

May 17, 1995

ENVIRONMENTAL
7000 UNIVERSITY AVE
95 MAY 31 PM 3:43



EMCON





EMCON

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

May 25, 1995
Project 0805-121.02

Mr. John Sullivan
17760 Sweetbriar Place
Castro Valley, California 94546

Re: First quarter 1995 laboratory analytical results, groundwater samples, Chateau
Manor Apartments, 724 Lewelling Boulevard, San Leandro, California

Dear Mr. Sullivan:

Enclosed please find copies of the laboratory analytical results for groundwater samples collected from wells MW-9 and MW-10 during the first quarter of 1995. These wells are located at Chateau Manor Apartments, 724 Lewelling Boulevard, San Leandro, California. The groundwater samples were collected on March 17, 1995, during quarterly sampling of ARCO station 601, located at 712 Lewelling Boulevard in San Leandro. The laboratory analytical results indicate that concentrations of total petroleum hydrocarbons as gasoline, and the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes, were not detected.

Please call if you have questions.

Sincerely,

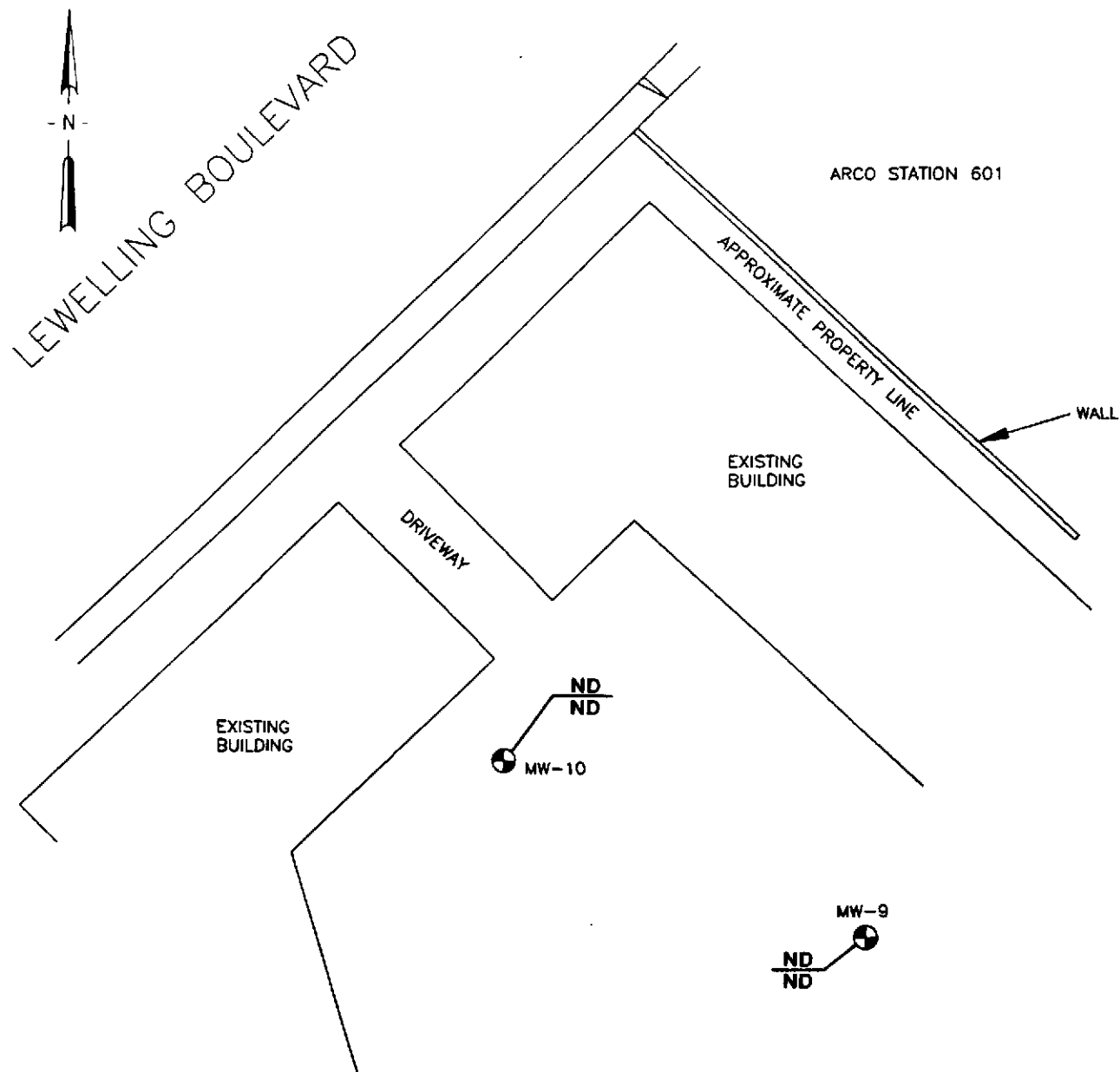
EMCON

David Larsen
Project Coordinator

Attachments: Figure 1 - Generalized Site Plan
Copy of Analytical Results and Chain-of-Custody Documentation,
Wells MW-9 and MW-10, First Quarter 1995

cc: Scott Seery, ACHCSA
John Jang, RWQCB
Gary Grimm, RWQCB
Mike Whelan, ARCO Products Company
David Larsen, EMCON
File





EXPLANATION



Groundwater monitoring well

ND
ND

TPHG concentration in groundwater (ppb)

Benzene concentration in groundwater (ppb)

ND = Not detected

SCALE: 0 40 FEET
(Approximate)

Base map modified from RESNA, 1994.



EMCON
Associates

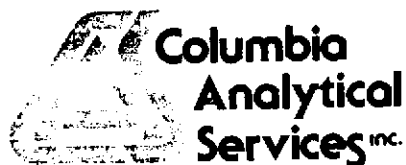
CHATEAU MANOR APARTMENTS
724 LEWELLING BLVD.
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

GENERALIZED SITE PLAN

FIGURE

1

PROJECT NO.
805-121.01



March 31, 1995

Service Request No.: S950338

John Young
EMCON
1921 Ringwood Ave.
San Jose, Ca 95131

RE: ARCO Facility No. 601 / Project No. 1775-208.01

Dear John:

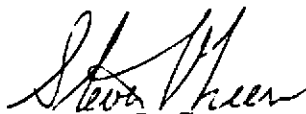
Attached are the results of the water sample(s) submitted to our laboratory on March 17, 1995. For your information, these analyses have been assigned our service request number S950338.

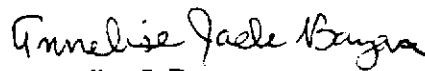
All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.


Steven L. Green
Project Chemist


Annelise J. Bazar
Regional QA Coordinator

Page 1 of 9

CVR_PG DOC 1/26/95

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
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
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is 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
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
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
tr	Trace level is the concentration of an analyte that is less than the PQL, but greater than or equal to the MDL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

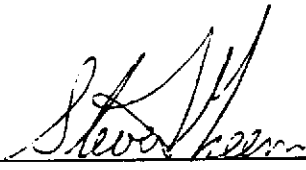
Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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

Analyte:	TPH as					
Units:	Gasoline	Benzene	Toluene	Ethyl-	Xylenes,	
Method Reporting Limit:	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	benzene	Total	
	50	0.5	0.5	ug/L (ppb)	ug/L (ppb)	0.5

Sample Name	Lab Code					
MW-9 (16)	S950338-015	ND	ND	ND	ND	ND
MW-10 (18)	S950338-016	ND	ND	ND	ND	ND
Method Blank	S950328-WB	ND	ND	ND	ND	ND

Approved By: 

Date: 3/31/95

003

5ABTXGAS/061694

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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-9 (16)	S950338-015	86
MW-10 (18)	S950338-016	87
MW-2 (12) MS	S950338-002MS	112 *
MW-2 (12) DMS	S950338-002DMS	107 *
Method Blank	S950328-WB	100

CAS Acceptance Limits: 69-116

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

Approved By: 

Date: 3/31/95

SUR1 062994

005

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01

Service Request: S950338
Date Analyzed: 3/28/95

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	24.5	98	85-115
Toluene	25	24.1	96	85-115
Ethylbenzene	25	24.5	98	85-115
Xylenes, Total	75	70.4	94	85-115
Gasoline	250	270	108	90-110

Approved By: _____



Date: 3/31/95

006

ICV23AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28/95

Matrix Spike/Duplicate Matrix Spike Summary

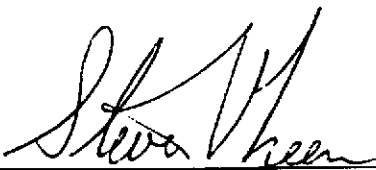
BTE

EPA Methods 5030/8020

Units: ug/L (ppb)

Sample Name: MW-2 (12)
Lab Code: S950338-002

						Percent Recovery			
Analyte	Spike Level		Sample Result	Spike Result				CAS	Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS	Acceptance	
								Limits	
Benzene	500	500	463	893	930	86	93	75-135	4
Toluene	500	500	76.5	486	506	82	86	73-136	4
Ethylbenzene	500	500	259	677	724	84	93	69-142	7

Approved By: 

Date: 3/31/95

007

DMSIS/060194



EMCON

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

May 17, 1995
Project 0805-121.02

Mr. Michael Whelan
ARCO Products Company
2155 South Bascom Avenue, Suite 202
Campbell, California 95008

Re: First quarter 1995 groundwater monitoring program results, ARCO service station 601, San Leandro, California

Dear Mr. Whelan:

This letter presents the results of the first quarter 1995 groundwater monitoring program at ARCO Products Company (ARCO) service station 601, 712 Lewelling Boulevard, San Leandro, California (Figure 1). The quarterly monitoring program complies with Alameda County Health Care Services Agency (ACHCSA) requirements regarding underground tank investigations.

BACKGROUND

In August 1989, Applied Geo Systems (AGS) performed a preliminary subsurface environmental investigation to evaluate the removal of underground storage tanks (USTs) from the site. This investigation included drilling five borings to evaluate the potential for hydrocarbons in soil in the vicinity of the USTs.

In January 1990, GeoStrategies, Inc. (GSI), observed the removal of gasoline USTs and a waste-oil tank from the site. During the tank removal, soil samples were collected from the tank pit to assess the presence of hydrocarbon-impacted soil beneath the former USTs. In June 1990, RESNA/AGS conducted an initial phase of subsurface environmental investigation, which included installing three groundwater monitoring wells (MW-1, MW-2, and MW-3) at the site.

Between May and June 1991, as part of a second phase of investigation, RESNA (1) installed four groundwater monitoring wells (MW-4 through MW-8), (2) performed a soil-vapor extraction (SVE) test, and (3) conducted a records survey to identify wells and potential off-site sources of hydrocarbons in groundwater within 0.5 mile of the site.

In October 1992, RESNA conducted an initial off-site subsurface investigation to delineate the extent of gasoline hydrocarbons previously discovered by Pacific Gas and Electric Company in a utility trench adjacent to the site. For this investigation, RESNA drilled nine soil borings in the vicinity of the utility trench.



May 17, 1995

Page 2

Between August 1992 and June 1993, RESNA conducted a ~~third phase~~ of investigation, which included (1) additional on-site and initial off-site subsurface investigation in August 1992 (installation of four additional monitoring wells, MW-11 through MW-14), and (2) additional off-site subsurface investigation (installation of monitoring well MW-15 in April 1993 and monitoring wells MW-9 and MW-10 in June 1993).

Groundwater monitoring at this site was initiated in July 1992. For additional background information, please refer to *Additional Subsurface Investigation at ARCO Station 601, 712 Lewelling Boulevard San Leandro, California* (RESNA, March 3, 1993).

Water levels in wells MW-1 through MW-15 are measured quarterly. Wells MW-13 and MW-14 are sampled annually (first quarter). Wells MW-12 and MW-15 are sampled semiannually (first and third quarters). Wells MW-1 through MW-4 are sampled quarterly.

wells mw-5 -> 11 ?

MONITORING PROGRAM FIELD PROCEDURES AND RESULTS

The first quarter 1995 groundwater monitoring event was performed by EMCON on March 17, 1995. Field work this quarter included (1) measuring depths to groundwater and subjectively analyzing groundwater for the presence of floating product in wells MW-1 through MW-15, (2) purging and subsequently sampling groundwater monitoring wells MW-1 through MW-15 for laboratory analysis, and (3) directing a state-certified laboratory to analyze the groundwater samples. Copies of all field data sheets from the first quarter 1995 groundwater monitoring event are included in Appendix A.

ANALYTICAL PROCEDURES

Groundwater samples collected during first quarter 1995 monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPHG), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Groundwater samples were prepared for analysis by U.S. Environmental Protection Agency (USEPA) method 5030 (purge and trap). Groundwater was analyzed for TPHG by the methods accepted by the Department of Toxic Substances Control, California Environmental Protection Agency (Cal-EPA), and referenced in the *Leaking Underground Fuel Tank (LUFT) Field Manual* (State Water Resources Control Board, October 1989). Samples were analyzed for BTEX by USEPA method 8020, as described in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (EPA SW-846, November 1986, third edition). Groundwater samples collected from well MW-1 were also analyzed for semivolatile organic compounds (SVOCs) by USEPA method 3520/8270; total recoverable petroleum hydrocarbons (TRPH) by USEPA method 418.1; total petroleum hydrocarbons as diesel (TPHD) by USEPA method 3510 and the Cal-EPA LUFT method; cadmium, chromium, nickel, and zinc by USEPA method 6010A; and lead by USEPA method 7421. These methods are recommended for

samples from petroleum-hydrocarbon-impacted sites in the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites* (August 10, 1990).

MONITORING PROGRAM RESULTS

Results of the first quarter 1995 groundwater monitoring event are summarized in Table 1 and illustrated in Figure 2. Historical groundwater elevation data, including top-of-casing elevations, depth-to-water measurements, calculated groundwater elevations, floating-product thickness measurements, and groundwater flow direction and gradient data, are summarized in Table 2. Table 3 summarizes historical laboratory data for TPHG and BTEX analyses. Table 4 summarizes historical laboratory data for TRPH, TPHD, and metals analyses for wells MW-1, MW-2, MW-3, MW-5, and MW-8. Historical laboratory data for volatile organic compound (VOC) and SVOC analyses for wells MW-1, MW-2, and MW-8 are summarized in Table 5. Historical floating product recovery data for well MW-1 are summarized in Table 6. Copies of the first quarter 1995 analytical results and chain-of-custody documentation are included in Appendix B.

MONITORING PROGRAM EVALUATION

Groundwater elevation data collected on March 17, 1995, illustrate that groundwater beneath the site flows west-southwest at an approximate hydraulic gradient of 0.006 foot per foot. Figure 2 illustrates groundwater contours and analytical data for the first quarter of 1995.

Groundwater samples collected from wells MW-7, MW-9, MW-10, and MW-12 through MW-15 did not contain detectable concentrations of TPHG or BTEX. Groundwater samples collected from wells MW-8 and MW-11 contained 5,400 and 100 micrograms per liter ($\mu\text{g/L}$) TPHG, respectively, but did not contain detectable concentrations of benzene. Groundwater samples collected from wells MW-1 through MW-6 contained concentrations of TPHG from 10,000 to 370,000 $\mu\text{g/L}$ and concentrations of benzene from 460 to 9,300 $\mu\text{g/L}$.

Groundwater samples collected from well MW-1 did not contain detectable concentrations of cadmium ($<5 \mu\text{g/L}$) and nickel ($<40 \mu\text{g/L}$). Samples collected from MW-1 did contain detectable concentrations of TRPH (48,000 $\mu\text{g/L}$), TPHD (6,200 $\mu\text{g/L}$), chromium (20 $\mu\text{g/L}$), lead (20 $\mu\text{g/L}$), zinc (60 $\mu\text{g/L}$), naphthalene (1,300 $\mu\text{g/L}$), 2-methylnaphthalene (730 $\mu\text{g/L}$), and 2,4-dimethylphenol (150 $\mu\text{g/L}$). The 6,200 $\mu\text{g/L}$ of TPHD reported for well MW-1 was qualified by the laboratory

(chromatogram is not characteristic of the typical diesel fingerprint). Hydrocarbons in the gasoline time range were detected at the reported level (6,200 µg/L).

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, such a finding should not therefore be construed as a guarantee of the absence of such conditions at the site, but rather as the result of the scope, limitations, and cost of work performed during the monitoring event.

SITE STATUS UPDATE

This update reports site activities performed during the first quarter of 1995 and the anticipated site activities for the second quarter of 1995.

First Quarter 1995 Activities

- Prepared and submitted quarterly groundwater monitoring report for fourth quarter 1994.
- Performed quarterly groundwater monitoring for first quarter 1995. Based on eight or more consecutive quarters of nondetectable TPHG and BTEX results for wells MW-12 through MW-15, ARCO began sampling wells MW-13 and MW-14 annually (first quarter) and wells MW-12 and MW-15 semiannually (first and third quarters). Wells MW-1 through MW-11 will be sampled quarterly. Water levels will be measured in all wells quarterly.

Work Anticipated for Second Quarter 1995

- Prepare and submit quarterly groundwater monitoring report for first quarter 1995.
- Perform quarterly groundwater monitoring for second quarter 1995.

Mr. Michael Whelan
May 17, 1995
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Project 0805-121.02

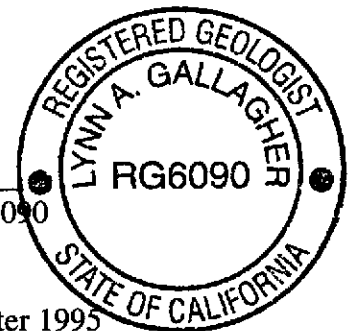
Please call if you have questions.

Sincerely,

EMCON


David Larson
Project Coordinator


Lynn A. Gallagher, R.G. 6090
Project Geologist



Attachments: Table 1 - Groundwater Monitoring Data, First Quarter 1995
Table 2 - Historical Groundwater Elevation Data
Table 3 - Historical Groundwater Analytical Data (TPHG and BTEX)
Table 4 - Historical Groundwater Analytical Data (TRPH, TPHD,
and Metals)
Table 5 - Historical Groundwater Analytical Data (VOCs and
SVOCs)
Table 6 - Approximate Cumulative Floating Product Recovered
(Well MW-1)
Figure 1 - Site Location
Figure 2 - Groundwater Data, First Quarter 1995
Appendix A - Field Data Sheets, First Quarter 1995 Groundwater
Monitoring Event
Appendix B - Analytical Results and Chain-of-Custody
Documentation, First Quarter 1995

cc: Scott Seery, ACHCSA
John Jang, RWQCB-SFBR
Gary Grimm, RWQCB-SFBR
Mike Bakaldin, SLFD

Table 1
Groundwater Monitoring Data
First Quarter 1995
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-16-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-1	03-17-95	22.26	6.57	15.69	ND	WSW	0.006	03-17-95	120000	5300	370	1500	13000
MW-2	03-17-95	21.33	6.12	15.21	ND	WSW	0.006	03-17-95	10000	460	77	260	550
MW-3	03-17-95	20.11	5.46	14.65	ND	WSW	0.006	03-17-95	370000	4800	12000	5800	34000
MW-4	03-17-95	20.75	6.65	14.10	ND	WSW	0.006	03-17-95	16000	1800	970	310	2500
MW-5	03-17-95	20.90	5.51	15.39	ND	WSW	0.006	03-17-95	48000	6400	2000	740	5100
MW-6	03-17-95	22.08	6.66	15.42	ND	WSW	0.006	03-17-95	45000	9300	<100*	1900	3600
MW-7	03-17-95	22.89	7.68	15.21	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-8	03-17-95	20.97	6.14	14.83	ND	WSW	0.006	03-17-95	5400	<5*	<5*	35	<5*
MW-9	03-17-95	20.89	6.94	13.95	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-10	03-17-95	21.12	6.26	14.86	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-11	03-17-95	22.38	6.94	15.44	ND	WSW	0.006	03-17-95	100	<0.5	<0.5	<0.5	<0.5
MW-12	03-17-95	22.77	7.09	15.68	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-13	03-17-95	22.45	6.91	15.54	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-14	03-17-95	22.99	8.17	14.82	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-15	03-17-95	19.19	5.21	13.98	ND	WSW	0.006	03-17-95	<50	<0.5	<0.5	<0.5	<0.5

TOC = Top of casing

ft-MSL = Elevation in feet, relative to mean sea level

MWN = Ground-water flow direction and gradient apply to the entire monitoring well network

TPHG = Total petroleum hydrocarbons as gasoline

µg/l = Micrograms per liter

ND = None detected

WSW = West-southwest

* = Method reporting limit was raised due to high analyte concentration requiring sample dilution

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-1	07-17-90	22.98	9.03	13.95	Emulsion	NR	NR
MW-1	08-07-90	22.98	9.19	13.79	ND	NR	NR
MW-1	10-15-90	22.98	^9.85	^13.13	0.25	NR	NR
MW-1	11-20-90	22.98	^9.79	^13.19	0.46	NR	NR
MW-1	12-21-90	22.98	9.18	13.80	Sheen	NR	NR
MW-1	01-09-91	22.98	^9.47	^13.51	0.02	NR	NR
MW-1	02-27-91	22.98	^9.31	^13.67	0.03	NR	NR
MW-1	03-20-91	22.98	^7.81	^15.17	Sheen	NR	NR
MW-1	04-16-91	22.98	6.12	16.86	Sheen	NR	NR
MW-1	05-16-91	22.98	^8.60	^13.66	0.01	NR	NR
MW-1	06-10-91	22.26	9.00	13.26	Sheen	NR	NR
MW-1	07-18-91	22.26	^9.33	^12.93	0.01	NR	NR
MW-1	08-22-91	22.26	^9.49	^12.77	0.04	NR	NR
MW-1	09-18-91	22.26	^9.63	^12.63	0.04	NR	NR
MW-1	10-10-91	22.26	^9.73	^12.53	0.04	NR	NR
MW-1	11-21-91	22.26	^8.40	^13.86	0.01	NR	NR
MW-1	12-24-91	22.26	^9.68	^13.30	0.13	NR	NR
MW-1	01-19-92	22.26	8.84	13.42	ND	NR	NR
MW-1	02-20-92	22.26	7.22	15.04	ND	NR	NR
MW-1	03-23-92	22.26	7.40	14.86	Sheen	NR	NR
MW-1	04-21-92	22.26	8.30	13.96	ND	NR	NR
MW-1	05-15-92	22.26	^8.77	^13.49	0.01	NR	NR
MW-1	06-08-92	22.26	^9.08	^13.18	0.02	NR	NR
MW-1	07-15-92	22.26	9.40	12.86	ND	NR	NR
MW-1	08-25-92	22.26	8.21	14.05	ND	NR	NR
MW-1	09-15-92	22.26	^8.18	^14.08	0.02	NR	NR
MW-1	10-28-92	22.26	8.62	13.64	ND	NR	NR
MW-1	11-16-92	22.26	^9.09	^13.17	0.02	NR	NR
MW-1	12-16-92	22.26	^8.10	^14.16	0.02	NR	NR
MW-1	01-15-93	22.26	6.53	15.73	ND	NR	NR
MW-1	02-16-93	22.26	^7.03	^15.23	0.01	NR	NR
MW-1	03-30-93	22.26	6.86	15.40	ND	NR	NR
MW-1	04-28-93	22.26	^6.77	^15.49	0.01	NR	NR
MW-1	05-13-93	22.26	^8.08	^14.18	0.01	NR	NR
MW-1	06-17-93	22.26	^8.48	^13.78	0.01	NR	NR
MW-1	07-28-93	22.26	^8.80	^13.46	0.01	NR	NR
MW-1	08-17-93	22.26	^8.81	^13.45	0.01	NR	NR
MW-1	11-08-93	22.26	^9.22	^13.04	0.01	NR	NR
MW-1	02-14-94	22.26	7.72	14.54	Sheen	NR	NR
MW-1	05-05-94	22.26	8.47	13.79	Sheen	NR	NR
MW-1	08-04-94	22.26	8.72	13.54	Sheen	SW	0.004
MW-1	11-20-94	22.26	7.81	14.45	Sheen	SW	0.002
MW-1	03-17-95	22.26	6.57	15.69	ND	WSW	0.006

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-2	07-17-90	22.06	7.86	14.20	ND	NR	NR
MW-2	08-07-90	22.06	8.03	14.03	ND	NR	NR
MW-2	10-15-90	22.06	8.61	13.45	ND	NR	NR
MW-2	11-20-90	22.06	8.76	13.30	ND	NR	NR
MW-2	12-21-90	22.06	8.28	13.78	ND	NR	NR
MW-2	01-09-91	22.06	8.43	13.63	ND	NR	NR
MW-2	02-27-91	22.06	8.28	13.78	ND	NR	NR
MW-2	03-20-91	22.06	^^7.26	^^14.80	ND	NR	NR
MW-2	04-16-91	22.06	6.97	15.09	ND	NR	NR
MW-2	05-16-91	22.06	7.52	14.54	ND	NR	NR
MW-2	06-10-91	21.33	7.91	13.42	ND	NR	NR
MW-2	07-18-91	21.33	8.30	13.03	ND	NR	NR
MW-2	08-22-91	21.33	8.50	12.83	ND	NR	NR
MW-2	09-18-91	21.33	8.63	12.70	ND	NR	NR
MW-2	10-10-91	21.33	8.82	12.51	ND	NR	NR
MW-2	11-21-91	21.33	8.46	12.87	ND	NR	NR
MW-2	12-24-91	21.33	8.72	12.61	ND	NR	NR
MW-2	01-19-92	21.33	7.96	13.37	ND	NR	NR
MW-2	02-20-92	21.33	6.55	14.78	ND	NR	NR
MW-2	03-23-92	21.33	6.86	14.47	ND	NR	NR
MW-2	04-21-92	21.33	7.15	14.18	ND	NR	NR
MW-2	05-15-92	21.33	7.61	13.72	ND	NR	NR
MW-2	06-08-92	21.33	7.95	13.38	ND	NR	NR
MW-2	07-15-92	21.33	8.45	12.88	ND	NR	NR
MW-2	08-25-92	21.33	8.53	12.80	ND	NR	NR
MW-2	09-15-92	21.33	8.71	12.62	ND	NR	NR
MW-2	10-28-92	21.33	8.89	12.44	ND	NR	NR
MW-2	11-16-92	21.33	7.93	13.40	ND	NR	NR
MW-2	12-16-92	21.33	7.44	13.89	ND	NR	NR
MW-2	01-15-93	21.33	6.13	15.20	ND	NR	NR
MW-2	02-16-93	21.33	6.02	15.31	ND	NR	NR
MW-2	03-30-93	21.33	5.98	15.35	ND	NR	NR
MW-2	04-28-93	21.33	6.58	14.75	ND	NR	NR
MW-2	05-13-93	21.33	6.99	14.34	ND	NR	NR
MW-2	06-17-93	21.33	7.40	13.93	ND	NR	NR
MW-2	07-28-93	21.33	7.79	13.54	ND	NR	NR
MW-2	08-17-93	21.33	7.85	13.48	ND	NR	NR
MW-2	11-08-93	21.33	8.12	13.21	ND	NR	NR
MW-2	02-14-94	21.33	6.88	14.45	ND	NR	NR
MW-2	05-05-94	21.33	7.51	13.82	ND	NR	NR
MW-2	08-04-94	21.33	8.00	13.33	ND	SW	0.004
MW-2	11-20-94	21.33	6.86	14.47	ND	SW	0.002
MW-2	03-17-95	21.33	6.12	15.21	ND	WSW	0.006

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-3	07-17-90	20.84	7.03	13.81	Sheen	NR	NR
MW-3	08-07-90	20.84	7.21	13.63	ND	NR	NR
MW-3	10-15-90	20.84	^8.19	^12.65	0.75	NR	NR
MW-3	11-20-90	20.84	^7.98	^12.85	1.08	NR	NR
MW-3	12-21-90	20.84	^7.22	^13.62	0.01	NR	NR
MW-3	01-09-91	20.84	^7.46	^13.38	0.30	NR	NR
MW-3	02-27-91	20.84	^7.37	^13.47	0.02	NR	NR
MW-3	03-20-91	20.84	^^5.79	^^15.05	Sheen	NR	NR
MW-3	04-16-91	20.84	7.95	12.89	Sheen	NR	NR
MW-3	05-16-91	20.84	7.50	13.34	ND	NR	NR
MW-3	06-10-91	20.11	7.14	12.97	Sheen	NR	NR
MW-3	07-18-91	20.11	7.55	12.56	ND	NR	NR
MW-3	08-22-91	20.11	7.64	12.47	Sheen	NR	NR
MW-3	09-18-91	20.11	^7.89	^12.22	0.12	NR	NR
MW-3	10-10-91	20.11	^7.82	^12.29	0.26	NR	NR
MW-3	11-21-91	20.11	^7.59	^12.52	0.04	NR	NR
MW-3	12-24-91	20.11	^8.74	^11.37	0.01	NR	NR
MW-3	01-19-92	20.11	6.98	13.13	0.01	NR	NR
MW-3	02-20-92	20.11	5.05	15.06	0.01	NR	NR
MW-3	03-23-92	20.11	5.75	14.36	Sheen	NR	NR
MW-3	04-21-92	20.11	6.55	13.56	ND	NR	NR
MW-3	05-15-92	20.11	^7.11	^13.00	0.03	NR	NR
MW-3	06-08-92	20.11	^7.52	^12.59	0.02	NR	NR
MW-3	07-15-92	20.11	7.92	12.19	ND	NR	NR
MW-3	08-25-92	20.11	8.00	12.11	ND	NR	NR
MW-3	09-15-92	20.11	^8.01	^12.10	0.02	NR	NR
MW-3	10-28-92	20.11	8.66	11.45	ND	NR	NR
MW-3	11-16-92	20.11	7.11	13.00	Sheen	NR	NR
MW-3	12-16-92	20.11	6.62	13.49	ND	NR	NR
MW-3	01-15-93	20.11	4.44	15.67	ND	NR	NR
MW-3	02-16-93	20.11	^5.93	^14.18	0.01	NR	NR
MW-3	03-30-93	20.11	5.48	14.63	ND	NR	NR
MW-3	04-28-93	20.11	^6.02	^14.09	0.01	NR	NR
MW-3	05-13-93	20.11	^6.37	^13.74	0.01	NR	NR
MW-3	06-17-93	20.11	^6.52	^13.59	0.01	NR	NR
MW-3	07-28-93	20.11	6.95	13.16	ND	NR	NR
MW-3	08-17-93	20.11	^7.00	^13.11	0.01	NR	NR
MW-3	11-08-93	20.11	7.31	12.80	ND	NR	NR
MW-3	02-14-94	20.11	5.81	14.30	ND	NR	NR
MW-3	05-05-94	20.11	6.81	13.30	ND	NR	NR
MW-3	08-04-94	20.11	7.31	12.80	ND	SW	0.004
MW-3	11-20-94	20.11	5.88	14.23	ND	SW	0.002
MW-3	03-17-95	20.11	5.46	14.65	ND	WSW	0.006

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-4	06-10-91	20.75	DRY	DRY	ND	DRY	DRY
MW-4	07-18-91	20.75	7.86	12.89	ND	NR	NR
MW-4	08-22-91	20.75	7.85	12.90	ND	NR	NR
MW-4	09-18-91	20.75	7.84	12.91	ND	NR	NR
MW-4	10-10-91	20.75	DRY	DRY	ND	DRY	DRY
MW-4	11-21-91	20.75	DRY	DRY	ND	DRY	DRY
MW-4	12-24-91	20.75	DRY	DRY	ND	DRY	DRY
MW-4	01-19-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	02-20-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	03-23-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	04-21-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	05-15-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	06-08-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	07-15-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	08-25-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	09-15-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	10-28-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	11-16-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	12-16-92	20.75	DRY	DRY	ND	DRY	DRY
MW-4	01-15-93	20.75	7.48	13.27	ND	NR	NR
MW-4	02-16-93	20.75	7.10	13.65	ND	NR	NR
MW-4	03-30-93	20.75	7.51	13.24	ND	NR	NR
MW-4	04-28-93	20.75	7.10	13.65	ND	NR	NR
MW-4	05-13-93	20.75	7.02	13.73	ND	NR	NR
MW-4	06-17-93	20.75	7.98	12.77	ND	NR	NR
MW-4	07-28-93	20.75	7.90	12.85	ND	NR	NR
MW-4	08-17-93	20.75	7.85	12.90	ND	NR	NR
MW-4	11-08-93	20.75	DRY	DRY	ND	DRY	DRY
MW-4	02-14-94	20.75	DRY	DRY	ND	DRY	DRY
MW-4	05-05-94	20.75	7.73	13.02	ND	NR	NR
MW-4	08-04-94	20.75	7.83	12.92	ND	SW	0.004
MW-4	11-20-94	20.75	7.73	13.02	ND	SW	0.002
MW-4	03-17-95	20.75	6.65	14.10	ND	WSW	0.006

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Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Design- nation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-5	06-10-91	20.90	7.58	13.32	ND	NR	NR
MW-5	07-18-91	20.90	7.97	12.93	ND	NR	NR
MW-5	08-22-91	20.90	8.18	12.72	ND	NR	NR
MW-5	09-18-91	20.90	8.31	12.59	ND	NR	NR
MW-5	10-10-91	20.90	8.51	12.39	Sheen	NR	NR
MW-5	11-21-91	20.90	8.13	12.77	ND	NR	NR
MW-5	12-24-91	20.90	8.32	12.58	ND	NR	NR
MW-5	01-19-92	20.90	7.50	13.40	ND	NR	NR
MW-5	02-20-92	20.90	5.97	14.93	ND	NR	NR
MW-5	03-23-92	20.90	6.06	14.84	ND	NR	NR
MW-5	04-21-92	20.90	6.90	14.00	ND	NR	NR
MW-5	05-15-92	20.90	7.32	13.58	ND	NR	NR
MW-5	06-08-92	20.90	7.66	13.24	ND	NR	NR
MW-5	07-15-92	20.90	8.34	12.56	ND	NR	NR
MW-5	08-25-92	20.90	8.18	12.72	ND	NR	NR
MW-5	09-15-92	20.90	8.40	12.50	ND	NR	NR
MW-5	10-28-92	20.90	8.83	12.07	ND	NR	NR
MW-5	11-16-92	20.90	7.70	13.20	ND	NR	NR
MW-5	12-16-92	20.90	6.92	13.98	ND	NR	NR
MW-5	01-15-93	20.90	5.52	15.38	ND	NR	NR
MW-5	02-16-93	20.90	5.64	15.26	ND	NR	NR
MW-5	03-30-93	20.90	5.56	15.34	ND	NR	NR
MW-5	04-28-93	20.90	6.28	14.62	ND	NR	NR
MW-5	05-13-93	20.90	6.68	14.22	ND	NR	NR
MW-5	06-17-93	20.90	7.07	13.83	ND	NR	NR
MW-5	07-28-93	20.90	7.41	13.49	ND	NR	NR
MW-5	08-17-93	20.90	7.49	13.41	ND	NR	NR
MW-5	11-08-93	20.90	7.93	12.97	ND	NR	NR
MW-5	02-14-94	20.90	6.49	14.41	ND	NR	NR
MW-5	05-05-94	20.90	7.18	13.72	ND	NR	NR
MW-5	08-04-94	20.90	7.83	13.07	ND	SW	0.004
MW-5	11-20-94	20.90	6.34	14.56	ND	SW	0.002
MW-5	03-17-95	20.90	5.51	15.39	ND	WSW	0.006

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ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-6	06-10-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	07-18-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	08-22-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	09-18-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	10-10-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	11-21-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	12-24-91	22.08	DRY	DRY	ND	DRY	DRY
MW-6	01-19-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	02-20-92	22.08	7.28	14.80	ND	NR	NR
MW-6	03-23-92	22.08	7.45	14.63	ND	NR	NR
MW-6	04-21-92	22.08	7.74	14.34	ND	NR	NR
MW-6	05-15-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	06-08-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	07-15-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	08-25-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	09-15-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	10-28-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	11-16-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	12-16-92	22.08	DRY	DRY	ND	DRY	DRY
MW-6	01-15-93	22.08	7.22	14.86	ND	NR	NR
MW-6	02-16-93	22.08	6.79	15.29	ND	NR	NR
MW-6	03-30-93	22.08	6.68	15.40	ND	NR	NR
MW-6	04-28-93	22.08	7.28	14.80	ND	NR	NR
MW-6	05-13-93	22.08	7.73	14.35	ND	NR	NR
MW-6	06-17-93	22.08	8.15	13.93	ND	NR	NR
MW-6	07-28-93	22.08	DRY	DRY	ND	DRY	DRY
MW-6	08-17-93	22.08	DRY	DRY	ND	DRY	DRY
MW-6	11-08-93	22.08	DRY	DRY	ND	DRY	DRY
MW-6	02-14-94	22.08	7.78	14.30	ND	NR	NR
MW-6	05-05-94	22.08	8.24	13.84	ND	NR	NR
MW-6	08-04-94	22.08	DRY	DRY	ND	DRY	DRY
MW-6	11-20-94	22.08	7.41	14.67	ND	SW	0.002
MW-6	03-17-95	22.08	6.66	15.42	ND	WSW	0.006

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Date: 05-04-95
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Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-7	06-10-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	07-18-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	08-22-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	09-18-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	10-10-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	11-21-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	12-24-91	22.89	DRY	DRY	ND	DRY	DRY
MW-7	01-19-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	02-20-92	22.89	8.74	14.15	ND	NR	NR
MW-7	03-23-92	22.89	8.20	14.69	ND	NR	NR
MW-7	04-21-92	22.89	8.86	14.03	ND	NR	NR
MW-7	05-15-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	06-08-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	07-15-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	08-25-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	09-15-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	10-28-92	22.89	^^10.38	12.51	ND	NR	NR
MW-7	11-16-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	12-16-92	22.89	DRY	DRY	ND	DRY	DRY
MW-7	01-15-93	22.89	8.37	14.52	ND	NR	NR
MW-7	02-16-93	22.89	7.84	15.05	ND	NR	NR
MW-7	03-30-93	22.89	8.03	14.86	ND	NR	NR
MW-7	04-28-93	22.89	8.33	14.56	ND	NR	NR
MW-7	05-13-93	22.89	8.56	14.33	ND	NR	NR
MW-7	06-17-93	22.89	9.30	13.59	ND	NR	NR
MW-7	07-28-93	22.89	DRY	DRY	ND	DRY	DRY
MW-7	08-17-93	22.89	DRY	DRY	ND	DRY	DRY
MW-7	11-08-93	22.89	DRY	DRY	ND	DRY	DRY
MW-7	02-14-94	22.89	8.80	14.09	ND	NR	NR
MW-7	05-05-94	22.89	9.11	13.78	ND	NR	NR
MW-7	08-04-94	22.89	DRY	DRY	ND	DRY	DRY
MW-7	11-20-94	22.89	8.72	14.17	ND	SW	0.002
MW-7	03-17-95	22.89	7.68	15.21	ND	WSW	0.006

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712 Lewelling Boulevard, San Leandro, California

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Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-8	06-10-91	20.97	7.80	13.17	ND	NR	NR
MW-8	07-18-91	20.97	8.36	12.61	ND	NR	NR
MW-8	08-22-91	20.97	8.53	12.44	ND	NR	NR
MW-8	09-18-91	20.97	8.68	12.29	ND	NR	NR
MW-8	10-10-91	20.97	8.87	12.10	ND	NR	NR
MW-8	11-21-91	20.97	8.43	12.54	ND	NR	NR
MW-8	12-24-91	20.97	8.68	12.29	ND	NR	NR
MW-8	01-19-92	20.97	7.73	13.24	ND	NR	NR
MW-8	02-20-92	20.97	5.57	15.40	ND	NR	NR
MW-8	03-23-92	20.97	5.81	15.16	ND	NR	NR
MW-8	04-21-92	20.97	7.05	13.92	ND	NR	NR
MW-8	05-15-92	20.97	7.79	13.18	ND	NR	NR
MW-8	06-08-92	20.97	8.01	12.96	ND	NR	NR
MW-8	07-15-92	20.97	8.46	12.51	ND	NR	NR
MW-8	08-25-92	20.97	8.64	12.33	ND	NR	NR
MW-8	09-15-92	20.97	8.80	12.17	ND	NR	NR
MW-8	10-28-92	20.97	8.80	12.17	ND	NR	NR
MW-8	11-16-92	20.97	8.19	12.78	ND	NR	NR
MW-8	12-16-92	20.97	6.66	14.31	ND	NR	NR
MW-8	01-15-93	20.97	5.18	15.79	ND	NR	NR
MW-8	02-16-93	20.97	5.84	15.13	ND	NR	NR
MW-8	03-30-93	20.97	4.98	15.99	ND	NR	NR
MW-8	04-28-93	20.97	6.17	14.80	ND	NR	NR
MW-8	05-13-93	20.97	6.93	14.04	ND	NR	NR
MW-8	06-17-93	20.97	7.36	13.61	ND	NR	NR
MW-8	07-28-93	20.97	7.80	13.17	ND	NR	NR
MW-8	08-17-93	20.97	7.87	13.10	ND	NR	NR
MW-8	11-08-93	20.97	8.31	12.66	ND	NR	NR
MW-8	02-14-94	20.97	7.00	13.97	ND	NR	NR
MW-8	05-05-94	20.97	7.46	13.51	ND	NR	NR
MW-8	08-04-94	20.97	8.17	12.80	ND	SW	0.004
MW-8	11-20-94	20.97	6.78	14.19	ND	SW	0.002
MW-8	03-17-95	20.97	6.14	14.83	ND	WSW	0.006

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ARCO Service Station 601
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Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-9	06-11-93	20.89	8.15	12.74	ND	NR	NR
MW-9	07-28-93	20.89	8.49	12.40	ND	NR	NR
MW-9	08-17-93	20.89	8.53	12.36	ND	NR	NR
MW-9	11-08-93	20.89	8.87	12.02	ND	NR	NR
MW-9	02-14-94	20.89	7.47	13.42	ND	NR	NR
MW-9	05-05-94	20.89	8.04	12.85	ND	NR	NR
MW-9	08-04-94	20.89	8.78	12.11	ND	SW	0.004
MW-9	11-20-94	20.89	6.83	14.06	ND	SW	0.002
MW-9	03-17-95	20.89	6.94	13.95	ND	WSW	0.006
MW-10	06-11-93	21.12	8.14	12.98	ND	NR	NR
MW-10	07-28-93	21.12	8.43	12.69	ND	NR	NR
MW-10	08-17-93	21.12	8.54	12.58	ND	NR	NR
MW-10	11-08-93	21.12	8.70	12.42	ND	NR	NR
MW-10	02-14-94	21.12	7.13	13.99	ND	NR	NR
MW-10	05-05-94	21.12	8.08	13.04	ND	NR	NR
MW-10	08-04-94	21.12	8.84	12.28	ND	SW	0.004
MW-10	11-20-94	21.12	7.05	14.07	ND	SW	0.002
MW-10	03-17-95	21.12	6.26	14.86	ND	WSW	0.006
MW-11	11-16-92	22.38	9.02	13.36	ND	NR	NR
MW-11	12-16-92	22.38	8.48	13.90	ND	NR	NR
MW-11	01-15-93	22.38	7.14	15.24	ND	NR	NR
MW-11	02-16-93	22.38	7.11	15.27	ND	NR	NR
MW-11	03-30-93	22.38	7.01	15.37	ND	NR	NR
MW-11	04-28-93	22.38	7.62	14.76	ND	NR	NR
MW-11	05-13-93	22.38	8.04	14.34	ND	NR	NR
MW-11	06-17-93	22.38	8.44	13.94	ND	NR	NR
MW-11	07-28-93	22.38	8.80	13.58	ND	NR	NR
MW-11	08-17-93	22.38	8.78	13.60	ND	NR	NR
MW-11	11-08-93	22.38	9.23	13.15	ND	NR	NR
MW-11	02-14-94	22.38	7.94	14.44	ND	NR	NR
MW-11	05-05-94	22.38	8.55	13.83	ND	NR	NR
MW-11	08-04-94	22.38	9.13	13.25	ND	SW	0.004
MW-11	11-20-94	22.38	7.73	14.65	ND	SW	0.002
MW-11	03-17-95	22.38	6.94	15.44	ND	WSW	0.006

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Desig- nation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-12	11-16-92	22.77	9.65	13.12	ND	NR	NR
MW-12	12-16-92	22.77	8.71	14.06	ND	NR	NR
MW-12	01-15-93	22.77	7.19	15.58	ND	NR	NR
MW-12	02-16-93	22.77	7.88	14.89	ND	NR	NR
MW-12	03-30-93	22.77	7.43	15.34	ND	NR	NR
MW-12	04-28-93	22.77	8.22	14.55	ND	NR	NR
MW-12	05-13-93	22.77	8.63	14.14	ND	NR	NR
MW-12	06-17-93	22.77	8.98	13.79	ND	NR	NR
MW-12	07-28-93	22.77	9.32	13.45	ND	NR	NR
MW-12	08-17-93	22.77	9.30	13.47	ND	NR	NR
MW-12	11-08-93	22.77	9.72	13.05	ND	NR	NR
MW-12	02-14-94	22.77	8.24	14.53	ND	NR	NR
MW-12	05-05-94	22.77	8.97	13.80	ND	NR	NR
MW-12	08-04-94	22.77	9.57	13.20	ND	SW	0.004
MW-12	11-20-94	22.77	8.06	14.71	ND	SW	0.002
MW-12	03-17-95	22.77	7.09	15.68	ND	WSW	0.006
MW-13	11-16-92	22.45	9.02	13.43	ND	NR	NR
MW-13	12-16-92	22.45	8.23	14.22	ND	NR	NR
MW-13	01-15-93	22.45	6.89	15.56	ND	NR	NR
MW-13	02-16-93	22.45	7.14	15.31	ND	NR	NR
MW-13	03-30-93	22.45	7.01	15.44	ND	NR	NR
MW-13	04-28-93	22.45	7.57	14.88	ND	NR	NR
MW-13	05-13-93	22.45	7.95	14.50	ND	NR	NR
MW-13	06-17-93	22.45	8.32	14.13	ND	NR	NR
MW-13	07-28-93	22.45	8.59	13.86	ND	NR	NR
MW-13	08-17-93	22.45	8.57	13.88	ND	NR	NR
MW-13	11-08-93	22.45	8.86	13.59	ND	NR	NR
MW-13	02-14-94	22.45	7.78	14.67	ND	NR	NR
MW-13	05-05-94	22.45	8.38	14.07	ND	NR	NR
MW-13	08-04-94	22.45	8.78	13.67	ND	SW	0.004
MW-13	11-20-94	22.45	7.68	14.77	ND	SW	0.002
MW-13	03-17-95	22.45	6.91	15.54	ND	WSW	0.006

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-14	09-15-92	22.99	10.66	12.33	ND	NR	NR
MW-14	10-28-92	22.99	10.91	12.08	ND	NR	NR
MW-14	11-16-92	22.99	10.33	12.66	ND	NR	NR
MW-14	12-16-92	22.99	9.20	13.79	ND	NR	NR
MW-14	01-15-93	22.99	7.06	15.93	ND	NR	NR
MW-14	02-16-93	22.99	8.18	14.81	ND	NR	NR
MW-14	03-30-93	22.99	7.97	15.02	ND	NR	NR
MW-14	04-28-93	22.99	8.63	14.36	ND	NR	NR
MW-14	05-13-93	22.99	9.05	13.94	ND	NR	NR
MW-14	06-17-93	22.99	9.55	13.44	ND	NR	NR
MW-14	07-28-93	22.99	9.89	13.10	ND	NR	NR
MW-14	08-17-93	22.99	9.90	13.09	ND	NR	NR
MW-14	11-08-93	22.99	10.25	12.74	ND	NR	NR
MW-14	02-14-94	22.99	8.80	14.19	ND	NR	NR
MW-14	05-05-94	22.99	9.49	13.50	ND	NR	NR
MW-14	08-04-94	22.99	10.11	12.88	ND	SW	0.004
MW-14	11-20-94	22.99	8.66	14.33	ND	SW	0.002
MW-14	03-17-95	22.99	8.17	14.82	ND	WSW	0.006
MW-15	04-28-93	19.19	5.51	13.68	ND	NR	NR
MW-15	05-13-93	19.19	5.91	13.28	ND	NR	NR
MW-15	06-17-93	19.19	6.18	13.01	ND	NR	NR
MW-15	07-28-93	19.19	6.45	12.74	ND	NR	NR
MW-15	08-17-93	19.19	6.54	12.65	ND	NR	NR
MW-15	11-08-93	19.19	6.98	12.21	ND	NR	NR
MW-15	02-14-94	19.19	5.44	13.75	ND	NR	NR
MW-15	05-05-94	19.19	6.18	13.01	ND	NR	NR
MW-15	08-04-94	19.19	6.84	12.35	ND	SW	0.004
MW-15	11-20-94	19.19	5.31	13.88	ND	SW	0.002
MW-15	03-17-95	19.19	5.21	13.98	ND	WSW	0.006

TOC = Top of casing

ft-MSL = Elevation in feet, relative to mean sea level

MWN = Ground-water flow direction and gradient apply to the entire monitoring well network

NR = Not reported; data not available or not measurable

ND = None detected

^ = Groundwater elevation (GWE) and depth to water (DTW) adjusted to include 80 percent of the floating product thickness (FPT):

$$[GWE = (TOC - DTW) + (FPT \times 0.8)]$$

^^ = Anomalous data

SW = Southwest

WSW = West-southwest

DRY = Dry well; groundwater was not detected

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-1	07-18-90	Not sampled: well contained floating product				
MW-1	10-15-90	Not sampled: well contained floating product				
MW-1	01-09-91	Not sampled: well contained floating product				
MW-1	04-16-91	Not sampled: well contained floating product				
MW-1	06-10-91	Not sampled: well contained floating product				
MW-1	10-10-91	Not sampled: well contained floating product				
MW-1	03-23-92	Not sampled: well contained floating product				
MW-1	06-08-92	Not sampled: well contained floating product				
MW-1	09-15-92	Not sampled: well contained floating product				
MW-1	11-16-92	Not sampled: well contained floating product				
MW-1	02-16-93	Not sampled: well contained floating product				
MW-1	05-13-93	Not sampled: well contained floating product				
MW-1	08-17-93	Not sampled: well contained floating product				
MW-1	11-08-93	Not sampled: well contained floating product				
MW-1	02-14-94	Not sampled: well contained floating product				
MW-1	05-05-94	Not sampled: well contained floating product				
MW-1	08-04-94	Not sampled: well contained floating product				
MW-1	11-20-94	Not sampled: well contained floating product				
MW-1	03-17-95	120000	5300	370	1500	13000
MW-2	07-18-90	35000	3800	2900	690	3600
MW-2	10-15-90	6400	650	290	110	560
MW-2	01-09-91	13000	1500	970	390	1500
MW-2	04-16-91	54000	5200	9000	1500	7700
MW-2	06-10-91	26000	3000	2500	880	4200
MW-2	10-10-91	10000	1600	910	280	1400
MW-2	03-23-92	33000	4100	5000	1100	5300
MW-2	06-08-92	18000	1200	980	330	1800
MW-2	09-15-92	13000	430	500	340	1800
MW-2	11-16-92	13000	900	940	300	1400
MW-2	02-16-93	20000	1800	1200	530	2700
MW-2	05-13-93	13000	1000	470	370	1900
MW-2	08-17-93	9100	770	160	310	1500
MW-2	11-08-93	9200	380	62	130	630
MW-2	02-14-94	8700	670	370	50	1400
MW-2	05-05-94	5600	390	140	120	480
MW-2	08-04-94	2300	180	<2.5*	<2.5*	230
MW-2	11-20-94	4900	170	150	120	390
MW-2	03-17-95	10000	460	77	260	550

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-3	07-18-90	NA	NA	NA	NA	NA
MW-3	10-15-90	Not sampled: well contained floating product				
MW-3	01-09-91	Not sampled: well contained floating product				
MW-3	04-16-91	Not sampled: well contained floating product				
MW-3	06-10-91	Not sampled: well contained floating product				
MW-3	10-10-91	Not sampled: well contained floating product				
MW-3	03-23-92	Not sampled: well contained floating product				
MW-3	06-08-92	Not sampled: well contained floating product				
MW-3	09-15-92	Not sampled: well contained floating product				
MW-3	11-16-92	Not sampled: well contained floating product				
MW-3	02-16-93	Not sampled: well contained floating product				
MW-3	05-13-93	Not sampled: well contained floating product				
MW-3	08-17-93	Not sampled: well contained floating product				
MW-3	11-08-93	430000	4100	14000	6400	37000
MW-3	02-14-94	85000	4200	12000	2500	16000
MW-3	05-05-94	560000	4600	14000	5300	40000
MW-3	08-04-94	64000	4200	7600	1700	12000
MW-3	11-20-94	80000	4700	9700	2400	15000
MW-3	03-17-95	370000	4800	12000	5800	34000
MW-4	06-10-91	Not sampled: dry well				
MW-4	10-10-91	15000	5300	1500	470	1300
MW-4	03-23-92	24000	5600	4000	580	3100
MW-4	06-08-92	5700	2000	170	92	270
MW-4	09-15-92	Not sampled: dry well				
MW-4	11-16-92	Not sampled: dry well				
MW-4	02-16-93	12000	920	1100	130	750
MW-4	05-13-93	19000	2900	2800	360	1900
MW-4	08-17-93	8100	1600	1300	170	730
MW-4	11-08-93	2000	540	110	10	240
MW-4	02-14-94	Not sampled: dry well				
MW-4	05-05-94	1900	510	78	31	150
MW-4	08-04-94	1300	360	17	<5*	190
MW-4	11-20-94	<50	2.9	0.5	<0.5	1.4
MW-4	03-17-95	16000	1800	970	310	2500

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-5	06-10-91	100000	25000	20000	2600	12000
MW-5	10-10-91	Not sampled: well contained floating product				
MW-5	03-23-92	150000	24000	31000	4400	23000
MW-5	06-08-92	120000	17000	13000	2400	11000
MW-5	09-15-92	Not sampled: floating product entered the well during purging				
MW-5	11-16-92	110000	16000	16000	3200	18000
MW-5	02-16-93	150000	12000	15000	3000	17000
MW-5	05-13-93	Not sampled: floating product entered the well during purging				
MW-5	08-17-93	87000	15000	8500	1900	11000
MW-5	11-08-93	87000	12000	8300	2000	12000
MW-5	02-14-94	46000	7300	5300	940	5200
MW-5	05-05-94	54000	9700	4700	1000	6400
MW-5	08-04-94	57000	14000	3200	1200	7200
MW-5	11-20-94	33000	5700	1800	720	4700
MW-5	03-17-95	48000	6400	2000	740	5100
MW-6	06-10-91	Not sampled: dry well				
MW-6	10-10-91	Not sampled: dry well				
MW-6	03-23-92	75000	19000	10000	1600	8600
MW-6	06-08-92	Not sampled: dry well				
MW-6	09-15-92	Not sampled: dry well				
MW-6	11-16-92	Not sampled: dry well				
MW-6	02-16-93	65000	14000	3500	1300	6100
MW-6	05-13-93	36000	8200	870	1000	5200
MW-6	08-17-93	Not sampled: dry well				
MW-6	11-08-93	Not sampled: dry well				
MW-6	02-14-94	47000	14000	390	1000	5100
MW-6	05-05-94	45000	14000	<200*	1300	4500
MW-6	08-04-94	Not sampled: dry well				
MW-6	11-20-94	30000	11000	<100*	1200	2300
MW-6	03-17-95	45000	9300	<100*	1900	3600

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Design- ation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-7	06-10-91	Not sampled: dry well				
MW-7	10-10-91	Not sampled: dry well				
MW-7	03-23-92	270	10	0.5	3	13
MW-7	06-08-92	Not sampled: dry well				
MW-7	09-15-92	Not sampled: dry well				
MW-7	11-16-92	Not sampled: dry well				
MW-7	02-16-93	120	3.6	<0.5	<0.5	1.2
MW-7	05-13-93	<50	0.8	<0.5	<0.5	<0.5
MW-7	08-17-93	Not sampled: dry well				
MW-7	11-08-93	Not sampled: dry well				
MW-7	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-7	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-7	08-04-94	Not sampled: dry well				
MW-7	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-7	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-8	06-10-91	5800	73	7.2	150	21
MW-8	10-10-91	2800	31	6.1	4.5	3.9
MW-8	03-23-92	8000	18	<5.0*	320	42
MW-8	06-08-92	4000	<10*	<10*	110	<10*
MW-8	09-15-92	4200	6.4	<5*	120	<5*
MW-8	11-16-92	2600	4	<2.5*	21	5.2
MW-8	02-16-93	8700	<5*	<5*	200	<5*
MW-8	05-13-93	2300	<5*	<5*	42	<5*
MW-8	08-17-93	1700	1.8	<1.3*	16	1.2
MW-8	11-08-93	1200	2.4	<1*	19	2.3
MW-8	02-14-94	3600	3	<1*	72	<1*
MW-8	05-05-94	2100	<2.5*	<2.5*	8.3	<2.5*
MW-8	08-04-94	1200	1.5	<1*	6.7	<1*
MW-8	11-20-94	2300	1.2	1.1	20	2.2
MW-8	03-17-95	5400	<5*	<5*	35	<5*

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Design- ation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-9	06-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-9	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-9	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-9	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-9	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-9	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-9	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-9	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-10	06-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-10	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-10	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-10	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-10	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-10	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-10	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-10	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-11	11-16-92	7000	21	<10*	18	230
MW-11	02-16-93	2200	<10*	<10*	11	<10*
MW-11	05-13-93	1600	<2.5*	<2.5*	41	6.8
MW-11	08-17-93	830	1.4	<1.0*	25	15
MW-11	11-08-93	370	<1.0*	<1.0*	2.5	2.1
MW-11	02-14-94	650	<1*	<1*	2	4
MW-11	05-05-94	210	<0.5	<0.5	2.5	0.6
MW-11	08-04-94	390	<0.5	<0.7*	1.9	2.2
MW-11	11-20-94	1300	1.3	0.5	1.5	21
MW-11	03-17-95	100	<0.5	<0.5	<0.5	<0.5
MW-12	11-16-92	<50	<0.5	<0.5	<0.5	<0.5
MW-12	02-16-93	<50	<0.5	<0.5	<0.5	<0.5
MW-12	05-13-93	<50	<0.5	<0.5	<0.5	<0.5
MW-12	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-12	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-12	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-12	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-12	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-12	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-12	03-17-95	<50	<0.5	<0.5	<0.5	<0.5

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-04-95
Project Number: 0805-121.02

Well Designation	Water Sample Field Date	TPHG µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l
MW-13	11-16-92	<50	<0.5	<0.5	<0.5	<0.5
MW-13	02-16-93	<50	<0.5	<0.5	<0.5	<0.5
MW-13	05-13-93	<50	<0.5	<0.5	<0.5	<0.5
MW-13	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-13	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-13	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-13	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-13	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-13	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-13	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-14	09-15-92	<50	<0.5	<0.5	<0.5	<0.5
MW-14	11-16-92	<50	<0.5	<0.5	<0.5	<0.5
MW-14	02-16-93	<50	<0.5	<0.5	<0.5	<0.5
MW-14	05-13-93	<50	<0.5	<0.5	<0.5	<0.5
MW-14	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-14	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-14	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-14	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-14	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-14	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-14	03-17-95	<50	<0.5	<0.5	<0.5	<0.5
MW-15	05-13-93	<50	<0.5	<0.5	<0.5	<0.5
MW-15	08-17-93	<50	<0.5	<0.5	<0.5	<0.5
MW-15	11-08-93	<50	<0.5	<0.5	<0.5	<0.5
MW-15	02-14-94	<50	<0.5	<0.5	<0.5	<0.5
MW-15	05-05-94	<50	<0.5	<0.5	<0.5	<0.5
MW-15	08-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-15	11-20-94	<50	<0.5	<0.5	<0.5	<0.5
MW-15	03-17-95	<50	<0.5	<0.5	<0.5	<0.5

TPHG = Total petroleum hydrocarbons as gasoline

µg/l = Micrograms per liter

NA = Not analyzed

* = Method reporting limit was raised due to: (1) high analyte concentration requiring sample dilution, or (2) matrix interference

Table 4
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-05-95
Project Number: 0805-121.02

Well Design- ation	Water Sample Field Date	TRPH µg/l	TPHD µg/l	Cadmium by EPA 6010 µg/l	Chromium by EPA 6010 µg/l	Lead by EPA 7421 µg/l	Nickel by EPA 6010 µg/l	Zinc by EPA 6010 µg/l
MW-1	07-18-90	Not sampled: well contained floating product						
MW-1	10-15-90	Not sampled: well contained floating product						
MW-1	01-09-91	Not sampled: well contained floating product						
MW-1	04-16-91	Not sampled: well contained floating product						
MW-1	06-10-91	Not sampled: well contained floating product						
MW-1	10-10-91	Not sampled: well contained floating product						
MW-1	03-23-92	Not sampled: well contained floating product						
MW-1	06-08-92	Not sampled: well contained floating product						
MW-1	09-15-92	Not sampled: well contained floating product						
MW-1	11-16-92	Not sampled: well contained floating product						
MW-1	02-16-93	Not sampled: well contained floating product						
MW-1	05-13-93	Not sampled: well contained floating product						
MW-1	08-17-93	Not sampled: well contained floating product						
MW-1	11-08-93	Not sampled: well contained floating product						
MW-1	02-14-94	Not sampled: well contained floating product						
MW-1	05-05-94	Not sampled: well contained floating product						
MW-1	08-04-94	Not sampled: well contained floating product						
MW-1	11-20-94	Not sampled: well contained floating product						
MW-1	03-17-95	48000	6200^	<5	20	20	<40	60
MW-2	07-18-90	<5000	850*	<20	<50	50	NA	120
MW-2	10-15-90	NA	NA	NA	NA	NA	NA	NA
MW-2	01-09-91	NA	NA	NA	NA	NA	NA	NA
MW-2	04-16-91	NA	NA	NA	NA	NA	NA	NA
MW-2	06-10-91	NA	NA	NA	NA	NA	NA	NA
MW-2	10-10-91	<5000	NA	<10	<10	11	72	91
MW-2	03-23-92	Not analyzed: sampling for additional parameters was discontinued						
MW-3	07-18-90	<5000	NA	NA	NA	NA	NA	NA
MW-3	10-15-90	Not sampled: well contained floating product						
MW-3	01-09-91	Not sampled: well contained floating product						
MW-3	04-16-91	Not sampled: well contained floating product						
MW-3	06-10-91	Not sampled: well contained floating product						
MW-3	10-10-91	Not sampled: well contained floating product						
MW-3	03-23-92	Not analyzed: sampling for additional parameters was discontinued						

Table 4
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-05-95
Project Number: 0805-121.02

Well Design- ation	Water Sample Field Date	TRPH	TPHD	Cadmium by EPA 6010	Chromium by EPA 6010	Lead by EPA 7421	Nickel by EPA 6010	Zinc by EPA 6010
		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
MW-5	06-10-91	NA	NA	NA	NA	NA	NA	NA
MW-5	10-10-91	Not sampled: well contained floating product						
MW-5	03-23-92	NA	NA	NA	NA	28	NA	NA
MW-5	06-08-92	Not analyzed: sampling for additional parameters was discontinued						
MW-8	06-10-91	<5000	NA	NA	NA	NA	NA	NA
MW-8	10-10-91	NA	NA	NA	NA	NA	NA	NA
MW-8	03-23-92	NA	NA	NA	NA	NA	NA	NA
MW-8	06-08-92	NA	NA	NA	NA	NA	NA	NA
MW-8	09-15-92	NA	460*	ND	59	18	78	128
MW-8	11-16-92	1200	1100*	7	42	20	69	123
MW-8	02-16-93	150000	5300*	<3	7	4	24	54
MW-8	05-13-93	2000	2300*	<3	17	10	31	49
MW-8	08-17-93	1200	1000*	<5	16	7	<40	180
MW-8	11-08-93	4200	<1000	<5	50	25	60	100
MW-8	02-14-94	2000	3900*	<5	<10	4	<40	20
MW-8	05-05-94	700	440*	<3	<5	4	<20	60
MW-8	08-04-94	700	<50	<3	6	3	<20	27
MW-8	11-20-94	<500	2100*	<3	<5	<2	<20	14
MW-8	03-17-95	Not analyzed: well MW-1 was sampled for additional parameters in lieu of well MW-8						

TRPH = Total recoverable petroleum hydrocarbons by EPA Method 418.1

TPHD = Total petroleum hydrocarbons as diesel by EPA Method 3510/California DHS LUFT Method

µg/l = Micrograms per liter

^ = Chromatogram fingerprint is not characteristic of diesel; however, hydrocarbons in the gasoline time range were detected at the reported level

* = Chromatogram does not match the typical diesel fingerprint

NA = Not analyzed

ND = None detected at or above the method reporting limit

Table 5
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-05-95
Project Number: 0805-121.02

Well	Water Sample	Volatile Organic Compounds by EPA Method 601/8010 or 624/8240							Semivolatile Organic Compounds by EPA Method 3520/8270			
		Methylene Chloride	1,2-Dichloroethane	1,1-Dichloroethane	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	2-Methylnaphthalene	Bis (2-ethylhexyl) Phthalate	2,4-Dimethylphenol
	Field Date	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
MW-1	07-18-90	Not sampled: well contained floating product										
MW-1	10-15-90	Not sampled: well contained floating product										
MW-1	01-09-91	Not sampled: well contained floating product										
MW-1	04-16-91	Not sampled: well contained floating product										
MW-1	06-10-91	Not sampled: well contained floating product										
MW-1	10-10-91	Not sampled: well contained floating product										
MW-1	03-23-92	Not sampled: well contained floating product										
MW-1	06-08-92	Not sampled: well contained floating product										
MW-1	09-15-92	Not sampled: well contained floating product										
MW-1	11-16-92	Not sampled: well contained floating product										
MW-1	02-16-93	Not sampled: well contained floating product										
MW-1	05-13-93	Not sampled: well contained floating product										
MW-1	08-17-93	Not sampled: well contained floating product										
MW-1	11-08-93	Not sampled: well contained floating product										
MW-1	02-14-94	Not sampled: well contained floating product										
MW-1	05-05-94	Not sampled: well contained floating product										
MW-1	08-04-94	Not sampled: well contained floating product										
MW-1	11-20-94	Not sampled: well contained floating product										
MW-1	03-17-95	NA	NA	NA	NA	NA	NA	NA	1300	730	<50	150*
MW-2	07-18-90	39	ND	ND	3200	2400	270	2900	340	170	ND	ND
MW-2	10-15-90	18	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	01-09-91	ND	6.5	ND	1700	1200	370	2400	NA	NA	NA	NA
MW-2	04-16-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	06-10-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	10-10-91	ND	1.7	ND	NA	NA	NA	NA	NA	NA	NA	NA
MW-2	03-23-92	Not analyzed: sampling for additional parameters was discontinued										

Table 5
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

Date: 05-05-95
Project Number: 0805-121.02

Well Designation	Water Sample Field Date	Volatile Organic Compounds by EPA Method 601/8010 or 624/8240							Semivolatile Organic Compounds by EPA Method 3520/8270			
		Methylene Chloride µg/l	1,2- Dichloro- ethane µg/l	1,1- Dichloro- ethane µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Total Xylenes µg/l	Naphthalene µg/l	2-Methyl- naphthalene µg/l	Bis (2- ethylhexyl) Phthalate µg/l	2,4-Di- methyl- phenol µg/l
MW-8	06-10-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8	10-10-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8	03-23-92	ND	ND	ND	23	<5.0*	450	23	NA	NA	NA	NA
MW-8	06-08-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8	09-15-92	ND	ND	ND	NA	NA	NA	NA	ND	ND	6	ND
MW-8	11-16-92	ND	ND	ND	NA	NA	NA	NA	32	ND	ND	ND
MW-8	02-16-93	ND	ND	ND	NA	NA	NA	NA	730	130	ND	ND
MW-8	05-13-93	ND	ND	ND	NA	NA	NA	NA	97	20	ND	ND
MW-8	08-17-93	ND	ND	ND	NA	NA	NA	NA	26	ND	ND	ND
MW-8	11-08-93	ND	ND	ND	NA	NA	NA	NA	20	ND	19	ND
MW-8	02-14-94	NA	NA	NA	NA	NA	NA	NA	350	65	ND	ND
MW-8	05-05-94	<0.5	<0.5	0.7	NA	NA	NA	NA	23	<10	<10	ND
MW-8	08-04-94	NA	NA	NA	NA	NA	NA	NA	11	<10	10	ND
MW-8	12-13-94	NA	NA	NA	NA	NA	NA	NA	14	<10	14	ND
MW-8	03-17-95	Not analyzed: well MW-1 was sampled for additional parameters in lieu of well MW-8										

µg/l = Micrograms per liter

ND = Not detected at or above the method detection limit

NA = Not analyzed

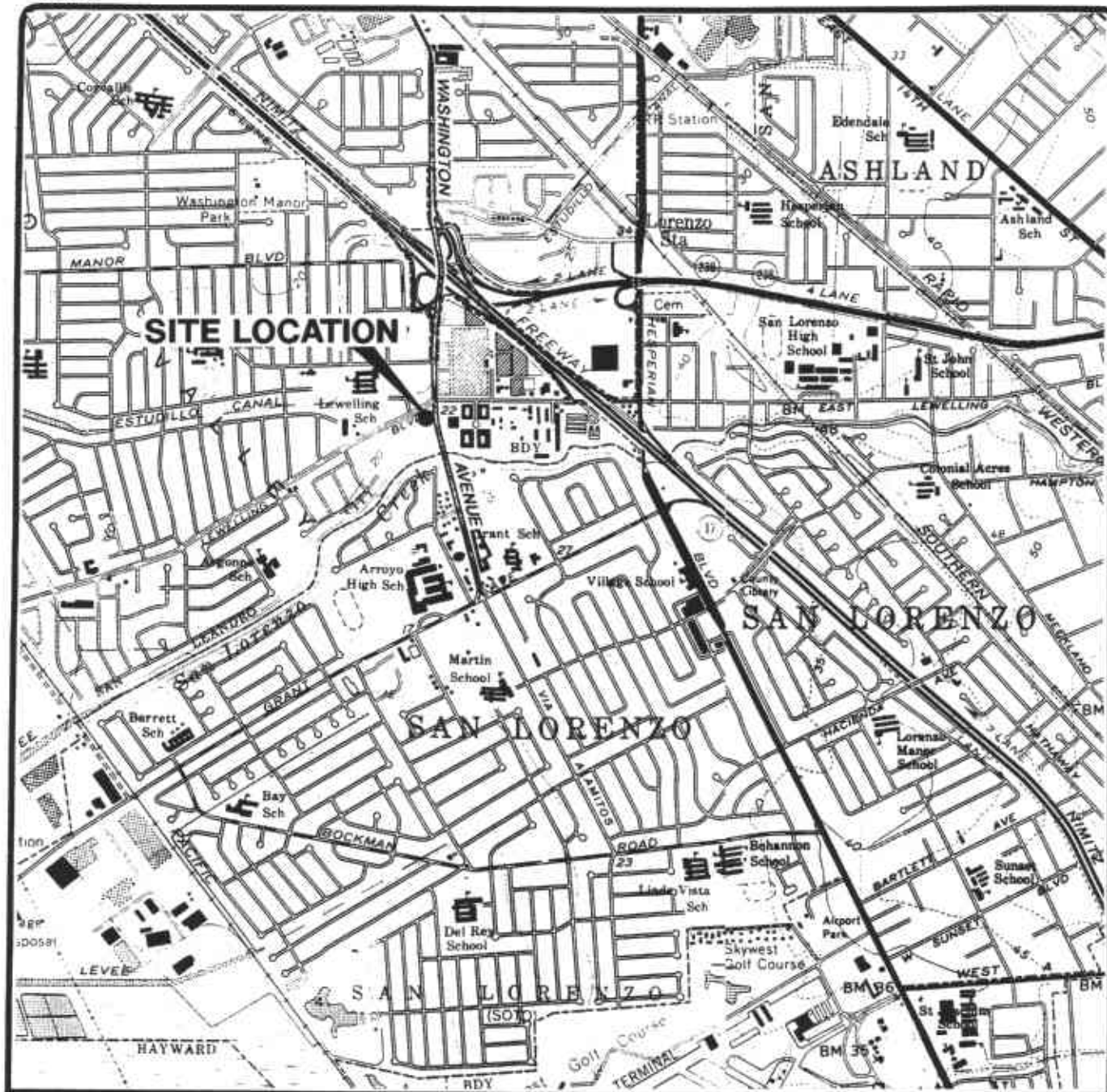
* = Method reporting limit was raised due to: (1) high analyte concentration requiring sample dilution, or (2) matrix interference

Table 6
Approximate Cumulative Floating Product Recovered
Summary Report

ARCO Service Station 601
712 Lewelling Boulevard, San Leandro, California

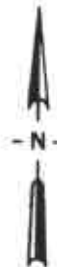
Date: 05-04-95
Project Number: 0805-121.02

Well Design- nation	Date	Floating Product Recovered gallons
MW-1	1991	3.43
MW-1	1992	0.02
MW-1	1993	0.00
MW-1	1994	0.00
MW-1	1995	0.00
1991 to 1995 Total:		3.45



Base map from USGS 7.5' Quad. Maps:
Hayward and San Leandro, California.
Photorevised 1980.

Scale : 0 2000 4000 Feet



EMCON
Associates

ARCO PRODUCTS COMPANY
SERVICE STATION 601, 712 LEWELLING BLVD.
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

SITE LOCATION

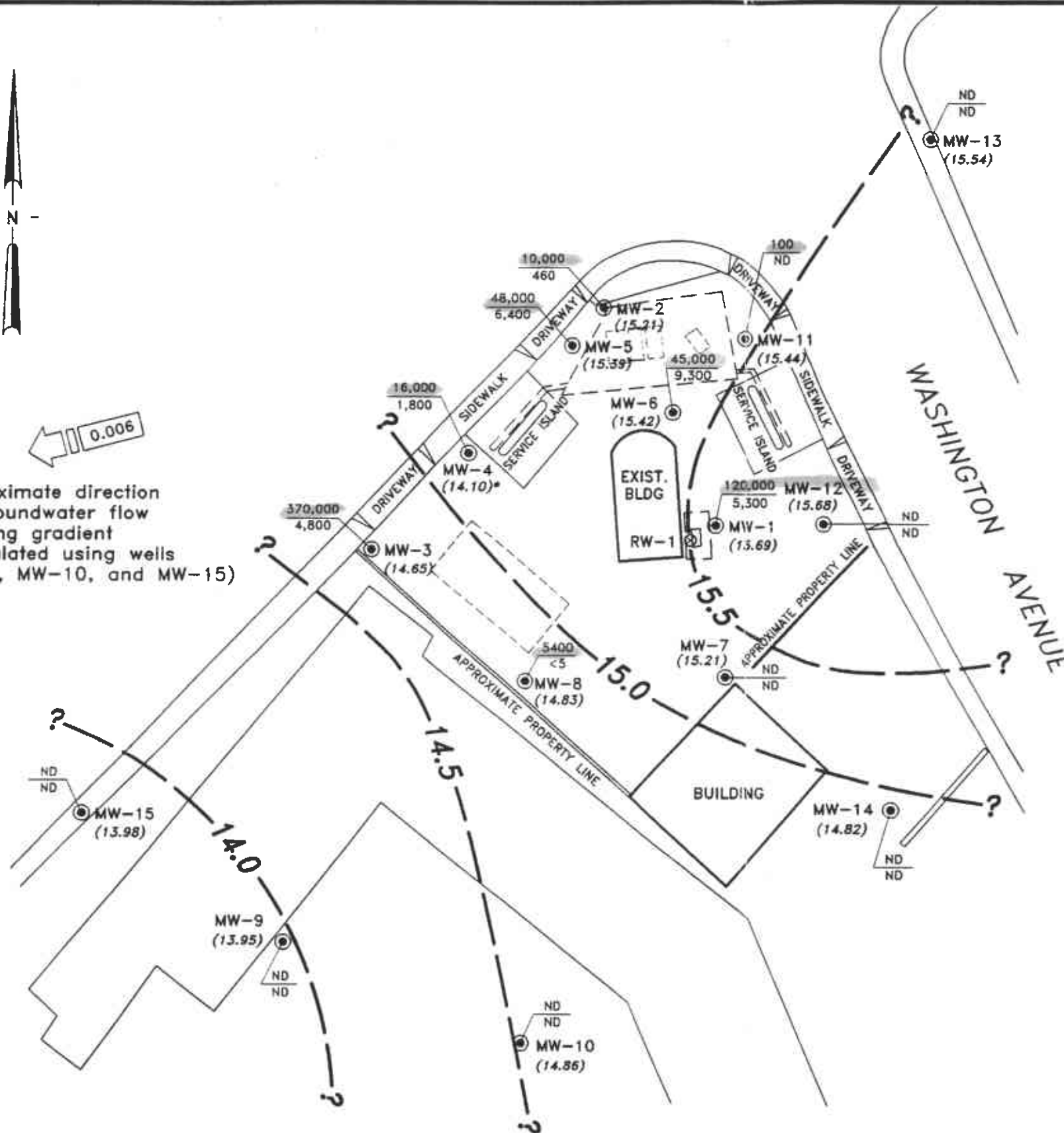
FIGURE

1

PROJECT NO.
805-121.01



Approximate direction
of groundwater flow
showing gradient
(Calculated using wells
MW-1, MW-10, and MW-15)



EXPLANATION

- Groundwater monitoring well
- Vapor extraction well
- Former underground gasoline storage tank
- Existing underground gasoline storage tank
- Approximate limit of gasoline tank excavation
- === Former product line
- (15.69) Groundwater elevation (Ft.-MSL) measured 3/17/95
- ? --- Groundwater elevation contour (Ft.-MSL)
- 120,000 / 5,300 TPHG, concentration in groundwater (ug/l); sampled 3/17/95
- 120,000 / 5,300 Benzene concentration in groundwater (ug/l); sampled 3/17/95
- * The groundwater elevation for well MW-4 was deemed anomalous and was not used in contouring



SCALE: 0 50 100 FEET
(Approximate)

ARCO PRODUCTS COMPANY
SERVICE STATION 601, 712 LEWELLING BLVD.
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

GROUNDWATER DATA
FIRST QUARTER 1995

FIGURE NO.

2

PROJECT NO.
805-121.02

APPENDIX A

**FIELD DATA SHEETS, FIRST QUARTER 1995 GROUNDWATER
MONITORING EVENT**

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 1775-208.01

STATION ADDRESS : 712 Lewelling Blvd.

DATE : 3/17/95

ARCO STATION # : 601

FIELD TECHNICIAN : D. Gumbel

DAY : Fr.

DTW 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-9	X	X		2KA	X	6.94	6.94	ND	ND	16.2	
2	MW-10	X	^		2KA	X	6.26	6.26	ND	ND	19.0	Water in Box above TOC
3	MW-12	X	X		2KA	X	7.09	7.09	ND	ND	11.6	Water in Box above TOC
4	MW-13	^	^		2KA	X	6.91	6.91	ND	ND	12.9	
5	MW-14	X	X		2KA	X	8.17	8.17	ND	ND	12.9	
6	MW-15	X	X		2KA	X	5.21	5.21	ND	ND	10.0	
7	MW-7	X	X		2KA	X	7.68	7.68	ND	ND	9.5	
8	MW-11						6.94	6.94			11.8	
9	MW-8						6.14	6.14			10.2	
10	MW-4						6.65	6.65			8.5	
11	MW-2						6.12	6.12			12.3	Water in Box above TOC
12	MW-6						6.66	6.66			8.6	
13	MW-5						5.51	5.51			10.1	
14	MW-3						5.46	5.46			11.9	
15	MW-1	↓	↓		↓	↓	6.57	6.57	↓	↓	11.0	

SURVEY POINTS ARE TOP OF WELL CASINGS

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: 1775-20801
 PURGED BY: M. Ross
 SAMPLED BY: M. Ross

 SAMPLE ID: MW-1
 CLIENT NAME: ARLO 601
 LOCATION: SAN LEANDRO, CA

 TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

CASING ELEVATION (feet/MSL): <u>NA</u>	VOLUME IN CASING (gal.): <u>2.29</u>
DEPTH TO WATER (feet): <u>6.57</u>	CALCULATED PURGE (gal.): <u>8.68</u>
DEPTH OF WELL (feet): <u>11.0</u>	ACTUAL PURGE VOL (gal.): <u>9.0</u>

DATE PURGED: <u>3/17/95</u>	Start (2400 Hr) <u>1425</u>	End (2400 Hr) <u>1437</u>
DATE SAMPLED: <u>3/17/95</u>	Start (2400 Hr) <u>1440</u>	End (2400 Hr) <u>—</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1428</u>	<u>3.0</u>	<u>6.87</u>	<u>1478</u>	<u>65.8</u>	<u>Light Blue</u>	<u>Heavy</u>
<u>1433</u>	<u>6.0</u>	<u>6.77</u>	<u>1629</u>	<u>66.7</u>	<u>"</u>	<u>"</u>
<u>1437</u>	<u>9.0</u>	<u>6.75</u>	<u>1619</u>	<u>67.0</u>	<u>"</u>	<u>"</u>

D. O. (ppm): <u>NA</u>	ODOR: <u>STRONG</u>	<u>NA</u>	<u>NA</u>
Field QC samples collected at this well: <u>NA</u>		Parameters field filtered at this well: <u>NA</u>	

(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

PURGING EQUIPMENT

☐ 2" Bladder Pump	☐ Bailer (Teflon's)
☐ Centrifugal Pump	☒ Bailer (PVC)
☐ Submersible Pump	☐ Bailer (Stainless Steel)
☐ Well Wizard™	☐ Dedicated

Other:

SAMPLING EQUIPMENT

☐ 2" Bladder Pump	☒ Bailer (Teflon's)
☐ DDL Sampler	☐ Bailer (Stainless Steel)
☐ Dipper	☐ Submersible Pump
☐ Well Wizard™	☐ Dedicated

Other:
 WELL INTEGRITY: GOOD LOCK #: 2KA

 REMARKS: SHOWN

 Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: Temperature °F:

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

 Location of previous calibration: MW-9

 Signature: Mike Ross Reviewed By: JB Page 1 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01SAMPLE ID: MW-2PURGED BY: M. ROSSCLIENT NAME: ARCO 601SAMPLED BY: M. ROSSLOCATION: SAN LEANDRO, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐CASING ELEVATION (feet/VMSL): NA VOLUME IN CASING (gal.): 4.03DEPTH TO WATER (feet): 6.12 CALCULATED PURGE (gal.): 12.11DEPTH OF WELL (feet): 12.3 ACTUAL PURGE VOL. (gal.): 12.5DATE PURGED: 3/17/95 Start (2400 Hr) 1336 End (2400 Hr) 1340DATE SAMPLED: 3/17/95 Start (2400 Hr) 1342 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1338</u>	<u>4.50</u>	<u>6.90</u>	<u>1573</u>	<u>64.6</u>	<u>Jr</u>	<u>Trace</u>
<u>1339</u>	<u>8.5</u>	<u>6.80</u>	<u>16.33</u>	<u>65.3</u>	<u>"</u>	<u>"</u>
<u>1346</u>	<u>12.5</u>	<u>6.77</u>	<u>1649</u>	<u>65.9</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: NONE COLOR: NA TURBIDITY: NA

(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

NANA

PURGING EQUIPMENT

☐ 2" Bladder Pump ☐ Bailor (Teflon®)
☐ Centrifugal Pump ☒ Bailor (PVC)
☐ Submersible Pump ☐ Bailor (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other:

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailor (Teflon®)
☐ DDL Sampler ☐ Bailor (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other: WELL INTEGRITY: GOOD LOCK #: 2KAREMARKS: SLIGHT SHEENMeter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: Temperature °F: (EC 1000 /) (DI) (pH 7 /) (pH 10 /) (pH 4 /)Location of previous calibration: MW-9Signature: Mike RossReviewed By: JM Page 2 of 15



WATER SAMPLE FIELD DATA SHEET

Rev. 3, 2/94

PROJECT NO: 1775-208.01
PURGED BY: M. ROSS
SAMPLED BY: M. ROSS

SAMPLE ID: MW-3
CLIENT NAME: ARLO 601
LOCATION: SAN LEANDRO, CA

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

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 4.20
DEPTH TO WATER (feet): 5.46 CALCULATED PURGE (gal.): 12.62
DEPTH OF WELL (feet): 11.9 ACTUAL PURGE VOL (gal.): 13.0

DATE PURGED: 3/17/95 Start (2400 Hr) 1411 End (2400 Hr) 1418
DATE SAMPLED: 3/17/95 Start (2400 Hr) 1420 End (2400 Hr)

TIME (2400 Hr)	VOLUME (gal.)	pH (unit)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1414</u>	<u>4.5</u>	<u>6.86</u>	<u>1255</u>	<u>63.3</u>	<u>DR</u>	<u>MODERATE</u>
<u>1417</u>	<u>9.0</u>	<u>6.64</u>	<u>1244</u>	<u>63.8</u>	<u>GREY</u>	<u>"</u>
<u>1418</u>	<u>13.0</u>	<u>6.64</u>	<u>1265</u>	<u>63.4</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: STRONG NA NA
(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:
NA

Parameters field filtered at this well:
NA

PURGING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailer (Teflon)
☐ Centrifugal Pump ☐ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other:

SAMPLING EQUIPMENT

☒ 2" Bladder Pump ☐ Bailer (Teflon)
☐ ODL Sampler ☐ Bailer (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other:

WELL INTEGRITY: GOOD LOCK #: 2RA

REMARKS: SLIGHT SHEEN

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: Temperature °F:
(EC 1000 /) (DI) (pH 7 /) (pH 10 /) (pH 4 /)
Location of previous calibration: MW-9

Signature: Mike Ross Reviewed By: jm Page 3 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208,01SAMPLE ID: MW-4PURGED BY: M. ROSSCLIENT NAME: ARCO 601SAMPLED BY: M. ROSSLOCATION: SAN JUANITO, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 1.20DEPTH TO WATER (feet): 6.65 CALCULATED PURGE (gal.): 3.62DEPTH OF WELL (feet): 8.5 ACTUAL PURGE VOL. (gal.): 2.0DATE PURGED: 3/17/95 Start (2400 Hr) 1320 End (2400 Hr) 1325DATE SAMPLED: 3/17/95 Start (2400 Hr) 1330 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1324</u>	<u>1.50</u>	<u>7.01</u>	<u>1538</u>	<u>65.1</u>	<u>clr</u>	<u>clr</u>

<u>1325</u>	<u>DRY AT</u>	<u>2.10</u>	<u>gallons</u>			
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<u>1330</u>	<u>Recharge</u>	<u>6.79</u>	<u>1549</u>	<u>65.7</u>	<u>clr</u>	<u>clr</u>
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D. O. (ppm): NA ODOR: NONE(COBALT 0 - 500) NA (NTU 0 - 200 or 0 - 1000) NA

Field QC samples collected at this well:

Parameters field filtered at this well:

PURGING EQUIPMENT

☐ 2" Bladder Pump
☐ Centrifugal Pump
☐ Submersible Pump
☐ Well Wizard™
☒ Bailer (Teflon®)
☒ Bailer (PVC)
☐ Bailer (Stainless Steel)
☐ Dedicated

Other: NA

SAMPLING EQUIPMENT

☒ 2" Bladder Pump
☐ ODL Sampler
☐ Dipper
☐ Well Wizard™
☐ Bailer (Teflon®)
☐ Bailer (Stainless Steel)
☐ Submersible Pump
☐ Dedicated

Other: NAWELL INTEGRITY: GOOD LOCK #: 2KAREMARKS: DRY AT 2.10 GALLONSMeter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: — Temperature °C: —(EC 1000 — / —) (DI —) (pH 7 — / —) (pH 10 — / —) (pH 4 — / —)Location of previous calibration: MW-9Signature: Mike Ross Reviewed By: JTB Page 4 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-20804SAMPLE ID: MW-5PURGED BY: M. ROSSCLIENT NAME: ARLO GOISAMPLED BY: M. ROSSLOCATION: SAN LEANDEO, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 2.99DEPTH TO WATER (feet): 5.51 CALCULATED PURGE (gal.): 2.99DEPTH OF WELL (feet): 10.1 ACTUAL PURGE VOL. (gal.): 5.0DATE PURGED: 3/17/95 Start (2400 Hr) 1400 End (2400 Hr) 1402DATE SAMPLED: 3/17/95 Start (2400 Hr) 1405 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1401</u>	<u>3.0</u>	<u>7.02</u>	<u>1715</u>	<u>63.4</u>	<u>clr</u>	<u>TRACE</u>

<u>1402</u>	<u>DRY at</u>		<u>5.0 GALLONS</u>			
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<u>1405</u>	<u>Recharge</u>	<u>6.34</u>	<u>1761</u>	<u>65.4</u>	<u>clr</u>	<u>TRACE</u>
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D. O. (ppm): <u>NA</u>	ODOR: <u>STRONG</u>	<u>NA</u>	<u>NA</u>
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Field QC samples collected at this well:

Parameters field filtered at this well:

(COBALT 0 - 500)

(NTU 0 - 200
or 0 - 1000)

PURGING EQUIPMENT

☐ 2" Bladder Pump
☐ Centrifugal Pump
☐ Submersible Pump
☐ Well Wizard™
☐ Bailer (Teflon s)
☒ Bailer (PVC)
☐ Bailer (Stainless Steel)
☐ Dedicated

Other: NA

SAMPLING EQUIPMENT

☐ 2" Bladder Pump
☐ DDL Sampler
☐ Dipper
☐ Well Wizard™
☒ Bailer (Teflon s)
☐ Bailer (Stainless Steel)
☐ Submersible Pump
☐ Dedicated

Other: NAWELL INTEGRITY: GOOD LOCK #: 212AREMARKS: SLIGHT SAGINDRY at 5.0 GALLONSMeter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: — Temperature °F: —(EC 1000 — / —) (DI —) (pH 7 — / —) (pH 10 — / —) (pH 4 — / —)Location of previous calibration: MW-9Signature: Mike RossReviewed By: JB Page 5 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01SAMPLE ID: MW-6PURGED BY: M. ROSSCLIENT NAME: ARCO GOISAMPLED BY: M. ROSSLOCATION: SAN LEANOR, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 1.26DEPTH TO WATER (feet): 6.66 CALCULATED PURGE (gal.): 3.30DEPTH OF WELL (feet): 8.6 ACTUAL PURGE VOL. (gal.): 2.0DATE PURGED: 3/17/95 Start (2400 Hr) 1348 End (2400 Hr) 1351DATE SAMPLED: 3/17/95 Start (2400 Hr) 1355 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (vis:al)
<u>1350</u>	<u>1.50</u>	<u>6.69</u>	<u>1434</u>	<u>63.7</u>	<u>clr</u>	<u>clr</u>

<u>1351</u>	<u>DRY AT 2.0</u>	<u>2.0</u>	<u>GALLONS</u>			
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<u>1355</u>	<u>RECHARGE</u>	<u>6.72</u>	<u>1463</u>	<u>63.5</u>	<u>clr</u>	<u>clr</u>
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D. O. (ppm): NA ODOR: STRONG NA NA

(COBALTO - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

NANA

PURGING EQUIPMENT

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailor (Teflon's)
☐ Centrifugal Pump ☐ Bailor (PVC)
☐ Submersible Pump ☐ Bailor (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

☐ 2" Bladder Pump ☒ Bailor (Teflon's)
☐ ODL Sampler ☐ Bailor (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other: —Other: —WELL INTEGRITY: GOOD LOCK #: 2KAREMARKS: DRY AT 2.0 GALLONSMeter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: — Temperature °C: —(EC 1000 — / —) (DI —) (pH 7 — / —) (pH 10 — / —) (pH 4 — / —)Location of previous calibration: MW-9Signature: Mike RossReviewed By: JP Page 6 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

 SAMPLE ID: MW-7
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDRO, CA

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

 CASING ELEVATION (feet/VMSL): NA VOLUME IN CASING (gal.): 1.18
 DEPTH TO WATER (feet): 7.63 CALCULATED PURGE (gal.): 3.56
 DEPTH OF WELL (feet): 9.5 ACTUAL PURGE VOL. (gal.): 2.0

 DATE PURGED: 3/17/95 Start (2400 Hr) 1223 End (2400 Hr) 1226
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1230 End (2400 Hr)

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1224</u>	<u>1.5</u>	<u>6.81</u>	<u>1735</u>	<u>63.6</u>	<u>clr</u>	<u>clr</u>
<u>1226</u>	<u>DAY</u>	<u>at 2.0</u>	<u>GALLONS</u>			
<u>1230</u>	<u>Recharge</u>	<u>6.90</u>	<u>1690</u>	<u>62.3</u>	<u>clr</u>	<u>clr</u>
D. O. (ppm): <u>NA</u>	ODOR: <u>NONE</u>				<u>NA</u> (COBALT 0 - 500)	<u>NA</u> (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:
NAParameters field filtered at this well:
NA

PURGING EQUIPMENT

☐ 2" Bladder Pump
☐ Centrifugal Pump
☐ Submersible Pump
☐ Well Wizard™
☒ Bailer (Teflon s)
☐ Bailer (PVC)
☐ Bailer (Stainless Steel)
☐ Dedicated
Other:

SAMPLING EQUIPMENT

☐ 2" Bladder Pump
☐ DDL Sampler
☐ Dipper
☐ Well Wizard™
☒ Bailer (Teflon s)
☐ Bailer (Stainless Steel)
☐ Submersible Pump
☐ Dedicated
Other: WELL INTEGRITY: GOOD LOCK #: 2KAREMARKS: WELL DRIED AT 2.0 GALLONS
 Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: Temperature °C:
 (EC 1000 /) (DI) (pH 7 /) (pH 10 /) (pH 4 /)
 Location of previous calibration: MW-7
Signature: Mike Ross Reviewed By: JB Page 7 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

 SAMPLE ID: MW-8
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDRO, CA

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

 CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 2.65
 DEPTH TO WATER (feet): 6.14 CALCULATED PURGE (gal.): 7.95
 DEPTH OF WELL (feet): 10.2 ACTUAL PURGE VOL (gal.): 8.0

 DATE PURGED: 3/17/95 Start (2400 Hr) 1255 End (2400 Hr) 1301
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1305 End (2400 Hr) NA

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1255</u>	<u>3.0</u>	<u>7.06</u>	<u>1075</u>	<u>61.7</u>	<u>Brown</u>	<u>Light</u>
<u>1259</u>	<u>5.5</u>	<u>6.67</u>	<u>1103</u>	<u>62.2</u>	<u>"</u>	<u>"</u>
<u>1321</u>	<u>8.0</u>	<u>6.76</u>	<u>1102</u>	<u>62.1</u>	<u>Light Tan</u>	<u>"</u>

 D. O. (ppm): NA ODOR: SLIGHT COLOR: NA TURBIDITY: NA
 (COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

PURGING EQUIPMENT

☐ 2" Bladder Pump
☐ Centrifugal Pump
☐ Submersible Pump
☐ Well Wizard™
☐ Bailer (Teflon®)
☒ Bailer (PVC)
☐ Bailer (Stainless Steel)
☐ Dedicated

Other: _____

SAMPLING EQUIPMENT

☐ 2" Bladder Pump
☒ Bailer (Teflon®)
☐ DDL Sampler
☐ Dipper
☐ Well Wizard™
☐ Bailer (Stainless Steel)
☐ Submersible Pump
☐ Dedicated

Other: _____

WELL INTEGRITY: GOOD LOCK #: 2RA

REMARKS: _____

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: _____ Temperature °F: _____

(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-9Signature: Mike RossReviewed By: JB Page 8 of 15



WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

SAMPLE ID: MW-9
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDRO, CA

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

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 1.51
 DEPTH TO WATER (feet): 6.94 CALCULATED PURGE (gal.): 4.53
 DEPTH OF WELL (feet): 16.2 ACTUAL PURGE VOL (gal.): 5.0

DATE PURGED: 3/17/95 Start (2400 Hr) 1049 End (2400 Hr) 1054
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1058 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1050</u>	<u>2.0</u>	<u>6.70</u>	<u>1147</u>	<u>67.4</u>	<u>Light tan</u>	<u>moderate</u>
<u>1052</u>	<u>3.5</u>	<u>6.92</u>	<u>1028</u>	<u>68.1</u>	<u>"</u>	<u>"</u>
<u>1054</u>	<u>5.0</u>	<u>7.00</u>	<u>1031</u>	<u>68.3</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: NONE COLOR: NA TURBIDITY: NA
 (COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

PURGING EQUIPMENT

☐ 2" Bladder Pump ☐ Bailer (Teflon's)
☐ Centrifugal Pump ☒ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other:

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailer (Teflon's)
☐ DDL Sampler ☐ Bailer (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other:

WELL INTEGRITY: Good LOCK #: 2KA

REMARKS:

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: 9210 Temperature °F: 61.0
 (EC 1000 1061 / 1000) (DI) (pH 7 7.12 / 7.00) (pH 10 998 / 1000) (pH 4 394 /)

Location of previous calibration:

Signature: Mike Ross Reviewed By: JB Page 9 of 15



WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

SAMPLE ID: MW-10
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDRO, CA

TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 2.12
 DEPTH TO WATER (feet): 5.88 CALCULATED PURGE (gal.): 6.37
 DEPTH OF WELL (feet): 18.9 ACTUAL PURGE VOL (gal.): 6.5

DATE PURGED: 3/17/95 Start (2400 Hr) 1104 End (2400 Hr) 1109
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1110 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1105</u>	<u>2.5</u>	<u>7.12</u>	<u>1129</u>	<u>66.5</u>	<u>Ben</u>	<u>Heavy</u>
<u>1107</u>	<u>4.5</u>	<u>7.09</u>	<u>1114</u>	<u>66.3</u>	<u>"</u>	<u>"</u>
<u>1109</u>	<u>6.5</u>	<u>7.13</u>	<u>1109</u>	<u>66.7</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: None COLOR: NA TURBIDITY: NA
 (COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

PURGING EQUIPMENT

___ 2" Bladder Pump ___ Bailer (Teflon®)
 ___ Centrifugal Pump ☒ Bailer (PVC)
 ___ Submersible Pump ___ Bailer (Stainless Steel)
 ___ Well Wizard™ ___ Dedicated

Other: _____

SAMPLING EQUIPMENT

___ 2" Bladder Pump ☒ Bailer (Teflon®)
 ___ DDL Sampler ___ Bailer (Stainless Steel)
 ___ Dipper ___ Submersible Pump
 ___ Well Wizard™ ___ Dedicated

Other: _____

WELL INTEGRITY: Good LOCK #: 2KA

REMARKS: _____

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: _____ Temperature °F: _____

(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-9

Signature: Mike Ross

Reviewed By: JB Page 10 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01SAMPLE ID: MW-11PURGED BY: M. ROSSCLIENT NAME: ARCO 601SAMPLED BY: M. ROSSLOCATION: SAN LEANDRO, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 3.17
 DEPTH TO WATER (feet): 6.94 CALCULATED PURGE (gal.): 9.52
 DEPTH OF WELL (feet): 11.8 ACTUAL PURGE VOL (gal.): 10.0

DATE PURGED: 3/17/95 Start (2400 Hr) 1239 End (2400 Hr) 1244
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1246 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1240</u>	<u>3.5</u>	<u>6.93</u>	<u>1688</u>	<u>64.5</u>	<u>Light Blue</u>	<u>moderate</u>
<u>1242</u>	<u>7.0</u>	<u>6.96</u>	<u>1632</u>	<u>64.9</u>	<u>Blue</u>	<u>"</u>
<u>1244</u>	<u>10.0</u>	<u>6.94</u>	<u>1588</u>	<u>65.4</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: NONE COLOR: NA TURBIDITY: NA
 (COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

NANA

PURGING EQUIPMENT

SAMPLING EQUIPMENT

☐ 2" Bladder Pump	☐ Bailor (Teflon)	☐ 2" Bladder Pump	☒ Bailor (Teflon)
☐ Centrifugal Pump	☒ Bailor (PVC)	☐ DDL Sampler	☐ Bailor (Stainless Steel)
☐ Submersible Pump	☐ Bailor (Stainless Steel)	☐ Dipper	☐ Submersible Pump
☐ Well Wizard™	☐ Dedicated	☐ Well Wizard™	☐ Dedicated

Other: —Other: —WELL INTEGRITY: Good LOCK #: OKAREMARKS: —Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: — Temperature: —(EC 1000 — / —) (DI —) (pH 7 — / —) (pH 10 — / —) (pH 4 — / —)Location of previous calibration: MW-9Signature: Mike Ross Reviewed By: JB Page 11 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01SAMPLE ID: MW-12PURGED BY: M. ROSSCLIENT NAME: ARCO 601SAMPLED BY: M. ROSSLOCATION: SAN LEONARD, CATYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐CASING DIAMETER (inches): 2 ☐ 3 ☐ 4 ☒ 4.5 ☐ 6 ☐ Other ☐

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 2.99
 DEPTH TO WATER (feet): 7.09 CALCULATED PURGE (gal.): 8.83
 DEPTH OF WELL (feet): 11.6 ACTUAL PURGE VOL (gal.): 9.0

DATE PURGED: 3/17/95 Start (2400 Hr) 1133 End (2400 Hr) 1149
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1150 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1135</u>	<u>3.0</u>	<u>6.99</u>	<u>1547</u>	<u>66.5</u>	<u>—</u>	<u>TRACE</u>
<u>1147</u>	<u>6.0</u>	<u>7.01</u>	<u>1530</u>	<u>66.7</u>	<u>11</u>	<u>11</u>
<u>1149</u>	<u>9.0</u>	<u>6.93</u>	<u>1547</u>	<u>66.5</u>	<u>11</u>	<u>11</u>

D. O. (ppm): NA ODOR: NONE COLOR: NA TURBIDITY: NA
 (COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

NANA

PURGING EQUIPMENT

— 2" Bladder Pump — Bailer (Teflon)
 — Centrifugal Pump ☒ Bailer (PVC)
 — Submersible Pump — Bailer (Stainless Steel)
 — Well Wizard™ — Dedicated

Other: —

SAMPLING EQUIPMENT

— 2" Bladder Pump ☒ Bailer (Teflon)
 — ODL Sampler — Bailer (Stainless Steel)
 — Dipper — Submersible Pump
 — Well Wizard™ — Dedicated

Other: —WELL INTEGRITY: GOOD LOCK #: 2KAREMARKS: —

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: — Temperature °F: —
 (EC 1000 — / —) (DI —) (pH 7 — / —) (pH 10 — / —) (pH 4 — / —)

Location of previous calibration: MW-9Signature: Mike Ross Reviewed By: JB Page 12 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

 SAMPLE ID: MW-13
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDRO, CA

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

 CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 0.97
 DEPTH TO WATER (feet): 6.91 CALCULATED PURGE (gal.): 2.93
 DEPTH OF WELL (feet): 12.9 ACTUAL PURGE VOL (gal.): 3.0

 DATE PURGED: 3/17/95 Start (2400 Hr) 1210 End (2400 Hr) 1213
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1215 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1211</u>	<u>1.0</u>	<u>7.02</u>	<u>1546</u>	<u>65.1</u>	<u>Ur</u>	<u>Trace</u>
<u>1212</u>	<u>2.0</u>	<u>6.93</u>	<u>1553</u>	<u>65.7</u>	<u>u</u>	<u>u</u>
<u>1213</u>	<u>3.0</u>	<u>6.94</u>	<u>1549</u>	<u>65.6</u>	<u>u</u>	<u>u</u>

 D. O. (ppm): NA ODOR: NONE (COBALT 0 - 500) NA (NTU 0 - 200 or 0 - 1000) NA
 Field QC samples collected at this well: NA Parameters field filtered at this well: NA

PURGING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailer (Teflon's)
☐ Centrifugal Pump ☐ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other: _____

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailer (Teflon's)
☐ ODL Sampler ☐ Bailer (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other: _____

WELL INTEGRITY: GOOD LOCK #: 2KA

REMARKS: _____

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: _____ Temperature °F: _____

(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-9Signature: Mike Ross Reviewed By: JMB Page 13 of 15

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: 1775-200.01
 PURGED BY: M. Ross
 SAMPLED BY: M. Ross

 SAMPLE ID: MW-4
 CLIENT NAME: ARCO 601
 LOCATION: SAN LEANDEO, CA

 TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

CASING ELEVATION (feet/MSL):	<u>NA</u>	VOLUME IN CASING (gal.):	<u>0.77</u>
DEPTH TO WATER (feet):	<u>8.17</u>	CALCULATED PURGE (gal.):	<u>2.31</u>
DEPTH OF WELL (feet):	<u>12.9</u>	ACTUAL PURGE VOL (gal.):	<u>2.5</u>

DATE PURGED:	<u>3/17/95</u>	Start (2400 Hr)	<u>1159</u>	End (2400 Hr)	<u>1202</u>
DATE SAMPLED:	<u>3/17/95</u>	Start (2400 Hr)	<u>1205</u>	End (2400 Hr)	<u>—</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1200</u>	<u>1.0</u>	<u>6.81</u>	<u>1445</u>	<u>67.7</u>	<u>Light BND</u>	<u>moderate</u>
<u>1201</u>	<u>2.0</u>	<u>6.77</u>	<u>1441</u>	<u>67.1</u>	<u>"</u>	<u>"</u>
<u>1202</u>	<u>2.5</u>	<u>6.76</u>	<u>1435</u>	<u>66.5</u>	<u>"</u>	<u>"</u>

D. O. (ppm):	<u>NA</u>	ODOR:	<u>NONE</u>	COLOR:	<u>NA</u>	TURBIDITY:	<u>NA</u>
--------------	-----------	-------	-------------	--------	-----------	------------	-----------

(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well:

Parameters field filtered at this well:

NANA

PURGING EQUIPMENT

SAMPLING EQUIPMENT

☐ 2" Bladder Pump	☒ Bailor (Teflon)
☐ Centrifugal Pump	☐ Bailor (PVC)
☐ Submersible Pump	☐ Bailor (Stainless Steel)
☐ Well Wizard™	☐ Dedicated

☐ 2" Bladder Pump	☒ Bailor (Teflon)
☐ ODL Sampler	☐ Bailor (Stainless Steel)
☐ Dipper	☐ Submersible Pump
☐ Well Wizard™	☐ Dedicated

Other: Other:
 WELL INTEGRITY: Good LOCK #: 2KA
REMARKS:
 Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: Temperature:

 (EC 1000 /) (DI) (pH 7 /) (pH 10 /) (pH 4 /)
Location of previous calibration: MW-9
 Signature: Mike Ross Reviewed By: JB Page 14 of 15



WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 1775-208.01
 PURGED BY: M. ROSS
 SAMPLED BY: M. ROSS

SAMPLE ID: MW-15
 CLIENT NAME: ARCO 621
 LOCATION: GAN Leander, CA

TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

CASING ELEVATION (feet/MSL): NA VOLUME IN CASING (gal.): 0.82
 DEPTH TO WATER (feet): 4.95 CALCULATED PURGE (gal.): 2.47
 DEPTH OF WELL (feet): 10.0 ACTUAL PURGE VOL (gal.): 2.5

DATE PURGED: 3/17/95 Start (2400 Hr) 1119 End (2400 Hr) 1122
 DATE SAMPLED: 3/17/95 Start (2400 Hr) 1125 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1120</u>	<u>1.0</u>	<u>7.40</u>	<u>830</u>	<u>65.2</u>	<u>Light Ben</u>	<u>TRACE</u>
<u>1121</u>	<u>2.0</u>	<u>7.31</u>	<u>832</u>	<u>64.3</u>	<u>"</u>	<u>"</u>
<u>1122</u>	<u>2.5</u>	<u>7.30</u>	<u>836</u>	<u>63.7</u>	<u>"</u>	<u>"</u>

D. O. (ppm): NA ODOR: NONE COLOR: NA (COBALT 0 - 500)
 Field QC samples collected at this well: NA Parameters field filtered at this well: NA (NTU 0 - 200 or 0 - 1000)

PURGING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailor (Teflon S)
☐ Centrifugal Pump ☐ Bailor (PVC)
☐ Submersible Pump ☐ Bailor (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other: _____

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailor (Teflon S)
☐ DDL Sampler ☐ Bailor (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other: _____

WELL INTEGRITY: GOOD LOCK #: 2KA

REMARKS: _____

Meter Calibration: Date: 3/17/95 Time: 1030 Meter Serial #: _____ Temperature °F: _____

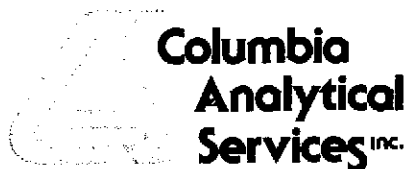
(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-9

Signature: Mike Ross Reviewed By: gm Page 15 of 15

APPENDIX B

**ANALYTICAL RESULTS AND CHAN-OF-CUSTODY
DOCUMENTATION, FIRST QUARTER 1995**



March 31, 1995

Service Request No.: S950338

John Young
EMCON
1921 Ringwood Ave.
San Jose, Ca 95131

RE: **ARCO Facility No. 601 / Project No. 1775-208.01**

Dear John:

Attached are the results of the water sample(s) submitted to our laboratory on March 17, 1995. For your information, these analyses have been assigned our service request number S950338.

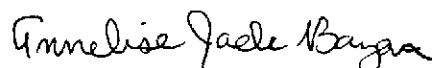
All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.


Steven L. Green
Project Chemist


Annelise J. Bazar
Regional QA Coordinator

Page 1 of 9

CVR_PG.DOC 1/26/95

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
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
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is 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
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
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
tr	Trace level is the concentration of an analyte that is less than the PQL, but greater than or equal to the MDL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

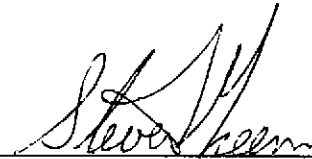
Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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

Analyte:	TPH as Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes, Total
Units:	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)
Method Reporting Limit:	50	0.5	0.5	0.5	0.5

Sample Name	Lab Code					
MW-9 (16)	S950338-015	ND	ND	ND	ND	ND
MW-10 (18)	S950338-016	ND	ND	ND	ND	ND
Method Blank	S950328-WB	ND	ND	ND	ND	ND

Approved By: Date: 3/31/95

003

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

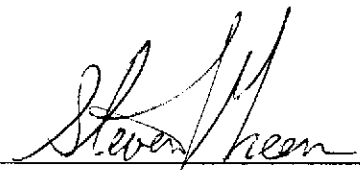
Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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-9 (16)	S950338-015	86
MW-10 (18)	S950338-016	87
MW-2 (12) MS	S950338-002MS	112 *
MW-2 (12) DMS	S950338-002DMS	107 *
Method Blank	S950328-WB	100

CAS Acceptance Limits: 69-116

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

Approved By: 

Date: 3/31/95

SUR1/062994

005

COLUMBIA ANALYTICAL SERVICES, INC.

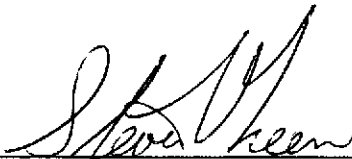
QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01

Service Request: S950338
Date Analyzed: 3/28/95

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	24.5	98	85-115
Toluene	25	24.1	96	85-115
Ethylbenzene	25	24.5	98	85-115
Xylenes, Total	75	70.4	94	85-115
Gasoline	250	270	108	90-110

Approved By: 

Date: 3/31/95

ICV25AL/060194

006

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28/95

Matrix Spike/Duplicate Matrix Spike Summary

BTE

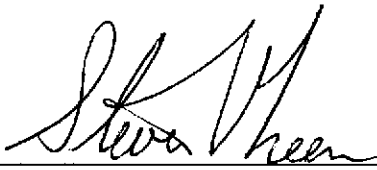
EPA Methods 5030/8020

Units: ug/L (ppb)

Sample Name: MW-2 (12)
Lab Code: S950338-002

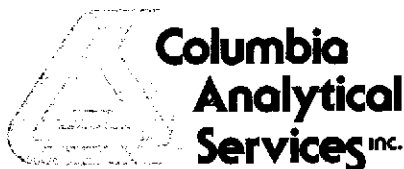
Percent Recovery

Analyte	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS		
Benzene	500	500	463	893	930	86	93	75-135	4
Toluene	500	500	76.5	486	506	82	86	73-136	4
Ethylbenzene	500	500	259	677	724	84	93	69-142	7

Approved By: Date: 3/31/95

007

DMS1S/060194



March 31, 1995

Service Request No.: S950338

John Young
EMCON
1921 Ringwood Ave.
San Jose, Ca 95131

RE: ARCO Facility No. 601 / Project No. 1775-208.01

Dear John:

Attached are the results of the water sample(s) submitted to our laboratory on March 17, 1995. For your information, these analyses have been assigned our service request number S950338.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (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.

A handwritten signature in black ink, appearing to read "Steven L. Green".

Steven L. Green
Project Chemist

A handwritten signature in black ink, appearing to read "Annelise J. Bazar".

Annelise J. Bazar
Regional QA Coordinator

Page 1 of 24

CVR_PG.DOC 1/26/95

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
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
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is 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
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
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
tr	Trace level is the concentration of an analyte that is less than the PQL, but greater than or equal to the MDL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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

Analyte:	TPH as					
Units:	Gasoline	Benzene	Toluene	Ethyl-	Xylenes,	
Method Reporting Limit:	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	benzene	Total	
	50	0.5	0.5	ug/L (ppb)	ug/L (ppb)	0.5

Sample Name	Lab Code					
MW-1 (11)	S950338-001	120,000	5,300	370	1,500	13,000
MW-2 (12)	S950338-002	10,000	460	77	260	550
MW-3 (11)	S950338-003	370,000	4,800	12,000	5,800	34,000
MW-4 (8)	S950338-004	16,000	1,800	970	310	2,500
MW-5 (10)	S950338-005	48,000	6,400	2,000	740	5,100
MW-6 (8)	S950338-006	45,000	9,300	<100 *	1,900	3,600
MW-7 (9)	S950338-007	ND	ND	ND	ND	ND
MW-8 (10)	S950338-008	5,400	<5 *	<5 *	35	<5 *
MW-11(11)	S950338-009	100	ND	ND	ND	ND
MW-12 (11)	S950338-010	ND	ND	ND	ND	ND
MW-13 (12)	S950338-011	ND	ND	ND	ND	ND
MW-14 (12)	S950338-012	ND	ND	ND	ND	ND
MW-15 (10)	S950338-013	ND	ND	ND	ND	ND
FB-1	S950338-014	ND	ND	ND	ND	ND
Method Blank	S950328-WB	ND	ND	ND	ND	ND
Method Blank	S950329-WB	ND	ND	ND	ND	ND

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

Approved By: 

Date: 3/31/95

5ABTXGAS/061694

003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Extracted: 3/24/95

Total Petroleum Hydrocarbons as Diesel
EPA Method Modified 8015/California DHS LUFT Method
Units: µg/L (ppb)

Sample Name	Lab Code	Date Analyzed	MRL	Result
MW-1 (11)	L951727-001	3/28/95	50	6200*
Method Blank	L951727-MB	3/27/95	50	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit.
* Chromatogram fingerprint is not characteristic of diesel; however,
hydrocarbons in the gasoline time range were detected at the reported level.

Approved By:

Eydie Schwartz

Date:

3/29/95

004

1AMRLB/071594
L951727.XLS - 8015a 3/29/95

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Extracted: 3/21/95

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270
Units: µg/L (ppb)

Sample Name: MW-1 (11) Method Blank
Lab Code: L951727-001* L951727-MB
Date Analyzed: 3/22/95 3/22/95

Base Neutral Analyte	MRL		
N-Nitrosodimethylamine	5	<50	ND
Aniline	5	<50	ND
Bis(2-chloroethyl) Ether	5	<50	ND
1,2-Dichlorobenzene	5	<50	ND
1,3-Dichlorobenzene	5	<50	ND
1,4-Dichlorobenzene	5	<50	ND
Bis(2-chloroisopropyl) Ether	5	<50	ND
N-Nitrosodi-n-propylamine	5	<50	ND
Hexachlorocthane	5	<50	ND
Nitrobenzene	5	<50	ND
Isophorone	5	<50	ND
Bis(2-chloroethoxy)methane	5	<50	ND
1,2,4-Trichlorobenzene	5	<50	ND
Naphthalene	5	1300	ND
4-Chloroaniline	5	<50	ND
Hexachlorobutadiene	5	<50	ND
2-Methylnaphthalene	5	730	ND
Hexachlorocyclopentadiene	10	<100	ND
2-Chloronaphthalene	5	<50	ND
2-Nitroaniline	20	<200	ND
Dimethyl Phthalate	5	<50	ND
Acenaphthylene	5	<50	ND
3-Nitroaniline	20	<200	ND
Acenaphthene	5	<50	ND
Dibenzofuran	5	<50	ND
2,4-Dinitrotoluene	5	<50	ND

MRL Method Reporting Limit.

ND None Detected at or above the method reporting limit.

* MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By: Eydie Schwartz

Date: 3/29/95

005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Extracted: 3/21/95

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270
Units: µg/L (ppb)

Sample Name:	MW-1 (11)	Method Blank
Lab Code:	L951727-001*	L951727-MB
Date Analyzed:	3/22/95	3/22/95

Base Neutral Analyte	MRL		
2,6-Dinitrotoluene	5	<50	ND
Diethyl Phthalate	5	<50	ND
4-Chlorophenyl Phenyl Ether	5	<50	ND
Fluorene	5	<50	ND
4-Nitroaniline	20	<200	ND
N-Nitrosodiphenylamine	5	<50	ND
4-Bromophenyl Phenyl Ether	5	<50	ND
Hexachlorobenzene	5	<50	ND
Phenanthrene	5	<50	ND
Anthracene	5	<50	ND
Di-n-butyl Phthalate	5	<50	ND
Fluoranthene	5	<50	ND
Pyrene	5	<50	ND
Butylbenzyl Phthalate	5	<50	ND
3,3'-Dichlorobenzidine	20	<200	ND
Benz(a)anthracene	5	<50	ND
Bis(2-ethylhexyl) Phthalate	5	<50	ND
Chrysene	5	<50	ND
Di-n-octyl Phthalate	5	<50	ND
Benzo(b)fluoranthene	5	<50	ND
Benzo(k)fluoranthene	5	<50	ND
Benzo(a)pyrene	5	<50	ND
Indeno(1,2,3-c,d)pyrene	5	<50	ND
Dibenz(a,h)anthracene	5	<50	ND
Benzo(g,h,i)perylene	5	<50	ND
Pyridine	10	<100	ND

MRL Method Reporting Limit.

ND None Detected at or above the method reporting limit.

* MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By: Eydie Schwartz

Date: 3/29/95

L951727.XLS - 8270w 3/29/95

Page No.:

006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Extracted: 3/21/95

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270
Units: µg/L (ppb)

Sample Name:	MW-1 (11)	Method Blank
Lab Code:	L951727-001*	L951727-MB
Date Analyzed:	3/22/95	3/22/95

Acid Analyte	MRL		
Phenol	5	<50	ND
2-Chlorophenol	5	<50	ND
Benzyl Alcohol	10	<100	ND
2-Methylphenol	5	<50	ND
3- and 4-Methylphenol ^a	5	<50	ND
2-Nitrophenol	5	<50	ND
2,4-Dimethylphenol	5	150	ND
Benzoic Acid	50	<500	ND
2,4-Dichlorophenol	5	<50	ND
4-Chloro-3-methylphenol	5	<50	ND
2,4,6-Trichlorophenol	5	<50	ND
2,4,5-Trichlorophenol	5	<50	ND
2,4-Dinitrophenol	50	<500	ND
4-Nitrophenol	50	<500	ND
2-Methyl-4,6-dinitrophenol	20	<200	ND
Pentachlorophenol	30	<300	ND

MRL Method Reporting Limit.

ND None Detected at or above the method reporting limit.

^a Quantified as 4-Methylphenol.

* MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By:

Eydie Schwartz

Date: 3/29/95

3S3PBNA/060794

L951727.XLS - 8270w 3/29/95

Page No.

007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Extracted: 3/21/95
Date Analyzed: 3/21/95

Total Recoverable Petroleum Hydrocarbons
EPA Method 418.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
MW-1 (11)	L951727-001	0.5	48
Method Blank	L951727-MB	0.5	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit.

Approved By:

Eydie Schwartz

Date:

3/29/95

008

1AMRL/060194

Meticsw11 - 418w 3/29/95

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: 3/17/95
Date Received: 3/20/95
Date Analyzed: 3/21/95

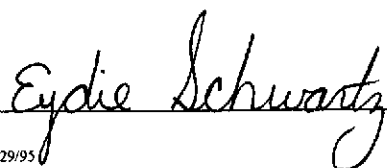
Total Metals
Units: mg/L (ppm)

Sample Name: MW-1 (11) Method Blank
Lab Code: L951727-001 L951727-MB

Analyte	EPA Method	MRL		
Cadmium	3010/6010	0.005	ND	ND
Chromium	3010/6010	0.01	0.02	ND
Lead	3020/7421	0.002	0.020	ND
Nickel	3010/6010	0.04	ND	ND
Zinc	3010/6010	0.01	0.06	ND

MRL Method Reporting Limit.
ND None Detected at or above the method reporting limit.

Approved By:



Date:

3/29/95

009

3S22EPA/060194
Metlcsw11 - metcamw 3/29/95

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

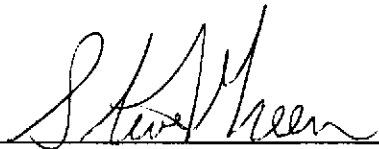
Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28,29/95

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 (11)	S950338-001	102
MW-2 (12)	S950338-002	112 *
MW-3 (11)	S950338-003	105
MW-4 (8)	S950338-004	95
MW-5 (10)	S950338-005	95
MW-6 (8)	S950338-006	94
MW-7 (9)	S950338-007	92
MW-8 (10)	S950338-008	93
MW-11(11)	S950338-009	90
MW-12 (11)	S950338-010	88
MW-13 (12)	S950338-011	86
MW-14 (12)	S950338-012	90
MW-15 (10)	S950338-013	87
FB-1	S950338-014	88
MW-2 (12) MS	S950338-002MS	112 *
MW-2 (12) DMS	S950338-002DMS	107 *
Method Blank	S950328-WB	100
Method Blank	S950329-WB	98

CAS Acceptance Limits: 69-116

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

Approved By: 

Date: 3/31/95

SUR1/062994

011

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01

Service Request: S950338
Date Analyzed: 3/28/95

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	24.5	98	85-115
Toluene	25	24.1	96	85-115
Ethylbenzene	25	24.5	98	85-115
Xylenes, Total	75	70.4	94	85-115
Gasoline	250	270	108	90-110

Approved By: 

ICV25AL/060194

Date: 3/3/95

012

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Facility No. 601 / EMCON Project No. 1775-208.01
Sample Matrix: Water

Service Request: S950338
Date Collected: 3/17/95
Date Received: 3/17/95
Date Extracted: NA
Date Analyzed: 3/28/95

Matrix Spike/Duplicate Matrix Spike Summary

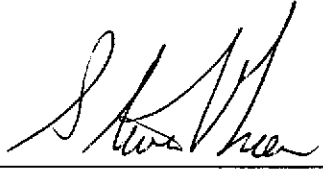
BTE

EPA Methods 5030/8020

Units: ug/L (ppb)

Sample Name: MW-2 (12)
Lab Code: S950338-002

Analyte	Percent Recovery								Relative Percent Difference
	Spike Level		Sample Result	Spike Result		CAS Acceptance Limits			
	MS	DMS		MS	DMS	MS	DMS		
Benzene	500	500	463	893	930	86	93	75-135	4
Toluene	500	500	76.5	486	506	82	86	73-136	4
Ethylbenzene	500	500	259	677	724	84	93	69-142	7

Approved By: Date: 3/31/95

013

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Total Petroleum Hydrocarbons as Diesel
EPA Method Modified 8015/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery <i>p</i> -Terphenyl
MW-1 (11)	L951727-001	*
Method Blank	L951727-MB	89

CAS Acceptance Limits: 50-140

NA Not Applicable
* Not Applicable because of the sample matrix. Analysis of this sample required a dilution such that the surrogate concentration was diluted below the method reporting limit.

Approved By: _____

Eydie Schwantz

Date: 3/29/95

014

SUR1/062994
Metlcsw11 - 8015srtds 3/29/95

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: 3/24/95
Date Analyzed: 3/28/95

LCS/Duplicate LCS Summary*
 Total Petroleum Hydrocarbons as Diesel
 EPA Method Modified 8015/California DHS LUFT Method
 Units: µg/L (ppb)

Sample Name: Laboratory Control Sample
Lab Code: L951727-LCS

Analyte							Percent Recovery			Relative Percent Difference
	Spike Level		Sample Result	Spike Result		CAS Acceptance Criteria				
	MS	DMS		MS	DMS	MS	DMS			
Diesel	2000	2000	ND	1690	1710	85	86	50-136	1	

NA

Not Applicable

ND

None Detected at or above the method reporting limit.

*

Sample quantity was insufficient to perform matrix spike and matrix spike duplicate. Three separate, replicate one liter samples are required to analyzed sample and spikes.

Approved By: _____

Eydie Schwartz

Date: 3/29/95

015

DMSIS/060194

Metlcsw11 - 8015dmsa 3/29/95

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: 3/21/95
Date Analyzed: NA

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270

Sample Name	Lab Code	2FP	P e r c e n t R e c o v e r y				TPH
			PHL	TBP	NBZ	FBP	
MW-1 (11)	L951727-001	*	*	*	*	*	*
Method Blank	L951727-MB	60	38	17	42	**	41
Matrix Spike	L951677-3MS	41	29	51	89	75	69
Duplicate Matrix Spike	L951677-3DMS	38	27	49	84	72	63

CAS Acceptance Limits: 21-100 10-94 10-123 35-114 43-116 33-141

2FP 2-Fluorophenol
PHL Phenol-D₆
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D₅
FBP 2-Fluorobiphenyl
TPH Terphenyl-D₁₄

NA Not Applicable

* Not Applicable because of the sample matrix. Analysis of this sample required a dilution such that the surrogate concentration was diluted below the method reporting limit.

** The USEPA allows up to two surrogate recoveries (one acid and one base/neutral) to be outside of acceptance limits, without requiring reanalysis, according to the 2/88 Contract Laboratory Program Statement of Work.

Approved By:

Eydie Schwartz

Date: *3/29/95*

SUR6/060894

L951727.XLS - 8270srw 3/29/95

6925 CANOGA AVENUE

CANOGA PARK, CA 91303

818 587-5550

FAX 818 587-5555

Page No.:

016

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: 3/17/95
Date Analyzed: 3/20/95

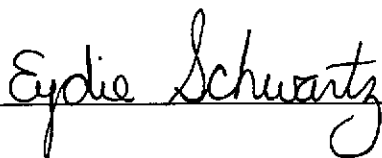
Matrix Spike/Duplicate Matrix Spike Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270
Units: µg/L (ppb)

Sample Name: BATCH QC
Lab Code: L951677-003

Analyte	Spike Level		Sample Result	Spike Result		Percent Recovery		EPA Acceptance Criteria	Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS		
Phenol	50.0	50.0	ND	18.5	16.8	37	34	12-89	10
2-Chlorophenol	50.0	50.0	ND	32.4	29.1	65	58	27-123	11
1,4-Dichlorobenzene	50.0	50.0	ND	39.1	37.0	78	74	36-97	6
N-Nitrosodi-n-propylamine	50.0	50.0	ND	43.9	42.1	88	84	41-116	4
1,2,4-Trichlorobenzene	50.0	50.0	ND	40.0	39.7	80	79	39-98	<1
4-Chloro-3-methylphenol	50.0	50.0	ND	34.8	32.7	70	65	23-97	6
Acenaphthene	50.0	50.0	ND	42.6	41.3	85	83	46-118	3
4-Nitrophenol	50.0	50.0	ND	20.3	23.1	41	46	10-80	13
2,4-Dinitrotoluene	50.0	50.0	ND	41.8	39.6	84	79	24-96	5
Pentachlorophenol	50.0	50.0	ND	18.0	18.4	36	37	9-103	2
Pyrene	50.0	50.0	ND	40.4	37.3	81	75	26-127	8

NA Not Applicable
ND None Detected at or above the method reporting limit.

Approved By:



Date: 3/29/95

DMS1S/060194
MetIesw11 - 8270msw 3/29/95

Page No.:

017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
LCS Matrix: Water

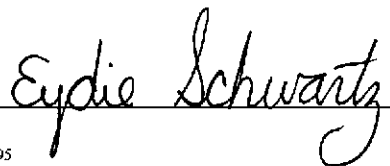
Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: 3/21/95
Date Analyzed: 3/22/95

Laboratory Control Sample Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3510/8270
Units: µg/L (ppb)

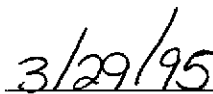
Analyte	True Value	Result	Percent Recovery	EPA Percent Recovery Acceptance Criteria
Phenol	50.0	20.6	41	5-112
2-Chlorophenol	50.0	43.1	86	23-134
1,4-Dichlorobenzene	50.0	36.4	73	20-124
N-Nitrosodi-n-propylamine	50.0	42.3	85	D-230
1,2,4-Trichlorobenzene	50.0	34.9	70	44-142
4-Chloro-3-methylphenol	50.0	45.5	91	22-147
Acenaphthene	50.0	42.1	84	47-145
4-Nitrophenol	50.0	13.4	27	D-132
2,4-Dinitrotoluene	50.0	38.6	77	39-139
Pentachlorophenol	50.0	20.0	40	14-176
Pyrene	50.0	39.5	79	52-115

NA Not Applicable
D Detected; result must be greater than zero.

Approved By:



Date:



LCS/060194

Metlcsw11 - 8270lcsw 3/29/95

Page No.:

018

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
LCS Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: 3/21/95
Date Analyzed: 3/21/95

*Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Total Recoverable Petroleum Hydrocarbons (TRPH) / Oil and Grease (O & G)
EPA Methods 418.1 / 413.2
Units: mg/L (ppm)

Analyte	True Value		Result		Percent Recovery		EPA Acceptance Criteria	Relative Percent Difference
	LCS	DLCS	LCS	DLCS	LCS	DLCS		
TRPH / O & G	2.09	2.09	1.96	2.00	94	96	75-125	2

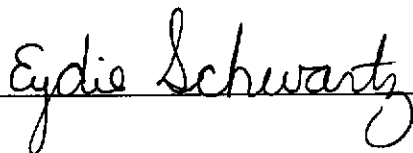
NA

*

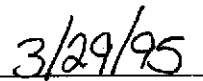
Not Applicable

Sample quantity was insufficient to perform matrix spike and matrix spike duplicate. Three separate, replicate one liter samples are required to analyzed sample and spikes.

Approved By: _____



Date: _____



DLCS/060194
Meticsw11 - genlos3 3/29/95

Page No.:

019

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 3/21/95

Matrix Spike/Duplicate Matrix Spike Summary

Total Metals

Units: mg/L (ppm)

Sample Name: BATCH QC
Lab Code: L951695-001

Analyte	MRL	Spike Level	Sample Result	Spike Result		Percent Recovery		CAS Acceptance Criteria	Relative Percent Difference
				MS	DMS	MS	DMS		
Cadmium	0.005	0.100	ND	0.089	0.091	89	91	75-125	2
Chromium	0.01	0.500	ND	0.459	0.452	92	90	75-125	2
Nickel	0.04	0.500	ND	0.455	0.462	91	92	75-125	2
Zinc	0.01	0.500	0.198	0.714	0.660	103	92	75-125	8

NA

Not Applicable

ND

None Detected at or above the method reporting limit.

Approved By: Eydie SchwartzDate: 3/29/95

DMS1SMRL/060194

L951727.XLS - genmsmrl 3/29/95

Page No.: 020

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
Sample Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 3/21/95

Matrix Spike/Duplicate Matrix Spike Summary
Total Metals
Units: mg/L (ppm)

Sample Name: BATCH QC
Lab Code: L951720-001

Analyte	MRL	Spike Level	Sample Result	Spike Result		Percent Recovery		CAS Acceptance Criteria	Relative Percent Difference
				MS	DMS	MS	DMS		
Lead	0.002	0.0400	0.0069	0.0448	0.0438	95	92	75-125	2

NA Not Applicable
ND None Detected at or above the method reporting limit.

Approved By: Eydie Schwartz Date: 3/29/95
DMS1SMRL/060194
 L951727.XLS - genmsml (2) 3/29/95

Page No.

021

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Products Company/#1775-208.01
LCS Matrix: Water

Service Request: L951727
Date Collected: NA
Date Received: NA
Date Analyzed: 3/21/95

Laboratory Control Sample Summary
Total Metals
Units: mg/L (ppm)

Analyte	EPA Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Cadmium	6010	0.100	0.090	90	75-125
Chromium	6010	0.500	0.470	94	75-125
Lead	7421	0.0400	0.0428	107	75-125
Nickel	6010	0.500	0.474	95	75-125
Zinc	6010	0.500	0.472	94	75-125

NA Not Applicable

Approved By:

Eydie Schwartz

Date:

3/29/95

LCSEPA/060194

Melicsw11 - melicsw 3/29/95

Page No.:

022

ARCO Products Company

Division of AtlanticRichfieldCompany

Task Order No.

17075.00

Chain of Custody

ARCO Facility no. 601		City (Facility) San Leandro		Project manager (Consultant) John Young		Laboratory name CHS	
ARCO engineer Michael Whelan		Telephone no. (ARCO)		Telephone no. (Consultant) 453-7300		Fax no. (Consultant) 453-0452	
Consultant name EMCON		Address (Consultant) 1921 Kensington Avenue				Contract number	

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 802/EPA 8020	TPH/TPH EPA 8020/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 413.2	TPH EPA 418.1/AN503E	EPA 801/8010	EPA 824/8240	EPA 825/8270	TCPL Metals VOA VOA	CAN Metals EPA 801/807000 TLG STLC	Lead Org./DHS Lead EPA 7420/7421	TOTAL METALS	Method of shipment
			Soil	Water	Other	Ice	Acid															
MW-1(11)				X		X	HCl	3/17/95	1440	X				X								Sample will deliver
MW-2(12)									1342	X												Special detection Limit/reporting Lowest Possible
MW-3(11)									1420	X												
MW-4(8)									1330	X												TPH-D=50ppb Special QA/QC As Normal
MW-5(10)									1405	X												
MW-6(8)									1355	X												Remarks Metals Total (Cd; Cr; Pb; Zn; ni)
MW-7(9)									1230	X												
MW-8(10)									1305	X												1775-208.01
MW-11(11)									1246	X												
MW-12(11)									1150	X												Lab number 2451727 5950338
MW-13(12)									1215	X												
MW-14(12)									1205	X												Turnaround time
MW-15(10)									1125	X												
MW-1(11)							NP		1440		X					X						Priority Rush 1 Business Day ☐ Rush 2 Business Days ☐ Expedited 5 Business Days ☐ Standard 10 Business Days ☒
MW-1(11)							HNO ₃		1440										X	X		
MW-1(-)							HCl		1305	X												

Condition of sample: ok		Temperature received: Cool	
Relinquished by sampler Mike Ross	Date 3/17/95	Time 1630	Received by Joanne Brown CAS-SG 3-17-95 1630
Relinquished by Joanne Brown CAS-SG	Date 3/17/95	Time 1700	Received by
Relinquished by	Date	Time	Received by laboratory
			Date 3-20-95 Time 0800