2201 Broadway, Suite 101
Oakland, CA 94612-3023
Tel. 510.740.5800
Fax. 510.663.3315

the IT group

R077

November 24, 1999
Project 791673

Mr. Paul Supple
ARCO Products Company
PO Box 6549
Moraga, California 94570

Re: Quarterly Remediation System Performance Evaluation Report, Third Quarter 1999, for ARCO Service Station No. 6148, located at 5131 Shattuck Avenue, Oakland, California

Dear Mr. Supple:

Pinnacle Environmental Solutions, a member of The IT Group (Pinnacle), is submitting the attached report which presents the operation and performance data for the on-site soil-vapor extraction (SVE), air-sparge (AS), and air-bubbling remediation systems of the third quarter 1999 at ARCO Products Company (ARCO) Service Station No. 6148, located at 5131 Shattuck Avenue, Oakland, California. The monitoring program complies with Alameda County Health Care Services Agency (ACHCSA) requirements regarding underground tank investigations.

LIMITATIONS

No monitoring event is thorough enough to describe all geologic and hydrogeologic conditions of interest at a given site. If conditions have not been identified during the monitoring event, results should not be construed as a guarantee of the absence of such conditions at the site, but rather as the product of the scope and limitations of work performed during the monitoring event.

Please call if you have questions.

Sincerely,

Pinnacle

Dan Lescure
Project Manager

Dan Easter, R.G.
Project Geologist

Attachment: Quarterly Remediation System Performance Evaluation Report, Third Quarter 1999

cc: Susan Hugo, ACHCSA

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ENVIRONMENTAL PROTECTION

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Date: November 24, 1999

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 6148 Address:	5131 Shattuck Avenue, Oakland, California
Pinnacle Project No.	791673
ARCO Environmental Engineer/Phone No.:	Paul Supple /(925) 299-8891
Pinnacle Project Manager/Phone No.:	Dan Lescure /(510) 740-5804
Primary Agency/Regulatory ID No.:	ACHCSA /Susan Hugo

WORK PERFORMED THIS QUARTER (THIRD - 1999):

1. Prepared and submitted quarterly groundwater monitoring report for second quarter 1999.
2. No groundwater monitoring and sampling was performed for third quarter 1999. (See discussion).
3. Investigated continued operational failure of SVE system.
4. Installed temperature chart recorder for SVE.
5. Bubbled air into well MW-2 to introduce dissolved oxygen into the groundwater, thereby enhancing biodegradation of petroleum hydrocarbons in groundwater in the vicinity of the well.
6. Prepared site and files for BAAQMD inspection. Inspection was conducted on 08/11/99.

WORK PROPOSED FOR NEXT QUARTER (FOURTH - 1999):

1. Prepare and submit quarterly remediation system performance evaluation report for third quarter 1999.
2. Perform quarterly groundwater monitoring and sampling for fourth quarter 1999.
3. Continue investigation of the SVE system operational failure and repair as necessary.
4. Restart soil-vapor extraction (SVE) and air-sparge systems if hydrocarbon removal rates in extracted soil vapor warrant.
5. Continue bubbling air into well MW-2 and others as applicable.

QUARTERLY MONITORING:

Current Phase of Project:	Quarterly Groundwater Monitoring and Operation and Maintenance of Remediation Systems Due to various control faults, the SVE system was non-operational during the third quarter 1999.
Frequency of Sampling:	Annual (1st Quarter): MW-6, MW-7 Semi-Annual (1st/3rd Quarter): MW-4 Quarterly: MW-1, MW-2, MW-3, MW-5
Frequency of Monitoring:	Quarterly (groundwater), Monthly (SVE, air-sparge, and air-bubbling)
Is Floating Product (FP) Present On-site:	☐ Yes ☒ No
Bulk Soil Removed to Date :	560 cubic yards of TPH-impacted soil
Bulk Soil Removed This Quarter :	None
Water Wells or Surface Waters, within 2000 ft., impacted by site:	None
Current Remediation Techniques:	SVE, Air-Sparge, and Air-Bubbling Systems
Average Depth to Groundwater:	Not available
Groundwater Flow Direction and Gradient (Average):	Not available

SVE QUARTERLY OPERATION AND PERFORMANCE:

Equipment Inventory:	Therm Tech Model CATVAC-10E, Electric/Catalytic Oxidizer
Operating Mode:	Catalytic Oxidation
BAAQMD Permit #:	25126
TPH Conc. End of Period (lab):	Not applicable
Benzene Conc. End of Period (lab):	Not applicable
Flowrate End of Period:	Not applicable
HC Destroyed This Period:	Not applicable
HC Destroyed to Date:	1892.9 pounds
Utility Usage Electric (KWH):	0 KWH
Operating Hours This Period:	0 hours
Percent Operational:	0%
Operating Hours to Date:	2717.29 hours
Unit Maintenance:	Routine monthly maintenance
Number of Auto Shut Downs:	0
Destruction Efficiency Permit Requirement:	95% (POC >1000 ppmv); 90% (POC <1000 ppmv); waived (<1.0 lb./day TPH and <0.02 lb./day benzene)
Percent TPH Conversion:	Not applicable
Average Stack Temperature:	Not applicable
Average Source Flow:	Not applicable
Average Process Flow:	Not applicable
Average Source Vacuum:	Not applicable

DISCUSSION:

- Quarterly groundwater monitoring was not performed during the third quarter 1999 due to a scheduling error. Monitoring will resume in the fourth quarter 1999.

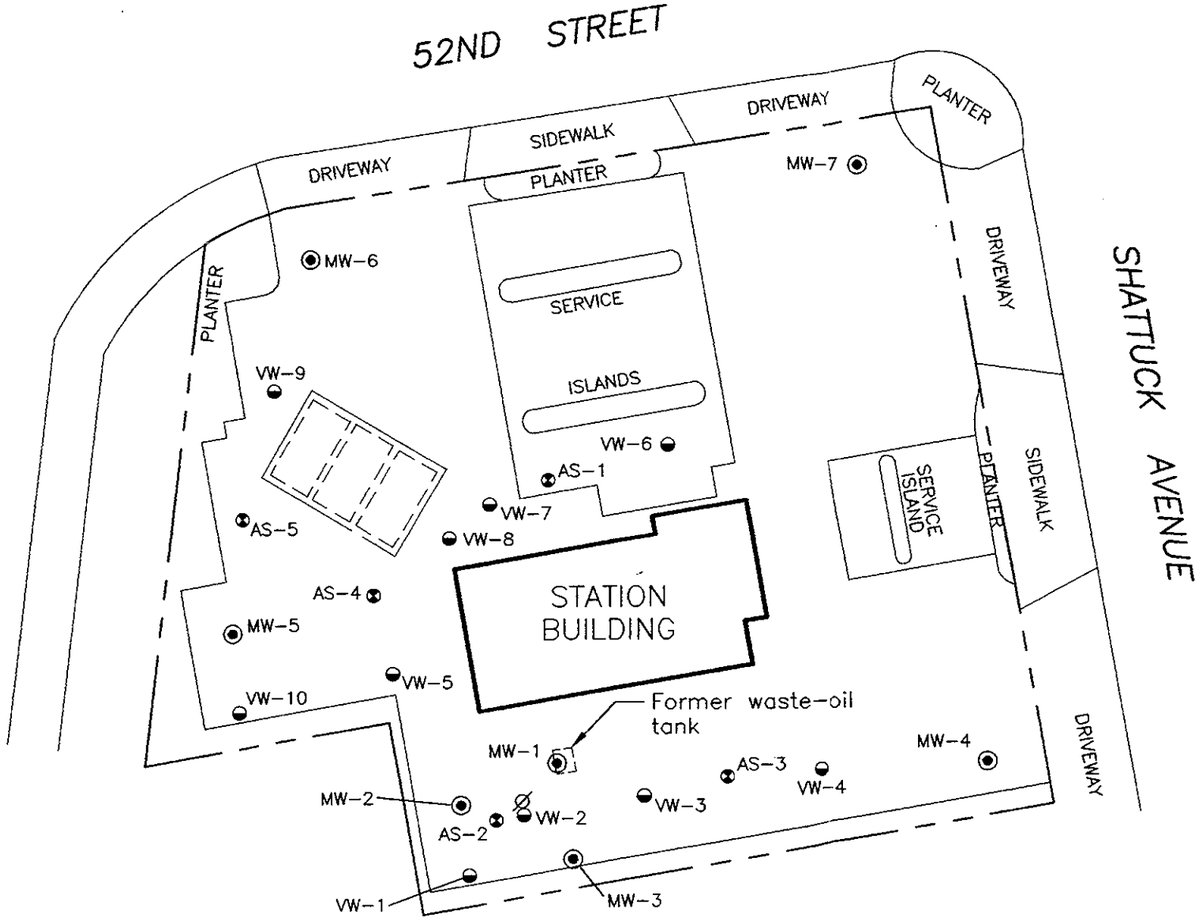
- The SVE system would not operate continuously due to various control faults. The system was non-operational for the third quarter 1999. Currently the problem with the SVE system is being investigated and will be repaired as soon as possible. Operational information will be updated after the system is repaired. Refer to the Third Quarter 1998 report for historical operational information.

- Installed temperature chart recorder to replace existing telemetry system to insure compliance with BAAWMD continuous monitoring requirements.

ATTACHMENTS:

- Figure 1 - Site Plan
- Appendix A - Certified Analytical Reports and Chain-of-Custody Documentation for Soil-Vapor Extraction System

DRAWN BY	PROJECT NUMBER
K. Black 11-15-99	791673



EXPLANATION

- Groundwater monitoring well
- Vapor extraction well
- Air-sparge well
- Decommissioned well
- Existing underground gasoline storage tanks

SCALE

0 30 60 FEET

IT CORPORATION

ARCO PRODUCTS COMPANY
SERVICE STATION 6148

FIGURE 1
SITE PLAN

5131 SHATTUCK AVENUE
OAKLAND, CALIFORNIA

SANJOSE/CADD: N:\cad\DWG\PINACL\6148\6148sp.dwg Mon, 15/Nov/99 04:35pm kblack

APPENDIX A

CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY DOCUMENTATION FOR SOIL-VAPOR EXTRACTION SYSTEM

Columbia Analytical Services INC.
An Employee-Owned Company

September 15, 1999

Service Request No.: S9902772

Mr. Glen Vanderveen
IT/EMCON
2201 Broadway, Suite 101
Oakland, CA 94612

RE: TO#24094.00/RAT8/6148 OAKLAND

Dear Mr. Vanderveen:

Enclosed are the results of the sample(s) submitted to our laboratory on September 9, 1999. All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply to the sample(s) analyzed. Columbia Analytical Services is not responsible for use of less than the complete report. Signature of this CAS Analytical Report confirms that pages 2 through 13, following, have been thoroughly reviewed and approved for release.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1496, expiration: January 31, 2001).

If you have any questions, please call me at (408) 748-9700.

Respectfully submitted,

Columbia Analytical Services, Inc.

Bernadette Troncales
Project Chemist

Greg Jordan
Laboratory Director

SEP 17 1999

COLUMBIA ANALYTICAL SERVICES, Inc.
Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	9/9/99
Sample Matrix:	Air	**Date Received:**	9/9/99

BTEX and Total Volatile Hydrocarbons

Sample Name:	I-1	Units:	mg/m3
Lab Code:	S9902772-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.4	1	NA	9/11/99	1.0	
Toluene	NONE	8020	0.4	1	NA	9/11/99	3.8	
Ethylbenzene	NONE	8020	0.5	1	NA	9/11/99	0.8	
Xylenes, Total	NONE	8020	0.9	1	NA	9/11/99	2.2	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	12	5	NA	9/11/99	1700	
C6 - C12	NONE	8015M	20	5	NA	9/11/99	590	
TPH as Gasoline*	NONE	8015M	20	5	NA	9/11/99	590	
Methyl tert-Butyl Ether	NONE	8020	3	1	NA	9/11/99	20	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	9/9/99
Sample Matrix:	Air	**Date Received:**	9/9/99

BTEX and Total Volatile Hydrocarbons

Sample Name:	I-1	Units:	ppmV
Lab Code:	S9902772-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.1	1	NA	9/11/99	0.3	
Toluene	NONE	8020	0.1	1	NA	9/11/99	1.0	
Ethylbenzene	NONE	8020	0.1	1	NA	9/11/99	0.2	
Xylenes, Total	NONE	8020	0.2	1	NA	9/11/99	0.5	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	5	5	NA	9/11/99	720	
C6 - C12	NONE	8015M	5	5	NA	9/11/99	140	
TPH as Gasoline*	NONE	8015M	5	5	NA	9/11/99	140	
Methyl tert-Butyl Ether	NONE	8020	0.8	1	NA	9/11/99	6.3	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/14/99

tS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	9/9/99
Sample Matrix:	Air	**Date Received:**	9/9/99

BTEX and Total Volatile Hydrocarbons

Sample Name:	E-1	Units:	mg/m3
Lab Code:	S9902772-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.4	1	NA	9/11/99	ND	
Toluene	NONE	8020	0.4	1	NA	9/11/99	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	9/11/99	ND	
Xylenes, Total	NONE	8020	0.9	1	NA	9/11/99	ND	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	12	1	NA	9/11/99	ND	
C6 - C12	NONE	8015M	20	1	NA	9/11/99	ND	
TPH as Gasoline*	NONE	8015M	20	1	NA	9/11/99	ND	
Methyl tert-Butyl Ether	NONE	8020	3	1	NA	9/11/99	ND	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	9/9/99
Sample Matrix:	Air	**Date Received:**	9/9/99

BTEX and Total Volatile Hydrocarbons

Sample Name:	E-1	Units:	ppmV
Lab Code:	S9902772-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.1	1	NA	9/11/99	ND	
Toluene	NONE	8020	0.1	1	NA	9/11/99	ND	
Ethylbenzene	NONE	8020	0.1	1	NA	9/11/99	ND	
Xylenes, Total	NONE	8020	0.2	1	NA	9/11/99	ND	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	5	1	NA	9/11/99	ND	
C6 - C12	NONE	8015M	5	1	NA	9/11/99	ND	
TPH as Gasoline*	NONE	8015M	5	1	NA	9/11/99	ND	
Methyl tert-Butyl Ether	NONE	8020	0.8	1	NA	9/11/99	ND	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	NA
Sample Matrix:	Air	**Date Received:**	NA

BTEX and Total Volatile Hydrocarbons

Sample Name:	Method Blank	Units:	mg/m3
Lab Code:	S990911-VB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.4	1	NA	9/11/99	ND	
Toluene	NONE	8020	0.4	1	NA	9/11/99	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	9/11/99	ND	
Xylenes, Total	NONE	8020	0.9	1	NA	9/11/99	ND	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	12	1	NA	9/11/99	ND	
C6 - C12	NONE	8015M	20	1	NA	9/11/99	ND	
TPH as Gasoline*	NONE	8015M	20	1	NA	9/11/99	ND	
Methyl tert-Butyl Ether	NONE	8020	3	1	NA	9/11/99	ND	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9902772
Project:	TO#24094.00/RAT8/6148 OAKLAND	**Date Collected:**	NA
Sample Matrix:	Air	**Date Received:**	NA

BTEX and Total Volatile Hydrocarbons

Sample Name:	Method Blank	Units:	ppmV
Lab Code:	S990911-VB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	NONE	8020	0.1	1	NA	9/11/99	ND	
Toluene	NONE	8020	0.1	1	NA	9/11/99	ND	
Ethylbenzene	NONE	8020	0.1	1	NA	9/11/99	ND	
Xylenes, Total	NONE	8020	0.2	1	NA	9/11/99	ND	
Total Volatile Hydrocarbons:								
C1 - C5	NONE	8015M	5	1	NA	9/11/99	ND	
C6 - C12	NONE	8015M	5	1	NA	9/11/99	ND	
TPH as Gasoline*	NONE	8015M	5	1	NA	9/11/99	ND	
Methyl tert-Butyl Ether	NONE	8020	1.4	1	NA	9/11/99	ND	

* TPH as gasoline is defined as C6 (benzene) through C12 (dodecane) and uses a molecular weight of 100 to calculate the ppmv.

Approved By: _____ Date: 09/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24094.00/RAT8/6148 OAKLAND
Sample Matrix: Air

Service Request: S9902772
Date Collected: 9/9/99
Date Received: 9/9/99
Date Extracted: NA
Date Analyzed: 9/11/99

Duplicate Summary
BTEX and Total Volatile Hydrocarbons

Sample Name: BATCH QC
Lab Code: S9902787-001DUP
Test Notes:

Units: mg/m3
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Benzene	NONE	8020	0.4	74	83	79	11	
Toluene	NONE	8020	0.4	33	34	34	3	
Ethylbenzene	NONE	8020	0.5	13	13	13	<1	
Xylenes, Total	NONE	8020	0.9	32	35	34	3	
Total Volatile Hydrocarbons								
C1 - C5	NONE	8015M	12	7700	8100	7900	5	
C6 - C12	NONE	8015M	20	3100	3300	3200	6	
TPH as Gasoline*	NONE	8015M	20	3100	3300	3200	6	
Methyl tert-Butyl Ether	NONE	8020	3	260	270	270	4	

Approved By: _____ Date: 09/15/99

DUP/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24094.00/RAT8/6148 OAKLAND
Sample Matrix: Air

Service Request: S9902772
Date Collected: 9/9/99
Date Received: 9/9/99
Date Extracted: NA
Date Analyzed: 9/11/99

Duplicate Summary
BTEX and Total Volatile Hydrocarbons

Sample Name: BATCH QC
Lab Code: S9902787-001DUP
Test Notes:

Units: ppmV
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Benzene	NONE	8020	0.1	23	26	25	12	
Toluene	NONE	8020	0.1	8.8	9.0	8.9	2	
Ethylbenzene	NONE	8020	0.1	3.0	3.0	3.0	<1	
Xylenes, Total	NONE	8020	0.2	7.4	8.1	7.8	9	
Total Volatile Hydrocarbons								
C1 - C5	NONE	8015M	5	3240	3410	3320	5	
C6 - C12	NONE	8015M	5	758	806	782	6	
TPH as Gasoline*	NONE	8015M	5	758	806	782	6	
Methyl tert-Butyl Ether	NONE	8020	0.8	72	75	74	4	

Approved By: _____ Date: 09/15/99

DUP/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24094.00/RAT8/6148 OAKLAND
LCS Matrix: Air

Service Request: S9902772
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 9/11/99

Laboratory Control Sample Summary
BTEX and TPH as Gasoline

Sample Name: Lab Control Sample
Lab Code: S990911-LCS
Test Notes:

Units: mg/m3
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Benzene	NONE	8020	24	22	92	60-140	
Toluene	NONE	8020	24	21	88	60-140	
Ethylbenzene	NONE	8020	24	22	92	60-140	
Gasoline	NONE	8015M	210	220	105	60-140	

Approved By: _____ Date: 09/15/99

LCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24094.00/RAT8/6148 OAKLAND
LCS Matrix: Air

Service Request: S9902772
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 9/11/99

Laboratory Control Sample Summary
BTEX and TPH as Gasoline

Sample Name: Lab Control Sample
Lab Code: S990911-LCS
Test Notes:

Units: ppmV
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Benzene	NONE	8020	7.5	6.9	92	60-140	
Toluene	NONE	8020	6.4	5.6	88	60-140	
Ethylbenzene	NONE	8020	5.5	5.1	93	60-140	
Gasoline	NONE	8015M	51	54	106	60-140	

Approved By: MT Date: 09/15/99

LCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24094.00/RAT8/6148 OAKLAND

Service Request: S9902772
Date Analyzed: 9/11/99

Initial Calibration Verification (ICV) Summary
BTEX and Total Volatile Hydrocarbons

Sample Name: ICV
Lab Code: ICV1
Test Notes:

Units: mg/m3
Basis: NA

ICV Source:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Result Notes
Benzene	NONE	8020	25	21	84	
Toluene	NONE	8020	25	24	96	
Ethylbenzene	NONE	8020	25	23	92	
Xylenes, Total	NONE	8020	75	63	84	
Gasoline	NONE	8015M	250	250	100	
Methyl tert-Butyl Ether	NONE	8020	25	20	80	

Approved By: _____ Date: 09/15/99

ICV/032196

ARCO Products Company
Division of AtlanticRichfieldCompany

5990277 2 **Task Order No.** 24094-00

Chain of Custody

ARCO Facility no. 6148	City (Facility) Oakland CA	Project manager (Consultant) Glen Vandenberg	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant)	Fax no. (Consultant)
Consultant name Emcon IT	Address (Consultant)		Contract number

Method of shipment: Tech

Special detection Limit/reporting: PPMV

Special QA/QC:

Remarks: 20805 135 009 Rat 8

Lab number:

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 in TBE	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
I-1	(1)	1			AIR			9-9-99	1110		X											
E-1	(2)	1			AIR			9-9-99	1100		X											

Condition of sample:

Temperature received: Due! 9/10/99

Relinquished by sampler: Jason Park	Date: 9-9-99	Time: 1345	Received by: Joseph Machado CAS 9/9/99 1350
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

Turnaround time

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

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