



EMCON Associates

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

ALCO
HAZMAT
94 SEP -6 PM 3:50

Date: August 30, 1994

Project OC75-005.24

To:

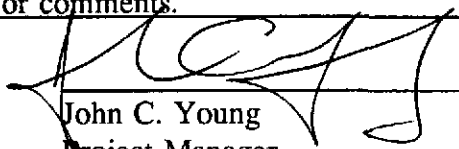
Mr. Rob Weston
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

We are enclosing:

Copies	Description
<u>1</u>	<u>Second Quarter 1994 Groundwater Monitoring Report</u>
	<u>for ARCO Service Station 2162</u>

For your:	<u> X </u>	Use	Sent by:	<u> </u>	Regular Mail
	<u> </u>	Approval		<u> </u>	Standard Air
	<u> </u>	Review		<u> </u>	Courier
	<u> </u>	Information		<u> X </u>	Other <u>Certified Mail</u>

Comments: Please call with any questions or comments.



 John C. Young
 Project Manager





August 26, 1994
Project OC75-005.24

Mr. Michael Whelan
Environmental Engineer
ARCO Products Company
P. O. Box 5811
San Mateo, California 94420

Re: Second quarter 1994 groundwater monitoring program results, ARCO service station
2162, San Leandro, California

Dear Mr. Whelan:

This letter presents the results of the second quarter 1994 groundwater monitoring program at ARCO Products Company (ARCO) service station 2162, 15135 Hesperian Boulevard, San Leandro, California (Figure 1).

MONITORING PROGRAM RESULTS

The second quarter 1994 groundwater monitoring event was performed by Integrated Wastestream Management, Inc. (IWM) on May 5, 1994. Wells MW-1 through MW-4 are sampled quarterly. Groundwater samples collected during second quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPHG), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Certified analytical reports, chain-of-custody documentation, and field data sheets are presented in Appendix A. Depth to groundwater and analytical data are presented in Table 1. Figure 2 presents groundwater elevation data along with TPHG and benzene concentrations from the May 5, 1994 sampling event.

SITE STATUS UPDATE

This update reports site activities performed during the second quarter of 1994 and the anticipated site activities for the third quarter of 1994.



Mr. Michael Whelan
August 26, 1994
Page 2

Project 0C75-005.24

Second Quarter 1994 Activities

- Quarterly groundwater monitoring report for first quarter 1994 prepared and submitted by RESNA Industries Inc.
- IWM performed second quarter 1994 groundwater monitoring event.

Work Anticipated Third Quarter 1994

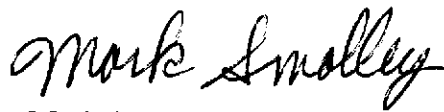
- Prepare and submit quarterly groundwater monitoring report for second quarter 1994.
- Perform quarterly groundwater monitoring for third quarter 1994.

Please call if you have questions.

Sincerely,

EMCON Associates


John C. Young
Project Manager


Mark Smolley, R.G. #4650
Senior Project Geologist



Attachments: Table 1 - Summary of Groundwater Analyses for ARCO Facility A-2162
Figure 1 - Site Location
Figure 2 - Site Plan
Appendix A - Certified Analytical Report, Chain-of-Custody Documentation and Field Data Sheets

Table 1

Summary of Ground Water Sample Analyses for ARCO Facility A-2162, San Leandro, California

WELL NUMBER	MW-1	MW-2	MW-3	MW-4	
DATE SAMPLED	5/5/94	5/5/94	5/5/94	5/5/94	
DEPTH TO WATER	8.66	7.75	8.08	9.21	
SHEEN	NONE	NONE	NONE	NONE	
PRODUCT THICKNESS	NA	NA	NA	NA	
TPHg	510	360	ND	160	
BTEX					
BENZENE	ND	ND	ND	17	
TOLUENE	ND	ND	ND	ND	
ETHYLBENZENE	<1 ⁺⁺	27	ND	ND	
XYLENES	1.6	18	ND	0.6	

FOOTNOTES:

Concentrations reported in ug/L (ppb).

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

BTEX Distinction (USEPA Method 8020)

PCE = Tetrachloroethene (USEPA Method 8010)

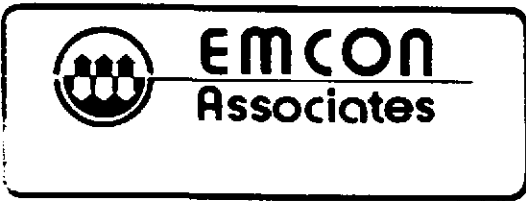
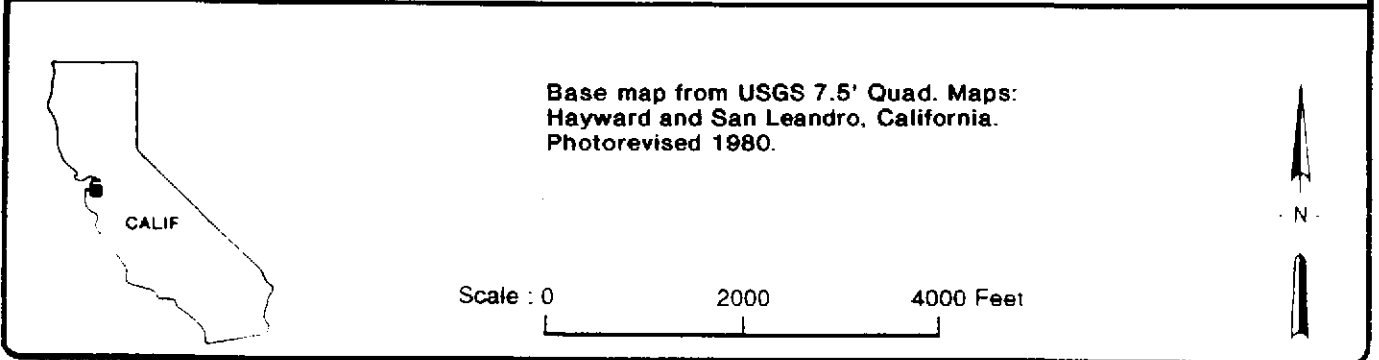
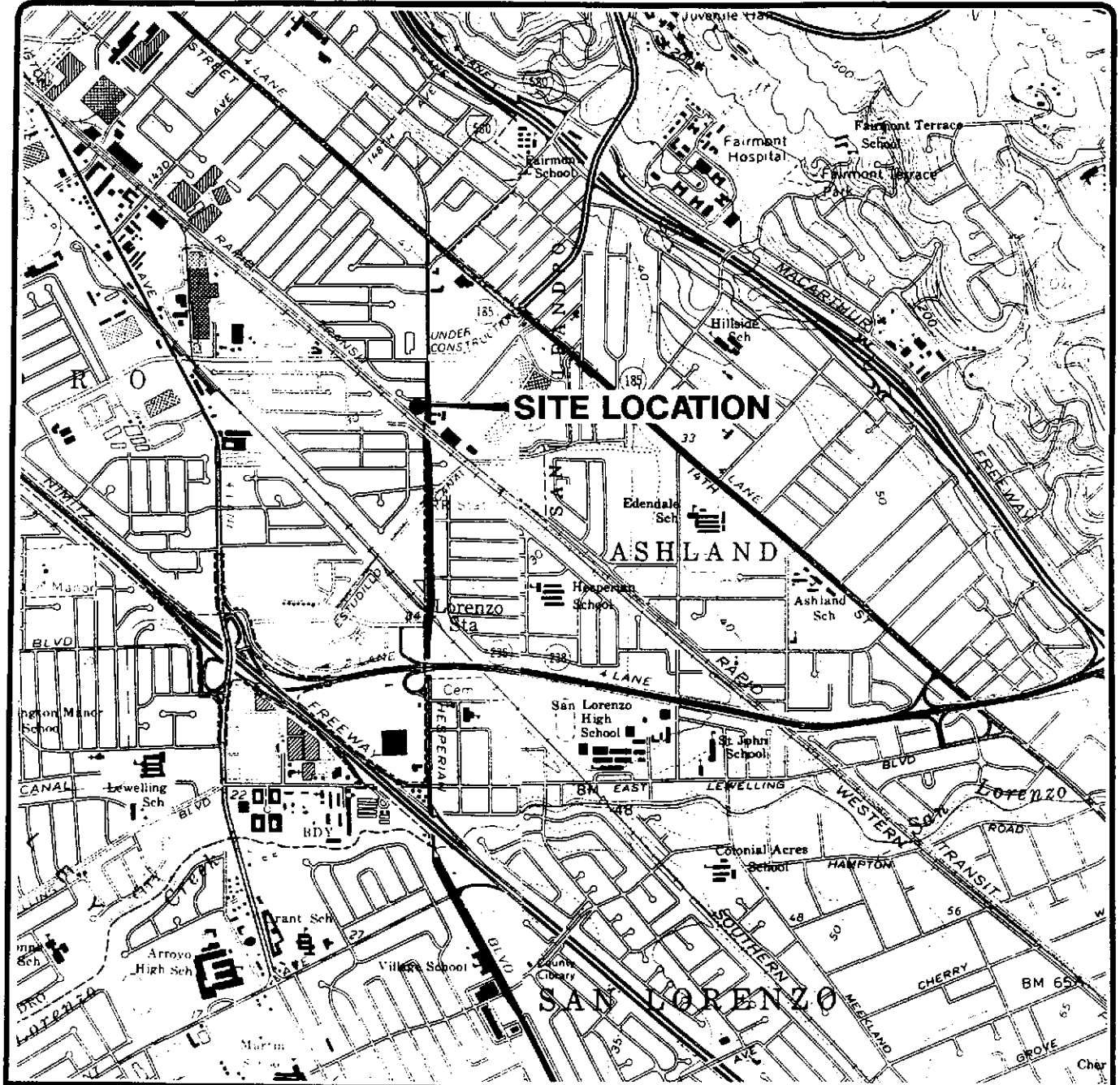
++ = Raised MRL due to matrix interference.

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

TCE = Trichloroethene (USEAP Method 8010)

ND = Not Detected.

NA = Not applicable.

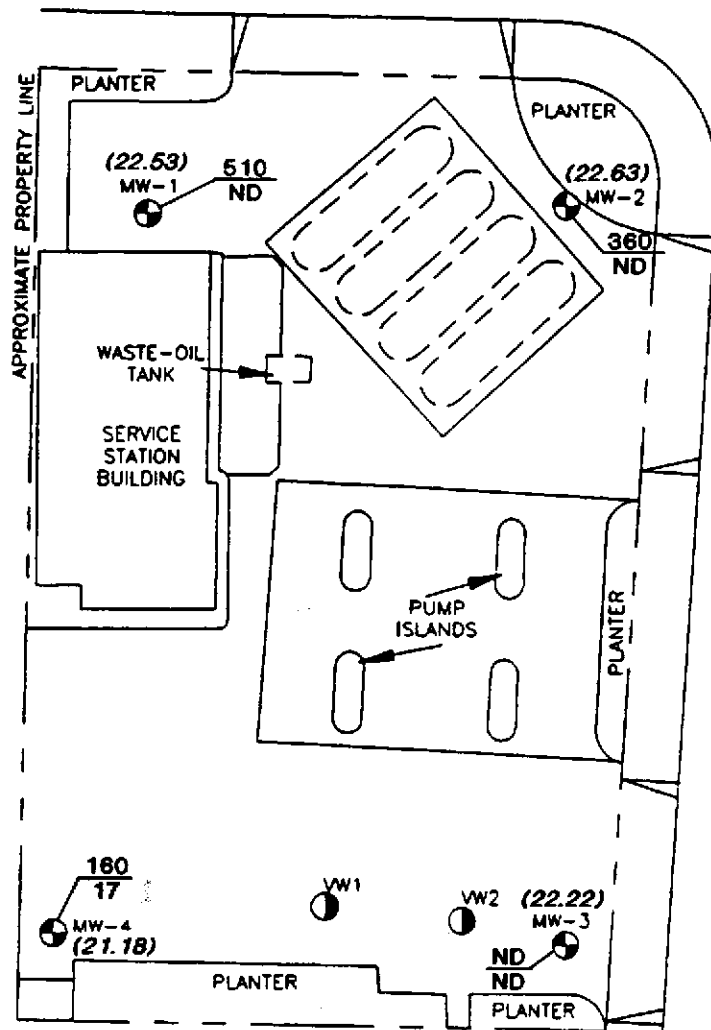
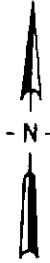


ARCO PRODUCTS COMPANY
SERVICE STATION 2162, 15135 HESPERIAN BLVD.
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

SITE LOCATION

FIGURE
1
PROJECT NO.
C75-05.24

RUTH COURT



HESPERIAN BOULEVARD

EXPLANATION

- ⊕ Groundwater monitoring well
- Vapor extraction well
- ⬭ Existing underground gasoline storage tank
- (21.18) Groundwater elevation (Ft.-MSL); measured 5/5/94
- 160 — TPHG concentration in groundwater (ppb)
- 1 — Benzene concentration in groundwater (ppb)
- ND = Not detected

SCALE: 0 30 FEET
(Approximate)

Base map modified from RESNA, 1994.



EMCON
Associates

ARCO PRODUCTS COMPANY
SERVICE STATION 2162, 15135 HESPERIAN BLVD.
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

SITE PLAN

FIGURE
2
PROJECT NO.
C75-05.24

APPENDIX A

**CERTIFIED ANALYTICAL REPORT, CHAIN-OF-CUSTODY
DOCUMENTATION AND FIELD DATA SHEETS**



MAY 19 1994

May 17, 1994

Service Request No. SJ940537

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

Re: **ARCO Facility No. 2162**

Dear Ms. Austin/Mr. DeLon:

Attached are the results of the water samples submitted to our lab on May 06, 1994. For your reference, these analyses have been assigned our service request number SJ940537.

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

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Keoni A. Murphy

Keoni A. Murphy
Laboratory Manager

Carol J. Klein

Annelise J. Bazar
Regional QA Coordinator

KAM/df

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: IWM
Project: ARCO Facility No. 2162
Sample Matrix: Water

Date Collected: 5/5/94
Date Received: 5/6/94
Date Extracted: NA
Service Request: SJ940537

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

Sample Name:	MW-1 (8.70)	MW-2 (8.6)	MW-3 (8.6)
Lab Code:	SJ940537-2	SJ940537-3	SJ940537-4
Date Analyzed:	5/10/94	5/10/94	5/10/94

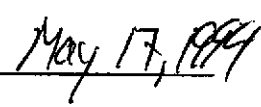
Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	<1*	27	ND
Total Xylenes	0.5	1.6	18	ND
TPH as Gasoline	50	510	360	ND

* Raised MRL due to matrix interference.

Approved By:



Date:



3522/041594

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: IWM
Project: ARCO Facility No. 2162
Sample Matrix: Water

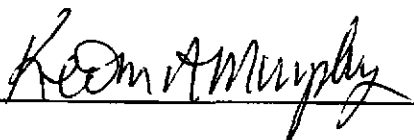
Date Collected: 5/5/94
Date Received: 5/6/94
Date Extracted: NA
Service Request: SJ940537

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

Sample Name: MW-4 (9.31) Method Blank
Lab Code: SJ940537-5 SJ940510-WMB
Date Analyzed: 5/10/94 5/10/94

Analyte	MRL		
Benzene	0.5	17	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	0.6	ND
TPH as Gasoline	50	160	ND

Approved By:



Date:

May 17, 1994

3S22/041594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: IWM
Project: ARCO Facility No. 2162
Sample Matrix: Water

Date Collected: 5/5/94
Date Received: 5/6/94
Date Extracted: NA
Date Analyzed: 5/10/94
Service Request: SJ940537

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

Sample Name	Lab Code	Percent Recovery α,α,α -Trifluorotoluene
MW-1 (8.70)	SJ940537-2	129*
MW-2 (8.6)	SJ940537-3	116
MW-3 (8.6)	SJ940537-4	111
MW-4 (9.31)	SJ940537-5	116
MW-3 (8.6) MS	SJ940537-4MS	112
MW-3 (8.6) DMS	SJ940537-4DMS	113
Method Blank	SJ940510-WMB	111

CAS Acceptance Limits: 69-116

* Outside of acceptance limits due to matrix interference.

Approved By: _____

Kenneth M. Murphy

Date: _____

May 17, 1994

SUR1/041594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report


Client: IWM
Project: ARCO Facility No. 2162

Date Analyzed: 5/10/94
Service Request: SJ940537

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

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	24.2	97	85-115
Toluene	25	24.1	97	85-115
Ethylbenzene	25	23.9	96	85-115
Total Xylenes	75	73.2	98	85-115
TPH as Gasoline	250	260	104	90-110

Approved By:



Date:

May 17, 1994

ICV24/041594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: IWM
Project: ARCO Facility No. 2162
Sample Matrix: Water

Date Collected: 5/5/94
Date Received: 5/6/94
Date Extracted: NA
Date Analyzed: 5/10/94
Service Request: SJ940537

Matrix Spike/Duplicate Matrix Spike Summary
 BTE
 EPA Methods 5030/8020
 Units: µg/L (ppb)

Sample Name: MW-3 (8.6)
Lab Code: SJ940537-4

Percent Recovery

Analyte	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS		
Benzene	25	25	ND	25.8	25.3	103	101	75-135	2
Toluene	25	25	ND	25.5	25.2	102	101	73-136	1
Ethylbenzene	25	25	ND	25.3	24.9	101	100	69-142	2

Approved By: _____

K. O'Malley

Date: _____

MAY 17, 1994

DMS15/041594

I NTEGRATED
W ASTESTREAM
M ANAGEMENT, INC.

MAY 23 1994
RESNA
SAN JOSE

May 23, 1994

Mr. John Young
RESNA Industries
3315 Almaden Expressway, Suite 34
San Jose, CA 95118

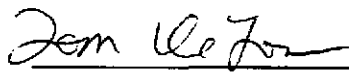
Dear Mr. Young:

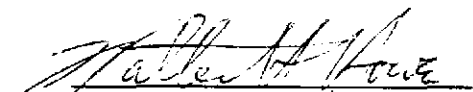
Attached are the field data sheets and analytical results for quarterly ground water sampling at ARCO Facility No. A-2162 in San Leandro, California. Integrated Wastestream Management measured the depth to water and collected samples from wells at this site on May 5, 1994.

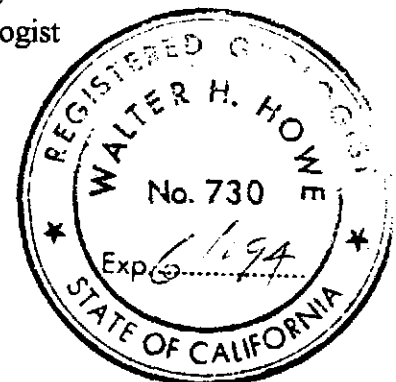
Sampling was carried out in accordance with the protocols described in the "Request for Bid for Quarterly Sampling at ARCO Facilities in Northern California".

Please call us if you have any questions.

Sincerely,
Integrated Wastestream Management


Tom DeLon
Project Manager


Walter H. Howe
Registered Geologist



I NTEGRATED
W ASTESTREAM
M ANAGEMENT

A2162Q2.XLS

Summary of Ground Water Sample Analyses for ARCO Facility A-2162, San Leandro, California

WELL NUMBER	MW-1	MW-2	MW-3	MW-4	
DATE SAMPLED	5/5/94	5/5/94	5/5/94	5/5/94	
DEPTH TO WATER	8.66	7.75	8.08	9.21	
SHEEN	NONE	NONE	NONE	NONE	
PRODUCT THICKNESS	NA	NA	NA	NA	
TPHg	510	360	ND	160	
BTEX					
BENZENE	ND	ND	ND	17	
TOLUENE	ND	ND	ND	ND	
ETHLYBENZENE	<1 ⁺⁺	27	ND	ND	
XYLENES	1.6	18	ND	0.6	

FOOTNOTES:

Concentrations reported in ug/L (ppb).

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

BTEX Distinction (USEPA Method 8020)

PCE = Tetrachloroethene (USEPA Method 8010)

++ = Raised MRL due to matrix interference.

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

TCE = Trichloroethene (USEAP Method 8010)

ND = Not Detected.

NA = Not applicable.

WELL ID: MW-2 TD 10.50 DTW 7.75 X 0.46 X 3 = 15.34
Linear Ft. Volume Purge

DATE PURGED: 5-5-94 START (2400 HR): 1710 END (2400 HR): 1713
 DATE SAMPLED: 5-5-94 TIME (2400 HR): 1718 DTW: 8.6

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
<u>1710</u>	<u>3</u>	<u>6.97</u>	<u>0.49</u>	<u>70.0</u>	<u>CLEAR</u>
<u>1711</u>	<u>8</u>	<u>6.96</u>	<u>0.36</u>	<u>68.3</u>	<u>CLEAR</u>
<u>1713</u>	<u>16</u>	<u>7.00</u>	<u>0.36</u>	<u>67.7</u>	<u>CLEAR</u>

Total purge: 16

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: MW-1 TD 16.30 DTW 8.66 X 0.66 X 3 = 15.12
Linear Ft. Volume Purge

DATE PURGED: 5-5-94 START (2400 HR): 1723 END (2400 HR): 1727
 DATE SAMPLED: 5-5-94 TIME (2400 HR): 1730 DTW: 8.70

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
<u>1724</u>	<u>3</u>	<u>6.96</u>	<u>0.51</u>	<u>67.9</u>	<u>CLEAR</u>
<u>1725</u>	<u>8</u>	<u>6.95</u>	<u>0.51</u>	<u>67.9</u>	<u>CLEAR</u>
<u>1727</u>	<u>16</u>	<u>6.95</u>	<u>0.51</u>	<u>67.9</u>	<u>CLEAR</u>

Total purge: 16

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: _____ TD _____ DTW _____ X _____ X _____ = _____
Linear Ft. Volume Purge

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

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

Total purge: _____

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: _____ TD _____ DTW _____ X _____ X _____ = _____
Linear Ft. Volume Purge

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

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

Total purge: _____

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

PRINT NAME: Francisco Abungon

SIGNATURE: Francisco Abungon

CASING DIAMETER (inches): 2 3 4 6 8 12 Other: _____

GALLON/LINEAR FOOT: 0.17 0.38 0.66 1.5 2.6 5.8 Other: _____

WELL ID: MW-3 TD 15.30 DTW 8.08 X 0.46 X 3 - 14.29
Linear Ft. Volume Purge

DATE PURGED: 5-5-94 START (2400 HR): 1757 END (2400 HR): 1801
 DATE SAMPLED: 5-5-94 TIME (2400 HR): 1803 DTW: 8.6

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
<u>1758</u>	<u>3</u>	<u>6.93</u>	<u>0.51</u>	<u>69.7</u>	<u>clear</u>
<u>1759</u>	<u>10</u>	<u>6.93</u>	<u>0.52</u>	<u>69.8</u>	<u>clear</u>
<u>1801</u>	<u>13</u>	<u>6.94</u>	<u>0.52</u>	<u>69.5</u>	<u>clear</u>
<u>1801</u>	<u>15</u>	<u>6.93</u>	<u>0.51</u>	<u>69.2</u>	<u>clear</u>

Total purge: 15

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: MW-4 TD 18.41 DTW 9.21 X 0.66 X 3 - 18.21
Linear Ft. Volume Purge

DATE PURGED: 5-5-94 START (2400 HR): 1818 END (2400 HR): 1823
 DATE SAMPLED: 5-5-94 TIME (2400 HR): 1825 DTW: 9.31

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
<u>1820</u>	<u>4</u>	<u>6.85</u>	<u>0.55</u>	<u>68.5</u>	<u>clear</u>
<u>1821</u>	<u>11</u>	<u>6.87</u>	<u>0.57</u>	<u>68.7</u>	<u>clear</u>
<u>1822</u>	<u>16</u>	<u>6.86</u>	<u>0.55</u>	<u>68.3</u>	<u>clear</u>
<u>1823</u>	<u>20</u>	<u>6.85</u>	<u>0.55</u>	<u>68.0</u>	<u>clear</u>

Total purge: 20

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: _____ TD _____ DTW _____ X _____ X _____ - _____
Linear Ft. Volume Purge

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

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

Total purge: _____

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

WELL ID: _____ TD _____ DTW _____ X _____ X _____ - _____
Linear Ft. Volume Purge

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

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

Total purge: _____

PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.

REMARKS:

PRINT NAME: Vince Valdes SIGNATURE: Vince Valdes

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