



**EMCON**

1921 Ringwood Avenue • San Jose, California 95131-1721 • (408) 453-7300 • Fax (408) 437-9526

June 18, 1996  
Project 20805-127.003

Reverend Homer Richardson  
First Christian Church  
1190 Davis Street  
San Leandro, California 94577

Re: First quarter 1996 laboratory analytical results, groundwater samples,  
First Christian Church, 1190 Davis Street, San Leandro, California

Dear Reverend Richardson:

Enclosed please find copies of the laboratory analytical results for the groundwater sample collected from well MW-5 during the first quarter of 1996. This well is located at the First Christian Church, 1190 Davis Street, San Leandro, California. The groundwater samples were collected on March 21, 1996, during quarterly sampling of the ARCO Products Company service station 2111, 1156 Davis Street, San Leandro. The laboratory analytical results indicate that the groundwater sample concentrations were not detectable for total petroleum hydrocarbons as gasoline, and the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes. First quarter 1996 groundwater elevation data and analytical results for well MW-5 are illustrated on Figure 1.

Please call if you have questions.

Sincerely,

EMCON

  
John C. Young  
Project Manager

Attachments: Figure 1 - Generalized Site Plan  
Attachment A - Copy of Analytical Results and Chain-of-Custody  
Documentation, Well MW-5, First Quarter 1996

cc: Dale Klettke, ACHCSA  
Kevin Graves, RWQCB - SFBR  
Mike Whelan, ARCO Products Company  
File





CEDAR GROVE  
APARTMENTS

DRIVEWAY

MW-5

FIRST  
CHRISTIAN  
CHURCH/  
COMMUNITY  
CENTER

ARCO SERVICE  
STATION

SIDEWALK

DAVIS STREET

EXPLANATION

⊙ Groundwater monitoring well

SCALE: 0 20 40 FEET



**EMCON**

FIRST CHRISTIAN CHURCH  
1190 DAVIS STREET  
QUARTERLY GROUNDWATER MONITORING  
SAN LEANDRO, CALIFORNIA

GENERALIZED SITE PLAN - FIRST QUARTER 1996

FIGURE

**1**

PROJECT NO.  
805-127.03

**ATTACHMENT A**

**COPY OF ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY  
DOCUMENTATION, WELL MW-5, FIRST QUARTER 1996**



April 5, 1996

Service Request No: S9600480

Mr. John Young  
EMCON  
1921 Ringwood Avenue  
San Jose, CA 95131

Re: 2111 San Leandro/Project No. 20805-127.002/TO#19350.00

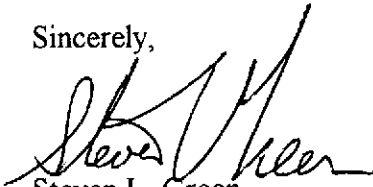
Dear Mr. Young:

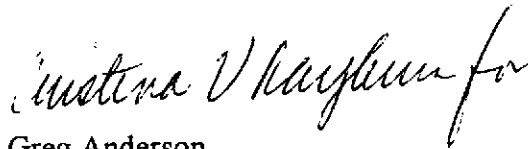
The following pages contain analytical results for sample(s) received by the laboratory on March 22, 1996. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. Listed above -- to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

  
Steven L. Green  
Project Chemist

  
Greg Anderson  
Regional QA Coordinator

SLG/jk

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company  
Project: 2111 San Leandro/Project No. 20805-127.002/TO#19350.00  
Sample Matrix: Water

Service Request: S9600480  
Date Collected: 3/22/96  
Date Received: 3/22/96  
Date Extracted: NA

BTEX, MTBE and TPH as Gasoline  
EPA Methods 5030/8020/California DHS LUFT Method  
Units: ug/L (ppb)

Sample Name: MW-5(25) Method Blank  
Lab Code: S9600480-001 S960401-WB  
Date Analyzed: 4/1/96 4/1/96

Analyte	MRL		
TPH as Gasoline	50	ND	ND
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
Methyl <i>tert</i> -Butyl Ether	3	82	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** ARCO Products Company  
**Project:** 2111 San Leandro/Project No. 20805-127.002/TO#19350.00  
**Sample Matrix:** Water

**Service Request:** S9600480  
**Date Collected:** 3/22/96  
**Date Received:** 3/22/96  
**Date Extracted:** NA  
**Date Analyzed:** 4/1/96

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

Sample Name	Lab Code	PID Detector	FID Detector
		Percent Recovery 4-Bromofluorobenzene	Percent Recovery $\alpha,\alpha,\alpha$ -Trifluorotoluene
MW-5(25)	S9600480-001	94	101
Method Blank	S960401-WB	92	108

CAS Acceptance Limits: 69-116 69-116

**COLUMBIA ANALYTICAL SERVICES, INC.**

**QA/QC Report**

**Client:** ARCO Products Company  
**Project:** 2111 San Leandro/Project No. 20805-127.002/TO#19350.00  
**Sample Matrix:** Water

**Service Request:** S9600480  
**Date Collected:** 3/11/96  
**Date Received:** 3/22/96  
**Date Extracted:** NA  
**Date Analyzed:** 4/1/96

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

**Sample Name:** MW-5(25)  
**Lab Code:** S9600480-001DMS

Analyte	Spike Level		Sample Result	Spike Result		Percent Recovery				Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS	CAS Acceptance Limits		
								MS	DMS	
Gasoline	250	250	ND	250	250	100	100	67-121	<1	



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** ARCO Products Company  
**Project:** 2111 San Leandro/Project No. 20805-127.002/TO#19350.00

**Service Request:** S9600480  
**Date Analyzed:** 4/1/96

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

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	24.5	98	85-115
Toluene	25	24.5	98	85-115
Ethylbenzene	25	24.0	96	85-115
Xylenes, Total	75	74.0	99	85-115
Gasoline	250	247	99	90-110
Methyl <i>tert</i> -Butyl Ether	50	46	92	85-115

**ARCO Products Company**

Division of AtlanticRichfieldCompany

Task Order No. 19350.00

**Chain of Custody**

ARCO Facility no. 2111 City (Facility) San Leandro Project manager (Consultant) John Young Laboratory name CAS  
 ARCO engineer Mike Whelan Telephone no. (ARCO) (408) 453-7300 Telephone no. (Consultant) (408) 453-0452 Contract number  
 Consultant name EMCON Address (Consultant) 1921 Ringwood Ave, San Jose, CA 95131

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 802/EPA 8020	STX/TPH EPA 8020/8020 EPA 8020/8020	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 801/8010	EPA 824/8240	EPA 825/8270	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	Semi Metals <input type="checkbox"/> VOA <input type="checkbox"/>	CAM Metals EPA 6010/7000 TLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org. DMS Lead EPA 7420/7421 <input type="checkbox"/>	Method of shipment	Special detection Limit/reporting	Special QA/QC	Remarks	
			Soil	Water	Other	Ice	Acid																			
<u>MW-5(25)</u>	<u>1</u>	<u>2</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>HCL</u>	<u>3-22-96</u>	<u>1215'</u>			<input checked="" type="checkbox"/>										<u>Sampler will deliver</u>	<u>Lowest Possible</u>	<u>As Normal</u>	<u>2 - 40ml HCL VOAs</u>	

Condition of sample:						Temperature received:					
Relinquished by sampler <u>[Signature]</u>			Date	Time	Received by						
			<u>3-22-96</u>	<u>1300</u>							
Relinquished by			Date	Time	Received by						
Relinquished by			Date	Time	Received by laboratory	Date	Time	Standard			
					<u>[Signature]</u>	<u>3-22-96</u>	<u>1320</u>	10 Business Days	<u>4/5</u>		