



EMCON Associates

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

Date December 29, 1994

Project 0805-130.01

To:

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

STIP 3876
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We are enclosing:

Copies	Description
<u>1</u>	<u>Third quarter 1994 groundwater monitoring report</u>
	<u>for ARCO service station 2185, Oakland, California</u>

For your:	<input checked="" type="checkbox"/>	Use	Sent by:	<input type="checkbox"/>	Regular Mail
	<input type="checkbox"/>	Approval		<input type="checkbox"/>	Standard Air
	<input type="checkbox"/>	Review		<input type="checkbox"/>	Courier
	<input type="checkbox"/>	Information		<input checked="" type="checkbox"/>	Other Certified Mail

Comments:

The enclosed groundwater monitoring report is being sent to you per the request of ARCO Products Company. Please call if you have questions or comments.

David Larsen



ARCO Products Company
2000 Alameda de las Pulgas
Mailing Address: Box 5811
San Mateo, California 94402
Telephone 415 571 2400



Date:
December 29, 1994

Re: ARCO Station # 2185 • 9800 East 14th Street • Oakland, CA
Third Quarter 1994 Groundwater Monitoring Report

" I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached proposal or report are true and correct."

Submitted by:

A handwritten signature in cursive script that reads "Michael R. Whelan".

Michael R. Whelan
Environmental Engineer



December 20, 1994

Project 0805-130.01

Mr. Michael Whelan
ARCO Products Company
P.O. Box 5811
San Mateo, California 94402

Re: Third quarter 1994 groundwater monitoring program results, ARCO service station 2185, Oakland, California

Dear Mr. Whelan:

This letter presents the results of the third quarter 1994 groundwater monitoring program at ARCO Products Company (ARCO) service station 2185, 9800 East 14th Street, Oakland, California (Figure 1). The quarterly monitoring program complies with Alameda County Health Care Services Agency (ACHCSA) requirements regarding underground tank investigations.

BACKGROUND

Between May and October 1991, a preliminary subsurface environmental assessment was performed by ROUX to evaluate the presence of gasoline hydrocarbons in soil near the existing underground storage tanks (USTs) before tank removal. This investigation included: 1) the installation of two soil vapor extraction wells and vapor extraction pilot testing in June 1991 to evaluate the feasibility of soil vapor extraction (SVE) as a remedial alternative at the site, and 2) drilling four soil borings in the vicinity of the proposed new UST pit to evaluate any previous hydrocarbon impact to soils in the area. In October 1991, ROUX observed the removal of three underground gasoline storage tanks from the site. During tank removal activities, soil samples were collected from the base of the tank excavation to assess the presence of hydrocarbon-impacted soil beneath the former USTs.

In July 1992, RESNA conducted an initial phase of subsurface environmental investigation which included the installation of four groundwater monitoring wells (MW-1 through MW-4). In January 1993, a second phase of investigation was conducted by RESNA which included: 1) additional onsite subsurface investigation (installation of groundwater monitoring wells MW-5 and MW-6), 2) initial offsite investigation (installation of monitoring well MW-7), 3) aquifer pumping testing, and, 4) a records search to identify potential offsite sources of hydrocarbons found in soil and groundwater at the site. Between April 1993 and July 1993, a third phase of investigation was conducted by RESNA which included: 1) installation of one air sparge well, AS-1, in



April 1993, 2) installation of one combination air sparge/vapor extraction well, AS-2/VW-2, and two vadose wells VW-1 and VW-3. In April 1994, one groundwater monitoring compliance well (MW-8) was installed onsite by RESNA at the request of the ACHCSA.

Groundwater monitoring was initiated at the site in July 1992. For additional background information, please refer to "Report of Findings, Initial Offsite and Additional Onsite Subsurface Investigation and Aquifer Pumping Test at ARCO Station 2185, 9800 East 14th Street, Oakland, California", RESNA Report 62026.02, dated October 12, 1993.

Wells MW-1 through MW-8 are monitored quarterly.

MONITORING PROGRAM FIELD PROCEDURES AND RESULTS

The third quarter 1994 groundwater monitoring event was performed by Integrated Wastestream Management, Inc. (IWM), on August 12, 1994. Field work performed by IWM during this quarter included (1) measuring depths to groundwater and subjectively analyzing groundwater for the presence of floating product in wells MW-1 through MW-8, (2) purging and subsequently sampling groundwater monitoring wells MW-1 through MW-8 for laboratory analysis, and (3) directing a state-certified laboratory to analyze the groundwater samples. The results of IWM's field work were transmitted to EMCON in a report dated August 31, 1994. These data are presented in Appendix A.

ANALYTICAL PROCEDURES

Groundwater samples collected during third quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPHG), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Groundwater samples were prepared for analysis by U.S. Environmental Protection Agency (EPA) method 5030 (purge and trap). Groundwater was analyzed for TPHG by the methods accepted by the Department of Toxic Substances Control, California EPA (Cal-EPA), and referenced in the *Leaking Underground Fuel Tank (LUFT) Field Manual* (State Water Resources Control Board, May 1988, revised October 1989). Samples were analyzed for BTEX by EPA method 8020, as described in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (EPA, SW-846, November 1986, Third Edition). These methods are recommended for samples from petroleum-hydrocarbon-impacted sites in the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites* (August 10, 1990).

MONITORING PROGRAM RESULTS

Results of the third quarter 1994 groundwater monitoring event are summarized in Table 1 and illustrated in Figure 2. Historical groundwater elevation data, including top-of-casing elevations, depth-to-water measurements, calculated groundwater elevations, floating-product thickness measurements, and groundwater flow direction and gradient data, are summarized in Table 2. Table 3 summarizes historical laboratory data for TPHG and BTEX analyses. Copies of the third quarter 1994 certified analytical report and chain-of-custody documentation are included in Appendix B.

MONITORING PROGRAM EVALUATION

Groundwater elevation data collected on August 12, 1994, illustrate that groundwater beneath the site flows southwest at an approximate hydraulic gradient of 0.004 foot per foot. Figure 2 illustrates groundwater contours and analytical data for the third quarter of 1994.

Groundwater samples collected from wells MW-1 and MW-4 did not contain detectable concentrations of TPHG or BTEX. Groundwater samples collected from wells MW-2, MW-3, MW-5, MW-6, and MW-8 contained concentrations of TPHG from 1,500 to 13,000 parts per billion (ppb) and concentrations of benzene from 10 to 170 ppb. Groundwater samples collected from well MW-7 contained 360 ppb of an unspecified compound (the chromatogram for this sample did not match the typical gasoline fingerprint). Similar analytical results were reported for these wells during previous monitoring events.

LIMITATIONS

Field procedures were performed by, and field data were acquired from, IWM. EMCON does not warrant the accuracy of data supplied by IWM. EMCON's scope of work was limited to interpreting field data, which included evaluating trends in the groundwater gradient, groundwater flow direction, and dissolved-petroleum-hydrocarbon concentrations beneath the site.

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

SITE STATUS UPDATE

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

Third Quarter 1994 Activities

- Prepared and submitted quarterly groundwater monitoring report for second quarter 1994.
- Performed quarterly groundwater monitoring for third quarter 1994.

Work Anticipated Fourth Quarter 1994

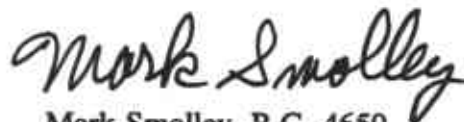
- Prepare and submit quarterly groundwater monitoring report for third quarter 1994.
- Perform quarterly groundwater monitoring for fourth quarter 1994.
- Obtain off site access for well installation.

Please call if you have questions.

Sincerely,

EMCON Associates


David Larsen
Sampling Coordinator


Mark Smolley, R.G. 4650
Senior Project Geologist



- Attachment:
- Table 1 - Groundwater Monitoring Data, Third Quarter 1994
 - Table 2 - Historical Groundwater Elevation Data
 - Table 3 - Historical Groundwater Analytical Data (TPHG and BTEX)
 - Figure 1 - Site Location
 - Figure 2 - Groundwater Data, Third Quarter 1994
 - Appendix A - Field Data Report, Integrated Wastestream Management, August 31, 1994
 - Appendix B - Certified Analytical Report and Chain-of-Custody Documentation, Third Quarter 1994

Table 1
Groundwater Monitoring Data
Third Quarter 1994
Summary Report

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 12-15-94
Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground-Water Elevation ft-MSL	Floating Product Thickness feet	Ground-Water Flow Direction MWN	Hydraulic Gradient foot/foot	Water Sample Field Date	TPHG ppb	Benzene ppb	Toluene ppb	Ethylbenzene ppb	Total Xylenes ppb
MW-1	08-12-94	29.15	12.55	16.60	ND	SW	0.004	08-12-94	<50	<0.5	<0.5	<0.5	<0.5
MW-2	08-12-94	28.47	12.12	16.35	ND	SW	0.004	08-12-94	1800	13	<2.5	120	35
MW-3	08-12-94	28.57	12.07	16.50	ND	SW	0.004	08-12-94	13000	37	<10	640	970
MW-4	08-12-94	29.21	12.82	16.39	ND	SW	0.004	08-12-94	<50	<0.5	<0.5	<0.5	<0.5
MW-5	08-12-94	28.12	11.60	16.52	ND	SW	0.004	08-12-94	1500	10	<2.5	110	30
MW-6	08-12-94	27.79	11.44	16.35	ND	SW	0.004	08-12-94	4400	170	<10	390	210
MW-7	08-12-94	27.88	12.05	15.83	ND	SW	0.004	08-12-94	360*	<0.5	<0.5	<0.5	<0.5
MW-8	08-12-94	NR	11.43	NR	ND	NR	NR	08-12-94	5100	12	<5	470	53

TOC = Top of casing
ft-MSL = Elevation in feet, relative to mean sea level
MWN = Ground-water flow direction and gradient apply to the entire monitoring well network
TPHG = Total petroleum hydrocarbons as gasoline
ppb = Parts per billion or micrograms per liter (µg/l)
ND = None detected
SW = Southwest
* = Chromatogram does not match the typical gasoline fingerprint.

Table 2
 Historical Groundwater Elevation Data
 Summary Report

ARCO Service Station 2185
 9800 East 14th Street, Oakland, California

Date: 12-06-94
 Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground-Water Elevation ft-MSL	Floating Product Thickness feet	Ground-Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-1	07-24-92	29.15	13.38	15.77	ND	NR	NR
MW-1	08-26-92	29.15	13.92	15.23	ND	NR	NR
MW-1	09-22-92	29.15	14.18	14.97	ND	NR	NR
MW-1	10-19-92	29.15	14.52	14.63	ND	NR	NR
MW-1	11-23-92	29.15	14.54	14.61	ND	NR	NR
MW-1	12-16-92	29.15	12.20	16.95	ND	NR	NR
MW-1	01-14-93	29.15	9.32	19.83	ND	NR	NR
MW-1	02-26-93	29.15	9.38	19.77	ND	NR	NR
MW-1	03-26-93	29.15	10.04	19.11	ND	NR	NR
MW-1	04-09-93	29.15	10.50	18.65	ND	NR	NR
MW-1	05-19-93	29.15	11.26	17.89	ND	NR	NR
MW-1	06-17-93	29.15	11.53	17.62	ND	NR	NR
MW-1	07-28-93	29.15	12.00	17.15	ND	NR	NR
MW-1	08-23-93	29.15	12.31	16.84	ND	NR	NR
MW-1	09-28-93	29.15	12.60	16.55	ND	NR	NR
MW-1	10-11-93	29.15	12.74	16.41	ND	NR	NR
MW-1	11-16-93	29.15	12.96	16.19	ND	NR	NR
MW-1	12-16-93	29.15	11.68	17.47	ND	NR	NR
MW-1	02-08-94	29.15	11.29	17.86	ND	NR	NR
MW-1	03-04-94	29.15	10.61	18.54	ND	NR	NR
MW-1	05-10-94	29.15	11.12	18.03	ND	NR	NR
MW-1	08-12-94	29.15	12.55	16.60	ND	SW	0.004
MW-1	09-23-94	29.15	11.27	17.88	ND	NR	NR

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 12-06-94
Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground-Water Elevation ft-MSL	Floating Product Thickness feet	Ground-Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-2	07-24-92	28.47	12.95	15.52	ND	NR	NR
MW-2	08-26-92	28.47	13.55	14.92	ND	NR	NR
MW-2	09-22-92	28.47	13.78	14.69	ND	NR	NR
MW-2	10-19-92	28.47	14.09	14.38	ND	NR	NR
MW-2	11-23-92	28.47	14.06	14.41	ND	NR	NR
MW-2	12-16-92	28.47	11.70	16.77	ND	NR	NR
MW-2	01-14-93	28.47	8.87	19.60	ND	NR	NR
MW-2	02-26-93	28.47	8.98	19.49	ND	NR	NR
MW-2	03-26-93	28.47	9.57	18.90	ND	NR	NR
MW-2	04-09-93	28.47	10.02	18.45	ND	NR	NR
MW-2	05-19-93	28.47	10.81	17.66	ND	NR	NR
MW-2	06-17-93	28.47	11.08	17.39	ND	NR	NR
MW-2	07-28-93	28.47	11.60	16.87	ND	NR	NR
MW-2	08-23-93	28.47	11.90	16.57	ND	NR	NR
MW-2	09-28-93	28.47	12.17	16.30	ND	NR	NR
MW-2	10-11-93	28.47	12.31	16.16	ND	NR	NR
MW-2	11-16-93	28.47	12.54	15.93	Sheen	NR	NR
MW-2	12-16-93	28.47	11.29	17.18	ND	NR	NR
MW-2	02-08-94	28.47	10.85	17.62	ND	NR	NR
MW-2	03-04-94	28.47	10.16	18.31	ND	NR	NR
MW-2	05-10-94	28.47	10.70	17.77	ND	NR	NR
MW-2	08-12-94	28.47	12.12	16.35	ND	SW	0.004
MW-2	09-23-94	28.47	10.87	17.60	ND	NR	NR

Table 2
 Historical Groundwater Elevation Data
 Summary Report

ARCO Service Station 2185
 9800 East 14th Street, Oakland, California

Date: 12-06-94
 Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-3	07-24-92	28.57	12.90	15.67	Sheen	NR	NR
MW-3	08-26-92	28.57	13.51	15.06	ND	NR	NR
MW-3	09-22-92	28.57	13.73	14.84	ND	NR	NR
MW-3	10-19-92	28.57	14.04	14.53	ND	NR	NR
MW-3	11-23-92	28.57	14.02	14.55	ND	NR	NR
MW-3	12-16-92	28.57	11.73	16.84	ND	NR	NR
MW-3	01-14-93	28.57	9.17	19.40	ND	NR	NR
MW-3	02-26-93	28.57	9.30	19.27	ND	NR	NR
MW-3	03-26-93	28.57	9.83	18.74	ND	NR	NR
MW-3	04-09-93	28.57	10.22	18.35	ND	NR	NR
MW-3	05-19-93	28.57	10.91	17.66	ND	NR	NR
MW-3	06-17-93	28.57	10.74	17.83	ND	NR	NR
MW-3	07-28-93	28.57	11.60	16.97	ND	NR	NR
MW-3	08-23-93	28.57	11.93	16.64	ND	NR	NR
MW-3	09-28-93	28.57	12.13	16.44	ND	NR	NR
MW-3	10-11-93	28.57	12.26	16.31	ND	NR	NR
MW-3	11-16-93	28.57	12.48	16.09	ND	NR	NR
MW-3	12-16-93	28.57	11.26	17.31	ND	NR	NR
MW-3	02-08-94	28.57	10.93	17.64	ND	NR	NR
MW-3	03-04-94	28.57	10.33	18.24	ND	NR	NR
MW-3	05-10-94	28.57	10.77	17.80	ND	NR	NR
MW-3	08-12-94	28.57	12.07	16.50	ND	SW	0.004
MW-3	09-23-94	28.57	10.94	17.63	ND	NR	NR

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 12-06-94
Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground-Water Elevation ft-MSL	Floating Product Thickness feet	Ground-Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-4	07-24-92	29.21	13.68	15.53	ND	NR	NR
MW-4	08-26-92	29.21	14.12	15.09	ND	NR	NR
MW-4	09-22-92	29.21	14.46	14.75	ND	NR	NR
MW-4	10-19-92	29.21	14.74	14.47	ND	NR	NR
MW-4	11-23-92	29.21	14.75	14.46	ND	NR	NR
MW-4	12-16-92	29.21	12.45	16.76	ND	NR	NR
MW-4	01-14-93	29.21	9.46	19.75	ND	NR	NR
MW-4	02-26-93	29.21	9.54	19.67	ND	NR	NR
MW-4	03-26-93	29.21	10.19	19.02	ND	NR	NR
MW-4	04-09-93	29.21	10.67	18.54	ND	NR	NR
MW-4	05-19-93	29.21	11.52	17.69	ND	NR	NR
MW-4	06-17-93	29.21	11.79	17.42	ND	NR	NR
MW-4	07-28-93	29.21	12.30	16.91	ND	NR	NR
MW-4	08-23-93	29.21	12.60	16.61	ND	NR	NR
MW-4	09-28-93	29.21	12.88	16.33	ND	NR	NR
MW-4	10-11-93	29.21	13.03	16.18	ND	NR	NR
MW-4	11-16-93	29.21	13.24	15.97	ND	NR	NR
MW-4	12-16-93	29.21	11.96	17.25	ND	NR	NR
MW-4	02-08-94	29.21	11.54	17.67	ND	NR	NR
MW-4	03-04-94	29.21	10.84	18.37	ND	NR	NR
MW-4	05-10-94	29.21	11.38	17.83	ND	NR	NR
MW-4	08-12-94	29.21	12.82	16.39	ND	SW	0.004
MW-4	09-23-94	29.21	11.54	17.67	ND	NR	NR

Table 2
Historical Groundwater Elevation Data
Summary Report

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 12-06-94
Project Number: 0805-130.01

Well Designation	Water Level Field Date	TOC	Depth to Water feet	Ground-Water Elevation ft-MSL	Floating Product Thickness feet	Ground-Water Flow Direction MWN	Hydraulic Gradient foot/foot
		Elevation ft-MSL					
MW-5	02-26-93	28.12	9.00	19.12	ND	NR	NR
MW-5	03-26-93	28.12	9.41	18.71	ND	NR	NR
MW-5	04-09-93	28.12	9.80	18.32	ND	NR	NR
MW-5	05-19-93	28.12	10.50	17.62	ND	NR	NR
MW-5	06-17-93	28.12	10.73	17.39	ND	NR	NR
MW-5	07-28-93	28.12	11.15	16.97	ND	NR	NR
MW-5	08-23-93	28.12	11.43	16.69	ND	NR	NR
MW-5	09-28-93	28.12	11.66	16.46	ND	NR	NR
MW-5	10-11-93	28.12	11.80	16.32	ND	NR	NR
MW-5	11-16-93	28.12	12.00	16.12	ND	NR	NR
MW-5	12-16-93	28.12	10.81	17.31	ND	NR	NR
MW-5	02-08-94	28.12	10.53	17.59	ND	NR	NR
MW-5	03-04-94	28.12	9.89	18.23	ND	NR	NR
MW-5	05-10-94	28.12	10.37	17.75	ND	NR	NR
MW-5	08-12-94	28.12	11.60	16.52	ND	SW	0.004
MW-5	09-23-94	28.12	10.52	17.60	ND	NR	NR
MW-6	02-26-93	27.79	8.47	19.32	ND	NR	NR
MW-6	03-26-93	27.79	9.07	18.72	ND	NR	NR
MW-6	04-09-93	27.79	9.53	18.26	ND	NR	NR
MW-6	05-19-93	27.79	10.23	17.56	ND	NR	NR
MW-6	06-17-93	27.79	10.51	17.28	ND	NR	NR
MW-6	07-28-93	27.79	10.98	16.81	ND	NR	NR
MW-6	08-23-93	27.79	11.28	16.51	ND	NR	NR
MW-6	09-28-93	27.79	11.50	16.29	ND	NR	NR
MW-6	10-11-93	27.79	11.65	16.14	ND	NR	NR
MW-6	11-16-93	27.79	11.87	15.92	ND	NR	NR
MW-6	12-16-93	27.79	10.63	17.16	ND	NR	NR
MW-6	02-08-94	27.79	10.28	17.51	ND	NR	NR
MW-6	03-04-94	27.79	9.67	18.12	ND	NR	NR
MW-6	05-10-94	27.79	10.13	17.66	ND	NR	NR
MW-6	08-12-94	27.79	11.44	16.35	ND	SW	0.004
MW-6	09-23-94	27.79	10.27	17.52	ND	NR	NR

Table 2
 Historical Groundwater Elevation Data
 Summary Report

ARCO Service Station 2185
 9800 East 14th Street, Oakland, California

Date: 12-06-94
 Project Number: 0805-130.01

Well Desig- nation	Water Level Field Date	TOC Elevation ft-MSL	Depth to Water feet	Ground- Water Elevation ft-MSL	Floating Product Thickness feet	Ground- Water Flow Direction MWN	Hydraulic Gradient foot/foot
MW-7	07-28-93	27.88	11.67	16.21	ND	NR	NR
MW-7	08-23-93	27.88	12.00	15.88	ND	NR	NR
MW-7	09-28-93	27.88	12.17	15.71	ND	NR	NR
MW-7	10-11-93	27.88	12.33	15.55	ND	NR	NR
MW-7	11-16-93	27.88	12.46	15.42	ND	NR	NR
MW-7	12-16-93	27.88	11.23	16.65	ND	NR	NR
MW-7	02-08-94	27.88	10.83	17.05	ND	NR	NR
MW-7	03-04-94	27.88	10.13	17.75	ND	NR	NR
MW-7	05-10-94	27.88	10.68	17.20	ND	NR	NR
MW-7	08-12-94	27.88	12.05	15.83	ND	SW	0.004
MW-7	09-23-94	27.88	10.85	17.03	ND	NR	NR
MW-8	08-12-94	NR	11.43	NR	ND	NR	NR
MW-8	09-23-94	NR	10.99	NR	ND	NR	NR

TOC = Top of casing
 ft-MSL = Elevation in feet, relative to mean sea level
 MWN = Ground-water flow direction and gradient apply to the entire monitoring well network
 ND = None detected
 NR = Not reported; data not available or not measurable
 SW = Southwest

Table 3
Historical Groundwater Analytical Data
Summary Report

ARCO Service Station 674
1143 North Capitol Avenue, San Jose CA

Date: 11-04-94
Project Number: 0C75-003.06

Well Desig- nation	Water Sample Field Date	TPHG ppb	Benzene ppb	Toluene ppb	Ethyl- benzene ppb	Total Xylenes ppb	
MW-1	07-24-92	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	10-19-92	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	01-14-93	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	04-09-93	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	08-23-93	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	10-11-93	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	03-04-94	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	05-10-94	<50	<0.5	<0.5	<0.5	<0.5	
MW-1	08-12-94	<50	<0.5	<0.5	<0.5	<0.5	
MW-2	07-24-92	5900	510	<10	370	430	
MW-2	10-19-92	4100	110	<10	100	62	
MW-2	01-14-93	12000	700	10	720	680	
MW-2	04-09-93	8400	220	<10	480	320	
MW-2	08-23-93	3700	89	<5	230	150	
MW-2	10-11-93	2700	50	<2.5	<140	68	
MW-2	03-04-94	3100	49	<2.5	180	98	
MW-2	05-10-94	3100	39	<2.5	220	99	
MW-2	08-12-94	1800	13	<2.5	120	35	
MW-3	07-24-92	Not sampled: well contained floating product					
MW-3	10-19-92	42000	740	1100	1500	5700	
MW-3	01-14-93	44000	1100	840	2200	9600	
MW-3	04-09-93	21000	33	69	350	1600	
MW-3	08-23-93	13000	63	21	530	1300	
MW-3	10-11-93	11000	56	13	530	1200	
MW-3	03-04-94	17000	50	<10	790	1600	
MW-3	05-10-94	14000	32	<10	710	1200	
MW-3	08-12-94	13000	37	<10	640	970	

Table 3
 Historical Groundwater Analytical Data
 Summary Report

ARCO Service Station 674
 1143 North Capitol Avenue, San Jose CA

Date: 11-04-94
 Project Number: 0C75-003.06

Well Designation	Water Sample Field Date	TPHG ppb	Benzene ppb	Toluene ppb	Ethylbenzene ppb	Total Xylenes ppb
MW-4	07-24-92	<50	<0.5	<0.5	<0.5	<0.5
MW-4	10-19-92	<50	<0.5	<0.5	<0.5	<0.5
MW-4	01-14-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	04-09-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	08-23-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	10-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	03-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	05-10-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	08-12-94	<50	<0.5	<0.5	<0.5	<0.5
MW-5	02-11-93	9300	620	<50	890	2200
MW-5	04-09-93	960	29	<1	100	96
MW-5	08-23-93	2700	50	<2.5	260	250
MW-5	10-11-93	840	9	<1	87	41
MW-5	03-04-94	540	0.9	0.6	16	6.3
MW-5	05-10-94	1300	11	<2.5	110	68
MW-5	08-12-94	1500	10	<2.5	110	30
MW-6	02-11-93	4800	630	<10	490	460
MW-6	04-09-93	13000	880	<10	1000	1000
MW-6	08-23-93	6300	390	<20	450	390
MW-6	10-11-93	2900	150	3.4	190	140
MW-6	03-04-94	5800	320	<5	510	360
MW-6	05-10-94	11000	470	<10	880	650
MW-6	08-12-94	4400	170	<10	390	210

Table 3
 Historical Groundwater Analytical Data
 Summary Report

ARCO Service Station 674
 1143 North Capitol Avenue, San Jose CA

Date: 11-04-94
 Project Number: 0C75-003.06

Well Designation	Water Sample Field Date	TPHG ppb	Benzene ppb	Toluene ppb	Ethyl- benzene ppb	Total Xylenes ppb
MW-7	05-14-93	350	0.83	<0.5	<0.5	<0.5
MW-7	08-23-93	630*	7.3	<1	<1	<1
MW-7	10-11-93	620*	3.5	<0.5	<0.5	<0.5
MW-7	03-04-94	320*	<0.5	<0.5	<0.5	<0.5
MW-7	05-10-94	330*	0.6	<0.5	<0.5	<0.5
MW-7	08-12-94	360*	<0.5	<0.5	<0.5	<0.5
MW-8	08-12-94	5100	12	<5	470	53

TPHG = Total petroleum hydrocarbons as gasoline
 ppb = parts per billion or micrograms per liter (µg/l)
 * = Chromatogram does not match the typical gasoline fingerprint.

I NTEGRATED
W ASTESTREAM
M ANAGEMENT, INC.

August 31, 1994

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

Dear Mr. Young:


Attached are the field data sheets and analytical results for quarterly ground water sampling at ARCO Facility No. 2185 in Oakland, California. Integrated Wastestream Management measured the depth to water and collected samples from wells at this site on August 12, 1994.


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

Please call us if you have any questions.

Sincerely,
Integrated Wastestream Management


Tom DeLon
Project Manager


Walter H. Howe
Registered Geologist



Summary of Ground Water Sample Analyses for ARCO Facility A-2185, Oakland, California

WELL NUMBER	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
DATE SAMPLED	8/12/94	8/12/94	8/12/94	8/12/94	8/12/94	8/12/94	8/12/94	8/12/94
DEPTH TO WATER	12.55	12.12	12.07	12.82	11.60	11.44	12.05	11.43
SHEEN	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
PRODUCT THICKNESS	NA	NA	NA	NA	NA	NA	NA	NA
TPHg	ND	1,800	13,000	ND	1,500	4,400	360#	5,100
BTEX								
BENZENE	ND	13	37	ND	10	170	ND	12
TOLUENE	ND	<2.5#	<10	ND	<2.5#	<10#	ND	<5#
ETHYLBENZENE	ND	120	640	ND	110	390	ND	470
XYLENES	ND	35	970	ND	30	210	ND	53

FOOTNOTES:

Concentrations reported in ug/L (ppb)

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

BTEX Distinction (USEPA Method 8020)

PCE = Tetrachloroethene (USEPA Method 8010)

* = Well inaccessible

** = Not sampled per consultant request

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

TCE = Trichloroethene (USEPA Method 8010)

ND = Not Detected

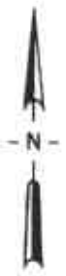
NA = Not applicable

FP = Floating product

= See laboratory analytical report



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



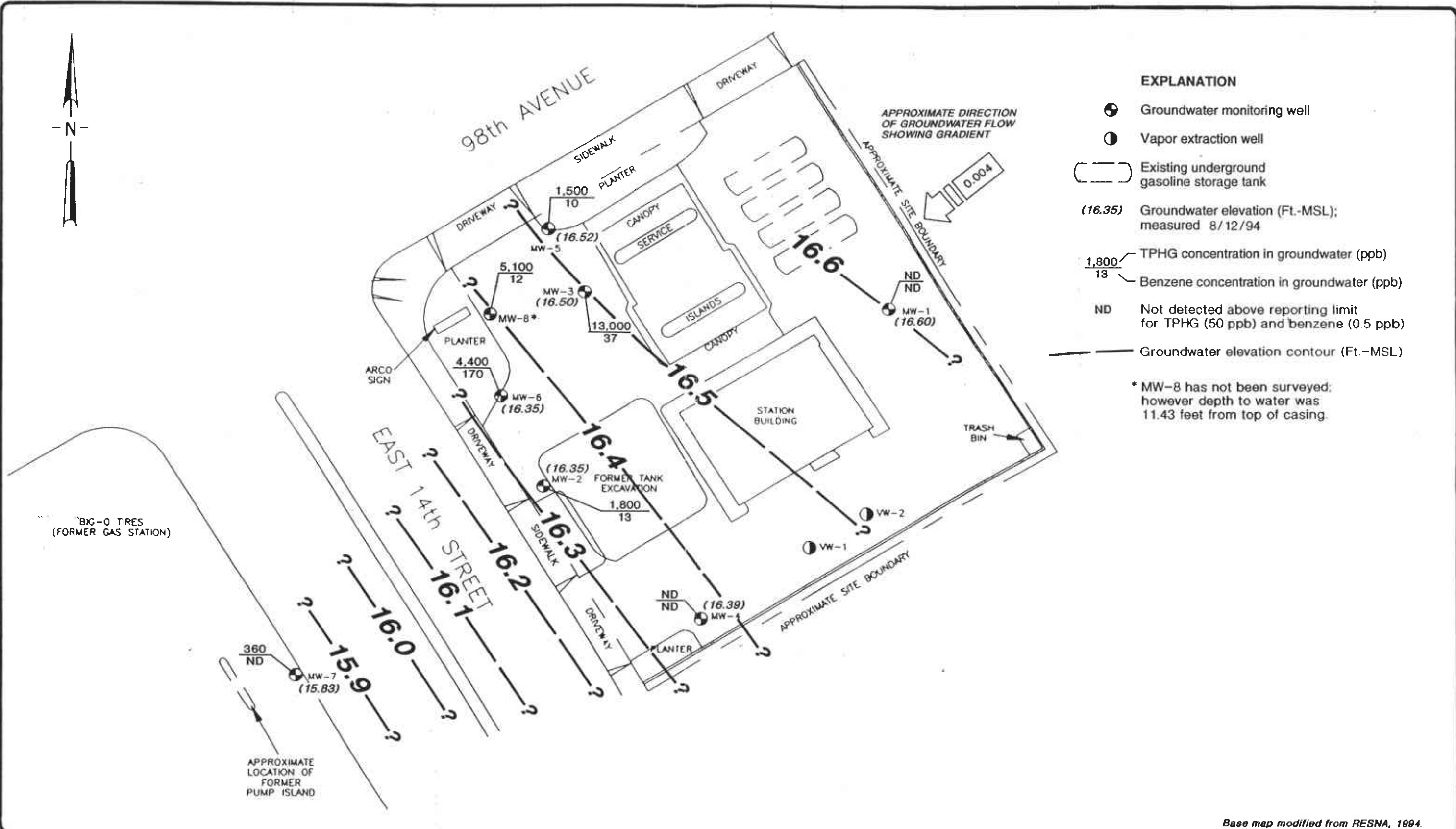
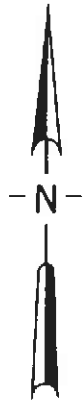
Scale : 0 2000 4000 Feet

EMCON
Associates

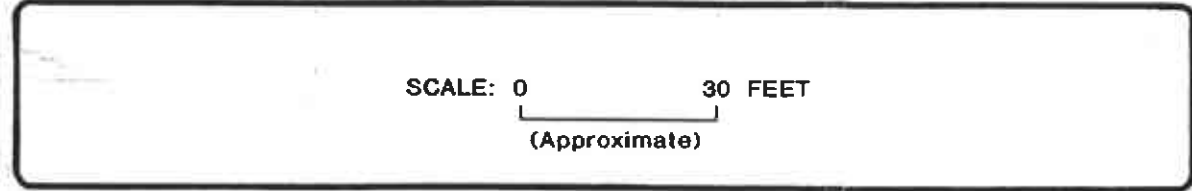
ARCO PRODUCTS COMPANY
SERVICE STATION 2185, 9800 E. 14TH STREET
QUARTERLY GROUNDWATER MONITORING
OAKLAND, CALIFORNIA

SITE LOCATION

FIGURE
1
PROJECT NO.
805-130.01



Base map modified from RESNA, 1994.



ARCO PRODUCTS COMPANY
SERVICE STATION 2185, 9800 E. 14TH STREET
QUARTERLY GROUNDWATER MONITORING
OAKLAND, CALIFORNIA

GROUNDWATER DATA
THIRD QUARTER 1994

FIGURE
2
PROJECT NO.
805-130.01

APPENDIX A

**FIELD DATA REPORT, INTEGRATED WASTESTREAM
MANAGEMENT, AUGUST 31, 1994**

FIELD REPORT

Depth To Water / Floating Product Survey

Site Arrival Time: 730

Site Departure Time: 1000

Weather Conditions: Sunny
Warm

DTW: Well Box or Well Casing (circle one)

Project No.: _____

Location: 9800 E. 14th St OK

Date: (8) Aug. 12, 1994

Client / Station#: A 2185

Field Technician: Vince / Cisco

Day of Week: Friday

DTW ORDER	WELL ID	SURFACE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (Feet)	FIRST DEPTH TO WATER (Feet)	SECOND DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	SHEEN (Y=YES, N=NO) FP=FLOATING PRODUCT	COMMENTS	MATERIALS
1	mw-1	OK	Yes	OK	OK	OK	23.79	12.55	12.55	N/A	N/A	N	4"	15/16
6	mw-2	OK	Yes	OK	OK	OK	23.80	12.12	12.12	N/A	N/A	N	4"	15/16
8	mw-3	OK	Yes	OK	OK	OK	23.30	12.07	12.07	N/A	N/A	N	4"	15/16
2	mw-4	OK	Yes	OK	OK	OK	23.85	12.82	12.82	N/A	N/A	N	4"	15/16
5	mw-5	OK	Yes	OK	OK	OK	24.95	11.60	11.60	N/A	N/A	N	4"	15/16
7	mw-6	OK	Yes	OK	OK	OK	29.75	11.44	11.44	N/A	N/A	N	4"	15/16
4	mw-7	OK	Yes	OK	OK	OK	25.55	12.05	12.05	N/A	N/A	N	2"	15/16
3	mw-8	OK	Yes	OK	OK	OK	22.38	11.43	11.43	N/A	N/A	N	4"	15/16

WELL ID: MW-1 ID 23.79 DTW 12.55 X 0.66 X 3 22.25
 Linear Ft. Volume Purge

DATE PURGED: 8-12-94 START (2400 HR): 819 END (2400 HR): 824
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 828 DTW: 12.6

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
820	5	6.69	0.42	66.9	CLEAR
821	10	6.73	0.35	67.7	CLEAR
822	15	6.75	0.35	66.7	CLEAR
824	22	6.74	0.35	66.2	CLEAR

Total purge: 22
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-4 ID 29.85 DTW 12.82 X 0.66 X 3 21.83
 Linear Ft. Volume Purge

DATE PURGED: 8-12-94 START (2400 HR): 832 END (2400 HR): 836
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 839 DTW: 12.9

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
833	5	6.73	0.39	70.1	CLEAR
834	10	6.80	0.37	70.4	CLEAR
835	15	6.81	0.37	70.3	CLEAR
836	21	6.82	0.37	70.2	CLEAR

Total purge: 21
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-2 ID 23.80 DTW 12.12 X 0.66 X 3 23.12
 Linear Ft. Volume Purge

DATE PURGED: 8-12-94 START (2400 HR): 843 END (2400 HR): 847
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 850 DTW: 13.9

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
843	5	6.65	0.52	72.1	CLEAR
845	10	6.67	0.54	71.8	CLEAR
846	15	6.65	0.54	71.4	CLEAR
847	23	6.67	0.53	70.7	CLEAR

Total purge: 23
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-6 (MW-8) ID 29.75 DTW 11.44 X 0.66 X 3 36.25
 Linear Ft. Volume Purge

DATE PURGED: 8-12-94 START (2400 HR): 855 END (2400 HR): 905
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 908 DTW: 11.8

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
856	5	7.00	0.47	72.6	CLEAR
857	10	6.93	0.47	71.8	CLEAR
859	20	6.91	0.49	71.1	CLEAR
905	36	6.90	0.48	70.0	CLEAR

Total purge: 36
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

PRINT NAME: Francisco Abungan

SIGNATURE: Francisco Abungan

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

WELL ID: MW-8 TD 22.38 DTW 11.43 x 0.66 Gal. x 3 Casing - 21.48 Calculated Purge
 Linear Ft. Volume

DATE PURGED: 8-12-94 START (2400 HR): 842 END (2400 HR): 846
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 849 DTW: 14.5

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
843	2	7.44	0.49	68.4	clear
844	10	7.43	0.41	68.8	clear
845	16	7.41	0.40	68.3	clear
846	22	7.39	0.40	68.2	clear

Total purge: 22
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-5 TD 26.95 DTW 11.60 x 0.66 Gal. x 3 Casing - 30.39 Calculated Purge
 Linear Ft. Volume

DATE PURGED: 8-12-94 START (2400 HR): 855 END (2400 HR): 904
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 908 DTW: 22.1

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
856	1	7.17	0.40	71.0	cloudy
859	10	7.24	0.35	69.7	clear
901	20	7.08	0.35	68.1	clear
904	30	7.07	0.35	67.7	clear

Total purge: 30
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-3 TD 23.30 DTW 12.07 x 0.66 Gal. x 3 Casing - 22.23 Calculated Purge
 Linear Ft. Volume

DATE PURGED: 8-12-94 START (2400 HR): 916 END (2400 HR): 922
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 926 DTW: 12.6

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
917	2	7.10	0.35	69.0	clear
918	10	7.04	0.36	68.9	clear
920	16	6.99	0.38	68.8	clear
922	22	6.98	0.38	68.5	clear

Total purge: 22
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

WELL ID: MW-7 TD 25.55 DTW 12.05 x 0.17 Gal. x 3 Casing - 6.85 Calculated Purge
 Linear Ft. Volume

DATE PURGED: 8-12-94 START (2400 HR): 933 END (2400 HR): 936
 DATE SAMPLED: 8-12-94 TIME (2400 HR): 938 DTW: 13.1

TIME (2400 HR)	VOLUME (GAL)	pH (UNITS)	(E.C. X 1,000) (UMHOS/CM@25 C)	TEMP. (F)	COLOR (VISUAL)
934	1	7.12	0.48	69.0	cloudy
935	4	7.11	0.46	68.5	clear
936	7	7.10	0.45	68.4	clear

Total purge: 7
 PURGING EQUIP.: Centrifugal Pump Bailer Disp. SAMPLING EQUIP.: Bailer Disp.
 REMARKS:

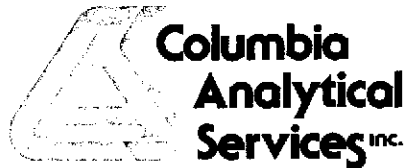
PRINT NAME: Vince Valdez

SIGNATURE: Vince Valdez

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

APPENDIX B

**CERTIFIED ANALYTICAL REPORT AND CHAIN-OF-CUSTODY
DOCUMENTATION, THIRD QUARTER 1994**



August 25, 1994

Service Request No. S940904

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

Re: **ARCO Facility No. 2185**

Dear Ms. Austin/Mr. DeLon:

Attached are the results of the water samples submitted to our lab on August 12, 1994. For your reference, these analyses have been assigned our service request number S940904.

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

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Carol J Klein for
Keoni A. Murphy
Laboratory Manager

Annelise Jade Bazar
Annelise J. Bazar
Regional QA Coordinator

KAM/ajb

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Facility 2185
Sample Matrix: Water

Service Request: S940904
Date Collected: 8/12/94
Date Received: 8/12/94
Date Extracted: NA
Date Analyzed: 8/22,23/94

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

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

Sample Name	Lab Code	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes, Total
MW-1 (12.8)	S940904-002	ND	ND	ND	ND	ND
MW-2 (13.9)	S940904-003	1,800	13	<2.5 *	120	35
MW-3 (12.6)	S940904-004	13,000	37	<10 *	640	970
MW-4 (12.9)	S940904-005	ND	ND	ND	ND	ND
MW-5 (22.1)	S940904-006	1,500	10	<2.5 *	110	30
MW-6 (14.3)	S940904-007	4,400	170	<10 *	390	210
MW-7 (13.1)	S940904-008	360 **	ND	ND	ND	ND
MW-8 (14.5)	S940904-009	5,100	12	<5 *	470	53
Method Blank	S940822-WB	ND	ND	ND	ND	ND
Method Blank	S940823-WB	ND	ND	ND	ND	ND

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

** The sample contains components eluting in the gasoline range, quantified as gasoline. The chromatogram does not match the typical gasoline fingerprint.

Approved By: Carol Klein Date: 8-25-94

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Facility 2185
Sample Matrix: Water

Service Request: S940904
Date Collected: 8/12/94
Date Received: 8/12/94
Date Extracted: NA
Date Analyzed: 8/22,23/94

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

Sample Name	Lab Code	Percent Recovery α,α,α -Trifluorotoluene
MW-1 (12.8)	S940904-002	99
MW-2 (13.9)	S940904-003	116
MW-3 (12.6)	S940904-004	107
MW-4 (12.9)	S940904-005	97
MW-5 (22.1)	S940904-006	102
MW-6 (14.3)	S940904-007	100
MW-7 (13.1)	S940904-008	109
MW-8 (14.5)	S940904-009	101
MW-5 (22.1) MS	S940904-006(MS)	110
MW-5 (22.1) DMS	S940904-006(DMS)	109
Method Blank	S940822-WB	101
Method Blank	S940823-WB	97

CAS Acceptance Limits: 69-116

Approved By: Carol Klein Date: 8-25-94

SLR 1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Facility 2185

Service Request: S940904
Date Analyzed: 8/22/94

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

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	26.8	107	85-115
Toluene	25	25.7	103	85-115
Ethylbenzene	25	24.9	100	85-115
Xylenes, Total	75	71.3	95	85-115
Gasoline	250	229	92	90-110

Approved By: Carol Klein Date: 8-25-94

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: ARCO Facility 2185
Sample Matrix: Water

Service Request: S940904
Date Collected: 8/12/94
Date Received: 8/12/94
Date Extracted: NA
Date Analyzed: 8/22/94

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

Sample Name: MW-5 (22.1)
Lab Code: S940904-006

Analyte	Spike Level		Sample Result	Spike Result		Percent Recovery				Relative Percent Difference
	MS	DMS		MS	DMS	MS	DMS	CAS Acceptance Limits		
Gasoline	1,250	1,250	1,540	2,650	2,680	89	91	67-121	1	

Approved By: Carol Klein Date: 8-25-94

DMSIS/060194

ARCO Products Company

Division of AtlanticRichfieldCompany

Task Order No. *Iwm-94-500*

Chain of Custody

ARCO Facility no. <i>A2135</i>	City (Facility) <i>Carland</i>	Project manager (Consultant) <i>Tom De Jon / J. Youngs</i>	Laboratory name <i>Columbia</i>
ARCO engineer <i>M.W.</i>	Telephone no. (ARCO) <i>4155712434</i>	Telephone no. (Consultant) <i>408/9428955</i>	Contract number <i>07077</i>
Consultant name <i>I.W.M. / EMCON</i>	Address (Consultant) <i>950 Arnes av. Milp. CA 95035</i>		Method of shipment <i>Sampler deliver</i>

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX EPA 802	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 413.2	TPH EPA 418.1/SM603E	EPA 601/801D	EPA 624/824D	EPA 625/827D	TCLP Metals VOA VOA	Semi Metals VOA VOA	CAM Metals EPA 6010/7000 TTLC STLC	Lead Org./DHS Lead EPA 7420/7421		
			Soil	Water	Other	Ice	Acid HCL																
FB-1	1	2		✓		✓	✓	8-12-94	735		✓	✓											
<i>12-8</i> mw-1	2	2		✓		✓	✓	<i>8-12-94</i>	828		✓	✓											
<i>13-9</i> mw-2	3	2		✓		✓	✓		850		✓	✓											
<i>12-6</i> mw-3	4	2		✓		✓	✓		926		✓	✓											
<i>12-9</i> mw-4	5	2		✓		✓	✓		839		✓	✓											
<i>20-1</i> mw-5	6	2		✓		✓	✓		908		✓	✓											
<i>14-3</i> mw-6	7	2		✓		✓	✓		908		✓	✓											
<i>13-1</i> mw-7	8	2		✓		✓	✓		938		✓	✓											
<i>14-5</i> mw-8	9	2		✓		✓	✓		849		✓	✓											

Special detection Limit/reporting

Special QA/QC

Remarks *Add on FB*

Lab number *5940904*

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample: <i>Good</i>	Temperature received: <i>cool</i>	
Relinquished by sampler <i>Shirley Saldan</i>	Date <i>1510 8-12-94</i> Time	Received by <i>Chick</i> Date <i>3:10 PM 8-12-94</i> Time
Relinquished by	Date Time	Received by
Relinquished by	Date Time	Received by laboratory Date Time

I NTEGRATED
W ASTESTREAM
M ANAGEMENT, INC.

October 3, 1994

John Young
EMCON Associates
1921 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Young:

Enclosed are the monthly depth to water field reports for ARCO station 2185 located at 9800 E. 14th Avenue, Oakland, California and station 6041 located at 7249 Village Parkway, Dublin, California.

Please contact me at (408) 942-8955 with any questions.

Sincerely,



Gina Austin

Q3_9DTW.DOC

FIELD REPORT

Depth To Water / Floating Product Survey

Site Arrival Time: 7:25

Site Departure Time: 8:20

Weather Conditions: Sunny
Clear

DTW: Well Box or Well Casing (circle one).

Project No.: _____

Location: 9800 E. 14th av. OAK

Date: 9.23.94

Client / Station#: W 2185

Field Technician: Vino/Cisco

Day of Week: _____

DTW ORDER	WELL ID	SURFACE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (Feet)	FIRST DEPTH TO WATER (Feet)	SECOND DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	SHEEN (Y= YES, N=NO) FP= FLOATING PRODUCT	COMMENTS	MATERIALS
	MW-1	OK	Yes	OK	OK	OK	N/A	11.27	11.27	N/A	N/A	N		
	MW-2	OK	Yes	OK	OK	OK	}	10.87-	10.87-	N/A	N/A	N		
	MW-3	OK	Yes	OK	OK	OK		10.94	10.94	N/A	N/A	N		
	MW-4	OK	Yes	OK	OK	OK		11.54-	11.54-	N/A	N/A	N		
	MW-5	OK	Yes	OK	OK	OK		10.52+	10.52+	N/A	N/A	N		
	MW-6	OK	Yes	OK	OK	OK		10.27+	10.27+	N/A	N/A	N		
	MW-7	OK	Yes	OK	OK	OK		10.85	10.85	N/A	N/A	N		
	MW-8	OK	Yes	OK	OK	OK		10.99-	10.99-	N/A	N/A	N		