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June 18, 2002

Mr. Paul Supple
Atlantic Richfield Company
P.O. Box 6549
Moraga, CA 94570

Subject: *Quarterly Groundwater Monitoring Report, First Quarter 2002*
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 first quarter 2002 groundwater monitoring at ARCO 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.

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

REGISTERED PROFESSIONAL ENGINEER
STEVEN WHITTEN MEEKS
C 057461
Exp. 12/31/05
CIVIL
STATE OF CALIFORNIA

6/18/02

TLA (LRP010.306.doc)
Enclosures

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

Date: June 18, 2002

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 2111 Address:	1156 Davis Street, San Leandro, CA
Atlantic Richfield Company 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 first quarter 2002
2. A high vacuum dual phase extraction pilot test was performed on wells V-2, MW-2 and MW-7 during January 2002.
3. Prepared and submitted fourth quarter 2001 groundwater monitoring report.
4. Performed monthly site visits to check for liquid phase hydrocarbons (LPH) in MW-2 or MW-7.

WORK PROPOSED FOR NEXT QUARTER

1. Perform quarterly groundwater monitoring and sampling for second quarter 2002.
2 Prepare and submit first quarter 2002 groundwater monitoring report.
3. Prepare high vacuum dual phase extraction pilot testing report for site.
4. Site will be transferred to new consultant (URS) during second quarter 2002

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:	Occasional sheen only
FP Recovered this Quarter:	0 gallons
Cumulative FP Recovered to Date:	Approximately 1.98 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:	14.45
Groundwater Gradient:	0.004 ft/ft West

DISCUSSION:

- A dual phase extraction test was performed in January 2002. Based on the pilot test results and the approximate 15,000 gallons of groundwater extracted during the test, the well pump out events from MW-2 and MW-7 are currently being evaluated for future need and if warranted may resume in the second or third quarter 2002. After the long term pilot test in January 2002, it appears that petroleum hydrocarbon concentrations have decreased in MW-1, MW-2, and MW-5 and have remained relatively stable in the remaining wells.
- No LPH in MW-2 or MW-7 were evident other than an occasional slight sheen. Well checks for LPH are to be performed by the new consultant on a monthly basis after April 2002.

ATTACHMENTS:

- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Groundwater Flow Direction and Gradient
- Table 3 LPH Remediation Ground Water Pump out 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 and 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
	03/13/01		15.7	23.9	52.5	<5.0	<5.0	<5.0	<500	1,430	1,370
	09/18/01		18.24	21.36	64	7.3	<5.0	52	<500	810	1,100
	12/28/01		15.95	23.65	<5.0	<5.0	5.00	22	<500	1,200	1,100
	03/14/02		16.01	23.59	<0.5	<0.5	<0.5	<0.5	<50	34	40
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
	03/13/01		13.77	23.9	98.1	<5.0	<5.0	6.42	3,650	3,590	3,260
	3/13/2001[b]		NM	NC	525	466	408	1,460	<20,000	91,700	76,000
	9/18/2001[a]		16.86	21.13	NS	NS	NS	NS	NS	NS	NS
	12/28/01		14.28	23.71	1,500	3,800	1,300	4,800	31,000	9,300	8,800
	03/14/02		14.15	23.84	25	43	43	270	1,800	990	960
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
	03/13/01		15.17	24.15	2.83	<0.5	<0.5	<0.5	72.4	126	122
	09/18/01		17.81	21.51	6.4	<0.5	3.5	1.6	140	110	75
	12/28/01		15.44	23.88	5.9	<0.5	0.99	0.55	130	90	63
	03/14/02		15.50	23.82	<0.5	<0.5	<0.5	<0.5	<50	100	88

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-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
	03/13/01		13.73	24.37	0.796	<0.5	<0.5	<0.5	76	53.7	50.0
	09/18/01		16.50	21.59	<0.5	<0.5	<0.5	<0.5	<50	25	26.0
	12/28/01		14.03	24.07	<0.5	<0.5	<0.5	<0.5	<50	15	11.0
	03/14/02		14.10	24.00	<0.5	<0.5	<0.5	<0.5	<50	31	28
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
	03/13/01		13.5	23.71	<5	<5	<5	<5	<500	15,900	20,000
	09/18/01		15.94	21.27	<100	<100	<100	<1,000	<10,000	22,000	20,000
	12/28/01		13.45	23.76	<100	<100	<100	<100	<10,000	10,000	10,000
	03/14/02		13.82	23.39	<50	<50	<50	<50	<5,000	7,100	7,700
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
	03/13/01		12.67	24.44	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA
	09/18/01		15.42	21.69	<0.5	<0.5	<0.5	<0.5	<50	<2.5	<2.0
	12/28/01		12.96	24.15	<0.5	<0.5	<0.5	<0.5	<50	12	<0.5
	03/14/02		12.98	24.13	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA

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-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]
	03/13/01		14.18	24.50	154	63	46.3	127	<2,000	175,000	160,000
	09/18/01		17.02	21.66	1,900	<1,000	<1,000	2,800	<100,000	190,000	370,000
	12/28/01		14.81	23.87	<200	<200	<200	<200	<20,000	84,000	72,000
	03/14/02		14.60	24.08	<500	<500	<500	<500	<50,000	85,000	85,000

[a] Product sheen noted

[b] Well was sampled after batch extraction event.

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
03/13/01	West-Northwest	0.005
05/30/01	West-Northwest	0.004
09/18/01	West-Northwest	0.003
12/28/01	West-Northwest	0.003
03/14/02	West	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
	03/13/01	98.1	<5.0	<5.0	6.42	3,650	3,590	3,260	0	7,500
	03/13/01[a]	525	466	408	1,460	<20,000	91,700	76,00	5,000	12,500
	10/19/01	780	1200	350	1,600	12,000	29,000	NA	0	17,500
	10/19/01[a]	200	240	160	480	<10,000	3,000	NA	4,800	22,300
	12/28/01	1,500	3,800	1,300	4,800	31,000	9,300	8,800	0	22,300
	03/14/02[b]	25	43	43	270	1,800	990	960	5,960	28,260
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
	03/13/01	NS	NS	NS	NS	NS	NS	NS	0	100
	10/19/01	1,100	<1,000	<1,000		<100,000	210,000	NA	0	100
	10/19/01[a]	<500	<500	<500		<50,000	91,000	NA	200	300
	12/28/01	<200	<200	<200	<200	<20,000	84,000	72,000	0	300
	03/14/02[b]	<500	<500	<500	<500	<50,000	85,000	85,000	1,900	2,200

a Sampled after purging

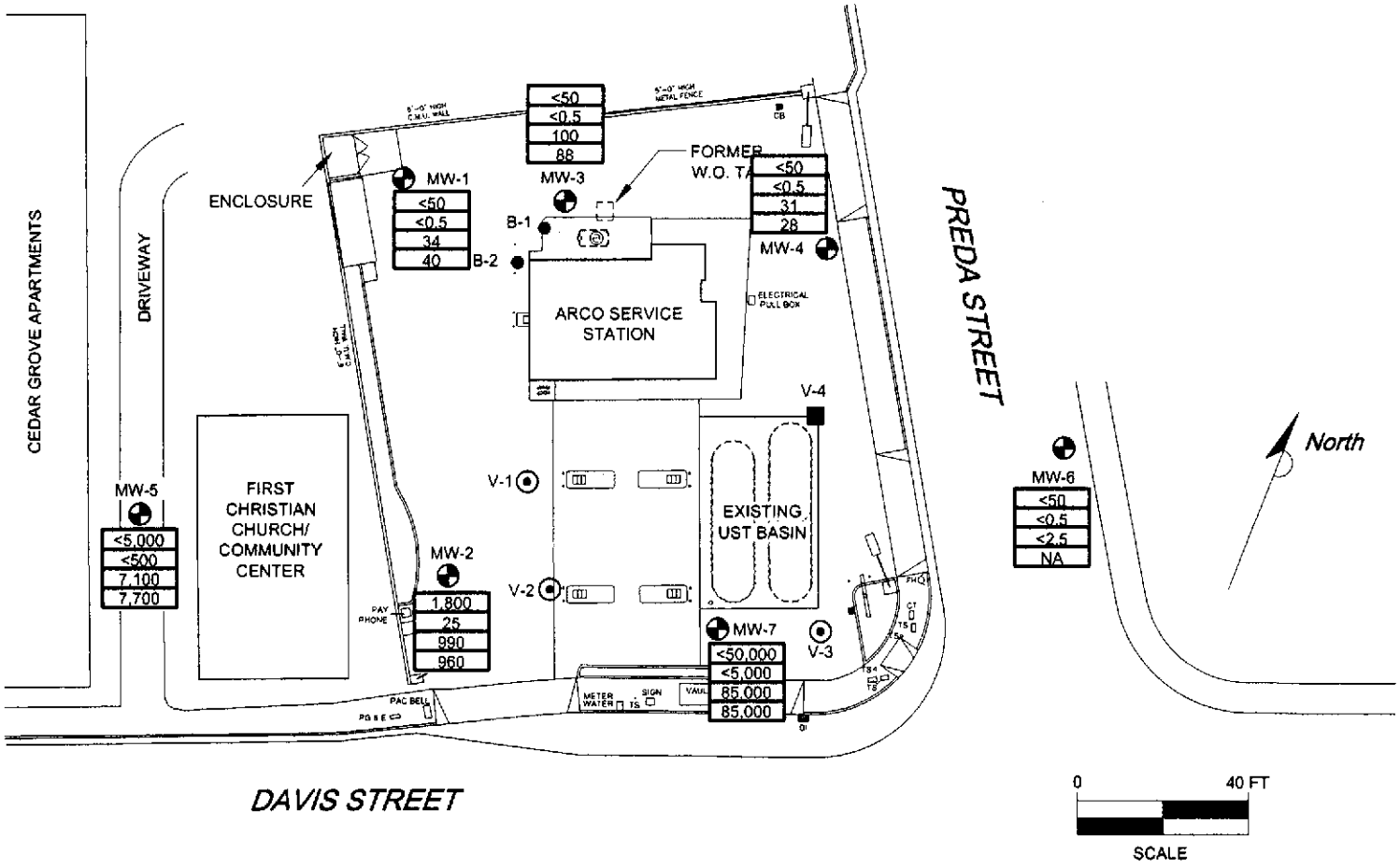
b Sampled after January 2002 pilot testing event (Approximately 15, 000 gallons pumped from event using wells V-1, MW-7 and MW-2).

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 (µg/L)
<0.5	BENZENE IN µg/L
<2.5	MTBE IN µg/L BY EPA METHOD 8020
NA	MTBE IN µg/L BY EPA METHOD 8260

NA NOT ANALYZED/ NOT APPLICABLE

FIGURE 1
GROUND WATER ANALYTICAL SUMMARY
FIRST QUARTER 2002 (3/14/02)
ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-306	DRAWN BY TLA 6/2/02
FILE NO. 2111-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

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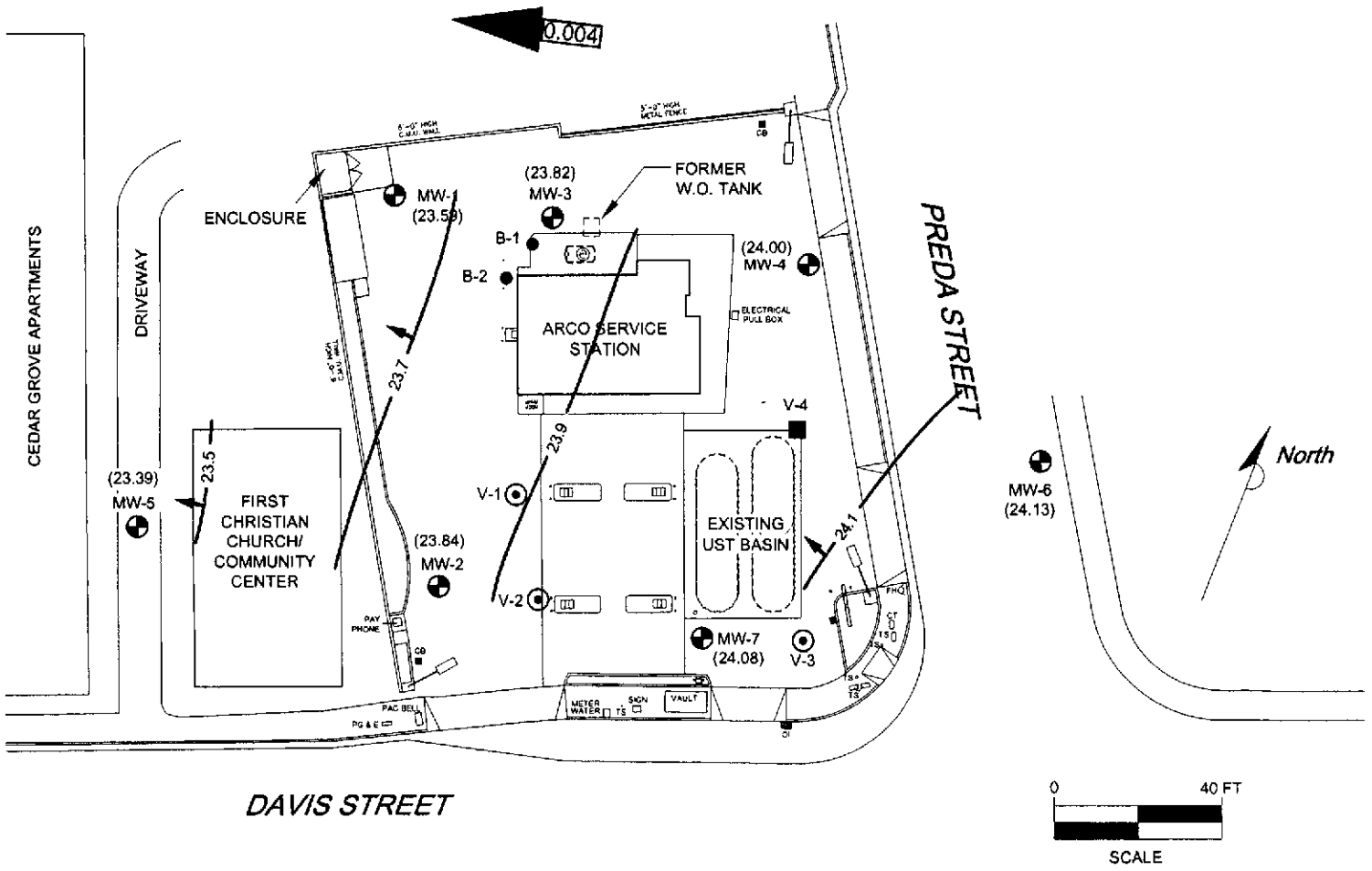

LEGEND:

MW-1	MONITORING WELL LOCATION
V-1	VAPOR EXTRACTION WELL LOCATION
B-1	SOIL BORING LOCATION
V-4	DESTROYED WELL LOCATION
(23.59)	GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
23.7	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
FIRST QUARTER 2002 (3/14/02)
ARCO SERVICE STATION NO. 2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. D000-306	DRAWN BY TLA 6/2/02
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	Depth to Water	Free Product Thickness	Groundwater Elevation	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8021B*	Toluene EPA 8021B*	Ethylbenzene EPA 8021B*	Total Xylenes EPA 8021B*	MTBE EPA 8021B*	MTBE EPA 8260	TRPH EPA 418.1	LUFT Method	Dissolved Oxygen	Purged/ Not Purged
		ft-MSL	feet	feet	ft-MSL		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	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	--	--	--		

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	Depth to Water	Free Product Thickness	Groundwater Elevation	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8021B*	Toluene EPA 8021B*	Ethylbenzene EPA 8021B*	Total Xylenes EPA 8021B*	MTBE EPA 8021B*	MTBE EPA 8260	TRPH EPA 418.1	LUFT Method	Dissolved Oxygen	Purged/ Not Purged
		ft-MSL	feet	feet	ft-MSL		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	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
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	Depth to Water	Free Product Thickness	Groundwater Elevation	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8021B*	Toluene EPA 8021B*	Ethylbenzene EPA 8021B*	Total Xylenes EPA 8021B*	MTBE EPA 8021B*	MTBE EPA 8260	TRPH EPA 418.1	TPHD LUFT Method	Dissolved Oxygen	Purged/ Not Purged
		ft-MSL	feet	feet	ft-MSL		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	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

Site Contact & Phone Number: ____________________

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 Sampled By:	Stratus (CH)	Date Sampled:	03/14/02

Water Level Data							Purge Volume Calculations					Sampling Analytes				Sample Record		
Well ID	Time	Depth to Water (feet)	Depth to Product (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	Dissolved Oxygen (mg/L)	Sample Freqency (A, S, Q)	Sample I.D.	Sample Time
MW-1	13:30	**16.01**	**N/A**	12.5	26.0	☑	9.99	4 inch	2.0	20.0	NP	☑	☑	☑	0.96	Q/2,5,8,11	**MW-1**	15:15
MW-2	13:33	**14.15**	**N/A**	12.0	26.3	☑	12.15	4 inch	2.0	24.3	NP	☑	☑	☑	0.38	Q/2,5,8,11	**MW-2**	15:50
MW-3	13:35	**15.50**	**N/A**	11.9	26.5	☑	11.00	4 inch	2.0	22.0	NP	☑	☑	☑	1.22	Q/2,5,8,11	**MW-3**	15:05
MW-4	13:38	**14.10**	**N/A**	10.0	21.6	☑	7.50	4 inch	2.0	15.0	NP	☑	☑	☑	1.11	Q/2,5,8,11	**MW-4**	14:20
MW-5	13:41	**13.82**	**N/A**	9.4	23.6	☑	9.78	2 inch	0.5	4.9	NP	☑	☑	☑	1.13	Q/2,5,8,11	**MW-5**	14:10
MW-6	13:43	**12.98**	**N/A**	10.0	24.8	☑	11.82	2 inch	0.5	5.9	NP	☑	☑	☑	0.97	Q/2,5,8,11	**MW-6**	14:00
MW-7	13:45	**14.60**	**N/A**	12.0	26.9	☑	12.30	4 inch	2.0	24.6	NP	☑	☑	☑	0.48	Q/2,5,8,11	**MW-7**	15:30
						☐						☑	☑	☑				
						☐						☐	☐	☐				
***Use Separate COC for Sample from MW-5**						☐						☐	☐	☐				
						☐						☐	☐	☐				
						☐						☐	☐	☐				
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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.

APPENDIX D

Certified Analytical Reports
And
Chain-of-Custody Documentation

Sequoia
Analytical

819 Striker Avenue, Suite 8
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1 April, 2002

Steven Meeks
Delta Environmental Consultants (Rancho Cordova)
3164 Gold Camp Drive Ste. 200
Rancho Cordova, CA 95670

RE: ARCO 2111, San Leandro, CA
Sequoia Report: S203292

Enclosed are the results of analyses for samples received by the laboratory on 03/19/02 14:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate #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: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	S203292-01	Water	03/14/02 15:15	03/19/02 14:06
MW-2	S203292-02	Water	03/14/02 15:50	03/19/02 14:06
MW-3	S203292-03	Water	03/14/02 15:05	03/19/02 14:06
MW-4	S203292-04	Water	03/14/02 14:20	03/19/02 14:06
MW-5	S203292-05	Water	03/14/02 14:10	03/19/02 14:06
MW-6	S203292-06	Water	03/14/02 14:00	03/19/02 14:06
MW-7	S203292-07	Water	03/14/02 15:30	03/19/02 14:06
TB	S203292-08	Water	03/14/02 06:00	03/19/02 14:06

Sequoia Analytical - Sacramento

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Ron Chew, Client Services Representative

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: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (S203292-01) Water Sampled: 03/14/02 15:15 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50	ug/l	1	2030330	03/25/02	03/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**34**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91.2 %*	*60-140*		"	"	"	"	
MW-2 (S203292-02) Water Sampled: 03/14/02 15:50 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	**1800**	500	ug/l	10	2030356	03/26/02	03/26/02	DHS LUFT	
Benzene	**25**	5.0	"	"	"	"	"	"	
Toluene	**43**	5.0	"	"	"	"	"	"	
Ethylbenzene	**43**	5.0	"	"	"	"	"	"	
Xylenes (total)	**270**	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**990**	25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95.0 %*	*60-140*		"	"	"	"	
MW-3 (S203292-03) Water Sampled: 03/14/02 15:05 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50	ug/l	1	2030330	03/25/02	03/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**100**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*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: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (S203292-04) Water Sampled: 03/14/02 14:20 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50	ug/l	1	2030330	03/25/02	03/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**31**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*60-140*		"	"	"	"	
MW-5 (S203292-05) Water Sampled: 03/14/02 14:10 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	5000	ug/l	100	2030356	03/26/02	03/26/02	DHS LUFT	
Benzene	ND	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	**7100**	250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.2 %*	*60-140*		"	"	"	"	
MW-6 (S203292-06) Water Sampled: 03/14/02 14:00 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50	ug/l	1	2030356	03/25/02	03/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*0.488 %*	*60-140*		"	"	"	"	*A-01*

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Delta Environmental Consultants (Rancho Cordova	Project: ARCO 2111, San Leandro, CA	
3164 Gold Camp Drive Ste. 200	Project Number: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (S203292-07) Water Sampled: 03/14/02 15:30 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50000	ug/l	1000	2030356	03/26/02	03/26/02	DHS LUFT	
Benzene	ND	500	"	"	"	"	"	"	
Toluene	ND	500	"	"	"	"	"	"	
Ethylbenzene	ND	500	"	"	"	"	"	"	
Xylenes (total)	ND	500	"	"	"	"	"	"	
Methyl tert-butyl ether	**85000**	2500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*99.2 %*		*60-140*		"	"	"	
TB (S203292-08) Water Sampled: 03/14/02 06:00 Received: 03/19/02 14:06									
Purgeable Hydrocarbons	ND	50	ug/l	1	2030330	03/25/02	03/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**6.6**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*88.1 %*		*60-140*		"	"	"	

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3164 Gold Camp Drive Ste. 200	Project Number: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

MTBE Confirmation by EPA Method 8260B

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (S203292-01) Water Sampled: 03/14/02 15:15 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**40**	2.5	ug/l	5	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*127 %*	*60-140*		"	"	"	"	
MW-2 (S203292-02) Water Sampled: 03/14/02 15:50 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**960**	10	ug/l	20	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*119 %*	*60-140*		"	"	"	"	
MW-3 (S203292-03) Water Sampled: 03/14/02 15:05 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**88**	5.0	ug/l	10	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*115 %*	*60-140*		"	"	"	"	
MW-4 (S203292-04) Water Sampled: 03/14/02 14:20 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**28**	0.50	ug/l	1	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*126 %*	*60-140*		"	"	"	"	
MW-5 (S203292-05) Water Sampled: 03/14/02 14:10 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**7700**	50	ug/l	100	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*125 %*	*60-140*		"	"	"	"	
MW-7 (S203292-07) Water Sampled: 03/14/02 15:30 Received: 03/19/02 14:06									
Methyl tert-butyl ether	**85000**	500	ug/l	1000	2030350	03/27/02	03/27/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*118 %*	*60-140*		"	"	"	"	
TB (S203292-08) Water Sampled: 03/14/02 06:00 Received: 03/19/02 14:06									
Methyl tert-butyl ether	ND	0.50	ug/l	1	2030328	03/26/02	03/26/02	EPA 8260B	
Surrogate: 1,2-DCA-d4		*112 %*	*60-140*		"	"	"	"	

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: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Total Purgeable Hydrocarbon, 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 2030330 - EPA 5030B (P/T)										
Blank (2030330-BLK1)				Prepared & Analyzed: 03/25/02						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*9.97*		"	*10.0*		*99.7*	*60-140*			
LCS (2030330-BS1)				Prepared & Analyzed: 03/25/02						
Benzene	8.57	0.50	ug/l	10.0		85.7	70-130			
Toluene	9.07	0.50	"	10.0		90.7	70-130			
Ethylbenzene	9.33	0.50	"	10.0		93.3	70-130			
Xylenes (total)	28.7	0.50	"	30.0		95.7	70-130			
Methyl tert-butyl ether	9.58	2.5	"	10.0		95.8	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.7*		"	*10.0*		*107*	*60-140*			
Matrix Spike (2030330-MS1)	**Source: S203292-01**			Prepared & Analyzed: 03/25/02						
Benzene	8.47	0.50	ug/l	10.0	ND	84.7	60-140			
Toluene	9.12	0.50	"	10.0	ND	91.2	60-140			
Ethylbenzene	9.48	0.50	"	10.0	ND	94.8	60-140			
Xylenes (total)	28.9	0.50	"	30.0	ND	96.3	60-140			
Methyl tert-butyl ether	48.4	2.5	"	10.0	34	144	60-140			QM-4X
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*60-140*			
Matrix Spike Dup (2030330-MSD1)	**Source: S203292-01**			Prepared & Analyzed: 03/25/02						
Benzene	8.95	0.50	ug/l	10.0	ND	89.5	60-140	5.51	25	
Toluene	9.64	0.50	"	10.0	ND	96.4	60-140	5.54	25	
Ethylbenzene	9.97	0.50	"	10.0	ND	99.7	60-140	5.04	25	
Xylenes (total)	30.3	0.50	"	30.0	ND	101	60-140	4.73	25	
Methyl tert-butyl ether	50.9	2.5	"	10.0	34	169	60-140	5.04	25	QM-4X
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*60-140*			

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Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Total Purgeable Hydrocarbon, 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 2030356 - EPA 5030B (P/T)										
Blank (2030356-BLK1)				Prepared & Analyzed: 03/26/02						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*9.65*		"	*10.0*		*96.5*	*60-140*			
LCS (2030356-BS1)				Prepared & Analyzed: 03/26/02						
Benzene	8.46	0.50	ug/l	10.0		84.6	70-130			
Toluene	9.16	0.50	"	10.0		91.6	70-130			
Ethylbenzene	9.52	0.50	"	10.0		95.2	70-130			
Xylenes (total)	29.6	0.50	"	30.0		98.7	70-130			
Methyl tert-butyl ether	9.63	2.5	"	10.0		96.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*60-140*			
Matrix Spike (2030356-MS1)		**Source: S203398-09**		Prepared & Analyzed: 03/26/02						
Benzene	8.25	0.50	ug/l	10.0	ND	82.5	60-140			
Toluene	8.82	0.50	"	10.0	ND	86.4	60-140			
Ethylbenzene	9.22	0.50	"	10.0	ND	92.2	60-140			
Xylenes (total)	28.7	0.50	"	30.0	ND	95.7	60-140			
Methyl tert-butyl ether	31.3	2.5	"	10.0	22	93.0	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.85*		"	*10.0*		*98.5*	*60-140*			
Matrix Spike Dup (2030356-MSD1)		**Source: S203398-09**		Prepared & Analyzed: 03/26/02						
Benzene	9.11	0.50	ug/l	10.0	ND	91.1	60-140	9.91	25	
Toluene	9.68	0.50	"	10.0	ND	95.0	60-140	9.30	25	
Ethylbenzene	10.1	0.50	"	10.0	ND	101	60-140	9.11	25	
Xylenes (total)	31.1	0.50	"	30.0	ND	104	60-140	8.03	25	
Methyl tert-butyl ether	32.1	2.5	"	10.0	22	101	60-140	2.52	25	
Surrogate: a,a,a-Trifluorotoluene	*10.1*		"	*10.0*		*101*	*60-140*			

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3164 Gold Camp Drive Ste. 200	Project Number: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

MTBE Confirmation by EPA Method 8260B - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2030328 - EPA 5030B [P/T]										
Blank (2030328-BLK1)				Prepared & Analyzed: 03/26/02						
Methyl tert-butyl ether	ND	0.50	ug/l							
Surrogate: 1,2-DCA-d4	*31.0*		"	*25.0*		*124*	*60-140*			
LCS (2030328-BS1)				Prepared & Analyzed: 03/26/02						
Methyl tert-butyl ether	31.8	0.50	ug/l	25.0		127	70-130			
Surrogate: 1,2-DCA-d4	*28.8*		"	*25.0*		*115*	*60-140*			
Matrix Spike (2030328-MS1)	**Source: S203379-01**			Prepared & Analyzed: 03/26/02						
Methyl tert-butyl ether	30.5	0.50	ug/l	25.0	ND	122	60-140			
Surrogate: 1,2-DCA-d4	*28.6*		"	*25.0*		*114*	*60-140*			
Matrix Spike Dup (2030328-MSD1)	**Source: S203379-01**			Prepared & Analyzed: 03/26/02						
Methyl tert-butyl ether	32.9	0.50	ug/l	25.0	ND	132	60-140	7.57	25	
Surrogate: 1,2-DCA-d4	*29.8*		"	*25.0*		*119*	*60-140*			
Batch 2030350 - EPA 5030B [P/T]										
Blank (2030350-BLK1)				Prepared & Analyzed: 03/27/02						
Methyl tert-butyl ether	ND	0.50	ug/l							
Surrogate: 1,2-DCA-d4	*33.1*		"	*25.0*		*132*	*60-140*			
LCS (2030350-BS1)				Prepared & Analyzed: 03/27/02						
Methyl tert-butyl ether	32.6	0.50	ug/l	25.0		130	70-130			
Surrogate: 1,2-DCA-d4	*30.3*		"	*25.0*		*121*	*60-140*			
Matrix Spike (2030350-MS1)	**Source: S203419-09**			Prepared & Analyzed: 03/27/02						
Methyl tert-butyl ether	31.4	0.50	ug/l	25.0	ND	126	60-140			
Surrogate: 1,2-DCA-d4	*30.4*		"	*25.0*		*122*	*60-140*			

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3164 Gold Camp Drive Ste. 200	Project Number: 2111, San Leandro, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

MTBE Confirmation by EPA Method 8260B - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2030350 - EPA 5030B [P/T]										
Matrix Spike Dup (2030350-MSD1)	**Source: S203419-09**			Prepared & Analyzed: 03/27/02						
Methyl tert-butyl ether	31.6	0.50	ug/l	25.0	ND	126	60-140	0.635	25	
Surrogate: 1,2-DCA-d4	*32.3*		"	*25.0*		*129*	*60-140*			

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Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/01/02 13:13

Notes and Definitions

A-01	Surrogate inadvertantly missed in this sample.
QM-4X	The spike recovery was outside of control limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
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

Work Authorization No. 2599300

Chain of Custody

ARCO Facility No. 2111	City (Facility) San Leandro - CA	Project Manager (Consultant) Steven Omelks	Laboratory name
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) 638 2085	Fax no. (Consultant) 638 8385	Contract number
Company name (Consultant) Delta		Address (Consultant) Rancho Cordova	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 8021	BTEX/TPH EPA M602/8021/8015 MTBE	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM5030E	BTEX + MTBE EPA 8260	BTEX + Stimulated Oxygenates EPA 8260	Semi TCLP Metals ☐ VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐			
MW-1		4		X		X	X	3-14-02	15:15		X			8260			-01					
MW-2									15:50								-02					
MW-3									15:05								-03					
MW-4									14:20								-04					
MW-5									14:10								-05					
MW-6									14:00								-06					
MW-7									15:30								-07					
TB		2							600								-08					

Remarks: Confirm MTBE by 8260

Special QA/QC

Type of Work
- ☐ Dispenser Work
- ☑ Line Job
- ☐ Routine Sampling
- ☐ Site Acquisitions
- ☑ Site Assessment
- ☐ UST Removal
- ☐ UST Replacement
- ☐ Other

Lab number

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

Special detection Limit/reporting

Condition of sample:

Temperature received: 7°

	Date	Time		Date	Time
Relinquished by sampler	3-19-02	1406	Received by		
Relinquished by			Received by	3/19/02	1406
Relinquished by			Received by laboratory		

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APC-3292 (2-01)