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Delta
Environmental
Consultants, Inc.

3164 Gold Camp Drive
Suite 200
Rancho Cordova, CA 95670-6021
U.S.A.
916/638-2085
FAX: 916/638-8385

March 27, 2001

APR 02 2001

Mr. Paul Supple
ARCO Products Company
P.O. Box 6549
Moraga, CA 94570

Review 7/9/01
AA

Subject: *Quarterly Groundwater Monitoring Report, Fourth Quarter 2000*
ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California
Delta Project No. D000-306

Dear Mr. Supple:

Delta Environmental Consultants, Inc. is submitting the attached report that presents the results of the fourth quarter 2000 groundwater monitoring at ARCO Products Company Service Station No. 2111 located at 1156 Davis Street, San Leandro, California. The monitoring program complies with the Alameda County Health Care Services Agency requirements regarding underground tank investigations.

The interpretations contained in this report represent our professional opinions and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeological and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions concerning this project, please contact Steven W. Meeks at (916) 536-2613.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Trevor L. Atkinson
Project Engineer

Steven W. Meeks, P.E.
Project Manager
California Registered Civil Engineer No. C057461

REGISTERED PROFESSIONAL ENGINEER
STEVEN WHITTEN MEEKS
C 057461
Exp 12/31/01
CIVIL
STATE OF CALIFORNIA

3/28/01

TLA (LRP005.306.doc)
Enclosures

cc: Mr. Amir Gholami – Alameda County Health Care Services Agency
Mr. Mike Bakaldin, San Leandro Fire Department, Hazardous Materials Program

Date: March 20, 2001

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 2111 Address:	1156 Davis Street, San Leandro, CA
ARCO Environmental Engineer/Phone No.:	Paul Supple 925-299-8891
Consulting Co./Contact Person	Delta Environmental Consultants, Inc. Steven W. Meeks, P.E.
Consultant Project No.:	D000-306
Primary Agency/Regulatory ID No.	Alameda County Health Care Services Agency

WORK PERFORMED THIS QUARTER

1. Performed quarterly groundwater monitoring and sampling for fourth quarter 2000
2. Implemented installation of remediation piping during tank upgrade activities in November and December of 2000 for possible future site remediation.
3. Performed quarterly pumping activities from monitoring well MW-2 and MW-7 as approved per ACHCSA letter dated October 12, 2000.

WORK PROPOSED FOR NEXT QUARTER

1. Perform quarterly groundwater monitoring and sampling for first quarter 2001.
2 Perform quarterly pumping activities from monitoring well MW-2 and MW-7 as approved per ACHCSA letter dated October 12, 2000.

QUARTERLY MONITORING:

Current Phase of Project	Quarterly groundwater monitoring
Frequency of Groundwater Sampling:	Quarterly: MW-2 through MW-7
Frequency of Groundwater Monitoring:	Quarterly (groundwater)
Is Free Product (FP) Present On–Site:	No
FP Recovered this Quarter:	None
Cumulative FP Recovered to Date:	0.381 gallons
Bulk Soil Removed This Quarter:	None
Bulk Soil Removed to Date:	Unknown
Current Remediation Techniques:	Bailing free product as needed
Approximate Depth to Groundwater:	15.89
Groundwater Gradient:	0.004 ft/ft West-Northwest

DISCUSSION:

- Free product was not present in the monitoring wells during the December 21, 2000 monitoring events other then sheens (<0.01' thick) observed in monitoring well MW-2 and MW-7.
- A general remediation piping/conduit plan was prepared for possible future use. The remediation piping/conduits were installed during the tank replacement activities.
- Approximately 5000 gallons of ground water were pumped from MW-2 on December 21, 2000 (see Table 3). MW-7 was not pumped due to low recovery.

ATTACHMENTS:

- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Groundwater Flow Direction and Gradient
- Table 3 LPH Remediation Ground Water Pumpout Recovery Analytical Data
- Figure 1 Groundwater Analytical Summary Map
- Figure 2 Groundwater Elevation Contour Map
- Appendix A Sampling and Analysis Procedures
- Appendix B Historical Groundwater Elevation Analytical Data Table
  Groundwater Flow Direction and Gradient Table
- Appendix C Certified Analytical Reports with Chain–of–Custody Documentation

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Benzene (µg/L)	Toluene (µg/L	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH as Gasoline (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)
MW-1	06/26/00	39.60	16.46	23.14	NA	NA	NA	NA	NA	NA	NA
	07/20/00		16.89	22.71	110	<0.5	<0.5	2.7	360	2,100	NA
	09/19/00		17.62	21.98	76	<0.5	<0.5	2.3	290	1,500	NA
	12/21/00		17.39	22.21	64	2.89	1.31	4.57	257	1,080	1,060
MW-2	06/26/00	37.99	14.60	23.39[a]	NA	NA	NA	NA	NA	NA	NA
	07/20/00		15.14	22.85	2,300	18,000	2,500	19,000	95,000	13,000	NA
	09/19/00		15.95	22.04	1,200	6,300	2,000	14,000	63,000	19,000	NA
	12/21/00		15.60	22.39	1,090	2,130	1,160	9,460	45,900	22,400	24,700
	12/21/00[b]		NM	NC	360	189	213	626	5,010	54,300	89,200
MW-3	06/26/00	39.32	15.96	23.36	NA	NA	NA	NA	NA	NA	NA
	07/20/00		16.42	22.90	<0.5	<0.5	<0.5	<1.0	<50	130	NA
	09/19/00		17.18	22.14	17	<0.5	1.4	2.4	190	160	NA
	12/21/00		16.97	22.35	17.8	<0.5	2.47	2.5	187	143	125
MW-4	06/26/00	38.10	14.59	23.51	NA	NA	NA	NA	NA	NA	NA
	07/20/00		15.04	23.06	7.9	<0.5	<0.5	1.1	97	51	NA
	09/19/00		15.83	22.27	7.0	<0.5	<0.5	<1.0	110	60	NA
	12/21/00		15.59	22.51	5.6	<0.5	1.72	<0.5	120	46.3	48.6
MW-5	06/26/00	37.21	14.27	22.94	NA	NA	NA	NA	NA	NA	NA
	07/20/00		14.69	22.52	<0.5	<0.5	<0.5	<1.0	55	14,000	NA
	09/19/00		15.36	21.85	<0.5	<0.5	<0.5	<1.0	54	13,000	NA
	12/21/00		15.15	22.06	2.51	<0.5	<0.5	0.961	72.9	19,200	21,200

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Benzene (µg/L)	Toluene (µg/L	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH as Gasoline (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)
MW-6	06/26/00	37.11	13.46	23.65	NA	NA	NA	NA	NA	NA	NA
	07/20/00		13.94	23.17	<0.5	<0.5	<0.5	<1.0	<50	<3.0	NA
	09/19/00		14.41	22.70	<0.5	<0.5	<0.5	<1.0	<50	<3.0	NA
	12/21/00		14.53	22.58	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA
MW-7	06/26/00	38.68	14.34	24.34	NA	NA	NA	NA	NA	NA	NA
	07/20/00		15.26	23.42	5.4	<0.5	2.8	5.9	14,000	71,000	NA
	09/19/00		15.70	22.98	420	38	470	220	8,400	5,600	NA
	12/21/00		16.02	22.66	NS[a]	NS[a]	NS[a]	NS[a]	NS[a]	NS[a]	NS[a]

[a] Product sheen noted

[b] Well was purged for approximately 6 hours before second sample was collected.

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted

µg/L = Micrograms per liter

NM = Not measured

NC = Not calculated

Note: Please refer to Appendix B for Historical Groundwater Elevation and Analytical Data Tables developed by IT Corporation

TABLE 2

GROUNDWATER FLOW DIRECTION AND GRADIENT

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
07/20/00	West-Northwest	0.006
09/19/00	West-Northwest	0.004
12/21/00	West-Northwest	0.004

Note: Please refer to Appendix B for Historical Groundwater Elevation and Analytical Data Tables developed by IT Corporation

TABLE 3

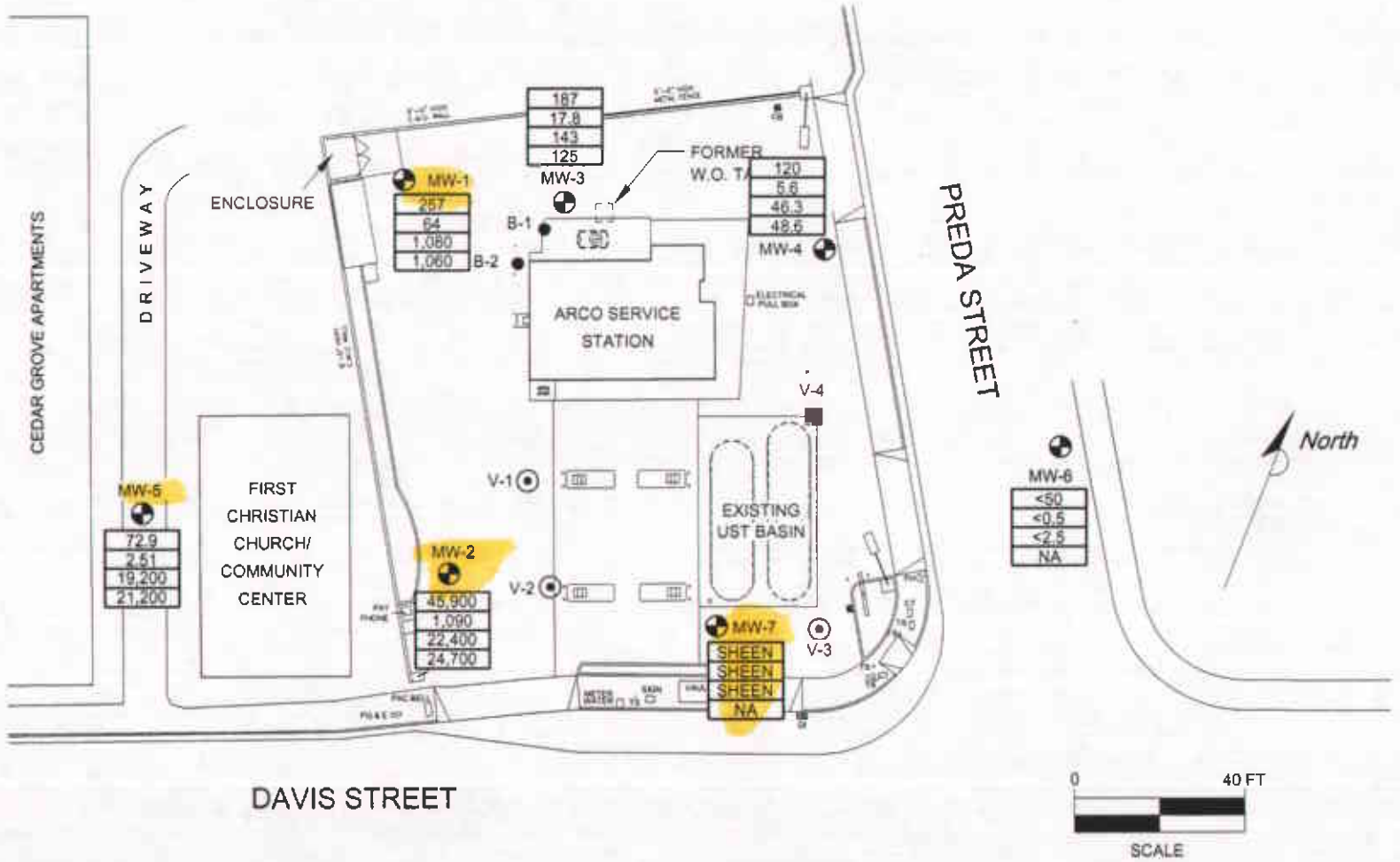
LPH REMEDIATION GROUNDWATER PUMPOUT RECOVERY ANALYTICAL DATA

ARCO Service Station No. 2111
1156 Davis Street
San Leandro, California

Well Number	Date Sampled	Benzene (µg/L)	Toluene (µg/L	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH as Gasoline (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Gallons Pumped	Cummulative Gallons
MW-2	09/19/00	1,200	6,300	2,000	14,000	63,000	19,000	NA	2,500	2,500
	12/21/00	1,090	2,130	1,160	9,460	45,900	22,400	24,700	0	2,500
	12/21/00[a]	360	189	213	626	5,010	54,300	89,200	5,000	7,500
MW-7	09/19/00	420	38	470	720	8,400	5,600	NA	100	100
	12/21/00	NS	NS	NS	NS	NS	NS	NS	0	100

[a] Sampled after purging

TPH = Total Petroleum Hydrocarbons
MTBE = Methyl tertiary butyl ether
µg/L = Micrograms per liter
NA = Not Analyzed



LEGEND:

◓	MW-1	MONITORING WELL LOCATION
⊙	V-1	VAPOR EXTRACTION WELL LOCATION
●	B-1	SOIL BORING LOCATION
■	V-4	DESTROYED WELL LOCATION

<50	TPH AS GASOLINE IN MICROGRAMS PER LITER
<0.5	BENZENE IN MICROGRAMS PER LITER
<2.5	MTBE IN MICROGRAMS PER LITER BY EPA METHOD 8020
<0.5	MTBE IN MICROGRAMS PER LITER BY EPA METHOD 8260
NS	NOT SAMPLED
NA	NOT ANALYZED/ NOT APPLICABLE

FIGURE 1
GROUND WATER ANALYTICAL SUMMARY
FOURTH QUARTER 2000 (12/21/00)
ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-306	DRAWN BY TLA 2/28/01
FILE NO. 2111-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

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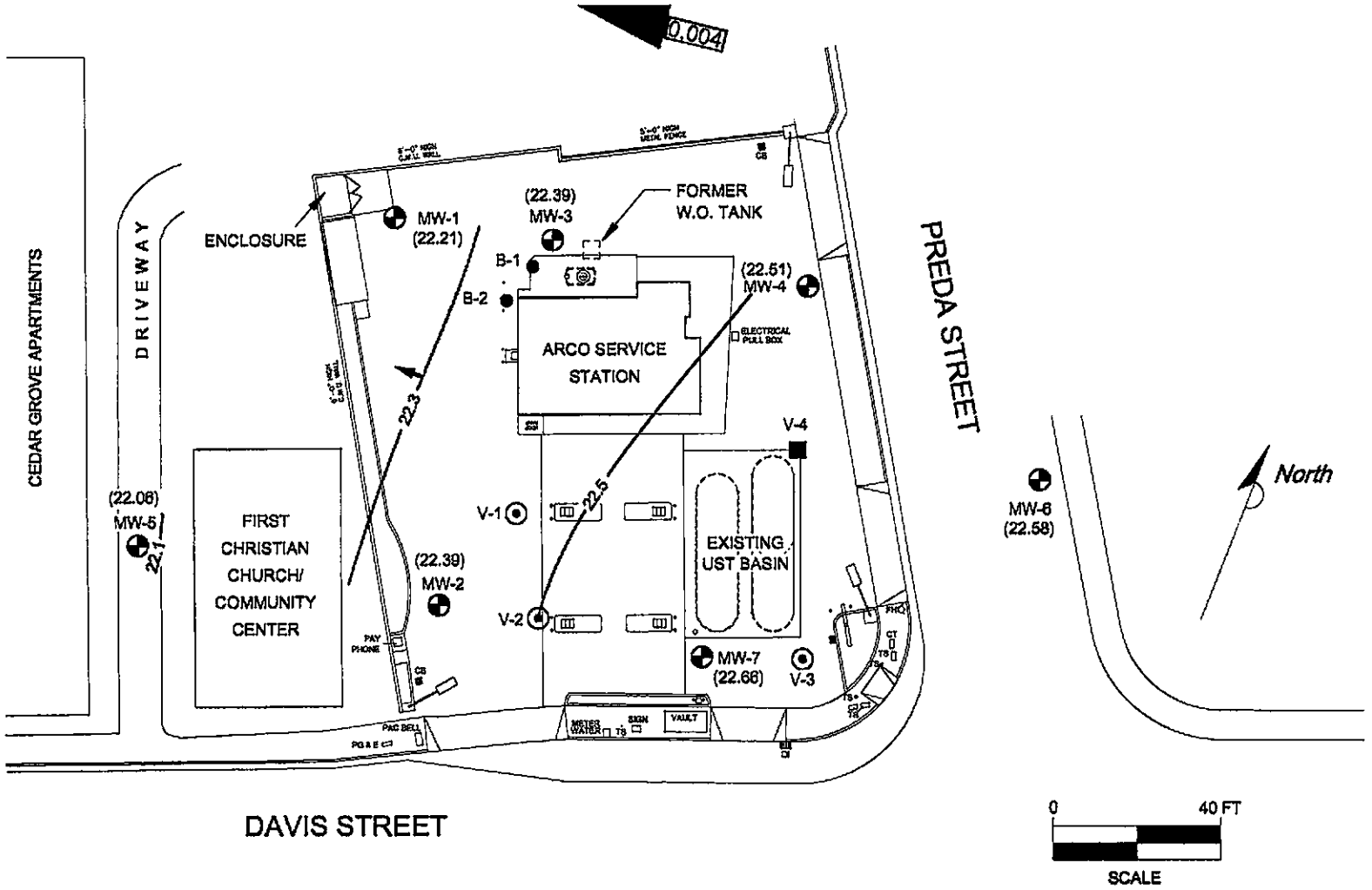

LEGEND:

MW-1	MONITORING WELL LOCATION
V-1	VAPOR EXTRACTION WELL LOCATION
B-1	SOIL BORING LOCATION
V-4	DESTROYED WELL LOCATION
(22.21)	GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
22.5	WATER TABLE CONTOUR IN FEET ABOVE MSL
	GROUND WATER FLOW DIRECTION
0.004	APPROXIMATE GROUND WATER FLOW GRADIENT

FIGURE 2
GROUND WATER ELEVATION CONTOUR MAP
FOURTH QUARTER 2000 (12/21/00)
ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-306	DRAWN BY TLA 2/26/01
FILE NO. 2111-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

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APPENDIX A

Sampling and Analysis Procedures

FIELD METHODS AND PROCEDURES

1.0 GROUND WATER AND LIQUID-PHASE HYDROCARBON DEPTH ASSESSMENT

A water/liquid-phase hydrocarbon (LPH) interface probe was used to assess the thickness of LPH, if present, and a water level indicator was used to measure ground water depth in monitoring wells that did not contain LPH. Depth to ground water was measured from the top of each monitoring well casing. The tip of the water level indicator was subjectively analyzed for LPH sheen. All measurements and physical observations were recorded in the field.

2.0 SUBJECTIVE ANALYSIS OF GROUND WATER

Prior to purging, a water sample was collected from the monitoring well for subjective analysis. The sample was retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer was then retrieved and the sample contained within the bailer was examined for LPH and the appearance of a LPH sheen.

3.0 MONITORING WELL PURGING AND SAMPLING

Monitoring wells were purged using a centrifugal pump or disposable bailers until pH, temperature, and conductivity of the purge water had stabilized and a minimum of three to four well volumes of water had been removed. Ground water removed from the wells was stored in 55-gallon barrels at the site. The barrels were labeled with corresponding monitoring well numbers and the date of purging. After purging, ground water levels were allowed to stabilize. A ground water sample was then removed from each of the wells using a dedicated disposable bailer. If the well was purged dry, it was allowed to sufficiently recharge and a sample was collected. Samples were collected in air-tight vials, appropriately labeled, and stored on ice from the time of collection through the time of delivery to the laboratory. A chain-of-custody form was completed to document possession of the samples. Ground water samples were transported to the laboratory and analyzed within the EPA-specified holding times for the requested analyses. Purge water will be collected from the storage barrels in a vacuum truck and transported to an appropriate facility for treatment and/or disposal.

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 previously stated in the first paragraph of this sub-section. 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.

APPENDIX B

Historical Data Tables
(IT Corporation)

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-1	08-01-95	39.60	17.45	ND	22.15	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-1	12-14-95	39.60	17.09	ND	22.51	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	03-21-96	39.60	14.72	ND	24.88	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	05-24-96	39.60	15.94	ND	23.66	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	08-09-96	39.60	17.89	ND	21.71	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	11-06-96	39.60	18.66	ND	20.94	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	03-24-97	39.60	16.13	ND	23.47	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	05-27-97	39.60	17.23	ND	22.37	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	08-07-97	39.60	18.68	ND	20.92	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	11-10-97	39.60	19.19	ND	20.41	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	02-16-98	39.60	12.61	ND	26.99	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	04-15-98	39.60	14.30	ND	25.30	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	07-24-98	39.60	16.40	ND	23.20	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	10-19-98	39.60	17.90	ND	21.70	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-1	01-28-99	39.60	16.85	ND	22.75	01-28-99	<20,000	580	<200	<200	320	14,000	--	--	--	
MW-1	06-25-99	39.60	17.35	ND	22.25	06-25-99	730	140	5	3	2	7,700	--	--	--	0.79 NP
MW-1	08-25-99	39.60	18.20	ND	21.40	08-25-99	390	66	8.5	<2.5	8.6	3,700	--	--	--	1.56 NP
MW-1	11-10-99	39.60	17.77	ND	21.83	11-10-99	360	70	13	2.2	13	980	--	--	--	0.30 NP
MW-1	02-09-00	39.60	16.25	ND	23.35	02-09-00	190	4.5	0.9	<0.5	12	3,500	--	--	--	0.53 NP
MW-2	08-01-95	37.99	15.67	ND	22.32	08-01-95	23,000	1,300	310	500	3,500	--	--	--	--	
MW-2	12-14-95	37.99	15.36	ND	22.63	12-14-95	7,300	900	25	180	1,000	<200	--	--	--	
MW-2	03-21-96	37.99	12.84	ND	25.15	03-21-96	9,600	850	30	280	1,400	250	--	--	--	
MW-2	05-24-96	37.99	14.03	ND	23.96	05-24-96	2,300	300	<5	73	310	<25	--	--	--	
MW-2	08-09-96	37.99	16.10	ND	21.89	08-09-96	2,800	290	6	75	320	50	--	--	--	

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	TRPH EPA 418.1 [illegible] LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-2	11-06-96	37.99	16.98	ND	21.01	11-06-96	750	76	<1	15	51	110	--	--	--	
MW-2	03-24-97	37.99	14.22	ND	23.77	03-24-97	790	18	<1	2	6	280	--	--	--	
MW-2	05-27-97	37.99	15.42	ND	22.57	05-28-97	750	14	<1	<1	10	150	--	--	--	
MW-2	08-07-97	37.99	16.92	ND	21.07	08-07-97	360	31	<2.5	<2.5	15	260	--	--	--	
MW-2	11-10-97	37.99	17.52	ND	20.47	11-10-97	1,300	82	<5	14	49	550	--	--	--	
MW-2	02-16-98	37.99	12.04	ND	25.95	02-16-98	<2,500	<25	<25	<25	<25	4,200	--	--	--	
MW-2	04-15-98	37.99	12.34	ND	25.65	04-15-98	<10,000	<100	<100	<100	<100	7,300	--	--	--	
MW-2	07-24-98	37.99	14.45	ND	23.54	07-24-98	<2,500	<25	<25	<25	<25	1,500	--	--	--	
MW-2	10-19-98	37.99	16.08	ND	21.91	10-19-98	<1,000	18	<10	<10	<10	1,100	--	--	--	
MW-2	01-28-99	37.99	15.59	0.02	22.41 [1]	01-28-99	160,000	3,000	24,000	4,400	31,000	23,000	--	--	--	
MW-2	06-25-99	37.99	19.20	3.73[4]	21.51 [1]	06-25-99	120,000	6,900	21,000	2,600	19,000	18,000	17,000[3]	--	--	0.49 NP
MW-2	08-25-99	37.99	16.49	0.02	21.51 [1]	08-25-99	92,000	2,200	16,000	3,200	19,000	11,000	9,400[3]	--	--	0.84 NP
MW-2	11-10-99	37.99	16.08	ND	21.91	11-10-99	56,000	2,400	5,900	1,500	10,000	17,000	21,000[3]	--	--	0.41 NP
MW-2	02-09-00	37.99	14.85	ND	23.14	02-09-00	1,700	270	14	17	21	70,000	55,000[3]	--	--	0.97 NP
MW-3	08-01-95	39.32	17.00	ND	22.32	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	600	76[2]	
MW-3	12-14-95	39.32	16.70	ND	22.62	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	03-21-96	39.32	14.17	ND	25.15	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	05-24-96	39.32	15.30	ND	24.02	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	<50	
MW-3	08-09-96	39.32	17.58	ND	21.74	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	<500	--	
MW-3	11-06-96	39.32	18.33	ND	20.99	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	03-24-97	39.32	15.44	ND	23.88	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	05-27-97	39.32	16.75	ND	22.57	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	08-07-97	39.32	18.35	ND	20.97	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	11-10-97	39.32	18.83	ND	20.49	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	**TRPH** EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-3	02-16-98	39.32	11.99	ND	27.33	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	04-15-98	39.32	13.75	ND	25.57	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	07-24-98	39.32	15.90	ND	23.42	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	10-19-98	39.32	17.45	ND	21.87	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-3	01-28-99	39.32	16.40	ND	22.92	01-28-99	<100	14	4	<1	6	100	--	--	--	
MW-3	06-25-99	39.32	17.92	ND	21.40	06-25-99	83	9.0	1.4	<0.5	2.5	220	--	--	--	1.11	NP
MW-3	08-25-99	39.32	17.79	ND	21.53	08-25-99	240	41	12	3.7	9.9	160	--	--	--	1.13	NP
MW-3	11-10-99	39.32	17.37	ND	21.95	11-10-99	620	100	9.7	4.1	21	150	--	--	--	0.24	NP
MW-3	02-09-00	39.32	15.77	ND	23.55	02-09-00	<50	<0.5	0.7	<0.5	<1	180	--	--	--	0.62	NP
MW-4	08-01-95	38.10	15.65	ND	22.45	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--		
MW-4	12-14-95	38.10	15.35	ND	22.75	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-21-96	38.10	12.74	ND	25.36	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-24-96	38.10	14.03	ND	24.07	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-09-96	38.10	16.10	ND	22.00	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-06-96	38.10	17.00	ND	21.10	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	03-24-97	38.10	14.21	ND	23.89	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	05-27-97	38.10	15.38	ND	22.72	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	08-07-97	38.10	16.95	ND	21.15	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	11-10-97	38.10	17.53	ND	20.57	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	02-16-98	38.10	10.65	ND	27.45	02-16-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	04-15-98	38.10	12.20	ND	25.90	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	07-24-98	38.10	14.47	ND	23.63	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	10-19-98	38.10	16.20	ND	21.90	10-19-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--		
MW-4	01-28-99	38.10	15.02	ND	23.08	01-28-99	340	52	5.5	<0.5	74	31	--	--	--		

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-4	06-25-99	38.10	15.57	ND	22.53	06-25-99	510	78	4.1	0.5	18	94	--	--	0.90	NP
MW-4	08-25-99	38.10	16.43	ND	21.67	08-25-99	660	130	21	6.4	39	110	--	--	1.01	NP
MW-4	11-10-99	38.10	16.02	ND	22.08	11-10-99	510	98	5.1	3.1	15	69	--	--	0.28	NP
MW-4	02-09-00	38.10	14.30	ND	23.80	02-09-00	<50	<0.5	0.9	<0.5	<1	55	--	--	0.67	NP
MW-5	03-21-96	37.21	12.60	ND	24.61	03-22-96	<50	<0.5	<0.5	<0.5	<0.5	82	--	--		
MW-5	05-24-96	37.21	13.71	ND	23.50	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	7	--	--		
MW-5	08-09-96	37.21	15.60	ND	21.61	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--		
MW-5	11-06-96	37.21	16.36	ND	20.85	11-06-96	<50	<0.5	<0.5	<0.5	<0.5	100	--	--		
MW-5	03-24-97	37.21	13.87	ND	23.34	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	460	--	--		
MW-5	05-27-97	37.21	14.71	ND	22.50	05-28-97	<100	<1	<1	<1	<1	120	--	--		
MW-5	08-07-97	37.21	16.90	ND	20.31	08-07-97	<250	<2.5	<2.5	<2.5	<2.5	250	--	--		
MW-5	11-10-97	37.21	16.88	ND	20.33	11-10-97	<1,000	<10	<10	<10	<10	770	--	--		
MW-5	02-16-98	37.21	10.56	ND	26.65	02-16-98	<200	<2	<2	<2	<2	230	--	--		
MW-5	04-15-98	37.21	12.20	ND	25.01	04-15-98	<500	<5	<5	<5	<5	900	--	--		
MW-5	07-24-98	37.21	14.20	ND	23.01	07-24-98	<500	<5	<5	<5	<5	570	--	--		
MW-5	10-19-98	37.21	15.74	ND	21.47	10-19-98	<250	<2.5	<2.5	<2.5	<2.5	300	--	--		
MW-5	01-28-99	37.21	14.60	ND	22.61	01-28-99	<500	8	<5	<5	<5	290	--	--		
MW-5	06-25-99	37.21	15.10	ND	22.11	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	1,300	--	--	0.76	NP
MW-5	08-25-99	37.21	15.91	ND	21.30	08-25-99	<50	<0.5	<0.5	<0.5	<0.5	6,700	--	--	0.98	NP
MW-5	11-10-99	37.21	15.52	ND	21.69	11-10-99	130	2.0	7.0	1.3	21	5,000	--	--	0.21	NP
MW-5	02-09-00	37.21	14.03	ND	23.18	02-09-00	92	<0.5	0.8	<0.5	1.0	7,900	--	--	0.51	NP
MW-6	03-21-96	37.11	11.55	ND	25.56	03-22-96	<50	<0.5	1.9	<0.5	<0.5	<3	--	--		
MW-6	05-24-96	37.11	12.80	ND	24.31	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	6	--	--		

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ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-6	08-09-96	37.11	Not surveyed			08-09-96	Not sampled: Car parked on well									
MW-6	11-06-96	37.11	Not surveyed			11-06-96	Not sampled: Car parked on well									
MW-6	03-24-97	37.11	13.06	ND	24.05	03-24-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	05-27-97	37.11	14.30	ND	22.81	05-28-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	08-07-97	37.11	16.40	ND	20.71	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	11-10-97	37.11	16.53	ND	20.58	11-10-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	02-16-98	37.11	Not surveyed			02-16-98	Not sampled: Car parked on well									
MW-6	04-15-98	37.11	10.95	ND	26.16	04-15-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	07-24-98	37.11	13.30	ND	23.81	07-24-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	10-19-98	37.11	Not surveyed			10-19-98	Not sampled: Car parked on well									
MW-6	01-28-99	37.11	13.92	ND	23.19	01-28-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	
MW-6	06-25-99	37.11	15.47	ND	21.64	06-25-99	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--	--	0.74	NP
MW-6	08-25-99	37.11	15.39	ND	21.72	08-25-99	<50	<0.5	3.4	0.6	3.7	<3	--	--	--	0.92	NP
MW-6	11-10-99	37.11	14.92	ND	22.19	11-10-99	<50	<0.5	<0.5	<0.5	<1	<3	--	--	--	0.31	NP
MW-6	02-09-00	37.11	13.30	ND	23.81	02-09-00	<50	<0.5	0.9	<0.5	1.3	<3	--	--	--	0.79	NP
MW-7	03-21-96	38.68	13.32	ND	25.36	03-22-96	32,000	870	450	970	4,900	280	--	--	--		
MW-7	05-24-96	38.68	14.58	ND	24.10	05-24-96	22,000	570	40	42	1,900	<200[2]	--	--	--		
MW-7	08-09-96	38.68	15.33	ND	23.35	08-09-96	14,000	390	<10	180	470	<200[2]	--	--	--		
MW-7	11-06-96	38.68	16.95	ND	21.73	11-06-96	9,500	440	<10	210	150	<100[2]	--	--	--		
MW-7	03-24-97	38.68	14.65	ND	24.03	03-24-97	6,400	420	<10	260	13	480	--	--	--		
MW-7	05-27-97	38.68	15.58	ND	23.10	05-28-97	5,000	420	<5	230	10	460	--	--	--		
MW-7	08-07-97	38.68	17.10	ND	21.58	08-07-97	3,900	350	<5	200	10	330	--	--	--		
MW-7	11-10-97	38.68	18.05	ND	20.63	11-10-97	5,600	590	10	370	43	540	--	--	--		
MW-7	02-16-98	38.68	12.03	ND	26.65	02-16-98	<5,000	390	<50	<50	61	4,300	--	--	--		

Table 1
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Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
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Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Free 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 8260 µg/L	TRPH EPA 418.1 LUFT Method µg/L	Dissolved Oxygen mg/L	Purged/ Not Purged P/NP
MW-7	04-15-98	38.68	13.02	ND	25.66	04-15-98	<10,000	<100	<100	<100	<100	8,900	--	--	--	
MW-7	07-24-98	38.68	14.18	ND	24.50	07-24-98	5,800	180	<50	74	<50	4,200	--	--	--	
MW-7	10-19-98	38.68	15.99	ND	22.69	10-19-98	<2,500	54	<25	72	<25	3,000	--	--	--	
MW-7	01-28-99	38.68	15.69	ND	22.99	01-28-99	4,500	560	250	<50	94	6,200	--	--	--	
MW-7	06-25-99	38.68	15.36	ND	23.32	06-25-99	3,900	520	160	46	100	45,000	63,000[3]	--	--	0.56	NP
MW-7	08-25-99	38.68	16.71	ND	21.97	08-25-99	3,400	730	77	51	110	62,000	76,000[3]	--	--	0.90	NP
MW-7	11-10-99	38.68	16.76	ND	21.92	11-10-99	15,000	340	19	13	20	55,000	91,000[3]	--	--	0.37	NP
MW-7	02-09-00	38.68	14.45	0.03	24.25 [1]	02-09-00	Not sampled: free product present										

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
*: EPA method 8020 prior to 11/10/99
EPA: United States Environmental Protection Agency
µg/L: micrograms per liter
mg/L: milligrams per liter
ND: none detected
- -: not available or not analyzed
<: less than laboratory detection limit stated to the right
[1]: [corrected elevation (Z')] = Z + (h * 0.73) where: Z = measured elevation, h = floating product thickness, 0.73 = density ratio of oil to water
[2]: chromatogram fingerprint is not characteristic of diesel
[3]: also analyzed for fuel oxygenates
[4]: this value is suspected to be erroneous based on subsequent check by bailer (following day). See discussion

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
08-01-95	NR	NR
12-14-95	West	0.002
03-21-96	West-Southwest	0.005
05-24-96	West	0.003
08-09-96	West-Northwest	0.01
11-06-96	West-Northwest	0.007
03-24-97	West	0.005
05-27-97	North-Northwest	0.006
08-07-97	West	0.009
11-10-97	West	0.002
02-16-98	South-Southwest	0.013
04-15-98	West-Southwest	0.014
07-24-98	Northwest	0.01
10-19-98	West	0.008
01-28-99	Southwest	0.01
06-25-99	North-Northwest	0.017
08-25-99	West-Northwest	0.005
11-10-99	West-Southwest	0.002
02-09-00	**West-Northwest**	**0.015**

NR: not recorded

Delta Environmental Consultants, Inc.

3164 Gold Camp Drive, Suite 200
Rancho Cordova, California 95670
Direct: (916) 638-2085
Fax: (916) 638-8385

Arco Site Address: **1156 Davis Street**
San Leandro, California
Arco Project Manager: **Paul Supple**
Site Sampled By: **Stratus**

Arco Site Number: **Arco 2111**
Delta Project No.: **D000-306**
Delta Project PM: **Steve Meeks**
Date Sampled: **12/21/00**

Site Contact & Phone Number: ____________________

Water Level Data						Purge Volume Calculations					Sampling Analytes					Sample Record		
Well ID	Time	Depth to Water (feet)	Top of Screen Interval (feet)	Total Depth of Well (feet)	Check if Purge Not Required	Casing Water Column (A)	Well Diameter (inches)	Multiplier Value (B)	Three Casing Volumes (gallons)	Actual Water Purged (gallons)	BTEX (8020) VOA	TPH-g (8015M) VOA	MTBE (8020) VOA	Confirm MTBE (8260) VOA	Dissolved Oxygen (mg/L)	Sample Freqency (A, S, Q)	Sample I.D.	Sample Time
MW-1	5:38	**17.39**	**12.5**	**26.0**	☐	8.61	**4 inch**	**2.0**	17.2	-	☑	☑	☑	☑	0.80	Q/2,5,8,11	**MW-1**	5:44
MW-2	6:07	**15.60**	**12.0**	**26.3**	☐	10.70	**4 inch**	**2.0**	21.4	-	☑	☑	☑	☑	15.59	Q/2,5,8,11	**MW-2**	6:15
MW-3	5:25	**16.97**	**11.9**	**26.5**	☐	9.53	**4 inch**	**2.0**	19.1	-	☑	☑	☑	☑	0.70	Q/2,5,8,11	**MW-3**	5:31
MW-4	5:01	**15.59**	**10.0**	**21.6**	☐	6.01	**4 inch**	**2.0**	12.0	-	☑	☑	☑	☑	1.40	Q/2,5,8,11	**MW-4**	5:08
MW-5	5:53	**15.15**	**9.4**	**23.6**	☐	8.45	**2 inch**	**0.5**	4.2	-	☑	☑	☑	☑	0.90	Q/2,5,8,11	**MW-5**	5:58
MW-6	5:14	**14.53**	**10.0**	**24.8**	☐	10.27	**2 inch**	**0.5**	5.1	-	☑	☑	☑	☑	1.30	Q/2,5,8,11	**MW-6**	5:20
MW-7	4:56	**16.02**	**12.0**	**26.9**	☐	10.88	**4 inch**	**2.0**	21.8	N/A	☐	☐	☐	☐	Sheen	Q/2,5,8,11		
					☐						☐	☐	☐	☐				
					☐	**Overpurge well for 6-hours then re-sample**					☑	☑	☑	☑	Purge	N/A	**MW-2**	12:33
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
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					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				
					☐						☐	☐	☐	☐				

(A)-Casing Water Column: Depth to Bottom - Depth to Water **(B)-Multiplier Values:** (2" Well: 0.5) (4" Well: 2.0) (6" Well: 4.4) **Sampling Sequence: Quarterly:** MW-6, MW-5, MW-4, MW-3, MW-1, MW-7, MW-2

Sampling Notes: List depth of Sample on C.O.C. [i.e. MW-1(30)]. Make Sure to Note on C.O.C. "Provide Lowest Reporting Limit Available." Original Copies of Field Sampling Sheets are Located in Project File
If the water level is below the top of the screen, take a grab sample and check box for NO PURGE (NP). If the water level is above the screen, purge as normal.

Delta
Environmental Consultants, Inc.

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Arco Site Address: **1156 Davis Street**, **San Leandro, California**
Arco Site Number: **Arco 2111**
Delta Project No.: **D000-306**
Arco Project Manager: **Paul Supple**
Delta Project PM: **Steve Meeks**
Site Contact & Phone Number:
Site Sampled By: **Stratus**
Date Sampled: **12/21/00**

Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-1		17.1	6.30	669													
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-2	**Well sampled before and after overpurging**																
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-3		17.4	6.40	679													
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-4		15.2	6.10	722													
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-5		16.1	6.80	668													
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-6		14.8	6.30	812													
Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons	Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-7	**Not sampled due to sheen in well**																

Notes: NP = NO PURGE

Original Copies of Field Sampling Sheets are Located in Project File

APPENDIX D

Certified Analytical Reports
And
Chain-of-Custody Documentation

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequoialabs.com

January 05 , 2001

Steven Meeks
Delta Environmental Consultants(Rancho Cordova
3164 Gold Camp Drive Ste. 200
Rancho Cordova, CA 95670
RE: ARCO 2111, San Leandro, CA / S012329

Enclosed are the results of analyses for samples received by the laboratory on 12/21/00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sandra R Hanson

Sandra R. Hanson
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate Number 1624

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	S012329-01	Water	12/21/00 05:44	12/21/00 14:50
MW-3	S012329-02	Water	12/21/00 05:31	12/21/00 14:50
MW-4	S012329-03	Water	12/21/00 05:08	12/21/00 14:50
MW-6	S012329-04	Water	12/21/00 05:20	12/21/00 14:50

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (S012329-01) Water Sampled: 12/21/00 05:44 Received: 12/21/00 14:50									
Methyl tert-butyl ether	**1080**	50.0	ug/l	20	0120305	12/27/00	12/27/00	DHS LUFT	
Surrogate: a,a,a-Trifluorotoluene		*84.5 %*		*60-140*	"	"	"	"	
MW-1 (S012329-01RE1) Water Sampled: 12/21/00 05:44 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**257**	100	ug/l	2	0120320	12/28/00	12/28/00	DHS LUFT	P-04
Benzene	**64.0**	1.00	"	"	"	"	"	"	
Toluene	**2.89**	1.00	"	"	"	"	"	"	
Ethylbenzene	**1.31**	1.00	"	"	"	"	"	"	
Xylenes (total)	**4.57**	1.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.4 %*		*60-140*	"	"	"	"	
MW-3 (S012329-02) Water Sampled: 12/21/00 05:31 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**187**	50.0	ug/l	1	0120305	12/27/00	12/27/00	DHS LUFT	P-04
Benzene	**17.8**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	**2.47**	0.500	"	"	"	"	"	"	
Xylenes (total)	**2.50**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**143**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*82.0 %*		*60-140*	"	"	"	"	
MW-4 (S012329-03) Water Sampled: 12/21/00 05:08 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**120**	50.0	ug/l	1	0120305	12/27/00	12/27/00	DHS LUFT	P-04
Benzene	**5.60**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	**1.72**	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**46.3**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*82.4 %*		*60-140*	"	"	"	"	

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (S012329-04) Water Sampled: 12/21/00 05:20 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0120305	12/27/00	12/27/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*84.7 %*		*60-140*	"	"	"	"	

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

MTBE Confirmation by EPA Method 8260A

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (S012329-01) Water	**Sampled: 12/21/00 05:44**	**Received: 12/21/00 14:50**							
Methyl tert-butyl ether	**1060**	10.0	ug/l	5	1010016	01/03/01	01/04/01	EPA 8260A	
Surrogate: 1,2-DCA-d4		*102 %*	*60-140*		"	"	"	"	
MW-3 (S012329-02) Water	**Sampled: 12/21/00 05:31**	**Received: 12/21/00 14:50**							
Methyl tert-butyl ether	**125**	2.00	ug/l	1	1010016	01/03/01	01/04/01	EPA 8260A	
Surrogate: 1,2-DCA-d4		*106 %*	*60-140*		"	"	"	"	
MW-4 (S012329-03) Water	**Sampled: 12/21/00 05:08**	**Received: 12/21/00 14:50**							
Methyl tert-butyl ether	**48.6**	2.00	ug/l	1	1010016	01/03/01	01/04/01	EPA 8260A	
Surrogate: 1,2-DCA-d4		*110 %*	*60-140*		"	"	"	"	

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0120305 - EPA 5030B (P/T)										
Blank (0120305-BLK1)				Prepared & Analyzed: 12/27/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*8.90*		"	*10.0*		*89.0*	*60-140*			
LCS (0120305-BS1)				Prepared & Analyzed: 12/27/00						
Benzene	10.0	0.500	ug/l	10.0		100	70-130			
Toluene	10.1	0.500	"	10.0		101	70-130			
Ethylbenzene	10.0	0.500	"	10.0		100	70-130			
Xylenes (total)	30.0	0.500	"	30.0		100	70-130			
Methyl tert-butyl ether	9.89	2.50	"	10.0		98.9	70-130			
Surrogate: a,a,a-Trifluorotoluene	*8.98*		"	*10.0*		*89.8*	*60-140*			
Matrix Spike (0120305-MS1)		**Source: S012239-01**		Prepared & Analyzed: 12/27/00						
Benzene	9.98	0.500	ug/l	10.0	ND	99.8	60-140			
Toluene	10.1	0.500	"	10.0	ND	101	60-140			
Ethylbenzene	10.2	0.500	"	10.0	ND	102	60-140			
Xylenes (total)	30.7	0.500	"	30.0	ND	102	60-140			
Methyl tert-butyl ether	10.7	2.50	"	10.0	ND	107	60-140			
Surrogate: a,a,a-Trifluorotoluene	*8.63*		"	*10.0*		*86.3*	*60-140*			
Matrix Spike Dup (0120305-MSD1)		**Source: S012239-01**		Prepared & Analyzed: 12/27/00						
Benzene	10.2	0.500	ug/l	10.0	ND	102	60-140	2.18	25	
Toluene	10.3	0.500	"	10.0	ND	103	60-140	1.96	25	
Ethylbenzene	10.3	0.500	"	10.0	ND	103	60-140	0.976	25	
Xylenes (total)	31.2	0.500	"	30.0	ND	104	60-140	1.62	25	
Methyl tert-butyl ether	12.6	2.50	"	10.0	ND	126	60-140	16.3	25	
Surrogate: a,a,a-Trifluorotoluene	*8.78*		"	*10.0*		*87.8*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0120320 - EPA 5030B (P/T)										
Blank (0120320-BLK1)				Prepared & Analyzed: 12/28/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*9.73*		"	*10.0*		*97.3*	*60-140*			
LCS (0120320-BS1)				Prepared & Analyzed: 12/28/00						
Benzene	10.4	0.500	ug/l	10.0		104	70-130			
Toluene	10.3	0.500	"	10.0		103	70-130			
Ethylbenzene	10.2	0.500	"	10.0		102	70-130			
Xylenes (total)	31.3	0.500	"	30.0		104	70-130			
Methyl tert-butyl ether	8.88	2.50	"	10.0		88.8	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.28*		"	*10.0*		*92.8*	*60-140*			
Matrix Spike (0120320-MS1)		**Source: S012263-02**		Prepared & Analyzed: 12/28/00						
Benzene	10.4	0.500	ug/l	10.0	ND	104	60-140			
Toluene	10.5	0.500	"	10.0	ND	105	60-140			
Ethylbenzene	10.5	0.500	"	10.0	ND	105	60-140			
Xylenes (total)	32.3	0.500	"	30.0	ND	108	60-140			
Methyl tert-butyl ether	9.58	2.50	"	10.0	ND	95.8	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.33*		"	*10.0*		*93.3*	*60-140*			
Matrix Spike Dup (0120320-MSD1)		**Source: S012263-02**		Prepared & Analyzed: 12/28/00						
Benzene	10.5	0.500	ug/l	10.0	ND	105	60-140	0.957	25	
Toluene	10.6	0.500	"	10.0	ND	106	60-140	0.948	25	
Ethylbenzene	10.6	0.500	"	10.0	ND	106	60-140	0.948	25	
Xylenes (total)	32.7	0.500	"	30.0	ND	109	60-140	1.23	25	
Methyl tert-butyl ether	10.1	2.50	"	10.0	ND	101	60-140	5.28	25	
Surrogate: a,a,a-Trifluorotoluene	*9.33*		"	*10.0*		*93.3*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

MTBE Confirmation by EPA Method 8260A - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010016 - EPA 5030B [P/T]										
Blank (1010016-BLK1)				Prepared & Analyzed: 01/03/01						
Methyl tert-butyl ether	ND	2.00	ug/l							
Surrogate: 1,2-DCA-d4	*52.0*		"	*50.0*		*104*	*60-140*			
LCS (1010016-BS1)				Prepared & Analyzed: 01/03/01						
Methyl tert-butyl ether	54.0	2.00	ug/l	50.0		108	70-130			
Surrogate: 1,2-DCA-d4	*52.6*		"	*50.0*		*105*	*60-140*			
LCS Dup (1010016-BSD1)				Prepared & Analyzed: 01/03/01						
Methyl tert-butyl ether	51.2	2.00	ug/l	50.0		102	70-130	5.32	25	
Surrogate: 1,2-DCA-d4	*52.8*		"	*50.0*		*106*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:36

Notes and Definitions

P-04	Chromatogram Pattern: Weathered Gasoline C6-C12 + Unidentified Hydrocarbons C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ARCO Products Company
Division of Atlantic-Richfield Company

Task Order No.

Chain of Custody

ARCO Facility no. 2111	City (Facility) SAN Leandro	Project manager (Consultant) Steve Mickes	Laboratory name Sequoia
ARCO engineer Paul Supple *	Telephone no. (ARCO)	Telephone no. (Consultant) 916-536-2613	Fax no. (Consultant) 916-638-8385
Consultant name Keltz	Address (Consultant) 3164 Gold Camp Drive Rancho Cordova		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 MTBE	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 1		6		X		X	X	12-21-00	0544		X							SQ12329-01				
MW 3		6		X		X	X		0531		X							-02				
MW 4		6		X		X	X		0508		X							-03				
MW 6		6		X		X	X	12-21-00	0520		X							-04				

Special detection Limit/reporting

Special QA/QC

/

Remarks

*Confirm any MTBE by 8260 as per Steve 12/22/00 @ 0930 (SB)

Lab number

Turnaround time

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

Condition of sample:

Temperature received: 8°

	Date	Time		Date	Time
Relinquished by sampler	12-21-00	1450	Received by Monica Gregory		
Relinquished by			Received by		
Relinquished by			Received by		

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

ARC-3292 (2-91)

Sequoia Analytical

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Sacramento, CA 95834
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January 08 , 2001

Steven Meeks
Delta Environmental Consultants(Rancho Cordova
3164 Gold Camp Drive Ste. 200
Rancho Cordova, CA 95670
RE: ARCO 2111, San Leandro, CA / S012330

Enclosed are the results of analyses for samples received by the laboratory on 12/21/00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sandra R. Hanson
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate Number 1624

Sequoia Analytical

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2 06:15	S012330-01	Water	12/21/00 06:15	12/21/00 14:50
MW-2 12:33	S012330-02	Water	12/21/00 12:33	12/21/00 14:50

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 06:15 (S012330-01) Water Sampled: 12/21/00 06:15 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**45900**	5000	ug/l	100	1010007	01/02/01	01/02/01	DHS LUFT	P-02
Benzene	**1090**	50.0	"	"	"	"	"	"	
Toluene	**2130**	50.0	"	"	"	"	"	"	
Ethylbenzene	**1160**	50.0	"	"	"	"	"	"	
Xylenes (total)	**9460**	50.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.8 %*		*60-140*		"	"	"	
MW-2 06:15 (S012330-01RE1) Water Sampled: 12/21/00 06:15 Received: 12/21/00 14:50									
Methyl tert-butyl ether	**22400**	2500	ug/l	1000	1010022	01/03/01	01/03/01	DHS LUFT	
Surrogate: a,a,a-Trifluorotoluene		*99.6 %*		*60-140*		"	"	"	
MW-2 12:33 (S012330-02) Water Sampled: 12/21/00 12:33 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**5010**	500	ug/l	10	1010007	01/02/01	01/02/01	DHS LUFT	P-02
Benzene	**360**	5.00	"	"	"	"	"	"	
Toluene	**189**	5.00	"	"	"	"	"	"	
Ethylbenzene	**213**	5.00	"	"	"	"	"	"	
Xylenes (total)	**626**	5.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*99.6 %*		*60-140*		"	"	"	
MW-2 12:33 (S012330-02RE1) Water Sampled: 12/21/00 12:33 Received: 12/21/00 14:50									
Methyl tert-butyl ether	**54300**	2500	ug/l	1000	1010022	01/03/01	01/03/01	DHS LUFT	
Surrogate: a,a,a-Trifluorotoluene		*97.7 %*		*60-140*		"	"	"	

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

MTBE Confirmation by EPA Method 8260A

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 06:15 (S012330-01) Water	**Sampled: 12/21/00 06:15**	**Received: 12/21/00 14:50**							**I-02**
Methyl tert-butyl ether	**24700**	200	ug/l	100	1010050	01/05/01	01/05/01	EPA 8260A	A-01
Surrogate: 1,2-DCA-d4		*104 %*	*60-140*		"	"	"	"	
MW-2 12:33 (S012330-02) Water	**Sampled: 12/21/00 12:33**	**Received: 12/21/00 14:50**							
Methyl tert-butyl ether	**89200**	500	ug/l	250	1010031	01/04/01	01/04/01	EPA 8260A	
Surrogate: 1,2-DCA-d4		*105 %*	*60-140*		"	"	"	"	

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819 Striker Avenue, Suite 8
Sacramento, CA 95834
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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010007 - EPA 5030B (P/T)										
Blank (1010007-BLK1)				Prepared & Analyzed: 01/02/01						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*8.82*		"	*10.0*		*88.2*	*60-140*			
LCS (1010007-BS1)				Prepared & Analyzed: 01/02/01						
Benzene	10.2	0.500	ug/l	10.0		102	70-130			
Toluene	10.3	0.500	"	10.0		103	70-130			
Ethylbenzene	10.3	0.500	"	10.0		103	70-130			
Xylenes (total)	31.4	0.500	"	30.0		105	70-130			
Methyl tert-butyl ether	7.21	2.50	"	10.0		72.1	70-130			
Surrogate: a,a,a-Trifluorotoluene	*8.97*		"	*10.0*		*89.7*	*60-140*			
Matrix Spike (1010007-MS1)		**Source: S012333-20**		Prepared & Analyzed: 01/02/01						
Benzene	10.3	0.500	ug/l	10.0	ND	103	60-140			
Toluene	10.5	0.500	"	10.0	ND	105	60-140			
Ethylbenzene	10.5	0.500	"	10.0	ND	105	60-140			
Xylenes (total)	32.3	0.500	"	30.0	ND	108	60-140			
Methyl tert-butyl ether	311	2.50	"	10.0		NR	60-140			Q-03
Surrogate: a,a,a-Trifluorotoluene	*9.91*		"	*10.0*		*99.1*	*60-140*			
Matrix Spike Dup (1010007-MSD1)		**Source: S012333-20**		Prepared & Analyzed: 01/02/01						
Benzene	10.1	0.500	ug/l	10.0	ND	101	60-140	1.96	25	
Toluene	10.4	0.500	"	10.0	ND	104	60-140	0.957	25	
Ethylbenzene	10.5	0.500	"	10.0	ND	105	60-140	0	25	
Xylenes (total)	32.2	0.500	"	30.0	ND	107	60-140	0.310	25	
Methyl tert-butyl ether	323	2.50	"	10.0		NR	60-140	3.79	25	Q-03
Surrogate: a,a,a-Trifluorotoluene	*9.78*		"	*10.0*		*97.8*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010022 - EPA 5030B (P/T)										
Blank (1010022-BLK1)				Prepared & Analyzed: 01/03/01						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*60-140*			
LCS (1010022-BS1)				Prepared & Analyzed: 01/03/01						
Benzene	10.6	0.500	ug/l	10.0		106	70-130			
Toluene	10.5	0.500	"	10.0		105	70-130			
Ethylbenzene	10.6	0.500	"	10.0		106	70-130			
Xylenes (total)	32.5	0.500	"	30.0		108	70-130			
Methyl tert-butyl ether	10.4	2.50	"	10.0		104	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*60-140*			
Matrix Spike (1010022-MS1)		**Source: S012364-07**		Prepared & Analyzed: 01/03/01						
Benzene	9.80	0.500	ug/l	10.0	ND	98.0	60-140			
Toluene	9.97	0.500	"	10.0	ND	99.7	60-140			
Ethylbenzene	10.1	0.500	"	10.0	ND	101	60-140			
Xylenes (total)	30.8	0.500	"	30.0	ND	103	60-140			
Methyl tert-butyl ether	8.62	2.50	"	10.0	ND	86.2	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.43*		"	*10.0*		*94.3*	*60-140*			
Matrix Spike Dup (1010022-MSD1)		**Source: S012364-07**		Prepared & Analyzed: 01/03/01						
Benzene	10.2	0.500	ug/l	10.0	ND	102	60-140	4.00	25	
Toluene	10.3	0.500	"	10.0	ND	103	60-140	3.26	25	
Ethylbenzene	10.3	0.500	"	10.0	ND	103	60-140	1.96	25	
Xylenes (total)	31.7	0.500	"	30.0	ND	106	60-140	2.88	25	
Methyl tert-butyl ether	9.95	2.50	"	10.0	ND	99.5	60-140	14.3	25	
Surrogate: a,a,a-Trifluorotoluene	*9.70*		"	*10.0*		*97.0*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

MTBE Confirmation by EPA Method 8260A - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010031 - EPA 5030B [P/T]										
Blank (1010031-BLK1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	ND	2.00	ug/l							
Surrogate: 1,2-DCA-d4	*52.6*		"	*50.0*		*105*	*60-140*			
LCS (1010031-BS1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	57.5	2.00	ug/l	50.0		115	70-130			
Surrogate: 1,2-DCA-d4	*54.1*		"	*50.0*		*108*	*60-140*			
LCS Dup (1010031-BSD1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	54.9	2.00	ug/l	50.0		110	70-130	4.63	25	
Surrogate: 1,2-DCA-d4	*52.4*		"	*50.0*		*105*	*60-140*			
Batch 1010050 - EPA 5030B [P/T]										
Blank (1010050-BLK1)				Prepared & Analyzed: 01/05/01						
Methyl tert-butyl ether	ND	2.00	ug/l							
Surrogate: 1,2-DCA-d4	*51.1*		"	*50.0*		*102*	*60-140*			
LCS (1010050-BS1)				Prepared & Analyzed: 01/05/01						
Methyl tert-butyl ether	55.7	2.00	ug/l	50.0		111	70-130			
Surrogate: 1,2-DCA-d4	*51.4*		"	*50.0*		*103*	*60-140*			
LCS Dup (1010050-BSD1)				Prepared & Analyzed: 01/05/01						
Methyl tert-butyl ether	57.2	2.00	ug/l	50.0		114	70-130	2.66	25	
Surrogate: 1,2-DCA-d4	*52.4*		"	*50.0*		*105*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/08/01 14:33

Notes and Definitions

A-01	The value reported exceeds the calibration curve, but not the linear range.
I-02	This sample was analyzed outside of the EPA recommended holding time.
P-02	Chromatogram Pattern: Weathered Gasoline C6-C12
Q-03	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ARCO Products Company
Division of Atlantic-Richfield Company

Task Order No.

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Lorenzo	Project manager (Consultant) Steve Mucks	Laboratory name Sequoia
ARCO engineer	Telephone no. (ARCO)	Telephone no. (Consultant)	Fax no. (Consultant)
Consultant name Delta	Address (Consultant) 3164 Gold Oak DR Rancho Cordova		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX/MTBE 602/EPA 8020 8021	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 Semi Metals ☐ VOA ☐ VOA ☐	CAM METALS EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
mw2		6		X		X	X	12-21-00	0615	X		X			8012330-01							
mw2		6		X		X	X	12-21-00	1233	X		X						-02				

Special detection Limit/reporting

Special QA/QC

Remarks: Confirm MTBE By 8260

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: 8°C

	Date	Time		Date	Time
Relinquished by sampler	12-21-00	1430	Received by Monica Gogerson	12/21/00	1450
Relinquished by			Received by		
Relinquished by			Received by		

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

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January 05 , 2001

Steven Meeks
Delta Environmental Consultants(Rancho Cordova
3164 Gold Camp Drive Ste. 200
Rancho Cordova, CA 95670
RE: ARCO 2111, San Leandro, CA / S012331

Enclosed are the results of analyses for samples received by the laboratory on 12/21/00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sandra R. Hanson
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate Number 1624

Sequoia Analytical

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5	S012331-01	Water	12/21/00 05:58	12/21/00 14:50

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3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (S012331-01) Water Sampled: 12/21/00 05:58 Received: 12/21/00 14:50									
Purgeable Hydrocarbons	**72.9**	50.0	ug/l	1	1010007	01/02/01	01/02/01	DHS LUFT	P-02
Benzene	**2.51**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	**0.961**	0.500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*111 %*	*60-140*		"	"	"	"	
MW-5 (S012331-01RE1) Water Sampled: 12/21/00 05:58 Received: 12/21/00 14:50									
Methyl tert-butyl ether	**19200**	500	ug/l	200	1010022	01/03/01	01/03/01	DHS LUFT	
Surrogate: a,a,a-Trifluorotoluene		*98.1 %*	*60-140*		"	"	"	"	

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

MTBE Confirmation by EPA Method 8260A

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (S012331-01) Water	**Sampled: 12/21/00 05:58**	**Received: 12/21/00 14:50**							
Methyl tert-butyl ether	**21200**	200	ug/l	100	1010031	01/04/01	01/04/01	EPA 8260A	
Surrogate: 1,2-DCA-d4		*102 %*	*60-140*		"	"	"	"	

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3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010007 - EPA 5030B (P/T)										
Blank (1010007-BLK1)				Prepared & Analyzed: 01/02/01						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*8.82*		"	*10.0*		*88.2*	*60-140*			
LCS (1010007-BS1)				Prepared & Analyzed: 01/02/01						
Benzene	10.2	0.500	ug/l	10.0		102	70-130			
Toluene	10.3	0.500	"	10.0		103	70-130			
Ethylbenzene	10.3	0.500	"	10.0		103	70-130			
Xylenes (total)	31.4	0.500	"	30.0		105	70-130			
Methyl tert-butyl ether	7.21	2.50	"	10.0		72.1	70-130			
Surrogate: a,a,a-Trifluorotoluene	*8.97*		"	*10.0*		*89.7*	*60-140*			
Matrix Spike (1010007-MS1)		**Source: S012333-20**		Prepared & Analyzed: 01/02/01						
Benzene	10.3	0.500	ug/l	10.0	ND	103	60-140			
Toluene	10.5	0.500	"	10.0	ND	105	60-140			
Ethylbenzene	10.5	0.500	"	10.0	ND	105	60-140			
Xylenes (total)	32.3	0.500	"	30.0	ND	108	60-140			
Methyl tert-butyl ether	311	2.50	"	10.0		NR	60-140			Q-03
Surrogate: a,a,a-Trifluorotoluene	*9.91*		"	*10.0*		*99.1*	*60-140*			
Matrix Spike Dup (1010007-MSD1)		**Source: S012333-20**		Prepared & Analyzed: 01/02/01						
Benzene	10.1	0.500	ug/l	10.0	ND	101	60-140	1.96	25	
Toluene	10.4	0.500	"	10.0	ND	104	60-140	0.957	25	
Ethylbenzene	10.5	0.500	"	10.0	ND	105	60-140	0	25	
Xylenes (total)	32.2	0.500	"	30.0	ND	107	60-140	0.310	25	
Methyl tert-butyl ether	323	2.50	"	10.0		NR	60-140	3.79	25	Q-03
Surrogate: a,a,a-Trifluorotoluene	*9.78*		"	*10.0*		*97.8*	*60-140*			

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3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010022 - EPA 5030B (P/T)										
Blank (1010022-BLK1)				Prepared & Analyzed: 01/03/01						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*60-140*			
LCS (1010022-BS1)				Prepared & Analyzed: 01/03/01						
Benzene	10.6	0.500	ug/l	10.0		106	70-130			
Toluene	10.5	0.500	"	10.0		105	70-130			
Ethylbenzene	10.6	0.500	"	10.0		106	70-130			
Xylenes (total)	32.5	0.500	"	30.0		108	70-130			
Methyl tert-butyl ether	10.4	2.50	"	10.0		104	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*60-140*			
Matrix Spike (1010022-MS1)		**Source: S012364-07**		Prepared & Analyzed: 01/03/01						
Benzene	9.80	0.500	ug/l	10.0	ND	98.0	60-140			
Toluene	9.97	0.500	"	10.0	ND	99.7	60-140			
Ethylbenzene	10.1	0.500	"	10.0	ND	101	60-140			
Xylenes (total)	30.8	0.500	"	30.0	ND	103	60-140			
Methyl tert-butyl ether	8.62	2.50	"	10.0	ND	86.2	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.43*		"	*10.0*		*94.3*	*60-140*			
Matrix Spike Dup (1010022-MSD1)		**Source: S012364-07**		Prepared & Analyzed: 01/03/01						
Benzene	10.2	0.500	ug/l	10.0	ND	102	60-140	4.00	25	
Toluene	10.3	0.500	"	10.0	ND	103	60-140	3.26	25	
Ethylbenzene	10.3	0.500	"	10.0	ND	103	60-140	1.96	25	
Xylenes (total)	31.7	0.500	"	30.0	ND	106	60-140	2.88	25	
Methyl tert-butyl ether	9.95	2.50	"	10.0	ND	99.5	60-140	14.3	25	
Surrogate: a,a,a-Trifluorotoluene	*9.70*		"	*10.0*		*97.0*	*60-140*			

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Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

MTBE Confirmation by EPA Method 8260A - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010031 - EPA 5030B [P/T]										
Blank (1010031-BLK1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	ND	2.00	ug/l							
Surrogate: 1,2-DCA-d4	*52.6*		"	*50.0*		*105*	*60-140*			
LCS (1010031-BS1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	57.5	2.00	ug/l	50.0		115	70-130			
Surrogate: 1,2-DCA-d4	*54.1*		"	*50.0*		*108*	*60-140*			
LCS Dup (1010031-BSD1)				Prepared & Analyzed: 01/04/01						
Methyl tert-butyl ether	54.9	2.00	ug/l	50.0		110	70-130	4.63	25	
Surrogate: 1,2-DCA-d4	*52.4*		"	*50.0*		*105*	*60-140*			

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequoialabs.com

Delta Environmental Consultants(Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: N/A	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	01/05/01 17:37

Notes and Definitions

P-02	Chromatogram Pattern: Weathered Gasoline C6-C12
Q-03	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Division of Atlantic-Richfield Company

Task Order No.

Chain of Custody

ARCO Facility no. 2111	City (Facility) SAN Leandro	Project manager (Consultant) Steve Meeks	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant)	Fax no. (Consultant)	Contract number
Consultant name Delta	Address (Consultant) 3164 Gold Camp		Method of shipment

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 MTBE 8021	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 VOA VOA Semi	CAM METALS EPA 6010/7000 TTLC STLC	Lead Org./DHS Lead EPA 7420/7421		
MW 5		6		X		X	X	12-21-00	0538	X		X			5012331-01							

Special detection Limit/reporting

Special QA/QC

Remarks: Confirm 8MTBE By 8260

Lab number

Turnaround time

Condition of sample		Temperature received: 8°
Relinquished by sampler	Date 12-21-00 Time 1450	Received by Monica Gregersen
Relinquished by	Date Time	Received by
Relinquished by	Date Time	Received by Date Time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

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

APC-3292 (2-91)