50.3	101.	70-130
Bromoform	50	52.7	105.	70-130
1,1,2,2-Tetrachloroethane	50	52.4	105.	70-130

Approved by

*Kevin A. Murphy*

Date

*July 13, 1992*

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Continuing Calibration Summary  
 Volatile Organic Compounds  
 EPA Method 624  
 $\mu\text{g/L}$  (ppb)

Date Analyzed: 07/09/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Chloromethane	50	52.1	104.	70-130
Vinyl Chloride	50	45.8	92.	70-130
Bromomethane	50	59.5	119.	70-130
Chloroethane	50	49.3	99.	70-130
Acetone	50	56.8	114.	70-130
1,1-Dichloroethene	50	40.9	82.	70-130
Carbon Disulfide	50	39.6	79.	70-130
Methylene Chloride	50	50.0	100.	70-130
<i>trans</i> -1,2-Dichloroethene	50	44.9	90.	70-130
<i>cis</i> -1,2-Dichloroethene	50	48.4	97.	70-130
1,1-Dichloroethane	50	44.1	88.	70-130
Vinyl Acetate	50	56.9	114.	70-130
2-Butanone	50	55.1	110.	70-130
Chloroform	50	48.2	96.	70-130
1,1,1-Trichloroethane (TCA)	50	39.7	79.	70-130
Carbon Tetrachloride	50	38.6	77.	70-130
Benzene	50	54.3	109.	70-130
1,2-Dichloroethane	50	50.5	101.	70-130
Trichloroethene (TCE)	50	52.3	105.	70-130
1,2-Dichloropropane	50	54.9	110.	70-130
Bromodichloromethane	50	57.6	115.	70-130
2-Chloroethyl Vinyl Ether	50	59.7	119.	70-130
2-Hexanone	50	58.5	117.	70-130
<i>trans</i> -1,3-Dichloropropene	50	47.6	95.	70-130
Toluene	50	54.4	109.	70-130
<i>cis</i> -1,3-Dichloropropene	50	60.0	120.	70-130
1,1,2-Trichloroethane	50	56.6	113.	70-130
Tetrachloroethene (PCE)	50	46.0	92.	70-130
Dibromochloromethane	50	57.4	115.	70-130
Chlorobenzene	50	54.1	108.	70-130
Ethylbenzene	50	47.8	96.	70-130
<i>o</i> Xylene	50	50.6	101.	70-130
Styrene	50	53.2	106.	70-130
Bromoform	50	59.0	118.	70-130
1,1,2,2-Tetrachloroethane	50	56.6	113.	70-130

Approved by

*Kenneth M. Lynch*

Date

*July 13, 1992*

Client: EMCON Associates  
 Project: EMCON Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Surrogate Recovery Summary  
 Volatile Organic Compounds  
 EPA Method 624

Percent Recovery  
 1,2-Dichloroethane - D<sub>2</sub>    Toluene - D<sub>9</sub>    4-Bromofluorobenzene

<u>Sample Name</u>	<u>Date Analyzed</u>			
MW-1 (39)	07/07/92	95.	96.	100.
MW-2 (25)	07/08/92	97.	99.	96.
MW-3 (38)	07/09/92	95.	97.	98.
MW-4 (48)	07/09/92	93.	98.	99.
MW-5 (47)	07/09/92	94.	96.	98.
MW-6 (55)	07/09/92	92.	97.	99.
MW-7 (36)	07/09/92	92.	96.	99.
RW-1 (48)	07/09/92	94.	96.	99.
FB-1	07/09/92	94.	98.	99.
MW-1 (39) MS	07/07/92	90.	94.	96.
MW-1 (39) DMS	07/07/92	91.	96.	95.
Method Blank	07/07/92	92.	94.	98.
Method Blank	07/08/92	94.	95.	98.
Method Blank	07/09/92	94.	98.	98.

EPA Acceptance Criteria

76-114

88-110

86-115

Approved by

Date



Client: EMCCN Associates  
 Project: EMCCN Project No. G70-02.01  
 Arco Facility No. 276

Date Received: 07/01/92  
 Work Order #: SJ92-0792  
 Sample Matrix: Water

QA/QC Report  
 Matrix Spike/Duplicate Matrix Spike Summary  
 Volatile Organic Compounds  
 EPA Method 624  
 µg/L (ppb)

Sample Name: MW-1 (39)  
 Date Analyzed: 07/07/92

Percent Recovery

Analyte	Spike Level	Sample Result	Spike Result		Percent Recovery		EPA Acceptance Criteria	Relative Percent Difference
			MS	DMS	MS	DMS		
1,1-Dichloroethene	50	ND	54.7	49.2	109.	98.	61-145	11.
Trichloroethene	50	ND	48.2	43.3	96.	87.	71-120	11.
Chlorobenzene	50	ND	52.4	47.3	105.	95.	75-130	10.
Toluene	50	ND	47.8	43.4	96.	87.	76-125	10.
Benzene	50	ND	47.9	43.9	96.	88.	76-127	9.

ND None Detected at or above the method reporting limit

Approved by *Kevin H. Murphy* Date July 13, 1992

APPENDIX B  
CHAIN OF CUSTODY

City no **276** City (Facility) **OAKLAND** Project manager (Consultant) **JIM BUIERA**  
 Engineer **Kyle Christie** Telephone no. (ARCO) **(415) 571-2434** Telephone no. (Consultant) **(408) 453-0266** Fax no. (Consultant) **(408) 453-0452**  
 Consultant name **EMCON ASSOCIATES** Address (Consultant) **1938 Junction Ave San Jose**

Laboratory name **CAS**  
 Contract number **07077**  
 Method of shipment **Sample will deliver**

Sample I.D.	Lab no	Container no	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 802	BTEX/TPH EPA 1602/802/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 - 413.2	TPH EPA 418 1/5/4503E	EPA 802/8010	EPA 802/8240	EPA 625/8270	TCLP Metals VOA	Ser Metals VOA	CAM Metals EPA 6010/7000 TTL - STL	Lead Org /DHS Lead EPA 7420/7421	
			Soil	Water	Other	Ice	Acid															
1(39)1-4	4	4	X			X	HCl	6-29-92	1437		X					X						
2(25)5-8	4	4	X			X	HCl	6-30-92	1441		X					X						
3(38)9-12	4	4	X			X	HCl	6-29-92	1602		X					X						
4(48)13-18	6	6	X			X	HCl	6-30-92	1209		X	X				X						
5(47)19-22	4	4	X			X	HCl	6-29-92	1405		X					X						
6(55)23-26	4	4	X			X	HCl	6-30-92	1353		X					X						
7(31)27-30	4	4	X			X	HCl	6-30-92	1340		X					X						
8(48)31-34	4	4	X			X	HCl	6-30-92	1205		X					X						
9(1) 25-30	4	4	X			X	HCl	6-30-92	1232		X					X						

Special detection limit/reporting **Lowest Possible**

Special QA/QC **AS Normal**

Remarks **4-40m WOA's Per well  
mw-4 add:  
2-liter glass HCl  
G-70-02.01**

Lab number **SJ92-0792**

Turnaround time  
 Priority Rush 1 Business Day   
 Rush 2 Business Days   
 Expedited 5 Business Days   
 Standard 10 Business Days

Condition of sample **OK** Temperature received **COOL**  
 Inquished by **Kevin Reichelderfer** Date **7-1-92** Time **0931** Received by **AA** Date **7-1-92** Time **0931**  
 Inquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 Inquished by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by laboratory \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

DRIVEWAY

SIDEWALK

DRIVEWAY

SIDEWALK

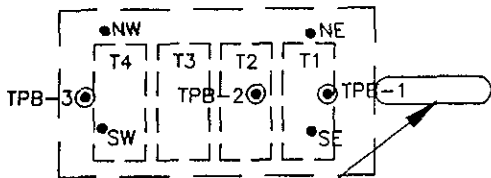
MACARTHUR BOULEVARD

DRIVEWAY

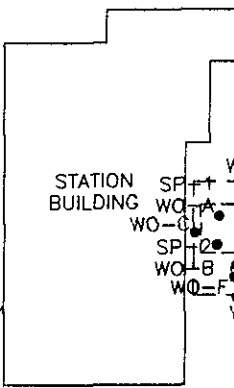
SIDEWALK

DRIVEWAY

SIDEWALK



SERVICE ISLANDS



STATION BUILDING

APPROXIMATE TANK PIT EXCAVATION LIMITS

WALL (APPROXIMATE PROPERTY LINE)

8" WALL (APPROXIMATE PROPERTY LINE)

8/21/92

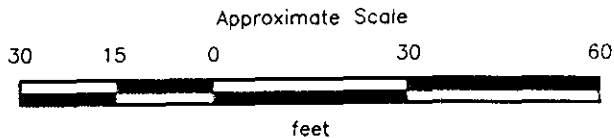
1100 TCE

1500 TCE deep

2400 TCE Deep

- EXPLANATION**
- B-12/MW-8 = Groundwater monitoring well (RESNA, 1989 and 1992)
  - B-19/VW-7 = Vapor well (RESNA, 1992)
  - B-7/RW-1 = Recovery well (RESNA, 1991)
  - TPB-3 = Boring in proposed new tank pit (RESNA, 1990)
  - NW = New tank pit excavation bottom sample (RESNA, 1990)
  - 9 = Former tank pit sample (S7-TP1SW-1 through -9; RESNA, 1990)
  - MW-3 = Groundwater monitoring well (WGR, 1988)
  - SP-2  
WO-F = Former waste-oil tank pit excavation bottom and sidewall sample (PEG, 1988)
  - WO-F2
  - T4 = Existing underground storage tanks
  - FT4 = Former underground storage tanks

B-11/MW-7  
B-10/MW-6  
Shallow



Source: Surveyed by John E. Koch, Licensed Land Surveyor.

**RESNA**  
Working to Restore Nature

GENERALIZED SITE PLAN  
ARCO Station 276  
10600 MacArthur Boulevard  
Oakland, California

PLATE

2

PROJECT 60026.05