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

the IT group

March 6, 2000
Project 791639

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

Re: Quarterly Groundwater Monitoring Results, Fourth Quarter 1999, for Chateau Manor Apartments, located at 724 Lewelling Boulevard, San Leandro, California

Dear Mr. Sullivan:

On behalf of ARCO Products Company (ARCO), Pinnacle Environmental Solutions, a member of The IT Group (Pinnacle), is submitting the attached laboratory analytical results for the groundwater sample collected from well MW-10 during the fourth quarter of 1999. This well is located at Chateau Manor Apartments, 724 Lewelling Boulevard, San Leandro, California. The groundwater sample was collected during quarterly sampling of ARCO Service Station No. 0601, located at 712 Lewelling Boulevard, San Leandro, California. (Well MW-9 is sampled semi-annual during the first and second quarter).

Please call if you have questions.

Sincerely,

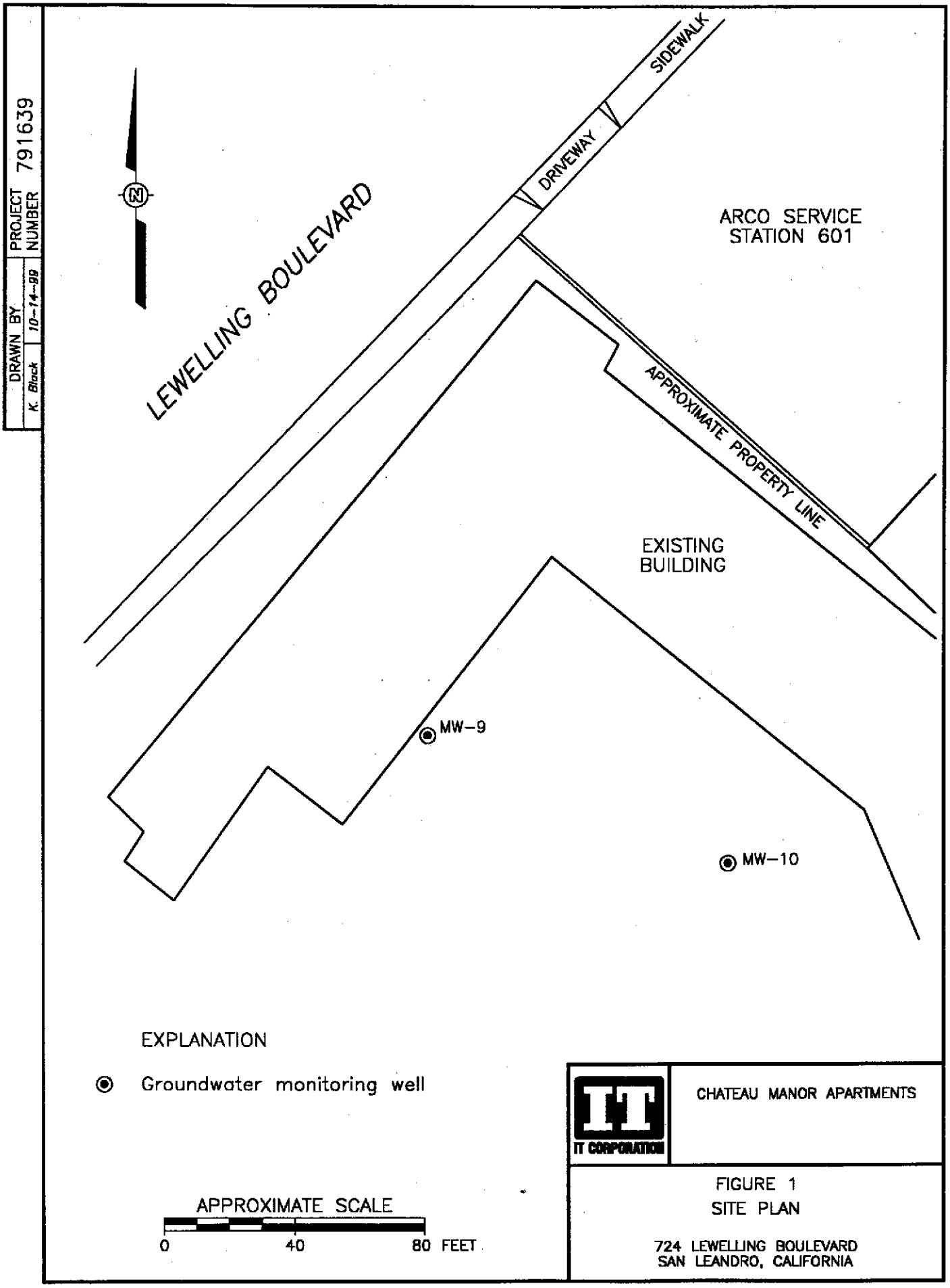
Pinnacle

Glen VanderVeen
Project Manager

Attachments: Figure 1 Site Plan
Appendix A - Copy of Certified Analytical Report and Chain-of-Custody Documentation, Well MW-10, Fourth Quarter 1999

cc: Scott Seery, ACHCSA
Paul Supple, ARCO Products Company
File

OAK\S:\ARCO\0601\QTRLY\JS_Q499.DOC\uh:1



SANJOSE/CADD: N:\DWG\PINACL\601\CHATEAU.DWG Thu, 14/Oct/99 11:10am kblack

APPENDIX A

COPY OF CERTIFIED ANALYTICAL REPORT, AND CHAIN-OF-CUSTODY DOCUMENTATION, WELL MW-10 FOURTH QUARTER 1999

Columbia Analytical Services INC.
An Employee-Owned Company

November 10, 1999 Service Request No.: S9903340

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

RE: TO#24118.00/RAT8/601 SAN LEANDRO

Dear Mr. Vanderveen:

Enclosed are the results of the sample(s) submitted to our laboratory on October 28, 1999. All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply to the sample(s) analyzed. Columbia Analytical Services is not responsible for use of less than the complete report. Signature of this CAS Analytical Report confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 2352, expiration: January 31, 2001).

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

Respectfully submitted,

Columbia Analytical Services, Inc.

Bernadette Troncales
Project Chemist

Greg Jordan
Laboratory Director

RECEIVED
NOV 12 1999
BY:

COLUMBIA ANALYTICAL SERVICES, Inc.
Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903340
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

BTEX, MTBE and TPH as Gasoline

Sample Name:	MW-10(17)	Units:	ug/L (ppb)
Lab Code:	S9903340-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	11/7/99	ND	
Benzene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Xylenes, Total	EPA 5030	8021B	1	1	NA	11/7/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	3	1	NA	11/7/99	ND	

Approved By: _____ Date: 11/10/99

lS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903340
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

BTEX, MTBE and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S991106-WB2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	11/6/99	ND	
Benzene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Xylenes, Total	EPA 5030	8021B	1	1	NA	11/6/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	3	1	NA	11/6/99	ND	

Approved By: _____ Date: 11/10/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: S9903340
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8021B CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene	Percent Recovery a,a,a-Trifluorotoluene
MW-10(17)	S9903340-001		96	98
Lab Control Sample	S991106-LCS		95	107
Dup Lab Control Sample	S991106-DLCS		95	117
Method Blank	S991106-WB2		93	100

CAS Acceptance Limits: 69-116 72-139

Approved By: _____ Date: 11/10/99

SUR2/020397p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
LCS Matrix: Water

Service Request: S9903340
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/6/99

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
BTEX and TPH as Gasoline

Sample Name: Dup Lab Control Sample
Lab Code: S991106-LCS, S991106-DLCS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Benzene	EPA 5030	8021B	25	25	28	25	112	100	75-135	11	
Toluene	EPA 5030	8021B	25	25	26	24	104	96	73-136	8	
Ethylbenzene	EPA 5030	8021B	25	25	27	25	108	100	69-142	8	
Gasoline	EPA 5030	CA/LUFT	250	250	240	250	96	100	75-135	4	

Approved By: _____ Date: 11/10/99

DLCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO

Service Request: S9903340
Date Analyzed: 11/6/99

Initial Calibration Verification (ICV) Summary
BTEX, MTBE and TPH as Gasoline

Sample Name: ICV
Lab Code: ICV1
Test Notes:

Units: ug/L (ppb)
Basis: NA

ICV Source:

Analyte	Prep Method	Analysis Method	True Value	Result	CAS Percent Recovery Acceptance Limits	Percent Recovery	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	250	240	85-115	96	
Benzene	EPA 5030	8021B	25	28	85-115	112	
Toluene	EPA 5030	8021B	25	26	85-115	104	
Ethylbenzene	EPA 5030	8021B	25	27	85-115	108	
Xylenes, Total	EPA 5030	8021B	75	81	85-115	108	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	25	24	85-115	96	

Approved By: _____ Date: 11/10/99

ICV/032196

ARCO Products Company ◆ 59903340 **Task Order No.** 24118.00 — **Chain of Custody**

Division of AtlanticRichfieldCompany

ARCO Facility no. 0601	City (Facility) San Leandro	Project manager (Consultant) Glen VanderVeen	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408)453-7300	Fax no. (Consultant) (408)437-9526	Contract number
Consultant name EMCON	Address (Consultant) 2201 Broadway #101 Oakland, CA 94617		Method of shipment: Sampler will deliver

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 8020/EPA 8020	BTEX/TPH(gas and BTEX) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-10(17)	2	1	X			X	HCL	10/28/99	0850		X											

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: RAT 8
2-40ml HCL VOAs
Seperate C-O-C & C-A-R
#791639

Lab number

Turnaround time

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

Condition of sample:

Temperature received: Due: 11/11/99 RU1D3-B

Relinquished by sampler	Date 10/28/99	Time 3:11	Received by Brian Fuller 10/28/99 3:11
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APC-3292 (2-91)

the IT group

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

March 6, 2000
Project 791639

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

Re: Quarterly Groundwater Monitoring Report, Fourth Quarter 1999, for ARCO Service Station No. 0601, Located at 712 Lewelling Boulevard, San Leandro, California

Dear Mr. Supple:

Pinnacle Environmental Solutions, a member of The IT Group (Pinnacle), is submitting the attached report which presents the results of the fourth quarter 1999 groundwater monitoring program at ARCO Products Company (ARCO) Service Station No. 0601, located at 712 Lewelling Boulevard, San Leandro, California. The monitoring program complies with the Alameda County Health Care Services Agency (ACHCSA) requirements regarding underground tank investigations.

Please call if you have questions.

Sincerely,

Pinnacle

Glen VanderVeen
Project Manager

Dan Easter, R.G. 5722
Project Geologist

Attachment: Quarterly Groundwater Monitoring Report, Fourth Quarter 1999

cc: **Scott Seery, ACHCSA**
Mike Bakaldin, San Leandro Fire Department

Date: March 6, 2000

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 0601 Address: 712 Lewelling Boulevard, San Leandro, California

Pinnacle Project No. 791639

ARCO Environmental Engineer/Phone No.: Paul Supple /(925) 299-8891

Pinnacle Project Manager/Phone No.: Glen VanderVeen /(510) 740-5807

Primary Agency/Regulatory ID No.: ACHCSA /Scott Seery

WORK PERFORMED THIS QUARTER (FOURTH - 1999):

1. Prepared and submitted quarterly groundwater monitoring report for third quarter 1999.
2. Performed quarterly groundwater monitoring and sampling for fourth quarter 1999.
3. Submitted letter (November 3, 1999) proposing to attempt to sample sewer main backfill trench using hand tools.

WORK PROPOSED FOR NEXT QUARTER (FIRST - 2000):

approved 12/99.

1. Prepare and submit quarterly groundwater monitoring report for fourth quarter 1999.
2. Perform quarterly groundwater monitoring and sampling for first quarter 2000.
3. With ACHCSA approval for proposed sampling methodology, begin permitting process and coordination with Oro Loma Sanitation District.

QUARTERLY MONITORING:

Current Phase of Project: Quarterly Groundwater Monitoring

Frequency of Sampling: Annual (1st quarter): MW-2, MW-11, MW-12, MW-13
Semi-annual (1st/3rd quarter): MW-9, MW-15
Quarterly: MW-1, MW-3 through MW-8, MW-10, MW-14

Frequency of Monitoring: Quarterly (groundwater)

Is Floating Product (FP) Present On-site: ☐ Yes ☒ No

Cumulative FP Recovered to Date : 3.45 gallons, Well MW-1

FP Recovered This Quarter : None

Bulk Soil Removed to Date : 1,565 cubic yards of TPH impacted soil

Bulk Soil Removed This Quarter : None

Current Remediation Techniques: Natural Attenuation

Average Depth to Groundwater: 8.4 feet

Groundwater Flow Direction and Gradient (Average): 0.04 ft/ft toward Southeast

ATTACHMENTS:

- Table 1 - Groundwater Elevation and Analytical Data, Petroleum Hydrocarbons and Their Constituents
- Table 2 - Groundwater Flow Direction and Gradient
- Table 3 - Historical Groundwater Analytical Data, Metals
- Table 4 - Historical Groundwater Analytical Data, Volatile and Semivolatile Organic Compounds
- Table 5 - Approximate Cumulative Floating Product Recovered, Monitoring Well MW-1
- Figure 1 - Groundwater Analytical Summary Map
- Figure 2 - Groundwater Elevation Contour Map
- Appendix A - Sampling and Analysis Procedures
- Appendix B - Certified Analytical Reports and Chain-of-Custody Documentation
- Appendix C - Field Data Sheets

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8240 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-1	03-17-95	22.26	6.57	ND	15.69	03-17-95	120,000	5,300	370	1,500	13,000	--	--	48,000	6,200[1]		
MW-1	06-01-95	22.26	7.87	ND	14.39	06-01-95	250,000	7,100	950	3,500	21,000	--	--	38,000	190,000[1]		
MW-1	08-31-95	22.26	8.12	0.01	** 14.15	08-31-95	Not sampled: well contained floating product										
MW-1	11-27-95	22.26	8.42	Sheen	13.84	11-27-95	310,000	4,600	770	5,700	21,000	--	--	--	--		
MW-1	02-22-96	22.26	6.01	0.01	** 16.26	03-14-96	100,000	6,200	320	2,500	12,000	<1,000[1]	--	--	--		
MW-1	05-20-96	22.26	7.03	ND	15.23	05-21-96	340,000	6,600	240	4,500	22,000	<1,000	--	150	<2,500[1]		
MW-1	08-26-96	22.26	8.16	ND	14.10	08-26-96	210,000	7,900	320	3,400	15,000	<1,000	--	--	--		
MW-1	11-20-96	22.26	7.84	ND	14.42	11-20-96	62,000	5,900	77	2,000	7,700	<300	--	--	--		
MW-1	03-24-97	19.19	8.05	ND	11.14	03-24-97	170,000	6,500	<200	2,400	9,900	<1,000	--	--	--		
MW-1	05-23-97	19.19	8.42	ND	10.77	05-23-97	83,000	6,200	84	2,500	9,000	<300	--	--	--		
MW-1	08-19-97	19.19	8.65	ND	10.54	08-19-97	83,000	4,500	<100	2,200	8,100	<600	--	--	--		
MW-1	11-19-97	19.19	8.54	ND	10.65	11-19-97	250,000	4,400	<500	3,800	9,900	<3,000	--	--	--		
MW-1	02-19-98	19.19	5.57	ND	13.62	02-19-98	74,000	2,500	120	2,200	4,100	<300	--	--	--		
MW-1	04-23-98	19.19	6.92	ND	12.27	04-24-98	210,000	2,700	<500	4,200	8,300	<3,000	--	--	--	1.5	P
MW-1	07-27-98	19.19	8.14	ND	11.05	07-27-98	73,000	2,100	88	2,600	4,600	<300	--	--	--	1.0	P
MW-1	10-14-98	19.19	8.58	ND	10.61	10-14-98	47,000	2,900	<50	2,300	3,900	<300	--	--	--	1.5	P
MW-1	01-21-99	19.19	7.84	ND	11.35	01-22-99	45,000	1,400	64	2,100	2,400	<300	--	--	--	1.0	P
MW-1	05-06-99	19.19	8.00	ND	11.19	05-06-99	41,000	1,900	<20	2,800	3,400	<120	--	--	--	0.85	P
MW-1	08-23-99	19.19	8.56	ND	10.63	08-24-99	26,000	1,700	52	1,600	1,500	<75	--	--	--	0.72	P
MW-1	10-28-99	19.19	8.92	ND	10.27	10-28-99	38,000	2,500	35	2,400	2,500	<200	--	--	--	0.70	P
MW-2	03-17-95	21.33	6.12	ND	15.21	03-17-95	10,000	460	77	260	550	--	--	--	--		
MW-2	06-01-95	21.33	6.56	ND	14.77	06-01-95	13,000	400	78	210	410	--	--	--	--		

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-2	08-31-95	21.33	7.18	ND	14.15	08-31-95	5,000	280	18	120	140	<50	--	--	--		
MW-2	11-27-95	21.33	7.39	ND	13.94	11-27-95	3,200	230	12	77	90	--	--	--	--		
MW-2	02-22-96	21.33	5.78	ND	15.55	03-14-96	11,000	290	67	190	330	<50	--	--	--		
MW-2	05-20-96	21.33	6.27	ND	15.06	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-2	08-26-96	21.33	7.30	ND	14.03	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-2	11-20-96	21.33	7.28	ND	14.05	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-2	03-24-97	21.12	7.11	ND	14.01	03-24-97	4,800	570	6	71	32	67	--	--	--		
MW-2	05-23-97	21.12	7.44	ND	13.68	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-2	08-19-97	21.12	7.64	ND	13.48	08-19-97	Not sampled: well sampled annually, during the first quarter										
MW-2	11-19-97	21.12	7.70	ND	13.42	11-19-97	Not sampled: well sampled annually, during the first quarter										
MW-2	02-19-98	21.12	5.22	ND	15.90	02-19-98	2,000	160	50	66	230	25	--	--	--		
MW-2	04-23-98	21.12	6.24	ND	14.88	04-23-98	Not sampled: well sampled annually, during the first quarter										
MW-2	07-27-98	21.12	7.02	ND	14.10	07-27-98	Not sampled: well sampled annually, during the first quarter										
MW-2	10-14-98	21.12	7.54	ND	13.58	10-14-98	Not sampled: well sampled annually, during the first quarter										
MW-2	01-21-99	21.12	7.15	ND	13.97	01-22-99	1,700	84	4	31	10	13	--	--	--	0.5	P
MW-2	05-06-99	21.12	6.95	ND	14.17	05-06-99	Not sampled: well sampled annually, during the first quarter										
MW-2	08-23-99	21.12	7.49	ND	13.63	08-24-99	Not sampled: well sampled annually, during the first quarter									0.68	
MW-2	10-28-99	21.12	7.92	ND	13.20	10-28-99	Not sampled: well sampled annually, during the first quarter										
MW-3	03-17-95	20.11	5.46	ND	14.65	03-17-95	370,000	4,800	12,000	5,800	34,000	--	--	--	--		
MW-3	06-01-95	20.11	6.34	ND	13.77	06-01-95	270,000	6,000	11,000	5,200	28,000	--	--	--	--		
MW-3	08-31-95	20.11	6.60	0.02	** 13.52	08-31-95	Not sampled: well contained floating product										
MW-3	11-27-95	20.11	6.76	0.01	** 13.36	11-27-95	150,000	5,100	8,800	3,900	21,000	--	--	--	--		

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-3	02-22-96	20.11	5.14	0.01	** 14.98	03-14-96	150,000	4,400	7,600	4,100	22,000	<3,000	--	--	--		
MW-3	05-20-96	20.11	5.17	ND	14.94	05-21-96	410,000	4,700	8,000	6,300	36,000	<3,000	--	--	--		
MW-3	08-26-96	20.11	7.04	ND	13.07	08-26-96	260,000	4,000	6,100	4,200	24,000	<2,000	--	--	--		
MW-3	11-20-96	20.11	6.26	ND	13.85	11-20-96	190,000	3,200	5,800	3,300	20,000	<1,000	--	--	--		
MW-3	03-24-97	22.99	6.94	ND	16.05	03-24-97	430,000	2,700	7,600	7,000	39,000	<5,000	--	--	--		
MW-3	05-23-97	22.99	6.98	ND	16.01	05-23-97	130,000	2,100	4,300	3,500	19,000	<700	--	--	--		
MW-3	08-19-97	22.99	7.25	ND	15.74	08-19-97	100,000	2,000	3,200	<100	19,000	<600	--	--	--		
MW-3	11-19-97	22.99	7.25	ND	15.74	11-19-97	93,000	1,700	2,400	2,800	16,000	<600	--	--	--		
MW-3	02-19-98	22.99	5.24	ND	17.75	02-19-98	80,000	620	1,200	2,500	13,000	<600	--	--	--		
MW-3	04-23-98	22.99	6.60	ND	16.39	04-24-98	130,000	1,500	2,400	3,500	18,000	<600	--	--	--	3.5	P
MW-3	07-27-98	22.99	7.00	ND	15.99	07-27-98	140,000	920	1,500	2,400	13,000	<600	--	--	--	1.0	P
MW-3	10-14-98	22.99	7.04	ND	15.95	10-14-98	300,000	1,200	2,400	5,700	32,000	970	--	--	--	1.0	P
MW-3	01-21-99	22.99	6.50	ND	16.49	01-22-99	120,000	860	1,500	2,600	14,000	<600	--	--	--	0.5	P
MW-3	05-06-99	22.99	6.90	ND	16.09	05-06-99	49,000	670	1,400	2,500	11,000	170	--	--	--	1.03	NP
MW-3	08-23-99	22.99	6.53	ND	16.46	08-24-99	51,000	440	930	2,200	9,200	<150	--	--	--	0.67	NP
MW-3	10-28-99	22.99	7.50	ND	15.49	10-28-99	1,400,000	830	4,100	15,000	78,000	<5,000	--	--	--	0.77	P
MW-4	03-17-95	20.75	6.65	ND	14.10	03-17-95	16,000	1,800	970	310	2,500	--	--	--	--		
MW-4	06-01-95	20.75	7.25	ND	13.50	06-01-95	16,000	2,800	870	380	2,700	--	--	--	--		
MW-4	08-31-95	20.75	7.75	ND	13.00	08-31-95	9,000	2,000	270	270	1,400	<100	--	--	--		
MW-4	11-27-95	20.75	7.87	ND	12.88	11-27-95	3,800	890	130	130	550	--	--	--	--		
MW-4	02-22-96	20.75	7.29	ND	13.46	03-14-96	940	150	82	19	130	<20	--	--	--		
MW-4	05-20-96	20.75	7.30	ND	13.45	05-21-96	6,700	1,100	330	120	1,100	<100	--	--	--		

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8240 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-4	08-26-96	20.75	7.57	ND	13.18	08-26-96	14,000	2,400	510	350	2,100	<100	--	--	--		
MW-4	11-20-96	20.75	7.89	ND	12.86	11-20-96	420	55	17	11	62	<3	--	--	--		
MW-4	03-24-97	22.38	6.90	ND	15.48	03-24-97	6,800	620	150	81	1,300	<50	--	--	--		
MW-4	05-23-97	22.38	7.80	ND	14.58	05-23-97	9,000	1,300	240	200	1,600	<60	--	--	--		
MW-4	08-19-97	22.38	DRY	ND	N/A	08-19-97	Not sampled: well is dry										
MW-4	11-19-97	22.38	DRY	ND	N/A	11-19-97	3,700[1]	600	93	120	710	<60	--	--	--		
MW-4	02-19-98	22.38	6.78	ND	15.60	02-19-98	1,800	93	51	29	420	110	--	--	--		
MW-4	04-23-98	22.38	6.47	ND	15.91	04-23-98	6,500	700	110	180	1,300	93	--	--	--	0.5	P
MW-4	07-27-98	22.38	7.22	ND	15.16	07-27-98	10,000	1,400	140	290	1,900	<120	--	--	--	1.5	P
MW-4	10-14-98	22.38	7.60	ND	14.78	10-14-98	6,500	900	63	200	1,200	63	--	--	--	1.0	P
MW-4	01-21-99	22.38	7.43	ND	14.95	01-22-99	1,700	140	22	56	320	13	--	--	--	0.5	P
MW-4	05-06-99	22.38	6.55	ND	15.83	05-06-99	3,300	250	36	73	890	41	--	--	--	1.28	P
MW-4	08-23-99	22.38	7.16	ND	15.22	08-24-99	7,400	500	73	230	1,700	57	--	--	--	0.89	P
MW-4	10-28-99	22.38	8.28	ND	14.10	10-28-99	370	41	5.7	14	52	16	--	--	--	0.92	NP
MW-5	03-17-95	20.90	5.51	ND	15.39	03-17-95	48,000	6,400	2,000	740	5,100	--	--	--	--		
MW-5	06-01-95	20.90	6.55	ND	14.35	06-01-95	76,000	11,000	5,400	1,400	7,700	--	--	--	--		
MW-5	08-31-95	20.90	6.80	ND	14.10	08-31-95	53,000	12,000	1,600	1,000	6,000	<500	--	--	--		
MW-5	11-27-95	20.90	7.13	ND	13.77	11-27-95	43,000	7,900	3,300	950	4,900	--	--	--	--		
MW-5	02-22-96	20.90	5.12	ND	15.78	03-14-96	52,000	9,100	3,300	940	5,000	<500	--	--	--		
MW-5	05-20-96	20.90	5.87	ND	15.03	05-21-96	55,000	9,300	3,800	1,100	5,400	<500	--	--	--		
MW-5	08-26-96	20.90	7.15	ND	13.75	08-26-96	47,000	5,300	2,100	780	3,200	<300	--	--	--		
MW-5	11-20-96	20.90	6.88	ND	14.02	11-20-96	53,000	8,700	5,700	920	4,400	<500	--	--	--		

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-5	03-24-97	22.45	7.13	ND	15.32	03-24-97	39,000	8,200	3,200	720	3,100	<500	--	--	--		
MW-5	05-23-97	22.45	7.42	ND	15.03	05-23-97	29,000	6,600	1,700	400	1,500	<600	--	--	--		
MW-5	08-19-97	22.45	7.58	ND	14.87	08-19-97	16,000	4,600	790	<50	1,300	<300	--	--	--		
MW-5	11-19-97	22.45	7.58	ND	14.87	11-19-97	22,000	5,800	1,300	380	1,300	<300	--	--	--		
MW-5	02-19-98	22.45	4.65	ND	17.80	02-19-98	40,000	5,100	3,800	620	2,900	<300	--	--	--		
MW-5	04-23-98	22.45	6.25	ND	16.20	04-23-98	45,000	8,000	4,000	970	4,200	<600	--	--	--	1.5	P
MW-5	07-27-98	22.45	6.71	ND	15.74	07-27-98	30,000	8,000	2,000	590	1,900	<600	--	--	--	1.5	P
MW-5	10-14-98	22.45	7.19	ND	15.26	10-14-98	33,000	7,400	1,900	550	1,700	<300	--	--	--	1.5	P
MW-5	01-21-99	22.45	7.03	ND	15.42	01-22-99	34,000	6,200	2,600	630	2,300	<600	--	--	--	2.5	P
MW-5	05-06-99	22.45	7.02	ND	15.43	05-06-99	7,900	2,400	200	240	580	12	--	--	--	1.07	NP
MW-5	08-23-99	22.45	7.04	ND	15.41	08-24-99	25,000	5,800	2,300	570	2,000	67	--	--	--	1.04	P
MW-5	10-28-99	22.45	7.90	ND	14.55	10-28-99	20,000	5,900	1,100	450	1,100	<250	--	--	--	0.87	P
MW-6	03-17-95	22.08	6.66	ND	15.42	03-17-95	45,000	9,300	<100	1,900	3,600	--	--	--	--		
MW-6	06-01-95	22.08	7.60	ND	14.48	06-01-95	23,000	5,600	<50	1,300	1,900	--	--	--	--		
MW-6	08-31-95	22.08	7.92	ND	14.16	08-31-95	26,000	8,000	<100	1,900	900	<500	--	--	--		
MW-6	11-27-95	22.08	8.21	ND	13.87	11-27-95	6,700	1,800	<20	480	230	--	--	--	--		
MW-6	02-22-96	22.08	6.21	ND	15.87	03-14-96	17,000	3,100	69	810	1,500	<300	--	--	--		
MW-6	05-20-96	22.08	7.07	ND	15.01	05-21-96	16,000	3,700	<50	1,100	1,100	<300	--	--	--		
MW-6	08-26-96	22.08	7.93	ND	14.15	08-26-96	23,000	5,800	<50	2,000	560	<300	--	--	--		
MW-6	11-20-96	22.08	8.02	ND	14.06	11-20-96	11,000	3,300	<50[1]	480	370	<300	--	--	--		
MW-6	03-24-97	22.77	7.95	ND	14.82	03-24-97	9,700	1,900	<20	800	270	<100	--	--	--		
MW-6	05-23-97	22.77	8.17	ND	14.60	05-23-97	16,000	4,300	<50	1,400	180	<300	--	--	--		

Table 1
Groundwater Elevation and Analytical Data
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1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-6	08-19-97	22.77	-	ND	NA	08-19-97	Not sampled: well is dry										
MW-6	11-19-97	22.77	-	ND	NA	11-19-97	Not sampled: well is dry										
MW-6	02-19-98	22.77	5.78	ND	16.99	02-19-98	2,600	540	8	90	88	<30	--	--	--		
MW-6	04-23-98	22.77	6.83	ND	15.94	04-24-98	7,600	1,300	13	520	190	<60	--	--	--	0.5	P
MW-6	07-27-98	22.77	7.80	ND	14.97	07-27-98	15,000	3,600	<25	1,100	230	<150	--	--	--	1.0	P
MW-6	10-14-98	22.77	8.31	ND	14.46	10-14-98	8,700	2,400	<20	220	36	<120	--	--	--	2.0	P
MW-6	01-21-99	22.77	7.90	ND	14.87	01-22-99	4,800	1,100	<25	340	79	<150	--	--	--	2.0	P
MW-6	05-06-99	22.77	7.70	ND	15.07	05-06-99	1,300	240	2.3	85	19	5	--	--	--	1.18	P
MW-6	08-23-99	22.77	8.24	ND	14.53	08-24-99	4,200	970	12	110	29	<15	--	--	--	0.90	P
MW-6	10-28-99	22.77	-	ND	NA	10-28-99	Not sampled: well is dry										
MW-7	03-17-95	22.89	7.68	ND	15.21	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-7	06-01-95	22.89	8.40	ND	14.49	06-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-7	08-31-95	22.89	9.09	ND	13.80	08-31-95	<50	<0.5	<0.5	0.6	<0.5	<3	--	--	--		
MW-7	11-27-95	22.89	9.15	ND	13.74	11-27-95	<50	<0.5	<0.5	0.9	<0.5	--	--	--	--		
MW-7	02-22-96	22.89	7.44	ND	15.45	03-14-96	110	1.4	<0.5	3.8	3.0	<3	--	--	--		
MW-7	05-20-96	22.89	8.47	ND	14.42	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-7	08-26-96	22.89	8.81	ND	14.08	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-7	11-20-96	22.89	9.17	ND	13.72	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-7	03-24-97	22.89	8.31	ND	14.58	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-7	05-23-97	22.89	9.26	ND	13.63	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-7	08-19-97	22.89	-	ND	NA	08-19-97	Not sampled: well is dry										
MW-7	11-19-97	22.89	-	ND	NA	11-19-97	Not sampled: well is dry										

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1995 - Present***

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Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-7	02-19-98	22.89	6.13	ND	16.76	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-7	04-23-98	22.89	7.44	ND	15.45	04-23-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.5	P
MW-7	07-27-98	22.89	8.75	ND	14.14	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-7	10-14-98	22.89	9.22	ND	13.67	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-7	01-21-99	22.89	9.07	ND	13.82	01-22-99	52	<0.5	<0.5	<0.5	0.27	<3	--	--	--	3.0	P
MW-7	05-06-99	22.89	8.32	ND	14.57	05-06-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.83	P
MW-7	08-23-99	22.89	9.25	ND	13.64	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.42	P
MW-7	10-28-99	22.89	-	ND	NA	10-28-99	Not sampled: well is dry										
MW-8	03-17-95	20.97	6.14	ND	14.83	03-17-95	5,400	<5	<5	35	<5	--	--	--	--		
MW-8	06-01-95	20.97	6.50	ND	14.47	06-01-95	2,600	<2.5	<2.5	15	<2.5	--	--	--	--		
MW-8	08-31-95	20.97	7.35	ND	13.62	08-31-95	1,400	<3	<3	5	<3	520	--	900	--		
MW-8	11-27-95	20.97	7.60	ND	13.37	11-27-95	620	<0.5	<0.5	<0.5	0.5	--	560	900	510[1]		
MW-8	02-22-96	20.97	5.35	ND	15.62	03-14-96	5,800	<5	<5	28	<5	110	--	1,900	6,800[1]		
MW-8	05-20-96	20.97	5.92	ND	15.05	05-21-96	6,100	<5	<5	26	<5	240	--	--	--		
MW-8	08-26-96	20.97	7.08	ND	13.89	08-26-96	970	<1	<1	3	<1	710	--	--	--		
MW-8	11-20-96	20.97	7.01	ND	13.96	11-20-96	3,900	<2.5	<2.5	12	<2.5	930	--	--	--		
MW-8	03-24-97	20.89	7.33	ND	13.56	03-24-97	1,400	<10	<10	<10	12	1,300	--	--	--		
MW-8	05-23-97	20.89	7.55	ND	13.34	05-23-97	730	<5	<5	<5	<5	630	--	--	--		
MW-8	08-19-97	20.89	7.87	ND	13.02	08-19-97	<500	<5	<5	<5	<5	290	--	--	--		
MW-8	11-19-97	20.89	7.87	ND	13.02	11-19-97	<200	<2	<2	<2	<2	260	--	--	--		
MW-8	02-19-98	20.89	4.46	ND	16.43	02-19-98	2,000	<2	<2	9	<2	140	--	--	--		
MW-8	04-23-98	20.89	6.35	ND	14.54	04-24-98	4,500	<5	<5	<5	11	590	--	--	--	0.5	P

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Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-8	07-27-98	20.89	7.43	ND	13.46	07-27-98	Not sampled										
MW-8	10-14-98	20.89	7.79	ND	13.10	10-14-98	Not sampled										
MW-8	01-21-99	20.89	6.54	ND	14.35	01-22-99	2,000	<2	<2	3	<2	320	--	--	--	2.5	P
MW-8	05-06-99	20.89	7.30	ND	13.59	05-06-99	<50	<0.5	<0.5	<0.5	<0.5	160	--	--	--	12.76	NP
MW-8	08-23-99	20.89	7.45	ND	13.44	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	5	--	--	--	7.85	NP
MW-8	10-28-99	20.89	8.22	ND	12.67	10-28-99	160	<0.5	<0.5	<0.5	<1	45	--	--	--	0.84	P
MW-9	03-17-95	20.89	6.94	ND	13.95	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-9	06-01-95	20.89	8.15	ND	12.74	06-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-9	08-31-95	20.89	8.10	ND	12.79	08-31-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	11-27-95	20.89	8.38	ND	12.51	11-27-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-9	02-22-96	20.89	7.36	ND	13.53	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	05-20-96	20.89	7.81	ND	13.08	05-21-96	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	08-26-96	20.89	8.00	ND	12.89	08-26-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	11-20-96	20.89	7.06	ND	13.83	11-20-96	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	03-24-97	22.26	7.74	ND	14.52	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	05-23-97	22.26	8.28	ND	13.98	05-23-97	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	08-19-97	22.26	8.32	ND	13.94	08-19-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	11-19-97	22.26	8.32	ND	13.94	11-19-97	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	02-19-98	22.26	7.11	ND	15.15	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-9	04-23-98	22.26	8.18	ND	14.08	04-23-98	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	07-27-98	22.26	7.97	ND	14.29	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	3.6	P
MW-9	10-14-98	22.26	8.29	ND	13.97	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	2.5	P

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MW-9	01-21-99	22.26	7.63	ND	14.63	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-9	05-06-99	22.26	7.27	ND	14.99	05-06-99	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-9	08-23-99	22.26	8.24	ND	14.02	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.93	P
MW-9	10-28-99	22.26	8.63	ND	13.63	10-28-99	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-10	03-17-95	21.12	6.26	ND	14.86	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-10	06-01-95	21.12	7.63	ND	13.49	06-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-10	08-31-95	21.12	8.17	ND	12.95	08-31-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	11-27-95	21.12	8.38	ND	12.74	11-27-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-10	02-22-96	21.12	5.41	ND	15.71	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	05-20-96	21.12	6.78	ND	14.34	05-21-96	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-10	08-26-96	21.12	8.00	ND	13.12	08-26-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	11-20-96	21.12	7.81	ND	13.31	11-20-96	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-10	03-24-97	21.33	7.87	ND	13.46	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	05-23-97	21.33	8.33	ND	13.00	05-23-97	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-10	08-19-97	21.33	8.39	ND	12.94	08-19-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	11-19-97	21.33	8.39	ND	12.94	11-19-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	02-19-98	21.33	4.65	ND	16.68	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-10	04-23-98	21.33	6.28	ND	15.05	04-23-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.5	P
MW-10	07-27-98	21.33	7.97	ND	13.36	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	3.3	P
MW-10	10-14-98	21.33	8.41	ND	12.92	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.0	P
MW-10	01-21-99	21.33	6.65	ND	14.68	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.5	P
MW-10	05-06-99	21.33	7.74	ND	13.59	05-06-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.76	P

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MW-10	08-23-99	21.33	8.37	ND	12.96	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.21	P
MW-10	10-28-99	21.33	8.73	ND	12.60	10-28-99	<50	<0.5	<0.5	<0.5	<1	<3	--	--	--	1.12	P
MW-11	03-17-95	22.38	6.94	ND	15.44	03-17-95	100	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-11	06-01-95	22.38	7.90	ND	14.48	06-01-95	210	<0.5	<0.5	0.9	0.7	--	--	--	--		
MW-11	08-31-95	22.38	8.18	ND	14.20	08-31-95	680	<0.5	<0.5	4	1.8	<3	--	--	--		
MW-11	11-27-95	22.38	8.48	ND	13.90	11-27-95	340	<0.5	<0.5	2.2	1.6	--	--	--	--		
MW-11	02-22-96	22.38	6.63	ND	15.75	03-14-96	150	<0.5	<0.5	<0.8	0.8	<3	--	--	--		
MW-11	05-20-96	22.38	7.25	ND	15.13	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-11	08-26-96	22.38	8.22	ND	14.16	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-11	11-20-96	22.38	8.37	ND	14.01	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-11	03-24-97	20.97	8.15	ND	12.82	03-24-97	63	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-11	05-23-97	20.97	8.48	ND	12.49	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-11	08-19-97	20.97	8.67	ND	12.30	08-19-97	Not sampled: well sampled annually, during the first quarter										
MW-11	11-19-97	20.97	8.67	ND	12.30	11-19-97	Not sampled: well sampled annually, during the first quarter										
MW-11	02-19-98	20.97	6.25	ND	14.72	02-19-98	<50	<0.5	1.6	<0.5	1.8	7	--	--	--		
MW-11	04-23-98	20.97	7.23	ND	13.74	04-23-98	Not sampled: well sampled annually, during the first quarter										
MW-11	07-27-98	20.97	8.05	ND	12.92	07-27-98	Not sampled: well sampled annually, during the first quarter										
MW-11	10-14-98	20.97	8.58	ND	12.39	10-14-98	Not sampled: well sampled annually, during the first quarter										
MW-11	01-21-99	20.97	8.25	ND	12.72	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.5	P
MW-11	05-06-99	20.97	7.95	ND	13.02	05-06-99	Not sampled: well sampled annually, during the first quarter										
MW-11	08-23-99	20.97	8.51	ND	12.46	08-24-99	Not sampled: well sampled annually, during the first quarter									0.86	
MW-11	10-28-99	20.97	8.95	ND	12.02	10-28-99	Not sampled: well sampled annually, during the first quarter										

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MW-12	03-17-95	22.77	7.09	ND	15.68	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-12	06-01-95	22.77	8.40	ND	14.37	06-01-95	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-12	08-31-95	22.77	8.55	ND	14.22	08-31-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-12	11-27-95	22.77	8.95	ND	13.82	11-27-95	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-12	02-22-96	22.77	6.81	ND	15.96	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-12	05-20-96	22.77	7.56	ND	15.21	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-12	08-26-96	22.77	8.63	ND	14.14	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-12	11-20-96	22.77	8.38	ND	14.39	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-12	03-24-97	20.11	8.75	ND	11.36	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-12	05-23-97	20.11	8.92	ND	11.19	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-12	08-19-97	20.11	9.20	ND	10.91	08-19-97	Not sampled: well sampled annually, during the first quarter										
MW-12	11-19-97	20.11	9.20	ND	10.91	11-19-97	Not sampled: well sampled annually, during the first quarter										
MW-12	02-19-98	20.11	6.28	ND	13.83	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-12	04-23-98	20.11	7.52	ND	12.59	04-23-98	Not sampled: well sampled annually, during the first quarter										
MW-12	07-27-98	20.11	8.52	ND	11.59	07-27-98	Not sampled: well sampled annually, during the first quarter										
MW-12	10-14-98	20.11	9.06	ND	11.05	10-14-98	Not sampled: well sampled annually, during the first quarter										
MW-12	01-21-99	20.11	8.20	ND	11.91	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-12	05-06-99	20.11	8.47	ND	11.64	05-06-99	Not sampled: well sampled annually, during the first quarter										
MW-12	08-23-99	20.11	9.04	ND	11.07	08-24-99	Not sampled: well sampled annually, during the first quarter									0.85	
MW-12	10-28-99	20.11	9.40	ND	10.71	10-28-99	Not sampled: well sampled annually, during the first quarter										
MW-13	03-17-95	22.45	6.91	ND	15.54	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-13	06-01-95	22.45	7.72	ND	14.73	06-01-95	Not sampled: well sampled annually, during the first quarter										

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MW-13	08-31-95	22.45	7.58	ND	14.87	08-31-95	Not sampled: well sampled annually, during the first quarter										
MW-13	11-27-95	22.45	7.98	ND	14.47	11-27-95	Not sampled: well sampled annually, during the first quarter										
MW-13	02-22-96	22.45	6.71	ND	15.74	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-13	05-20-96	22.45	6.98	ND	15.47	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-13	08-26-96	22.45	7.85	ND	14.60	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-13	11-20-96	22.45	7.76	ND	14.69	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-13	03-24-97	20.75	7.85	ND	12.90	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-13	05-23-97	20.75	8.16	ND	12.59	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-13	08-19-97	20.75	8.40	ND	12.35	08-19-97	Not sampled: well sampled annually, during the first quarter										
MW-13	11-19-97	20.75	8.40	ND	12.35	11-19-97	Not sampled: well sampled annually, during the first quarter										
MW-13	02-19-98	20.75	6.44	ND	14.31	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-13	04-23-98	20.75	6.80	ND	13.95	04-23-98	Not sampled: well sampled annually, during the first quarter										
MW-13	07-27-98	20.75	7.52	ND	13.23	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-13	10-14-98	20.75	8.15	ND	12.60	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	2.0	P
MW-13	01-21-99	20.75	7.85	ND	12.90	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-13	05-06-99	20.75	7.82	ND	12.93	05-06-99	Not sampled: well sampled annually, during the first quarter										
MW-13	08-23-99	20.75	8.29	ND	12.46	08-24-99	Not sampled: well sampled annually, during the first quarter									0.94	
MW-13	10-28-99	20.75	8.55	ND	12.20	10-28-99	Not sampled: well sampled annually, during the first quarter										
MW-14	03-17-95	22.99	8.17	ND	14.82	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-14	06-01-95	22.99	8.57	ND	14.42	06-01-95	Not sampled: well sampled annually, during the first quarter										
MW-14	08-31-95	22.99	9.05	ND	13.94	08-31-95	Not sampled: well sampled annually, during the first quarter										
MW-14	11-27-95	22.99	9.19	ND	13.80	11-27-95	Not sampled: well sampled annually, during the first quarter										

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MW-14	02-22-96	22.99	6.52	ND	16.47	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-14	05-20-96	22.99	7.88	ND	15.11	05-21-96	Not sampled: well sampled annually, during the first quarter										
MW-14	08-26-96	22.99	8.83	ND	14.16	08-26-96	Not sampled: well sampled annually, during the first quarter										
MW-14	11-20-96	22.99	8.95	ND	14.04	11-20-96	Not sampled: well sampled annually, during the first quarter										
MW-14	03-24-97	20.90	8.98	ND	11.92	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-14	05-23-97	20.90	9.61	ND	11.29	05-23-97	Not sampled: well sampled annually, during the first quarter										
MW-14	08-19-97	20.90	9.80	ND	11.10	08-19-97	Not sampled: well sampled annually, during the first quarter										
MW-14	11-19-97	20.90	9.80	ND	11.10	11-19-97	<50	1.7	<0.5	0.6	3	<3					
MW-14	02-19-98	20.90	6.27	ND	14.63	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-14	04-23-98	20.90	7.75	ND	13.15	04-23-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.5	P
MW-14	07-27-98	20.90	9.24	ND	11.66	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.0	P
MW-14	10-14-98	20.90	9.73	ND	11.17	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.0	P
MW-14	01-21-99	20.90	8.90	ND	12.00	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	1.5	P
MW-14	05-06-99	20.90	8.98	ND	11.92	05-06-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.73	P
MW-14	08-23-99	20.90	9.68	ND	11.22	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.91	P
MW-14	10-28-99	20.90	10.00	ND	10.90	10-28-99	<50	<0.5	<0.5	<0.5	<1	<10	--	--	--	1.06	P
MW-15	03-17-95	19.19	5.21	ND	13.98	03-17-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-15	06-01-95	19.19	5.84	ND	13.35	06-01-95	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	08-31-95	19.19	6.18	ND	13.01	08-31-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-15	11-27-95	19.19	6.42	ND	12.77	11-27-95	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	02-22-96	19.19	4.84	ND	14.35	03-14-96	<50	<0.5	<0.5	<0.5	<0.5	12	--	--	--		
MW-15	05-20-96	19.19	5.31	ND	13.88	05-21-96	Not sampled: well sampled semi-annually, during the first and third quarters										

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8021B* µg/L	Toluene EPA 8021B* µg/L	Ethylbenzene EPA 8021B* µg/L	Total Xylenes EPA 8021B* µg/L	MTBE EPA 8021B* µg/L	MTBE EPA 8240 µg/L	TRPH EPA 418.1 µg/L	TPHD LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-15	08-26-96	19.19	6.05	ND	13.14	08-26-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--	--		
MW-15	11-20-96	19.19	5.46	ND	13.73	11-20-96	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	03-24-97	22.08	6.00	ND	16.08	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	15	--	--	--		
MW-15	05-23-97	22.08	6.25	ND	15.83	05-23-97	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	08-19-97	22.08	6.34	ND	15.74	08-19-97	99[1]	<0.5	<0.5	<0.5	0.7	6	--	--	--		
MW-15	11-19-97	22.08	6.34	ND	15.74	11-19-97	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	02-19-98	22.08	4.66	ND	17.42	02-19-98	<50	<0.5	<0.5	<0.5	<0.5	48	--	--	--		
MW-15	04-23-98	22.08	5.18	ND	16.90	04-23-98	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	07-27-98	22.08	6.02	ND	16.06	07-27-98	<50	<0.5	<0.5	<0.5	<0.5	50	--	--	--	1.0	P
MW-15	10-14-98	22.08	6.26	ND	15.82	10-14-98	<50	<0.5	<0.5	<0.5	<0.5	27	--	--	--	1.5	P
MW-15	01-21-99	22.08	5.33	ND	16.75	01-22-99	<50	<0.5	<0.5	<0.5	<0.5	6	--	--	--	1.0	P
MW-15	05-06-99	22.08	5.82	ND	16.26	05-06-99	Not sampled: well sampled semi-annually, during the first and third quarters										
MW-15	08-23-99	22.08	6.24	ND	15.84	08-24-99	<50	<0.5	<0.5	<0.5	<0.5	21	--	--	--	1.14	P
MW-15	10-28-99	22.08	6.60	ND	15.48	10-28-99	Not sampled: well sampled semi-annually, during the first and third quarters										

Table 1
Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present***

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

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Floating Product Thickness feet	Groundwater Elevation ft-MSL	Water Sample Field Date	**TPHG** LUFT Method µg/L	**Benzene** EPA 8021B* µg/L	**Toluene** EPA 8021B* µg/L	**Ethylbenzene** EPA 8021B* µg/L	**Total Xylenes** EPA 8021B* µg/L	**MTBE** EPA 8021B* µg/L	**MTBE** EPA 8240 µg/L	**TRPH** EPA 418.1 µg/L	**TPHD** LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP

ft-MSL: elevation in feet, relative to mean sea level
TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method
MTBE: Methyl tert-butyl ether
TRPH: total recoverable petroleum hydrocarbons
TPHD: total petroleum hydrocarbons as diesel, California DHS LUFT Method
µg/L: micrograms per liter
mg/L: milligrams per liter
ND: none detected
DRY: dry well; groundwater was not detected
- - : not analyzed
[1]: Sample contains a higher boiling point hydrocarbon mixture quantitated as gasoline. The chromatogram did not match the typical gasoline fingerprint.
*: EPA method 8020 prior to 10/28/99
**: [corrected elevation (Z')] = Z + (h * 0.73) where: Z = measured elevation, h = floating product thickness, 0.73 = density ratio of oil to water
***: For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 601, San Leandro, California*, (EMCON, March 14, 1996).

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station No. 601
712 Lewelling Boulevard, San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
03/17/95	West-Southwest	0.006
06/01/95	Southwest	0.003
08/31/95	South-Southwest	0.005
11/27/95	South-Southwest	0.004
02/22/96	Northwest	0.007
05/20/96	Southwest	0.007
08/26/96	South-Southwest	0.004
11/20/96	South-Southeast	0.004
03/24/97	Southeast	0.013
05/23/97	Southeast	0.014
08/19/97	Southeast	0.04
11/19/97	Southeast	0.016
02/19/98	East	Variable
04/23/98	Variable	Variable
07/27/98	Southeast	0.05
10/14/98	Southeast	0.02
01/21/99	East	0.04
05/06/99	Southeast	0.05
08/23/99	Southeast	0.02
10/28/99	**Southeast**	**0.04**

Table 3
Historical Groundwater Analytical Data
Metals*
1995 - Present**

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

Well Designation	Water Sample FieldDate	Cadmium EPA 6010 µg/L	Chromium EPA 6010 µg/L	Lead EPA 7421 µg/L	Nickel EPA 6010 µg/L	Zinc EPA 6010 µg/L
MW-1	03-17-95	<5	20	20	<40	60
MW-1	06-01-95	<5	20	22	70	100
MW-1	08-31-95	Not sampled: well contained floating product				
MW-1	11-27-95	Not sampled: well contained floating product				
MW-1	03-14-96	Not sampled: well contained floating product				
MW-1	05-21-96	0.006	<0.01	<0.005	<0.02	<0.02
MW-1	08-26-96	--	--	--	--	--
MW-1	11-20-96	--	--	--	--	--
MW-1	03-24-97	--	--	--	--	--
MW-1	05-23-97	Not analyzed: well MW-8 was sampled for additional parameters in lieu of well MW-1				
MW-1	08-19-97	--	--	--	--	--
MW-1	11-19-97	--	--	--	--	--
MW-1	02-19-98	<0.01	<0.01	<0.05	<0.02	<0.02
MW-1	04-23-98	--	--	--	--	--
MW-1	07-27-98	--	--	--	--	--
MW-1	10-14-98	--	--	--	--	--
MW-1	01-22-99	<0.005	<0.01	<0.05	<0.02	<0.02
MW-1	05-06-99	--	--	--	--	--
MW-1	08-24-99	--	--	--	--	--
MW-1	10-28-99	--	--	--	--	--
MW-8	08-31-95	<5	40	16	50	90
MW-8	11-27-95	<5	130	77	170	280
MW-8	03-14-96	<5	30	7	40	60
MW-8	05-23-97	<0.005	<0.01	<0.005	<0.02	<0.02

EPA: United States Environmental Protection Agency
mg/L: micrograms per liter
- - : not analyzed
*: Historically samples were analyzed for total metals. Since March 14, 1996, the samples were filtered and analyzed for dissolved metals
**: For previous historical analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 601, San Leandro, California*, (EMCON, March 14, 1996).

Table 4
Historical Groundwater Analytical Data
Volatile and Semivolatile Organic Compounds
1995 - Present*

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

		Volatile Organic Compounds by EPA Method 601/8010 or 624/8240							Semivolatile Organic Compounds by EPA Method 3520/8270				
Well Designation	Water Sample FieldDate	Methylene Chloride µg/L	1,2-Dichloro-ethane µg/L	1,1-Dichloro-ethane µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L	Naphthalene µg/L	2-Methyl-naphthalene µg/L	Bis (2-ethylhexyl) Phthalate µg/L	Phenol µg/L	2,4-Di-methyl-phenol µg/L
MW-1	03-17-95	--	--	--	--	--	--	--	1300	730	<50	ND	150
MW-1	06-01-95	--	--	--	--	--	--	--	2200	1700	<100	240	<100
MW-1	08-31-95	Not sampled: well contained floating product											
MW-1	11-27-95	Not sampled: well contained floating product											
MW-1	03-14-96	Not sampled: well contained floating product											
MW-1	05-21-96	--	--	--	--	--	--	--	1200	860	<50	<50	<50
MW-1	08-26-96	--	--	--	--	--	--	--	2300	1800	<500	<500	<1000
MW-1	11-20-96	--	--	--	--	--	--	--	590	250	91	<50	<100
MW-1	03-24-97	--	--	--	--	--	--	--	730	610	<50	<50	<100
MW-1	05-23-97	Not analyzed: well MW-8 was sampled for additional parameters in lieu of well MW-1											
MW-1	08-19-97	--	--	--	--	--	--	--	1,300	790	<50	<50	<100
MW-1	11-19-97	--	--	--	--	--	--	--	<5	<5	5	<5	<10
MW-1	02-19-98	--	--	--	--	--	--	--	870	330	<50	<50	<100
MW-1	04-23-98	Not analyzed											
MW-1	07-27-98	Not analyzed											
MW-1	10-14-98	Not analyzed											
MW-1	01-28-99**	--	--	--	--	--	--	--	950	580	<50	<50	<100
MW-1	05-06-99	Not analyzed											
MW-1	08-24-99	--	--	--	--	--	--	--	1,200	400	<50	<50	<100
MW-1	10-28-99	--	--	--	--	--	--	--	1,100	320	<50	<50	<100

Table 4
Historical Groundwater Analytical Data
Volatile and Semivolatile Organic Compounds
1995 - Present*

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

Well Designation	Water Sample FieldDate	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	Ethylbenzene µg/L	Total Xylenes µg/L	Naphthalene µg/L	2-Methyl-naphthalene µg/L	Bis (2-ethylhexyl) Phthalate µg/L	Phenol µg/L	2,4-Di-methyl-phenol µg/L
MW-8	08-31-95	--	--	--	--	--	--	--	62	8	<5	<5	<5
MW-8	11-27-95	--	--	--	--	--	--	--	15	<5	<5	<5	<5
MW-8	03-14-96	--	--	--	--	--	--	--	400	55	<50	<50	<50
MW-8	05-23-97	--	--	--	--	--	--	--	26	<5	<5	<5	<10

EPA: United Statest Environmental Protection Agency
µg/L: micrograms per liter
- - : not analyzed
< = less than the laboratory detection limit stated to the right
*: For previous historical analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 601, San Leandro, California,* (EMCON, March 14, 1996).
**: Sampling date is different from Groundwater Monitoring Field Date

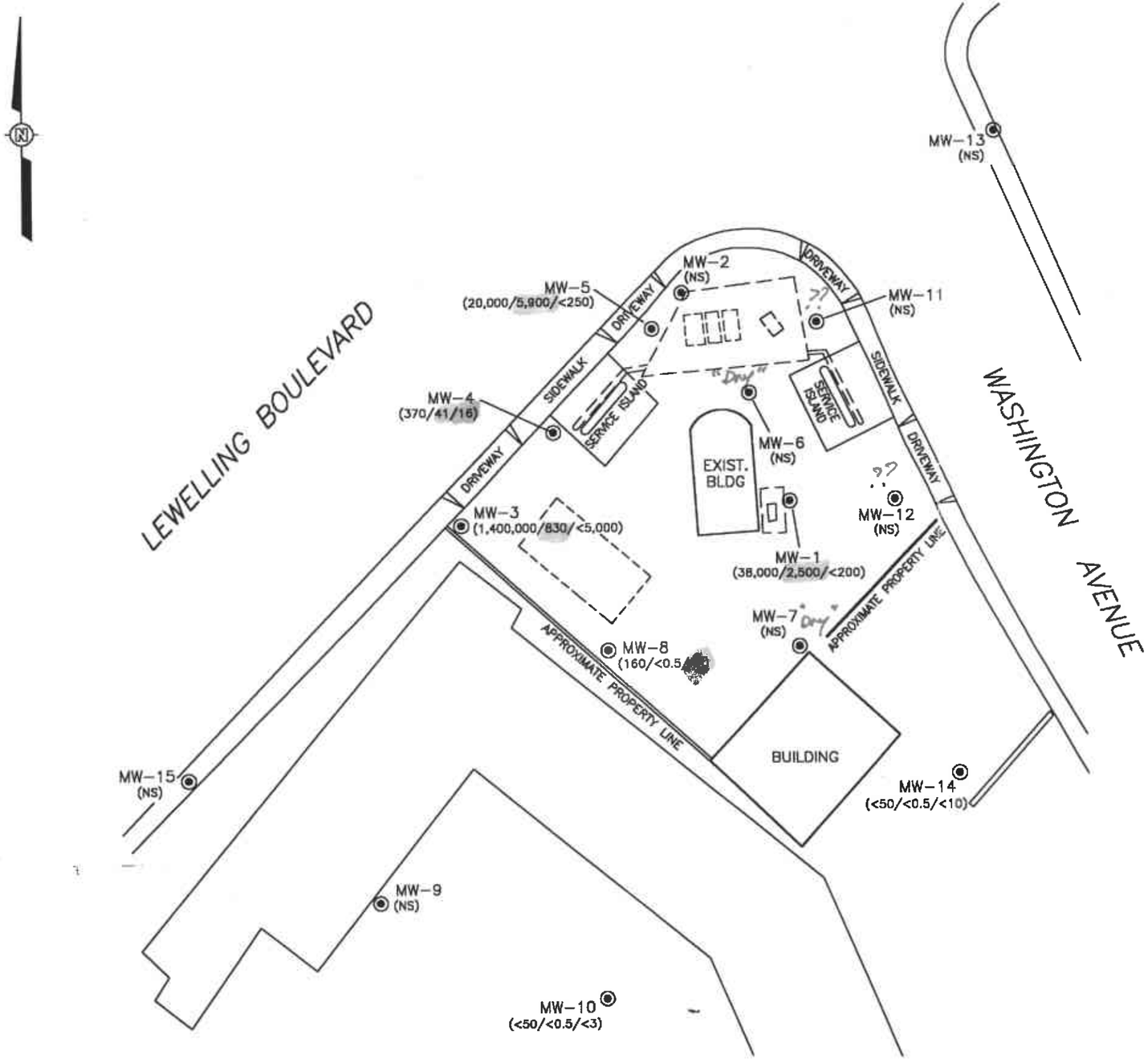
Table 5
Approximate Cumulative Floating Product Recovered

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

Well Desig-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
MW-1	1996	0.00
MW-1	1997	0.00
MW-1	1998	0.00
MW-1	1999	0.00
MW-1	2000	0.00
	1991 to 2000 Total:	**3.45**

DRAWN BY	PROJECT NUMBER
K Block	1-18-00

791639



EXPLANATION

- ◉ Groundwater monitoring well
- Former underground gasoline storage tank
- Existing underground gasoline storage tank complex
- Approximate limit of former gasoline tank excavation
- ═══ Former product line
- (20,000/5,900/<250) Concentration of total petroleum hydrocarbons as gasoline (TPHG), benzene, and MTBE in groundwater (ug/L); samples collected 10/28/99
- < Not detected at or above the indicated laboratory detection limit
- NS Not sampled

SCALE
0 50 100 FEET
(Approximate)

IT CORPORATION

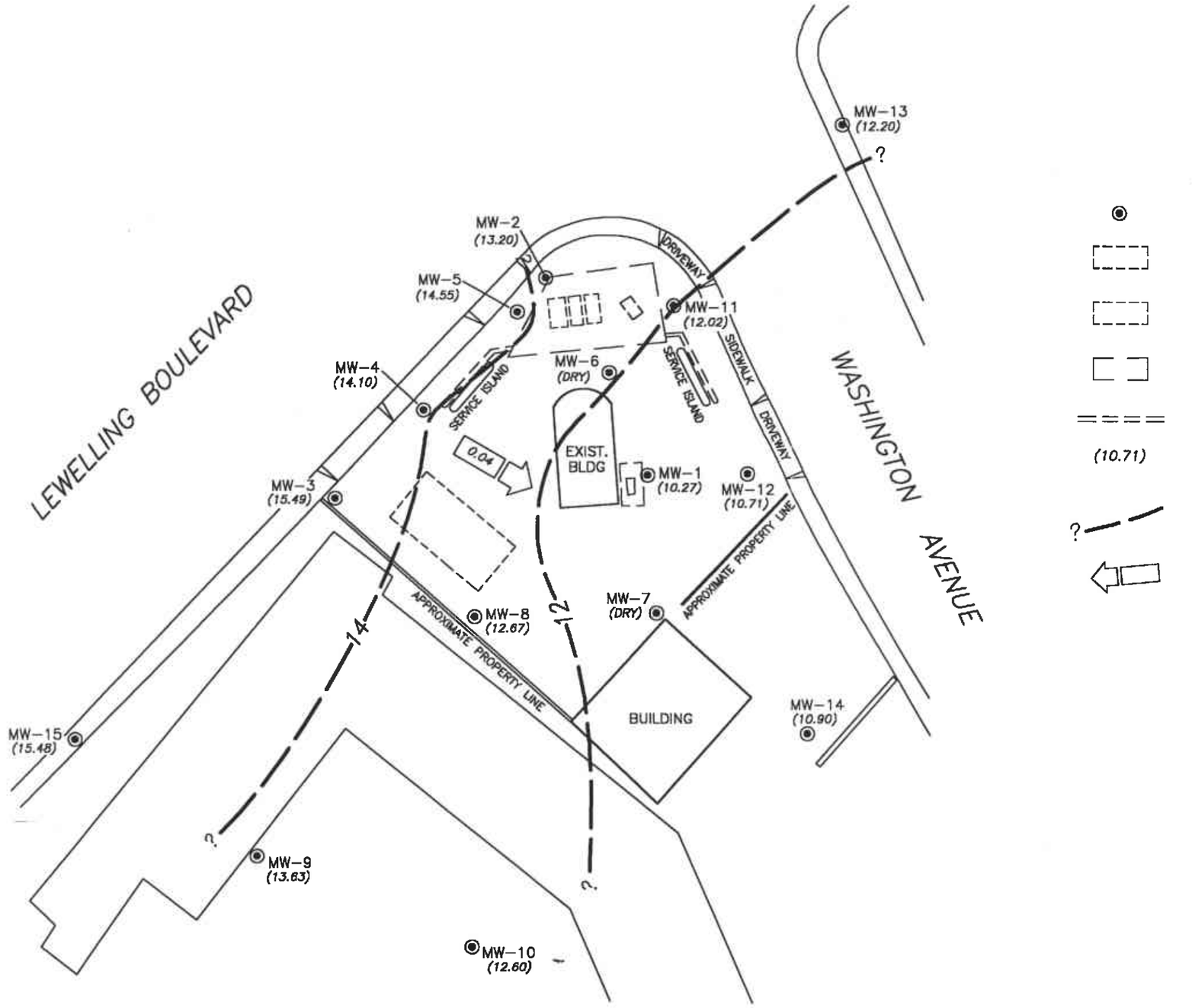
ARCO PRODUCTS COMPANY
SERVICE STATION 601

FIGURE 1
GROUNDWATER ANALYTICAL SUMMARY
FOURTH QUARTER 1999
712 LEWELLING BOULEVARD
SAN LEANDRO, CALIFORNIA

SANJOSE/CADD: N:\cad\DWG\PINACI\601\601chem.dwg Tue, 18/Jan/00 11:20am kblack

PROJECT NUMBER 791639

DRAWN BY K Black 1-18-00



EXPLANATION

- Groundwater monitoring well
- Former underground gasoline storage tank
- Existing underground gasoline storage tank complex
- Approximate limit of former gasoline tank excavation
- Former product line
- (10.71) Groundwater elevation (Ft.–MSL) measured 10/28/99
- Groundwater elevation contour (Ft.–MSL)
- Approximate direction of groundwater flow showing gradient

SCALE
0 50 100 FEET
(Approximate)

IT CORPORATION

ARCO PRODUCTS COMPANY
SERVICE STATION 601

FIGURE 2
GROUNDWATER ELEVATION CONTOURS
FOURTH QUARTER 1999
712 LEWELLING BOULEVARD
SAN LEANDRO, CALIFORNIA

SANJOSE/CADD: N:\cad\DWG\PINACL\601\601gwe.dwg Tue, 18/Jan/00 11:28am kblack

APPENDIX A

SAMPLING AND ANALYSIS PROCEDURES

APPENDIX A

SAMPLING AND ANALYSIS PROCEDURES

The sampling and analysis procedures for water quality monitoring programs are contained in this appendix. The procedures provided for consistent and reproducible sampling methods, proper application of analytical methods, and accurate and precise analytical results. Finally, these procedures provided guidelines so that the overall objectives of the monitoring program were achieved.

The following documents have been used as guidelines for developing these procedures:

- Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities, Environmental Protection Agency (EPA)-530/SW-611, August 1977
- Resource Conservation and Recovery Act (RCRA) Groundwater Monitoring Technical Enforcement Guidance Document, Office of Solid Waste and Emergency Response (OSWER) 9950.1, September 1986
- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846, 3rd edition, November 1986
- Methods for Organic Chemical Analysis of Municipal and Industrial Waste Water, EPA-600/4-82-057, July 1982
- Methods for Organic Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised March 1983
- Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, revised October 1989

Sample Collection

Sample collection procedures include equipment cleaning, water level and total well depth measurements, and well purging and sampling.

Equipment Cleaning

Before the sampling event was started, equipment that was used to sample groundwater was disassembled and cleaned with detergent water and then rinsed with deionized water. During field sampling, equipment surfaces that were placed in the well or came into contact with groundwater during field sampling were steam cleaned with deionized water before the next well was purged or sampled.

Water Level, Floating Hydrocarbon, and Total Well Depth Measurements

Before purging and sampling occurred, the depth to water, floating hydrocarbon thickness and total well depth were measured using an oil/water interface measuring system. The oil/water interface measuring system consists of a probe that emits a continuous audible tone when immersed in a nonconductive fluid, such as oil or gasoline and an intermittent tone when immersed in a conductive fluid, such as water. The floating hydrocarbon thickness and water level were measured by lowering the probe into the well. Liquid levels were recorded relative to the tone emitted at the groundwater surface. The sonic probe was decontaminated by being rinsed with deionized water or steam cleaned after each use. A bottom-filling, clear Teflon® bailer was used to verify floating hydrocarbon thickness measurements of less than 0.02 foot. Alternatively, an electric sounder and a bottom-filling Teflon bailer may have been used to record floating hydrocarbon thickness and depth to water.

The electric sounder is a transistorized instrument that uses a reel-mounted, two-conductor, coaxial cable that connects the control panel to the sensor. Cable markings are stamped at 1-foot intervals. The water level was measured by lowering the sensor into the monitoring well. A low-current circuit was completed when the sensor contacted the water, which served as an electrolyte. The current was amplified and fed into an indicator light and audible buzzer, signaling when water had been contacted. A sensitivity control compensated for highly saline or conductive water. The electric sounder was decontaminated by being rinsed with deionized water after each use. The bailer was lowered to a point just below the liquid level, retrieved, and observed for floating hydrocarbon.

Liquid measurements were recorded to the nearest 0.01 foot on the depth to water/floating product survey form. The groundwater elevation at each monitoring well was calculated by subtracting the measured depth to water from the surveyed elevation of the top of the well casing. (Every attempt was made to measure depth to water for all wells on the same day.) Total well depth was then measured by lowering the sensor to the bottom of the well. Total well depth, used to calculate purge volumes and to determine whether the well screen was partially obstructed by silt, was recorded to the nearest 0.1 foot on the depth to water/floating product survey form.

Well Purging

If the depth to groundwater was above the top of screens of the monitoring wells, then the wells were purged. Before sampling occurred, a polyvinyl chloride (PVC) bailer, centrifugal pump, low-flow submersible pump, or Teflon bailer was used to purge standing water in the casing and gravel pack from the monitoring well. Monitoring wells were purged according to the protocol presented in Figure A-1. In most monitoring wells, the amount of water purged before sampling was greater than or equal to three casing volumes. Some monitoring wells were expected to be evacuated to dryness after removing fewer than three casing volumes. These low-yield monitoring wells were allowed to recharge for up to 24 hours. Samples were obtained as soon as the monitoring wells recharged to a level sufficient for sample collection. If insufficient water recharged after 24 hours, the monitoring well was recorded as dry for the sampling event.

Groundwater purged from the monitoring wells was transported in a 500-gallon water trailer, 55-gallon drum, or a 325-gallon truck-mounted tank to IT's San Jose or Sacramento office location for temporary storage. IT arranged for transport and disposal of the purged groundwater through Integrated Waste Stream Management, Inc.

Field measurements of pH, specific conductance, and temperature were recorded in a waterproof field logbook. Figure A-2 shows an example of the water sample field data sheet on which field data are recorded. Field data sheets were reviewed for completeness by the sampling coordinator after the sampling event was completed.

The pH, specific conductance, and temperature meter were calibrated each day before field activities were begun. The calibration was checked once each day to verify meter performance. Field meter calibrations were recorded on the water sample field data sheet.

Well Sampling

A Teflon bailer was the only equipment acceptable for well sampling. When samples for volatile organic analysis were being collected, the flow of groundwater from the bailer was regulated to minimize turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa were used in sampling for volatile organics. These bottles were filled completely to prevent air from remaining in the bottle. A positive meniscus formed when the bottle was completely full. A convex Teflon septum was placed over the positive meniscus to eliminate air. After the bottle was capped, it was inverted and tapped to verify that it contained no air bubbles. The sample containers for other parameters were filled, filtered as required, and capped.

When required, dissolved concentrations of metals were determined using appropriate field filtration techniques. The sample was filtered by emptying the contents of the Teflon bailer into a pressure transfer vessel. A disposable 0.45-micron acrylic copolymer filter was threaded onto the transfer vessel at the discharge point, and the vessel was sealed. Pressure was applied to the vessel with a hand pump and the filtrate directed into the appropriate containers. Each filter was used once and discarded.

Sample Preservation and Handling

The following section specifies sample containers, preservation methods, and sample handling procedures.

Sample Containers and Preservation

Sample containers vary with each type of analytical parameter. Container types and materials were selected to be nonreactive with the particular analytical parameter tested.

Sample Handling

Sample containers were labeled immediately prior to sample collection. Samples were kept cool with cold packs until received by the laboratory. At the time of sampling, each sample was logged on an ARCO chain-of-custody record that accompanied the sample to the laboratory.

Samples that required overnight storage prior to shipping to the laboratory were kept cool (4° C) in a refrigerator. The refrigerator was kept in a warehouse, which was locked when not occupied by an IT employee. A sample/refrigerator log was kept to record the date and time that samples were placed into and removed from the refrigerator.

Samples were transferred from IT to an ARCO-approved laboratory by courier or taken directly to the laboratory by the environmental sampler. Sample shipments from IT to laboratories performing the selected analyses routinely occurred within 24 hours of sample collection.

Sample Documentation

The following procedures were used during sampling and analysis to provide chain-of-custody control during sample handling from collection through storage. Sample documentation included the use of the following:

- Water sample field data sheets to document sampling activities in the field
- Labels to identify individual samples
- Chain-of-custody record sheets for documenting possession and transfer of samples
- Laboratory analysis request sheets for documenting analyses to be performed

Field Logbook

In the field, the sampler recorded the following information on the water sample field data sheet (see Figure A-2) for each sample collected:

- Project number
- Client's name
- Location
- Name of sampler
- Date and time
- Well accessibility and integrity
- Pertinent well data (e.g., casing diameter, depth to water, well depth)
- Calculated and actual purge volumes
- Purging equipment used
- Sampling equipment used
- Appearance of each sample (e.g., color, turbidity, sediment)
- Results of field analyses (temperature, pH, specific conductance)
- General comments

The water sample field data sheet was signed by the sampler and reviewed by the sampling coordinator.

Labels

Sample labels contained the following information:

- Project number
- Sample number (i.e., well designation)
- Sample depth
- Sampler's initials
- Date and time of collection
- Type of preservation used (if any)

Sampling and Analysis Chain-of-Custody Record

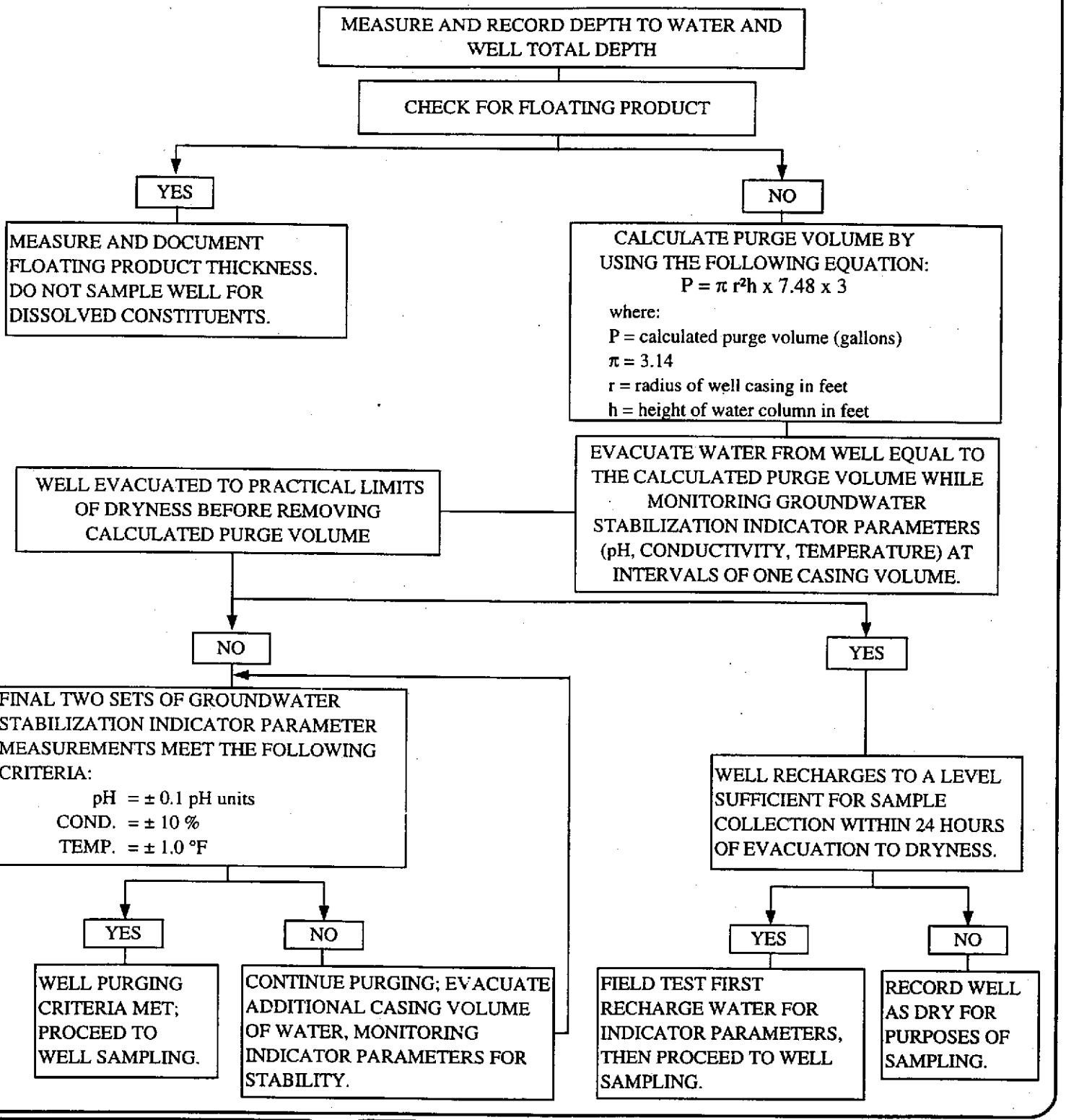
The ARCO chain-of-custody record initiated at the time of sampling contained, at a minimum, the sample designation (including the depth at which the sample was collected), sample type, analytical request, date of sampling, and the name of the sampler. The record sheet was signed, timed, and dated by the sampler when transferring the samples. The number of custodians in the chain of possession was minimized. A copy of the ARCO chain-of-custody record was returned to IT with the analytical results.

Groundwater Sampling and Analysis Request Form

A groundwater sampling and analysis request form (see Figure A-3) was used to communicate to the environmental sampler the requirements of the monitoring event. At a minimum, the groundwater sampling and analysis request form included the following information:

- Date scheduled
- Site-specific instructions
- Specific analytical parameters
- Well number
- Well specifications (expected total depth, depth of water, and product thickness)

MONITORING WELL PURGING PROTOCOL



MONITORING WELL PURGING PROTOCOL

FIGURE

A-1

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : _____ SAMPLE ID : _____

PURGED BY : _____ CLIENT NAME : _____

SAMPLED BY : _____ LOCATION : _____

TYPE: Groundwater _____ Surface Water _____ Leachate _____ Other _____

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

CASING ELEVATION (feet/MSL) : _____ VOLUME IN CASING (gal.) : _____

DEPTH OF WELL (feet) : _____ CALCULATED PURGE (gal.) : _____

DEPTH OF WATER (feet) : _____ ACTUAL PURGE VOL. (gal.) : _____

DATE PURGED : _____ END PURGE : _____

DATE SAMPLED : _____ SAMPLING TIME : _____

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	TURBIDITY (visual/NTU)	TIME (2400 HR)

OTHER: _____ ODOR: _____ (COBALT 0-100) (NTU 0-200)

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

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)

_____ Bomb Sampler _____ Bailer (Stainless Steel)

_____ Dipper _____ Submersible Pump

_____ Well Wizard™ _____ Dedicated

Other: _____

WELL INTEGRITY: _____ LOCK: _____

REMARKS: _____

pH, E.C., Temp. Meter Calibration: Date: _____ Time: _____ Meter Serial No.: _____

E.C. 1000 _____ / _____ pH 7 _____ / _____ pH 10 _____ / _____ pH 4 _____ / _____

Temperature °F _____

SIGNATURE: _____ REVIEWED BY: _____ PAGE _____ OF _____

WATER SAMPLE FIELD DATA SHEET

FIGURE A-2

IT - SACRAMENTO
GROUNDWATER SAMPLING AND ANALYSIS REQUEST FORM

PROJECT NAME :

SCHEDULED DATE :

SPECIAL INSTRUCTIONS / CONSIDERATIONS :

Project Authorization: _____
EMCON Project No.: _____
OWT Project No.: _____
Task Code: _____
Originals To: _____
cc: _____

Well Lock Number (s)

☐ CHECK BOX TO AUTHORIZE DATA ENTRY

Site Contact: _____ Name _____ Phone #

Well Number or Source	Casing Diameter (inches)	Casing Length (feet)	Depth to Water (feet)	ANAYSES REQUESTED

Laboratory and Lab QC Istructions:

SAMPLING AND ANALYSIS REQUEST FORM

FIGURE A-3

APPENDIX B

CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY DOCUMENTATION

Columbia Analytical Services INC.
An Employee-Owned Company

November 15, 1999

Service Request No.: S9903343

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

RE: TO#24118.00/RAT8/601 SAN LEANDRO

Dear Mr. Vanderveen:

Enclosed are the results of the sample(s) submitted to our laboratory on October 28, 1999. All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply to the sample(s) analyzed. Columbia Analytical Services is not responsible for use of less than the complete report. Signature of this CAS Analytical Report confirms that pages 2 through 20, following, have been thoroughly reviewed and approved for release.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 2352, expiration: January 31, 2001).

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

Respectfully submitted,

Columbia Analytical Services, Inc.

Bernadette Troncales
Project Chemist

Greg Jordan
Laboratory Director

RECEIVED
NOV 17 1999
BY:

3334 Victor Court ▪ Santa Clara, CA 95054 ▪ Telephone (408) 748-9700 ▪ Fax (408) 748-9860

COLUMBIA ANALYTICAL SERVICES, Inc.
Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903343
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name:	MW-1(10)	Units:	ug/L (ppb)
Lab Code:	S9903343-005	Basis:	NA
Test Notes:	C1		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Pyridine	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
N-Nitrosodimethylamine	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Aniline	EPA 3510C	8270C	6	10	11/2/99	11/3/99	<60	
Bis(2-chloroethyl) Ether	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Phenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Chlorophenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
1,3-Dichlorobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
1,4-Dichlorobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
1,2-Dichlorobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzyl Alcohol	EPA 3510C	8270C	10	10	11/2/99	11/3/99	<100	
Bis(2-chloroisopropyl) Ether	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Methylphenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Hexachloroethane	EPA 3510C	8270C	10	10	11/2/99	11/3/99	<100	
N-Nitrosodi-n-propylamine	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
3- and 4-Methylphenol*	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Nitrobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Isophorone	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Nitrophenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2,4-Dimethylphenol	EPA 3510C	8270C	10	10	11/2/99	11/3/99	<100	
Bis(2-chloroethoxy)methane	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2,4-Dichlorophenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzoic Acid	EPA 3510C	8270C	50	10	11/2/99	11/3/99	<500	
1,2,4-Trichlorobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Naphthalene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	1100	
4-Chloroaniline	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Hexachlorobutadiene	EPA 3510C	8270C	10	10	11/2/99	11/3/99	<100	
4-Chloro-3-methylphenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Methylnaphthalene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	320	
Hexachlorocyclopentadiene	EPA 3510C	8270C	10	10	11/2/99	11/3/99	<100	
2,4,6-Trichlorophenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2,4,5-Trichlorophenol	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Chloronaphthalene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2-Nitroaniline	EPA 3510C	8270C	20	10	11/2/99	11/3/99	<200	
Acenaphthylene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Dimethyl Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
2,6-Dinitrotoluene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Acenaphthene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
3-Nitroaniline	EPA 3510C	8270C	20	10	11/2/99	11/3/99	<200	
2,4-Dinitrophenol	EPA 3510C	8270C	50	10	11/2/99	11/3/99	<500	
Dibenzofuran	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
4-Nitrophenol	EPA 3510C	8270C	50	10	11/2/99	11/3/99	<500	
2,4-Dinitrotoluene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Fluorene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
4-Chlorophenyl Phenyl Ether	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	

* Quantified as 4-methylphenol.

C1 The MRL was elevated due to high analyte concentration requiring sample dilution.

Approved By: _____ Date: 11/15/99

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903343
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name:	MW-1(10)	Units:	ug/L (ppb)
Lab Code:	S9903343-005	Basis:	NA
Test Notes:	C1		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Diethyl Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
4-Nitroaniline	EPA 3510C	8270C	20	10	11/2/99	11/3/99	<200	
2-Methyl-4,6-dinitrophenol	EPA 3510C	8270C	20	10	11/2/99	11/3/99	<200	
N-Nitrosodiphenylamine	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
4-Bromophenyl Phenyl Ether	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Hexachlorobenzene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Pentachlorophenol	EPA 3510C	8270C	30	10	11/2/99	11/3/99	<300	
Phenanthrene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Anthracene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Di-n-butyl Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Fluoranthene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Pyrene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Butyl Benzyl Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
3,3'-Dichlorobenzidine	EPA 3510C	8270C	20	10	11/2/99	11/3/99	<200	
Benz(a)anthracene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Chrysene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Bis(2-ethylhexyl) Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Di-n-octyl Phthalate	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzo(b)fluoranthene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzo(k)fluoranthene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzo(a)pyrene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Indeno(1,2,3-cd)pyrene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Dibenz(a,h)anthracene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	
Benzo(g,h,i)perylene	EPA 3510C	8270C	5	10	11/2/99	11/3/99	<50	

C1 The MRL was elevated due to high analyte concentration requiring sample dilution.

Approved By: _____ Date: 11/15/99

1S2p/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: S9903343
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: S991102-WB1
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Pyridine	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
N-Nitrosodimethylamine	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Aniline	EPA 3510C	8270C	6	1	11/2/99	11/3/99	ND	
Bis(2-chloroethyl) Ether	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Phenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Chlorophenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
1,3-Dichlorobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
1,4-Dichlorobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
1,2-Dichlorobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzyl Alcohol	EPA 3510C	8270C	10	1	11/2/99	11/3/99	ND	
Bis(2-chloroisopropyl) Ether	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Methylphenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Hexachloroethane	EPA 3510C	8270C	10	1	11/2/99	11/3/99	ND	
N-Nitrosodi-n-propylamine	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
3- and 4-Methylphenol*	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Nitrobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Isophorone	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Nitrophenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2,4-Dimethylphenol	EPA 3510C	8270C	10	1	11/2/99	11/3/99	ND	
Bis(2-chloroethoxy)methane	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2,4-Dichlorophenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzoic Acid	EPA 3510C	8270C	50	1	11/2/99	11/3/99	ND	
1,2,4-Trichlorobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Naphthalene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
4-Chloroaniline	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Hexachlorobutadiene	EPA 3510C	8270C	10	1	11/2/99	11/3/99	ND	
4-Chloro-3-methylphenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Methylnaphthalene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Hexachlorocyclopentadiene	EPA 3510C	8270C	10	1	11/2/99	11/3/99	ND	
2,4,6-Trichlorophenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2,4,5-Trichlorophenol	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Chloronaphthalene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2-Nitroaniline	EPA 3510C	8270C	20	1	11/2/99	11/3/99	ND	
Acenaphthylene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Dimethyl Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
2,6-Dinitrotoluene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Acenaphthene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
3-Nitroaniline	EPA 3510C	8270C	20	1	11/2/99	11/3/99	ND	
2,4-Dinitrophenol	EPA 3510C	8270C	50	1	11/2/99	11/3/99	ND	
Dibenzofuran	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
4-Nitrophenol	EPA 3510C	8270C	50	1	11/2/99	11/3/99	ND	
2,4-Dinitrotoluene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Fluorene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
4-Chlorophenyl Phenyl Ether	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	

* Quantified as 4-methylphenol.

Approved By: _____ Date: 11/15/99

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903343
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S991102-WB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Diethyl Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
4-Nitroaniline	EPA 3510C	8270C	20	1	11/2/99	11/3/99	ND	
2-Methyl-4,6-dinitrophenol	EPA 3510C	8270C	20	1	11/2/99	11/3/99	ND	
N-Nitrosodiphenylamine	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
4-Bromophenyl Phenyl Ether	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Hexachlorobenzene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Pentachlorophenol	EPA 3510C	8270C	30	1	11/2/99	11/3/99	ND	
Phenanthrene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Anthracene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Di-n-butyl Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Fluoranthene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Pyrene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Butyl Benzyl Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
3,3'-Dichlorobenzidine	EPA 3510C	8270C	20	1	11/2/99	11/3/99	ND	
Benz(a)anthracene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Chrysene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Bis(2-ethylhexyl) Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Di-n-octyl Phthalate	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzo(b)fluoranthene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzo(k)fluoranthene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzo(a)pyrene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Indeno(1,2,3-cd)pyrene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Dibenz(a,h)anthracene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	
Benzo(g,h,i)perylene	EPA 3510C	8270C	5	1	11/2/99	11/3/99	ND	

Approved By: _____ Date: 11/15/99

1S2p/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: S9903343
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds

Prep Method: EPA 3510C
Analysis Method: 8270C

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 2FPHL	PHL	NBZ	2FBPH	246TBPHL	TPH
MW-1(10)	S9903343-005		28	16	73	77	70	100
Lab Control Sample	S991102-LCS		29	16	75	69	84	120
Lab Control Sample	S991102-DLCS		34	16	89	78	91	119
Method Blank	S991102-WB1		30	15	81	77	72	111
CAS Acceptance Limits:			21-100	10-94	35-114	43-116	10-123	33-141

2FPHL	2-Fluorophenol
PHL	Phenol-D6
NBZ	Nitrobenzene-D5
2FBPH	2-Fluorobiphenyl
246TBPHL	2,4,6-Tribromophenol
TPH	Terphenyl-D14

Approved By: _____ Date: 11/15/99

SUR6/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
LCS Matrix: Water

Service Request: S9903343
Date Collected: NA
Date Received: NA
Date Extracted: 11/2/99
Date Analyzed: 11/3/99

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Lab Control Sample
Lab Code: S991102-DLCS, S991102-DLCS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Phenol	EPA 3510C	8270C	100	100	17	20	17	20	5-112	16	
2-Chlorophenol	EPA 3510C	8270C	100	100	62	73	62	73	23-134	16	
1,4-Dichlorobenzene	EPA 3510C	8270C	50	50	31	37	62	74	20-124	18	
N-Nitrosodi-n-propylamine	EPA 3510C	8270C	50	50	40	45	80	90	D-230	12	
1,2,4-Trichlorobenzene	EPA 3510C	8270C	50	50	31	37	62	74	44-142	18	
4-Chloro-3-methylphenol	EPA 3510C	8270C	100	100	71	78	71	78	22-147	9	
Acenaphthene	EPA 3510C	8270C	50	50	38	41	76	82	47-145	8	
4-Nitrophenol	EPA 3510C	8270C	100	100	20	21	20	21	D-132	5	
2,4-Dinitrotoluene	EPA 3510C	8270C	50	50	37	40	74	80	39-139	8	
Pentachlorophenol	EPA 3510C	8270C	100	100	62	70	62	70	14-176	12	
Pyrene	EPA 3510C	8270C	50	50	57	57	114	114	52-115	< 1	

Approved By: _____ Date: 11/15/99

DLCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-14(21)	Units:	ug/L (ppb)
Lab Code:	L9904688-001	Basis:	NA
Test Notes:	†		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Xylenes, Total	EPA 5030	8021B	1.0	1	NA	11/9/99	ND	
TPH as Gasoline	EPA 5030	8015M	50	1	NA	11/9/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	1	NA	11/9/99	ND	

† TPH as Gasoline does not include MTBE.

Approved By: _____ Date: 11/15/99

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-4(8)	Units:	ug/L (ppb)
Lab Code:	L9904688-002	Basis:	NA
Test Notes:	†		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	1	NA	11/9/99	41	
Toluene	EPA 5030	8021B	0.5	1	NA	11/9/99	5.7	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/9/99	14	
Xylenes, Total	EPA 5030	8021B	1.0	1	NA	11/9/99	52	
TPH as Gasoline	EPA 5030	8015M	50	1	NA	11/9/99	370	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	1	NA	11/9/99	16	

† TPH as Gasoline does not include MTBE.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-5(9)	Units:	ug/L (ppb)
Lab Code:	L9904688-003	Basis:	NA
Test Notes:	† / C2A		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	25	NA	11/10/99	5900	
Toluene	EPA 5030	8021B	0.5	25	NA	11/10/99	1100	
Ethylbenzene	EPA 5030	8021B	0.5	25	NA	11/10/99	450	
Xylenes, Total	EPA 5030	8021B	1.0	25	NA	11/10/99	1100	
TPH as Gasoline	EPA 5030	8015M	50	25	NA	11/10/99	20000	
Methyl *tert* -Butyl Ether	EPA 5030	8021B	10	25	NA	11/10/99	<250	

†	TPH as Gasoline does not include MTBE.
C2A	MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-3(11)	Units:	ug/L (ppb)
Lab Code:	L9904688-004	Basis:	NA
Test Notes:	† / C2A		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	500	NA	11/9/99	830	
Toluene	EPA 5030	8021B	0.5	500	NA	11/9/99	4100	
Ethylbenzene	EPA 5030	8021B	0.5	500	NA	11/9/99	15000	
Xylenes, Total	EPA 5030	8021B	1.0	500	NA	11/9/99	78000	
TPH as Gasoline	EPA 5030	8015M	50	500	NA	11/9/99	1400000	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	500	NA	11/9/99	<5000	

†	TPH as Gasoline does not include MTBE.
C2A	MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By: _____ Date: 11/15/99

lS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-1(10)	Units:	ug/L (ppb)
Lab Code:	L9904688-005	Basis:	NA
Test Notes:	† / C2A		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	20	NA	11/9/99	2500	
Toluene	EPA 5030	8021B	0.5	20	NA	11/9/99	35	
Ethylbenzene	EPA 5030	8021B	0.5	20	NA	11/9/99	2400	
Xylenes, Total	EPA 5030	8021B	1.0	20	NA	11/9/99	2500	
TPH as Gasoline	EPA 5030	8015M	50	20	NA	11/9/99	38000	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	20	NA	11/9/99	<200	

†	TPH as Gasoline does not include MTBE.
C2A	MRL is elevated because of matrix interferences and because the sample required diluting.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

MTBE, BTEX and TPH as Gasoline

Sample Name:	MW-8(10)	Units:	ug/L (ppb)
Lab Code:	L9904688-006	Basis:	NA
Test Notes:	†		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Xylenes, Total	EPA 5030	8021B	1.0	1	NA	11/9/99	ND	
TPH as Gasoline	EPA 5030	8015M	50	1	NA	11/9/99	160	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	1	NA	11/9/99	45	

† TPH as Gasoline does not include MTBE.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

MTBE, BTEX and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	L991109-MB	Basis:	NA
Test Notes:	†		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/9/99	ND	
Xylenes, Total	EPA 5030	8021B	1.0	1	NA	11/9/99	ND	
TPH as Gasoline	EPA 5030	8015M	50	1	NA	11/9/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	1	NA	11/9/99	ND	

† TPH as Gasoline does not include MTBE.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	L9904688
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

MTBE, BTEX and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	L991110-MB	Basis:	NA
Test Notes:	†		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8021B	0.5	1	NA	11/10/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/10/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/10/99	ND	
Xylenes, Total	EPA 5030	8021B	1.0	1	NA	11/10/99	ND	
TPH as Gasoline	EPA 5030	8015M	50	1	NA	11/10/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	10	1	NA	11/10/99	ND	

† TPH as Gasoline does not include MTBE.

Approved By: _____ Date: 11/15/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: L9904688
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
MTBE, BTEX and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8021B/8015M

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene	Percent Recovery 4-Bromofluorobenzene
MW-14(21)	L9904688-001		105	106
MW-4(8)	L9904688-002		111	116
MW-5(9)	L9904688-003		106	110
MW-3(11)	L9904688-004		127	139
MW-1(10)	L9904688-005		119	123
MW-8(10)	L9904688-006		107	112
Method Blank	L991109-MB		95	98
Method Blank	L991110-MB		103	107
Batch QC	L9904690-002MS		117	107
Batch QC	L9904690-002DMS		122	112
Lab Control Sample	L991109-LCS		111	120
Lab Control Sample	L991110-LCS		111	120

CAS Acceptance Limits: 60-130 60-140

Approved By: _____ Date: 11/15/99

SUR2/061197p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: L9904688
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/9/99

Matrix Spike/Duplicate Matrix Spike Summary
MTBE, BTEX and TPH as Gasoline

Sample Name: Batch QC
Lab Code: L9904690-002MS, L9904690-002DMS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Benzene	EPA 5030	8021B	0.5	12.7	12.7	ND	12.5	12.4	98	98	39-150	<1	
Toluene	EPA 5030	8021B	0.5	140	140	ND	167	166	119	119	46-148	<1	
Ethylbenzene	EPA 5030	8021B	0.5	35.2	35.2	ND	39.8	39.8	113	113	32-160	<1	
TPH as Gasoline	EPA 5030	8015M	50	2000	2000	ND	2140	2140	107	107	70-140	<1	

Approved By: _____ Date: 11/15/99

DMS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
LCS Matrix: Water

Service Request: L9904688
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/9/99

Laboratory Control Sample Summary
MTBE, BTEX and TPH as Gasoline

Sample Name: Lab Control Sample
Lab Code: L991109-LCS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Benzene	EPA 5030	8021B	40.0	40.3	101	39-150	
Toluene	EPA 5030	8021B	40.0	40.7	102	46-148	
Ethylbenzene	EPA 5030	8021B	40.0	41.6	104	32-160	
TPH as Gasoline	EPA 5030	8015M	2000	2090	104	70-140	

Approved By: _____ Date: 11/15/99

LCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
LCS Matrix: Water

Service Request: L9904688
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/10/99

Laboratory Control Sample Summary
MTBE, BTEX and TPH as Gasoline

Sample Name: Lab Control Sample
Lab Code: L991110-LCS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Benzene	EPA 5030	8021B	40.0	43.3	108	39-150	
Toluene	EPA 5030	8021B	40.0	42.3	106	46-148	
Ethylbenzene	EPA 5030	8021B	40.0	43.0	108	32-160	
TPH as Gasoline	EPA 5030	8015M	2000	2020	101	70-140	

Approved By: _____ Date: 11/15/99

LCS/020597p

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 74118.00 S9903343

Chain of Custody

ARCO Facility no. 0601	City (Facility) San Leandro	Project manager (Consultant) Glen VanderVeen	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON		Address (Consultant) 2201 Broadway, #101 Oakland, CA 94617	Contract number

Method of shipment: Sampler will deliver

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: RAT 8
2-40ml HCL VOAs
#791639

Lab number

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

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH incl. MTBE EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	SVOCs EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	
MW-14 (21')	2	2	①	X		X	HCL	10/25/99	0920		X										
MW-7 (-)	2	2		X		X	HCL		—		X	DRY	well	no	samples	taken					
MW-4 (8')	2	2	②	X		X	HCL		0940		X										
MW-5 (6')	2	2	③	X		X	HCL		1000		X										
MW-6 (-)	2	2		X		X	HCL		—		X	DRY	well	no	samples	taken					
MW-3 (11')	2	2	④	X		X	HCL		1030		X										
MW-1 (10')	4	4	⑤	X		X	HCL		1120		X						X				
MW-8 (10')	2	2	⑥	X		X	HCL		1055		X										
MW-10 (17')	2	2		X		X	HCL	↓	0850		X								10/28 PER PHONE CONVERSATION W/ STEVE HOLTON — SAMPLE TESTED TWICE		
																	R9 D1				
														R11 D3			D				

Condition of sample:		Temperature received:	DUE: 11/11/99
Relinquished by sampler	Date 10/28/99 Time 3:11	Received by Brian Fuller	3:11 10/28/99
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
ARC-3292 (2-91)

Columbia Analytical Services INC.
An Employee-Owned Company

November 10, 1999

Service Request No.: S9903340

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

RE: TO#24118.00/RAT8/601 SAN LEANDRO

Dear Mr. Vanderveen:

Enclosed are the results of the sample(s) submitted to our laboratory on October 28, 1999. All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply to the sample(s) analyzed. Columbia Analytical Services is not responsible for use of less than the complete report. Signature of this CAS Analytical Report confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 2352, expiration: January 31, 2001).

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

Respectfully submitted,

Columbia Analytical Services, Inc.

Bernadette Troncales
Project Chemist

Greg Jordan
Laboratory Director

RECEIVED
NOV 12 1999
BY:

COLUMBIA ANALYTICAL SERVICES, Inc.
Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903340
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	10/28/99
Sample Matrix:	Water	**Date Received:**	10/28/99

BTEX, MTBE and TPH as Gasoline

Sample Name:	MW-10(17)	Units:	ug/L (ppb)
Lab Code:	S9903340-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	11/7/99	ND	
Benzene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/7/99	ND	
Xylenes, Total	EPA 5030	8021B	1	1	NA	11/7/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	3	1	NA	11/7/99	ND	

Approved By: _____ Date: 11/10/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9903340
Project:	TO#24118.00/RAT8/601 SAN LEANDRO	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

BTEX, MTBE and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S991106-WB2	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	11/6/99	ND	
Benzene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Toluene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Ethylbenzene	EPA 5030	8021B	0.5	1	NA	11/6/99	ND	
Xylenes, Total	EPA 5030	8021B	1	1	NA	11/6/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	3	1	NA	11/6/99	ND	

Approved By: _____ Date: 11/10/99

1522/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
Sample Matrix: Water

Service Request: S9903340
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8021B CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene	Percent Recovery a,a,a-Trifluorotoluene
MW-10(17)	S9903340-001		96	98
Lab Control Sample	S991106-LCS		95	107
Dup Lab Control Sample	S991106-DLCS		95	117
Method Blank	S991106-WB2		93	100

CAS Acceptance Limits: 69-116 72-139

Approved By: _____ Date: 11/10/99

SUR2/020397p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO
LCS Matrix: Water

Service Request: S9903340
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/6/99

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
BTEX and TPH as Gasoline

Sample Name: Dup Lab Control Sample
Lab Code: S991106-LCS, S991106-DLCS
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	True Value LCS	True Value DLCS	Result LCS	Result DLCS	Percent Recovery LCS	Percent Recovery DLCS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Benzene	EPA 5030	8021B	25	25	28	25	112	100	75-135	11	
Toluene	EPA 5030	8021B	25	25	26	24	104	96	73-136	8	
Ethylbenzene	EPA 5030	8021B	25	25	27	25	108	100	69-142	8	
Gasoline	EPA 5030	CA/LUFT	250	250	240	250	96	100	75-135	4	

Approved By: _____ Date: 11/10/99

DLCS/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: TO#24118.00/RAT8/601 SAN LEANDRO

Service Request: S9903340
Date Analyzed: 11/6/99

Initial Calibration Verification (ICV) Summary
BTEX, MTBE and TPH as Gasoline

Sample Name: ICV
Lab Code: ICV1
Test Notes:

Units: ug/L (ppb)
Basis: NA

ICV Source:

Analyte	Prep Method	Analysis Method	True Value	Result	CAS Percent Recovery Acceptance Limits	Percent Recovery	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	250	240	85-115	96	
Benzene	EPA 5030	8021B	25	28	85-115	112	
Toluene	EPA 5030	8021B	25	26	85-115	104	
Ethylbenzene	EPA 5030	8021B	25	27	85-115	108	
Xylenes, Total	EPA 5030	8021B	75	81	85-115	108	
Methyl *tert*-Butyl Ether	EPA 5030	8021B	25	24	85-115	96	

Approved By: _____ Date: 11/10/99

ICV/032196

ARCO Products Company ◆ 59903340 **Task Order No.** 24118.00 — **Chain of Custody**

Division of AtlanticRichfieldCompany

ARCO Facility no. 0601	City (Facility) San Leandro	Project manager (Consultant) Glen VanderVeen	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408)453-7300	Fax no. (Consultant) (408)437-9526	Contract number
Consultant name EMCON	Address (Consultant) 2201 Broadway #101 Oakland, CA 94617		Method of shipment: Sampler will deliver

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH(gas and MTBE) EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-10(G)2		2	(1)	X		X	HCL	10/28/99	0850		X											

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: RAT 8
2-40ml HCL VOAs
Seperate COC & C-A-R
791639

Lab number

Turnaround time

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

Condition of sample:

Temperature received: Due: 11/11/99 Rush D3-B

	Date	Time		Date	Time
Relinquished by sampler	10/28/99	3:11	Received by	10/28/99	3:11
Relinquished by	Date	Time	Received by		
Relinquished by	Date	Time	Received by laboratory	Date	Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

ARC-3292 (2-91)

APPENDIX C

FIELD DATA SHEETS

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 792204 STATION ADDRESS : 712 Lewelling Blvd., San Leandro DATE : 10/28/99

ARCO STATION # : 601 FIELD TECHNICIAN : Manuel Gallegos DAY : Thursday

DTW Order	WELL ID	Well Box Seal Condition	Type Of Well Lid	Gasket Present	Lock Number	Type Of 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	OK	15/16"	YES	ARCO	LWC	8.63	8.63	ND	NR	16.0	
2	MW-10	OK	15/16"	YES	3900	LWC	8.73	8.73			17.2	
3	MW-12	OK	15/16"	YES	3900	LWC	9.40	9.40			11.4	
4	MW-13	OK	15/16"	YES	ARCO	LWC	8.55	8.55			12.8	
5	MW-14	OK	15/16"	YES	ARCO	LWC	10.00	10.00			12.9	
6	MW-7	OK	15/16"	YES	ARCO	LWC	Dry	Dry			9.4	
7	MW-11	OK	15/16"	YES	ARCO	LWC	8.95	8.95			11.7	
8	MW-4	OK	15/16"	YES	ARCO	LWC	Dry 8:26	Dry 8:28			8.3	Cap water.
9	MW-5	OK	15/16"	YES	3900	LWC	7.90	7.90			9.90	
10	MW-6	OK	15/16"	YES	ARCO	LWC	Dry	Dry			8.4	
11	MW-3	OK	HEX	YES	ARCO	LWC	7.50	7.50			11.7	
12	MW-1	OK	HEX	YES	3900	LWC	8.92	8.92			10.9	pvd 3900
13	MW-2	OK	15/16"	YES	ARCO	LWC	7.92	7.92			12.0*	
14	MW-15	OK	15/16"	YES	ARCO	LWC	6.60	6.60			9.9	
15	MW-8	OK	15/16"	YES	3900	LWC	8.22	8.22			10.0	

SURVEY POINTS ARE TOP OF WELL CASINGS

RECEIVED
JAN 12 2000
BY:

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-1 (10')
PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601
SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____
CASING DIAMETER (inches): 2 ____ 3 ____ 4 X 4.5 ____ 6 ____ Other ____

CASING ELEVATION (feet/MSL) :	N/A	VOLUME IN CASING (gal.) :	1.29
DEPTH OF WELL (feet) :	10.9	CALCULATED PURGE (gal.) :	3.88
DEPTH OF WATER (feet) :	4.92	ACTUAL PURGE VOL. (gal.) :	4.0

DATE PURGED : 10/28/99 | END PURGE : 1112
DATE SAMPLED : 10/28/99 | SAMPLING TIME : 1120

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1105	1.5	6.58	1533	68.5	cloudy	mod
1109	3.0	6.61	1539	70.7		
1112	4.0	6.63	1553	71.2	↓	↓

OTHER: Dissolved Oxygen=0.70 | ODOR: Strong | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
____ 2" Bladder Pump	✓ Bailer (Teflon)	____ 2" Bladder Pump	____ Bailer (Teflon)
____ Centrifugal Pump	____ Bailer (PVC)	____ Bomb Sampler	____ Bailer (Stainless Steel)
____ Submersible Pump	____ Bailer (Stainless Steel)	____ Dipper	____ Submersible Pump
____ Well WizardÔ	____ Dedicated	____ Well WizardÔ	____ Dedicated
Other: Disposable Teflon Bailer		Other: Disposable Teflon Bailer	

WELL INTEGRITY: OK | LOCK: 3500

REMARKS: All samples taken
• Sheen on purge water

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 Time: ____ Meter Serial No.: 87m
E.C. 1000 ____ / ____ pH 7 ____ / ____ pH 10 ____ / ____ pH 4 ____ / ____
Temperature °F ____

SIGNATURE: [signature] REVIEWED BY: [signature] PAGE 1 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-3 (11')
PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601
SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____
CASING DIAMETER (inches): 2 ____ | 3 ____ | 4 X | 4.5 ____ | 6 ____ | Other ____

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : 2.74
DEPTH OF WELL (feet) : 11.7 | CALCULATED PURGE (gal.) : 8.23
DEPTH OF WATER (feet) : 7.50 | ACTUAL PURGE VOL. (gal.) : 8.5

DATE PURGED : 10/28/99 | END PURGE : 1023
DATE SAMPLED : 10/28/99 | SAMPLING TIME : 1035

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1017	3.0	7.35	1134	67.4	cloudy	mod
1020	6.0	7.34	1083	68.0	"	"
1023	8.5	7.38	1074	68.6	"	"

OTHER: Dissolved Oxygen= 0.77 | ODOR: Strong | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT

____ 2" Bladder Pump | ____ Bailer (Teflon)
____ Centrifugal Pump | ✓ Bailer (PVC)
____ Submersible Pump | ____ Bailer (Stainless Steel)
____ Well WizardÔ | ____ Dedicated
Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump | ____ Bailer (Teflon)
____ Bomb Sampler | ____ Bailer (Stainless Steel)
____ Dipper | ____ Submersible Pump
____ Well WizardÔ | ____ Dedicated
Other: Disposable Teflon Bailer

WELL INTEGRITY: OK | LOCK: ARCO

REMARKS: all samples taken
Sheen on purge water

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 877
E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____
Temperature °F ____

SIGNATURE: Manuel A. Gallegos | REVIEWED BY ____ | PAGE 2 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-4 (8')

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : NR

DEPTH OF WELL (feet) : ~~16.3~~ 8.28 | CALCULATED PURGE (gal.) : ____

DEPTH OF WATER (feet) : ____ | ACTUAL PURGE VOL. (gal.) : ____

DATE PURGED : 10/28/99 | END PURGE : ____

DATE SAMPLED : 10/28/99 | SAMPLING TIME : 0940

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
0940	Grab	6.99	1365	68.8	clear	clear

OTHER: Dissolved Oxygen= 0.92 | ~~ODOR~~: Slight | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT

____ 2" Bladder Pump ____ Bailer (Teflon)

____ Centrifugal Pump ____ Bailer (PVC)

____ Submersible Pump ____ Bailer (Stainless Steel)

____ Well WizardÔ ____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump ✓ Bailer (Teflon)

____ Bomb Sampler ____ Bailer (Stainless Steel)

____ Dipper ____ Submersible Pump

____ Well WizardÔ ____ Dedicated

Other: Disposable Teflon Bailer

WELL INTEGRITY: OK | LOCK: ARCO

REMARKS: all Samples taken

Low yield well grab samples taken (cap water)

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 8700

E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____

Temperature °F ____

SIGNATURE: [signature] | REVIEWED BY: [signature] | PAGE 3 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-5 (9')
PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601
SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A
DEPTH OF WELL (feet) : 9.90
DEPTH OF WATER (feet) : 7.90
VOLUME IN CASING (gal.) : 1.30
CALCULATED PURGE (gal.) : 3.92
ACTUAL PURGE VOL. (gal.) : 1.5

DATE PURGED : 10/28/99 | END PURGE : 0952
DATE SAMPLED : 10/28/99 | SAMPLING TIME : 1000

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
0952	1.5	7.23	207	68.4	Cloudy	Mod
	Well	Dry at	1.5	gallons		
1000	Recharge	6.99	1950	69.4	"	"

OTHER: Dissolved Oxygen= 0.87 ODOR: Strong N/A (COBALT 0-100) N/A (NTU 0-200)

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

PURGING EQUIPMENT

____ 2" Bladder Pump ____ Bailer (Teflon)
____ Centrifugal Pump X Bailer (PVC)
____ Submersible Pump ____ Bailer (Stainless Steel)
____ Well WizardÔ ____ Dedicated
Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump ____ Bailer (Teflon)
____ Bomb Sampler ____ Bailer (Stainless Steel)
____ Dipper ____ Submersible Pump
____ Well WizardÔ ____ Dedicated
Other: Disposable Teflon Bailer

WELL INTEGRITY: Ok LOCK: 3500 ARCO

REMARKS: All Samples taken
- Sheen on top of purge water.

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 Time: ____ Meter Serial No.: 870
E.C. 1000 ____ / ____ pH 7 ____ / ____ pH 10 ____ / ____ pH 4 ____ / ____
Temperature °F ____

SIGNATURE: Manuel J. Gallegos REVIEWED BY: M.J. PAGE 4 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-6( )

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : N/A

DEPTH OF WELL (feet) : 8.4 | CALCULATED PURGE (gal.) : ____

DEPTH OF WATER (feet) : Dry | ACTUAL PURGE VOL. (gal.) : ____

DATE PURGED : 10/28/99 | END PURGE : ____

DATE SAMPLED : 10/28/99 | SAMPLING TIME : ____

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
Dry well NO Samples Taken						

OTHER: Dissolved Oxygen= ____ | ODOR: ____ | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
____ 2" Bladder Pump	____ Bailer (Teflon)	____ 2" Bladder Pump	____ Bailer (Teflon)
____ Centrifugal Pump	____ Bailer (PVC)	____ Bomb Sampler	____ Bailer (Stainless Steel)
____ Submersible Pump	____ Bailer (Stainless Steel)	____ Dipper	____ Submersible Pump
____ Well WizardÔ	____ Dedicated	____ Well WizardÔ	____ Dedicated
Other: ____		Other: Disposable Teflon Bailer	

WELL INTEGRITY: OK | LOCK: ARCO

REMARKS: NO Samples taken Dry well.

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 87m

E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____

Temperature °F ____

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WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : ~~MW-7~~ (—)

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : N.R

DEPTH OF WELL (feet) : 9.4 | CALCULATED PURGE (gal.) : ____

DEPTH OF WATER (feet) : Dry | ACTUAL PURGE VOL. (gal.) : ____

DATE PURGED : 10/28/99 | END PURGE : —

DATE SAMPLED : 10/28/99 | SAMPLING TIME : —

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
No Samples taken. Dry well.						

OTHER: Dissolved Oxygen= NR | ODOR: ____ | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT

- ____ 2" Bladder Pump
- ____ Bailer (Teflon)
- ____ Centrifugal Pump
- ____ Bailer (PVC)
- ____ Submersible Pump
- ____ Bailer (Stainless Steel)
- ____ Well WizardÔ
- ____ Dedicated
- Other: ____

SAMPLING EQUIPMENT

- ____ 2" Bladder Pump
- ____ Bailer (Teflon)
- ____ Bomb Sampler
- ____ Bailer (Stainless Steel)
- ____ Dipper
- ____ Submersible Pump
- ____ Well WizardÔ
- ____ Dedicated
- Other: ~~Disposable Teflon Bailer~~

WELL INTEGRITY: OK | LOCK: ACO

REMARKS: Dry well no Samples taken

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 870

E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____

Temperature °F ____

SIGNATURE: [signature] | REVIEWED BY: [signature] | PAGE 6 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-8 (10')

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : 1.16

DEPTH OF WELL (feet) : 10.0 | CALCULATED PURGE (gal.) : 3.48

DEPTH OF WATER (feet) : 8.22 | ACTUAL PURGE VOL. (gal.) : 3.5

DATE PURGED : 10/28/99 | END PURGE : 1050

DATE SAMPLED : 10/28/99 | SAMPLING TIME : 1055

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1043	1.5	7.38	943	67.9	Brn	mod
1047	2.5	7.17	827	68.5	"	"
1050	3.5	7.13	796	68.6	"	"

OTHER: Dissolved Oxygen= 0.84 | ODOR: none | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
____ 2" Bladder Pump	✓ Bailer (Teflon)	____ 2" Bladder Pump	____ Bailer (Teflon)
____ Centrifugal Pump	____ Bailer (PVC)	____ Bomb Sampler	____ Bailer (Stainless Steel)
____ Submersible Pump	____ Bailer (Stainless Steel)	____ Dipper	____ Submersible Pump
____ Well WizardÔ	____ Dedicated	____ Well WizardÔ	____ Dedicated
Other: Disposable Teflon Bailer		Other: Disposable Teflon Bailer	

WELL INTEGRITY: OK | LOCK: 3500

REMARKS: all samples taken

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 871m

E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____

Temperature °F ____

SIGNATURE: [signature] | REVIEWED BY: [signature] | PAGE 7 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-10 (17)

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : 1.38

DEPTH OF WELL (feet) : 17.2 | CALCULATED PURGE (gal.) : 4.15

DEPTH OF WATER (feet) : 8.73 | ACTUAL PURGE VOL. (gal.) : 4.5

DATE PURGED : 10/28/99 | END PURGE : 0843

DATE SAMPLED : 10/28/99 | SAMPLING TIME : 0850

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
0838	1.5	6.59	1229	69.0	Brn	hazy
0841	3.0	6.95	1209	69.7	↓	↓
0843	4.5	7.02	1200	69.9	↓	↓

OTHER: Dissolved Oxygen= 1.12 | ODOR: Slight | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT

____ 2" Bladder Pump | ____ Bailer (Teflon)

____ Centrifugal Pump | ✓ Bailer (PVC)

____ Submersible Pump | ____ Bailer (Stainless Steel)

____ Well WizardÔ | ____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump | ✓ Bailer (Teflon)

____ Bomb Sampler | ____ Bailer (Stainless Steel)

____ Dipper | ____ Submersible Pump

____ Well WizardÔ | ____ Dedicated

Other: Disposable Teflon Bailer

WELL INTEGRITY: OK | LOCK: 3500

REMARKS: All samples taken

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: 0830 | Meter Serial No.: 87M

E.C. 1000 1044 / 1000 | pH 7 704 / 700 | pH 10 1001 / 1000 | pH 4 402 / 400

Temperature °F 67.1

SIGNATURE: [signature] | REVIEWED BY: MSuf | PAGE 8 OF 9

WATER SAMPLE FIELD DATA SHEET

Rev. 1/97

EMCON

PROJECT NO : 792204 | SAMPLE ID : MW-14 (12')

PURGED BY : Manuel Gallegos | CLIENT NAME : ARCO #0601

SAMPLED BY : Manuel Gallegos | LOCATION : San Leandro, California

TYPE: Groundwater X | Surface Water ____ | Leachate ____ | Other ____

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

CASING ELEVATION (feet/MSL) : N/A | VOLUME IN CASING (gal.) : 0.47

DEPTH OF WELL (feet) : 12.9 | CALCULATED PURGE (gal.) : 1.42

DEPTH OF WATER (feet) : 10.00 | ACTUAL PURGE VOL. (gal.) : 1.5

DATE PURGED : 10/28/99 | END PURGE : 0914

DATE SAMPLED : 10/28/99 | SAMPLING TIME : 0920

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
0910	0.5	6.81	203	68.2	BRN	MOD
0912	1.0	6.78	207	69.0	BRN	MOD
0914	1.5	6.78	207	69.5	"	"

OTHER: Dissolved Oxygen= 1.06 | ODOR: none | N/A (COBALT 0-100) | N/A (NTU 0-200)

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

PURGING EQUIPMENT

____ 2" Bladder Pump | ✓ Bailer (Teflon)

____ Centrifugal Pump | ____ Bailer (PVC)

____ Submersible Pump | ____ Bailer (Stainless Steel)

____ Well WizardÔ | ____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump | ✓ Bailer (Teflon)

____ Bomb Sampler | ____ Bailer (Stainless Steel)

____ Dipper | ____ Submersible Pump

____ Well WizardÔ | ____ Dedicated

Other: Disposable Teflon Bailer

WELL INTEGRITY: OK | LOCK: ARCO

REMARKS: all Samples taken

pH, E.C., Temp. Meter Calibration: Date: 10/28/99 | Time: ____ | Meter Serial No.: 87M

E.C. 1000 ____ / ____ | pH 7 ____ / ____ | pH 10 ____ / ____ | pH 4 ____ / ____

Temperature °F ____

SIGNATURE: [signature] | REVIEWED BY: MJM | PAGE 9 OF 9

EMCON Associates - Field Services

1921 Ringwood Avenue

San Jose, California

1999

Historical Monitoring Well Data

ARCO 0601

#792204

	Gallons
First	58.50
Second	47.00
Third	27.50
Fourth	0.00

Well ID	Quarter	Date	Purge Volume (gallons)	Did well dry	Well Contained Product
MW-1	First	01/21/99	6.50	NO	NO
	Second	05/06/99	6.00	NO	NO
	Third	08/23/99	7.00	NO	SHEEN
	Fourth	10/28/99	4.00	No	Sheen
MW-2	First	01/21/99	3.50	YES	NO
	Second	05/06/99	0.00	NA	NO
	Third	08/23/99	0.00	NA	NO
	Fourth	10/28/99	0.00	NA	NO
MW-3	First	01/21/99	10.50	NO	NO
	Second	05/06/99	0.00	GRAB	NO
	Third	08/23/99	0.00	GRAB	SHEEN
	Fourth	10/28/99	8.5	NO	Sheen
MW-4	First	01/21/99	1.00	NO	NO
	Second	05/06/99	1.50	YES	NO
	Third	08/23/99	1.50	YES	NO
	Fourth	10/28/99	0.00	Cap Water	NO
MW-5	First	01/21/99	2.00	YES	NO
	Second	05/06/99	0.00	GRAB	NO
	Third	08/23/99	2.50	YES	NO
	Fourth	10/28/99	1.5	Yes	Sheen
MW-6	First	01/21/99	0.50	YES	NO
	Second	05/06/99	1.00	YES	NO
	Third	08/23/99	0.50	YES	NO
	Fourth	10/28/99	0.00	Dry	Dry
MW-7	First	01/21/99	0.50	YES	NO
	Second	05/06/99	1.00	YES	NO
	Third	08/23/99	1.00	NO	NO
	Fourth	10/28/99	0.00	Dry	Dry
MW-8	First	01/21/99	5.00	YES	NO
	Second	05/06/99	0.00	GRAB	NO
	Third	08/23/99	0.00	GRAB	NO
	Fourth	10/28/99	3.5	NO	NO
MW-9	First	01/21/99	4.50	NO	NO
	Second	05/06/99	0.00	NA	NO
	Third	08/23/99	4.00	NO	NO
	Fourth	10/28/99	0.00	NA	NO
MW-10	First	01/21/99	5.50	NO	NO
	Second	05/06/99	5.00	NO	NO
	Third	08/23/99	5.50	NO	NO
	Fourth	10/28/99	4.5	NO	NO

EMCON Associates - Field Services | Historical Monitoring Well Data

1921 Ringwood Avenue | 1999 | ARCO 0601

San Jose, California | #792204

Well ID	Quarter	Date	Purge Volume (gallons)	Did well dry	Well Contained Product	
						Gallons
						First 58.50
						Second 47.00
						Third 27.50
						Fourth 0.00
MW-11	First	01/21/99	7.00	NO	NO	
	Second	05/06/99	0.00	NA	NO	
	Third	08/23/99	0.00	NA	NO	
	Fourth	10/28/99	0.00	N/A	NO	
MW-12	First	01/21/99	6.50	NO	NO	
	Second	05/06/99	0.00	NA	NO	
	Third	08/23/99	0.00	NA	NO	
	Fourth	10/28/99				
MW-13	First	01/21/99	1.00	YES	NO	
	Second	05/06/99	0.00	NA	NO	
	Third	08/23/99	0.00	NA	NO	
	Fourth	10/28/99				
MW-14	First	01/21/99	2.00	NO	NO	
	Second	05/06/99	2.00	NO	NO	
	Third	08/23/99	2.00	NO	NO	
	Fourth	10/28/99	1.5	NO		
MW-15	First	01/21/99	2.50	NO	NO	Steam water (gal)
	Second	05/06/99	0.00	NA	NO	
	Third	08/23/99	2.00	NO	NO	
	Fourth	10/28/99	0.00	N/A		

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 24119.00

Chain of Custody

ARCO Facility no. 0601	City (Facility) San Leandro	Project manager (Consultant) Glen VanderVeen	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON	Address (Consultant) 2201 Broadway, #101 Oakland, CA 94612		Contract number

Method of shipment: Sampler will deliver

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH purgeable EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270 SVOCs	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-14 (21')		2		X		X	HCL	10/25/89	0920		X											
MW-7 (-)		2		X		X	HCL		—		X	DRY	well	was	samples				taken			
MW-4 (8')		2		X		X	HCL		0940		X				—							
MW-5 (6')		2		X		X	HCL		1000		X											
MW-6 (-)		2		X		X	HCL		—		X	DRY	well	was	samples				taken			
MW-3 (11')		2		X		X	HCL		1030		X											
MW-1 (10')		4		X		X	HCL		1120		X							X				
MW-9 (10')		2		X		X	HCL		1055		X											
MW-10 (17')		2		X		X	HCL	↓	0850		X											

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: RAT 8
2-40ml HCl VOAs
#791679

Lab number

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 10/25/89 Time 1711	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
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ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 24118.00

Chain of Custody

ARCO Facility no. 0601	City (Facility) San Leandro	Project manager (Consultant) Glen VanderVeen	Laboratory name CAS
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526	Contract number
Consultant name EMCON	Address (Consultant) 2201 Broadway #101 Oakland, CA 94612		Method of shipment: Sampler will deliver

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-10(17)	2	2		X		X	HCL	10/28/99	0850		X											
	-								—													
	8								0900													
	9								1000													
	—								—													
	11								1100													
	10								1120													
	12								1200													
MW-10(17)	2	2		✓		✓	✓		0850		✓											

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: RAT 8
2-40ml HCL VOAs
Seperate C-O-C → C-A-R
791639

Lab number

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 10/28/99 Time 2:11	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date Time

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant