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URS

October 13, 2002

Mr. John Kaiser
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Alameda County
NOV 06 2002
Environmental Health

Re: **Quarterly Groundwater Monitoring Report**
Second Quarter 2002
ARCO Service Station No. 0374
6407 Telegraph Avenue
Oakland, California
URS Project # 38465869

Dear Mr. Kaiser:

On behalf of ARCO (affiliated to Group Environmental Management Company), URS Corporation (URS) is pleased to submit the Quarterly Groundwater Monitoring Report. This report presents the results of the second quarter 2002 groundwater monitoring program at ARCO Service Station No. 0374, located at 6407 Telegraph Avenue Oakland, California. The monitoring program complies with the California Regional water Quality Control Board requirements regarding underground storage tank (UST) investigations.

Please call us at 510-893-3600 if you have questions.

Sincerely,
URS CORPORATION

Scott Robinson
Project Manager

Amy Breckenridge
Portfolio Manager

Attachment: Quarterly Groundwater Monitoring Report, Second Quarter 2002

cc: Mr. Paul Supple, ARCO, PO Box 6549, Moraga, California 94570
Ms. Susan Hugo, Alameda County Health Care Services, 1131 Harbor Bay Parkway, 2nd Floor, Alameda, CA 94502

URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
Fax: 510.874.3268

Quarterly Groundwater Monitoring Report

Second Quarter 2002

ARCO Service Station No. 374
6407 Telegraph Avenue
Oakland, California
URS Project # 38465869

Prepared For:

Mr. Paul Supple
ARCO

October 13, 2002

Prepared By:
URS Corporation.
500 12th Street, Suite 200
Oakland, CA 94607-4014

URS

Date : October 13, 2002

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.:	374	Address:	6407 Telegraph Avenue, Oakland, CA
ARCO Environmental Engineer/Phone No.:			Paul Supple / 925-299-8891
Consulting Co./Contact Person			URS Corporation / Scott Robinson
Consultant Project No.:			38465869
Primary Agency/Regulatory ID No.			California Regional Water Quality Control Board San Francisco Bay Region

WORK PERFORMED THIS QUARTER (SECOND – 2002)

1. Performed quarterly groundwater monitoring for the second quarter 2002.
2. Prepared and submitted quarterly groundwater monitoring report for first quarter 2002.

WORK PROPOSED FOR NEXT QUARTER (THIRD – 2002)

1. Prepare and submit quarterly groundwater monitoring report for the second quarter 2002.
2. Perform quarterly groundwater monitoring and sampling for the third quarter 2002.

QUARTERLY MONITORING:

Current Phase of Project	Monitoring
Frequency of Groundwater Sampling:	Annual (2nd Quarter): MW-1, MW-2, MW-6 Semi-annual (2nd/4th Quarter): MW-3, MW-4 Quarterly: MW-5
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product (FP) Present On–Site:	No
FP Recovered this Quarter:	None
Cumulative FP Recovered to Date:	None
Bulk Soil Removed This Quarter:	None
Bulk Soil Removed to Date:	None
Current Remediation Techniques:	Intrinsic Bioremediation
Approximate Depth to Groundwater:	5.87 feet
Groundwater Gradient:	0.031 feet per foot toward southwest

DISCUSSION:

- Benzene was detected in MW-4 at a concentration of 2200 µg/L.
- Total petroleum hydrocarbons as gasoline were detected in MW-4 at 7100 µg/L.
- Methyl tertiary butyl ether was detected in sample collected from MW-3 at 8.7 µg/L.

Date : October 13, 2002

ATTACHMENTS:

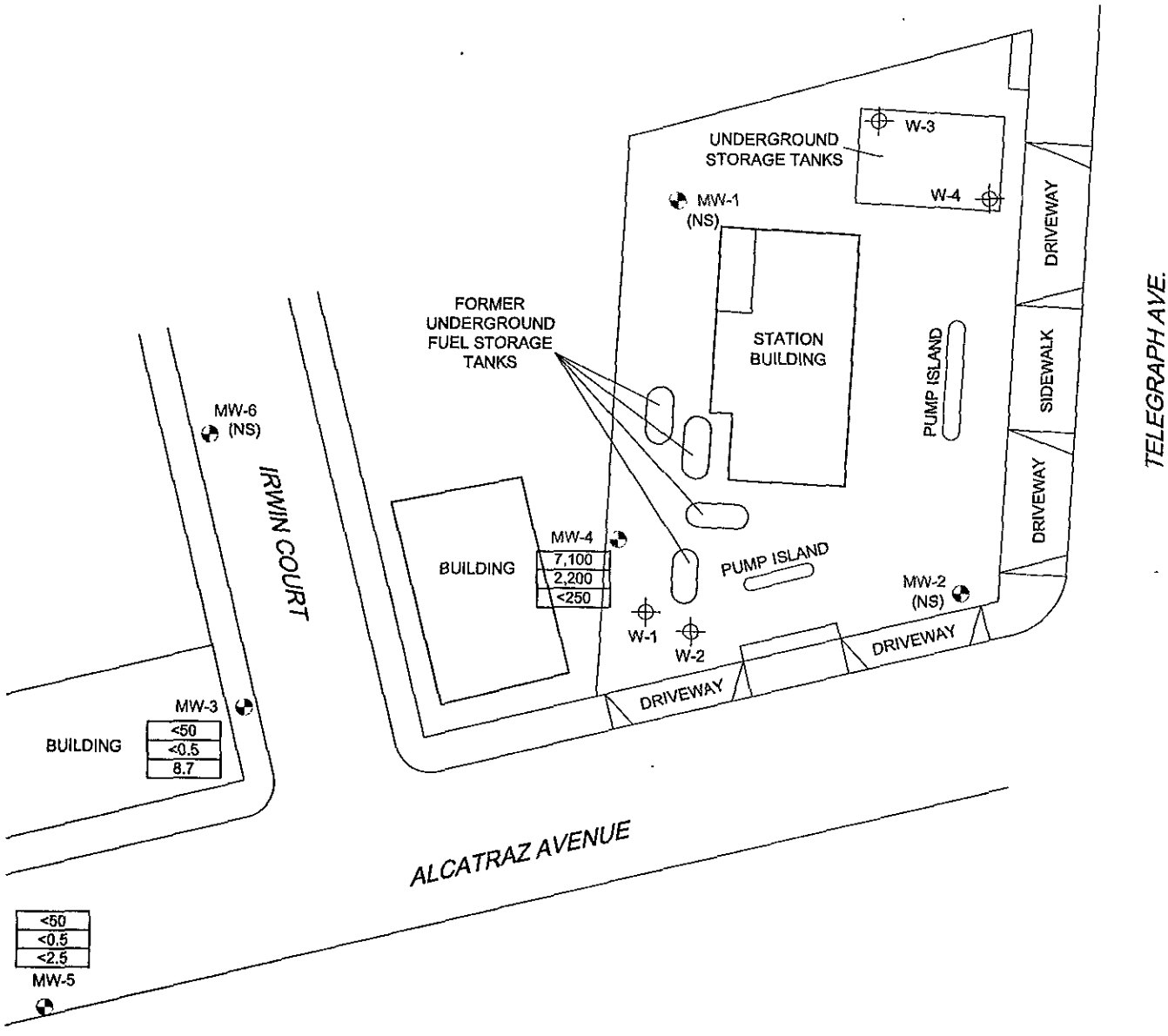
- Disclaimer Statement – Groundwater Monitoring Report
- Table 1 Summary of Groundwater Elevation and Analytical Data
- Table 2 Groundwater Flow Direction and Gradient
- Figure 1 Groundwater Analytical Summary Map
- Figure 2 Groundwater Elevation Contour Map
- Attachment A Sampling and Analysis Procedures
- Attachment B Historical Groundwater Elevation and Analytical Data Table
  Groundwater Flow Direction and Gradient Table
  Intrinsic Bioremediation Evaluation and Enhancement Data
  (Source: IT Corporation)
- Attachment C Certified Analytical Reports with Chain–of–Custody
- Attachment D Field Data Sheets
- Attachment E EDCC Report and EDF, Geowell Submittal Confirmation Number Page

URS QUARTERLY MONITORING REPORT
DISCLAIMER
GROUP ENVIRONMENTAL MANAGEMENT COMPANY SITES

This report is based on data, site conditions, and other information that are generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame.

Background information, including but not limited to previous field measurements, analytical results, site plans, and other data has been furnished to URS by Group Environmental Management Company, its previous consultants, and/or third parties that URS has used in preparing this report. URS has relied on this information as furnished. URS is not responsible for nor has it confirmed the accuracy of this information.

The analytical data provided by the laboratory approved by Group Environmental Management Company have been reviewed and verified by that laboratory. URS has not performed an independent review of the data and is neither responsible for nor has confirmed the accuracy of these data. Field measurements have been supplied by a groundwater sampling subcontractor. URS has not performed an independent review of the field sampling data and is neither responsible for nor has confirmed the accuracy of these data.



LEGEND

MW-1	MONITORING WELL LOCATION
W-1	TANK PIT MONITORING WELL LOCATION
<50 / <0.5 / <2.5	TPH AS GASOLINE IN MICROGRAMS PER LITER BENZENE IN MICROGRAMS PER LITER MTBE IN MICROGRAMS PER LITER
(NS)	NOT SAMPLED

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

NORTH

0 40 80

SCALE IN FEET

URS

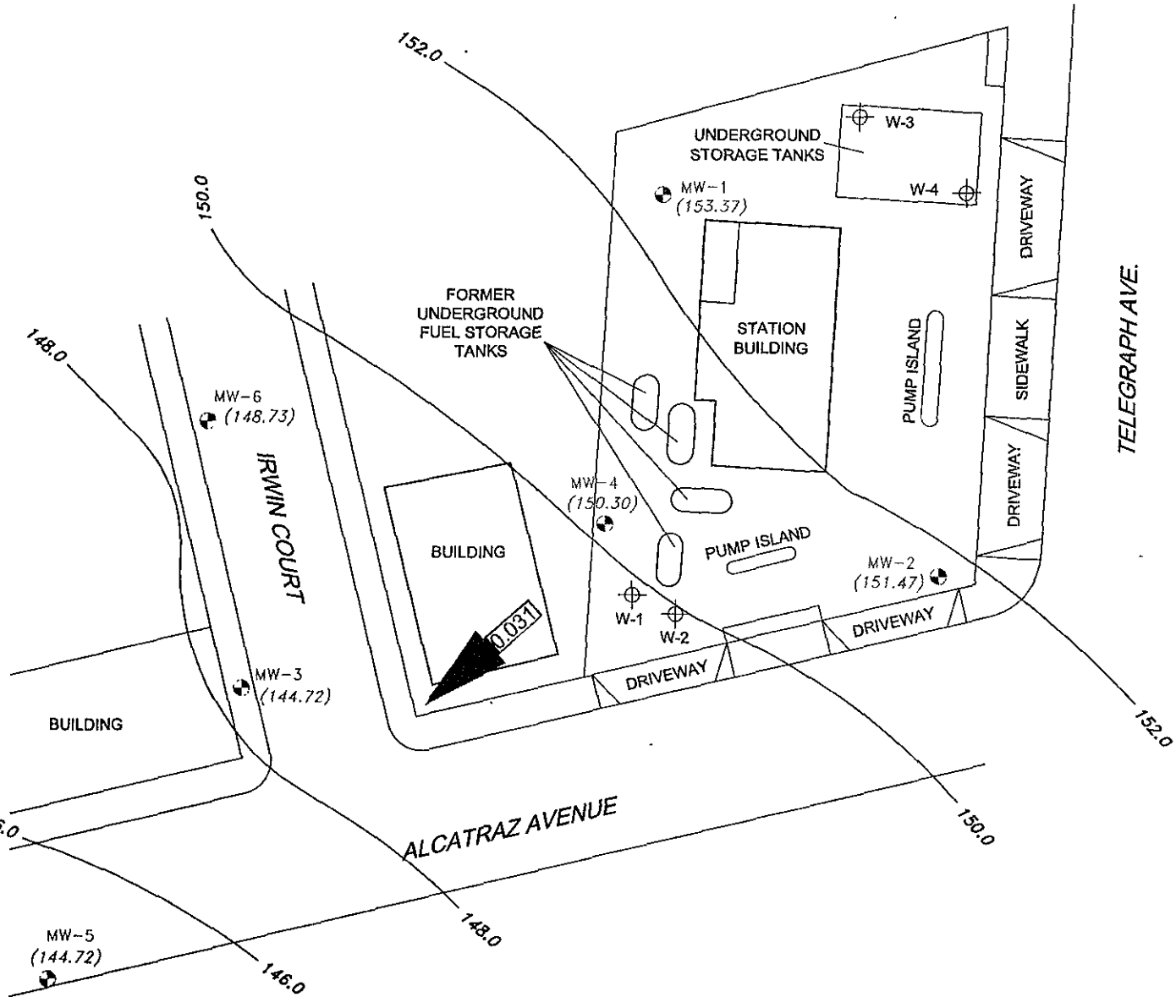
Project No. 38465869

Arco Service Station 0374
6407 Telegraph Avenue
Oakland, California

GROUNDWATER ANALYTICAL SUMMARY
Second Quarter 2002 (April 17, 2002)

FIGURE
1

X:\x_env\waste\BP GEM\Sites\Scott Robinson\Paul Supple\0374\Reports\Monitoring\Qtr. 2, 2002\Drawings\1_GWAS_4-17-02.dwg



LEGEND

MW-1	MONITORING WELL LOCATION
EX-1	GROUNDWATER EXTRACTION WELL LOCATION
MW-1	DESTROYED WELL LOCATION
(17.56)	GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
— 19.00 —	WATER TABLE CONTOUR IN FEET ABOVE MSL
→	GROUND WATER FLOW DIRECTION
0.031	APPROXIMATE GROUND WATER FLOW GRADIENT

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

NORTH

0 40 80

SCALE IN FEET

URS

Project No. 38465869

Arco Service Station 0374
6407 Telegraph Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP
Second Quarter 2002 (April 17, 2002)

FIGURE 2

X:\x_env\waste\BP GEM\Sites\Scott Robinson\Paul Supple\0374\Reports\Monitoring\Qtr. 2, 2002\Drawings\2_GWEC_4-17-02.dwg

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION AND ANALYTICAL DATA

ARCO Service Station 374
6407 Telegraph Avenue
Oakland, 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 (µg/L)
MW-1	06/20/2000	158.91	6.86	152.05	NS	NS	NS	NS	NS	NS
	09/28/2000		7.50	151.41	NS	NS	NS	NS	NS	NS
	12/17/2000		7.49	151.42	NS	NS	NS	NS	NS	NS
	03/23/2001		5.90	153.01	<0.5	<0.5	<0.5	<0.5	<50	2,710
	06/21/2001		7.45	151.46	NS	NS	NS	NS	NS	NS
	09/23/2001		8.46	150.45	NS	NS	NS	NS	NS	NS
	12/31/2001		5.50	153 41	NS	NS	NS	NS	NS	NS
	03/21/2002		4.71	154.2	<50	<50	<50	<50	<5,000	2000
	04/17/2002		**5.54**	**153.37**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-2	06/20/2000	157.92	7.67	150.25	NS	NS	NS	NS	NS	NS
	09/28/2000		8.51	149.41	NS	NS	NS	NS	NS	NS
	12/17/2000		8.14	149.78	NS	NS	NS	NS	NS	NS
	03/23/2001		7.21	150.71	<0.5	<0.5	<0.5	<0.5	<50	<2.5
	06/21/2001		7.99	149.93	NS	NS	NS	NS	NS	NS
	09/23/2001		8.52	149.4	NS	NS	NS	NS	NS	NS
	12/31/2001		6.01	151.91	NS	NS	NS	NS	NS	NS
	03/21/2002		5.95	151 97	<0.5	<0.5	<0.5	<0.5	<50	45
	04/17/2002		**6.45**	**151.47**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-3	06/20/2000	153.64	6.42	147.22	<0.5	<0.5	<0.5	<1.0	<50	<10
	09/28/2000		7.31	146.33	NS	NS	NS	NS	NS	NS
	12/17/2000		6.45	147 19	<0.5	<0.5	<0 5	<0.5	<50	<2.5
	03/23/2001		6.01	147.63	NS	NS	NS	NS	NS	NS
	06/21/2001		6.80	146.84	5.5	<0.5	5.4	4.1	110	2.5
	09/23/2001		7.32	146.32	NS	NS	NS	NS	NS	NS
	12/31/2001		4 48	149.16	<0.5	<0.5	<0 5	<0.5	<50	4.9
	03/21/2002		4.36	149.28	NS	NS	NS	NS	NS	NS
	04/17/2002		**5.31**	**148.33**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<50**	**8.7**

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION AND ANALYTICAL DATA

ARCO Service Station 374
6407 Telegraph Avenue
Oakland, 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 (µg/L)
MW-4	06/20/2000	156.53	7.50	149.03	5,100	440	1,000	1,700	20,000	<250
	09/28/2000		8.20	148.33	NS	NS	NS	NS	NS	NS
	12/17/2000		8.11	148.42	1240	<20	27.2	249	4,320	<100
	03/23/2001		6.69	149.84	NS	NS	NS	NS	NS	NS
	06/21/2001		8 01	148.52	470	16	19	160	2,800	130
	09/23/2001		8.91	147.62	NS	NS	NS	NS	NS	NS
	12/31/2001		4.42	152.11	1,500	100	160	210	4,600	160
	03/21/2002		4.98	151.55	NS	NS	NS	NS	NS	NS
	04/17/2002		**6.23**	**150.30**	**2200**	**110**	**290**	**450**	**7100**	**<250**
MW-5	06/20/2000	151.33	7.84	143.49	<0.5	<0.5	<0.5	<1.0	<50	<10
	09/28/2000		8.37	142 96	<0.5	<0.5	<0 5	<0.5	<50	<2.5
	12/17/2000		8.36	142.97	< 0.5	< 0.5	< 0.5	< 0.5	<50	<2 5
	03/23/2001		7.55	143.78	< 0.5	< 0.5	< 0.5	< 0.5	<50	<2.5
	06/21/2001		8.20	143.13	< 0.5	< 0.5	< 0.5	< 0.5	<50	<2.5
	09/23/2001		8.68	142.65	<0.5	< 0.5	< 0.5	< 0.5	<50	<2.5
	12/31/2001		7.57	143.76	<0.5	< 0.5	< 0.5	< 0.5	<50	<2 5
	03/21/2002		6.12	145.21	<0.5	<0.5	<0.5	<0.5	<50	3.2
	04/17/2002		**6.61**	**144.72**	**<0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**<50**	**<2.5**

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION AND ANALYTICAL DATA

ARCO Service Station 374
6407 Telegraph Avenue
Oakland, 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 (µg/L)
MW-6	06/20/2000	153.84	4 79	149.05	NS	NS	NS	NS	NS	NS
	09/28/2000		5.39	148.45	NS	NS	NS	NS	NS	NS
	12/17/2000		4.71	149.13	NS	NS	NS	NS	NS	NS
	03/23/2001		4.69	149.15	< 0.5	< 0.5	< 0.5	< 0.5	<50	<2.5
	06/21/2001		5.22	148 62	NS	NS	NS	NS	NS	NS
	09/23/2001		5.40	148.44	NS	NS	NS	NS	NS	NS
	12/31/2001		3.95	149.89	NS	NS	NS	NS	NS	NS
	03/21/2002		2.94	150.9	<0.5	<0.5	<0.5	<0.5	<50	5.2
	04/17/2002		**5.11**	**148.73**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

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

NS = Not sampled

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

TABLE 2

GROUNDWATER FLOW DIRECTION AND GRADIENT

ARCO Service Station No. 374
6407 Telegraph Avenue
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/20/00	Southwest	0.035
09/28/00	Southwest	0.034
12/17/00	Southwest	0.032
03/23/01	Southwest	0.034
06/21/01	Southwest	0.032
09/23/01	Southwest	0.029
12/31/01	Southwest	0.043
03/21/02	Southwest	0.038
04/17/02	**Southwest**	**0.031**

ATTACHMENT A

GROUNDWATER SAMPLING PROCEDURES

ATTACHMENT A
GROUNDWATER SAMPLING PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear Teflon™ bailer or an oil-water interface probe. Wells not containing free product that do not have submerged screens are then sampled without purging. Wells that have submerged screens are purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment and purging method used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples (both purge and no purge) are collected using a Teflon bailer, placed into appropriate Environmental Protection Agency- (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California State-certified laboratory.

ATTACHMENT B

HISTORICAL DATA TABLES
(Source : IT Corporation)

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-1	01/31/96	158.91	6.34	152.57	Not Sampled: Well Sampled Annually							
MW-1	04/10/96	158.91	5.82	153.09	Not Sampled: Well Sampled Annually							
MW-1	07/16/96	158.91	7.23	151.68	<50	<0.5	<0.5	<0.5	<0.5	340	NM	
MW-1	10/14/96	158.91	8.34	150.57	Not Sampled: Well Sampled Annually							
MW-1	03/27/97	158.91	6.37	152.54	Not Sampled: Well Sampled Annually							
MW-1	05/27/97	158.91	7.30	151.61	Not Sampled: Well Sampled Annually							
MW-1	08/12/97	158.91	8.22	150.69	<50	<0.5	<0.5	<0.5	<0.5	620	NM	
MW-1	11/17/97	158.91	7.98	150.93	Not Sampled: Well Sampled Annually							
MW-1	03/16/98	158.91	4.94	153.97	Not Sampled: Well Sampled Annually							
MW-1	05/12/98	158.91	5.28	153.63	Not Sampled: Well Sampled Annually							
MW-1	07/27/98	158.91	6.84	152.07	<500	<5	<5	<5	<5	580	0.6	P
MW-1	10/15/98	158.91	7.32	151.59	Not Sampled: Well Sampled Annually							
MW-1	02/18/99	158.91	6.28	152.63	Not Sampled: Well Sampled Annually							
MW-1	05/24/99	158.91	6.45	152.46	<50	<0.5	<0.5	<0.5	<0.5	1,300	2.0	NP
MW-1	08/27/99	158.91	7.86	151.05	<50	<0.5	<0.5	<0.5	<0.5	1,500	1.65	NP
MW-1	10/26/99	158.91	8.43	150.48	Not Sampled: Well Sampled Annually						2.16	
MW-1	02/03/00	158.91	7.28	151.63	<50	<0.5	<0.5	<0.5	<1	4,000	1.0	NP
MW-2	01/31/96	157.92	6.51	151.41	Not Sampled: Well Sampled Annually							
MW-2	04/10/96	157.92	6.94	150.98	Not Sampled: Well Sampled Annually							
MW-2	07/16/96	157.92	7.73	150.19	<50	1.2	<0.5	<0.5	<0.5	33	NM	
MW-2	10/14/96	157.92	8.35	149.57	Not Sampled: Well Sampled Annually							
MW-2	03/27/97	157.92	7.40	150.52	Not Sampled: Well Sampled Annually							
MW-2	05/27/97	157.92	7.82	150.10	Not Sampled: Well Sampled Annually							
MW-2	08/12/97	157.92	8.29	149.63	<50	<0.5	<0.5	<0.5	<0.5	23	NM	
MW-2	11/17/97	157.92	8.05	149.87	Not Sampled: Well Sampled Annually							
MW-2	03/16/98	157.92	6.45	151.47	Not Sampled: Well Sampled Annually							

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-2	05/12/98	157.92	6.93	150.99	Not Sampled: Well Sampled Annually							
MW-2	07/27/98	157.92	7.39	150.53	<50	<0.5	<0.5	<0.5	<0.5	<3	0.85	NP
MW-2	10/15/98	157.92	7.67	150.25	Not Sampled: Well Sampled Annually							
MW-2	02/18/99	157.92	6.63	151.29	Not Sampled: Well Sampled Annually							
MW-2	05/24/99	157.92	7.43	150.49	<50	6.3	<0.5	0.7	<0.5	29	3.0	P
MW-2	08/27/99	157.92	8.22	149.70	<50	<0.5	<0.5	<0.5	<0.5	<3	0.95	NP
MW-2	10/26/99	157.92	8.46	149.46	Not Sampled: Well Sampled Annually						1.71	
MW-2	02/03/00	157.92	7.75	150.17	<50	<0.5	<0.5	<0.5	<1	<3	1.0	NP
MW-3 *	01/31/96	153.64	7.02	146.62	140	20	0.87	11	14	NA	NM	
MW-3 *	04/10/96	153.64	7.82	145.82	84	2.4	<0.5	1.9	1.1	NA	NM	
MW-3 *	07/16/96	153.64	6.80	146.84	<50	2.2	<0.5	<0.5	<0.5	<2.5	NM	
MW-3 *	10/14/96	153.64	7.67	145.97	<50	1.2	<0.5	<0.5	0.81	2.9	NM	
MW-3 *	03/27/97	153.64	7.62	146.02	<50	0.94	<0.5	0.9	0.63	<2.5	NM	
MW-3 *	05/27/97	153.64	6.72	146.92	Not Sampled: Well Sampled Semiannually							
MW-3 *	08/12/97	153.64	8.20	145.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NM	
MW-3 *	11/17/97	153.64	7.64	146.00	Not Sampled: Well Sampled Semiannually						12.0	
MW-3 *	03/18/98	153.64	5.14	148.50	<50	<0.5	<0.5	<0.5	<0.5	<3	4.0	P
MW-3 *	05/12/98	153.64	5.53	148.11	Not Sampled: Well Sampled Semiannually							
MW-3 *	07/27/98	153.64	7.63	146.01	74	<0.5	<0.5	<0.5	<0.5	<3	1.7	NP
MW-3 *	10/15/98	153.64	7.46	146.18	Not Sampled: Well Sampled Semiannually							
MW-3 *	02/18/99	153.64	5.85	147.79	Not Sampled							
MW-3 *	05/24/99	153.64	7.00	146.64	<50	<0.5	<0.5	<0.5	<0.5	4	6.0	NP
MW-3 *	08/27/99	153.64	7.16	146.48	<50	<0.5	<0.5	<0.5	<0.5	<3	16.57	NP
MW-3 *	10/26/99	153.64	7.79	145.85	<50	<0.5	<0.5	<0.5	<1	<3	14.86	NP
MW-3 *	02/03/00	153.64	7.11	146.53	<50	<0.5	<0.5	<0.5	<1	<3	1.0	NP

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-4	01/31/96	156.53	5.64	150.89	230	23	2.2	3.7	32	NA	NM	
MW-4	04/10/96	156.53	6.66	149.87	7,300	1,600	350	350	830	NA	NM	
MW-4	07/16/96	156.53	7.73	148.80	5,600	1,100	160	240	520	150	NM	
MW-4	10/14/96	156.53	8.55	147.98	4,500	860	72	160	340	<62	NM	
MW-4	03/27/97	156.53	7.15	149.38	25,000	5,200	760	850	2,600	<250	NM	
MW-4	05/27/97	156.53	7.75	148.78	Not Sampled: Well Sampled Semiannually							
MW-4	08/12/97	156.53	8.46	148.07	4,800	950	40	140	210	170	NM	
MW-4	11/17/97	156.53	8.24	148.29	Not Sampled: Well Sampled Semiannually							
MW-4	03/16/98	156.53	5.32	151.21	<50	<0.5	<0.5	<0.5	<0.5	<3	1.5	P
MW-4	05/12/98	156.53	6.38	150.15	Not Sampled: Well Sampled Semiannually							
MW-4	07/27/98	156.53	7.36	149.17	21,000	6,100	390	810	1,600	<300	0.5	NP
MW-4 *	10/15/98	156.53	8.30	148.23	Not Sampled: Well Sampled Semiannually							
MW-4 *	02/18/99	156.53	4.39	152.14	Not Sampled							
MW-4 *	05/24/99	156.53	7.45	149.08	18,000	5,600	350	410	1,300	<300	1.0	NP
MW-4 *	08/27/99	156.53	8.07	148.46	12,000	3,200	170	490	810	65	1.32	NP
MW-4 *	10/26/99	156.53	8.72	147.81	12,000	3,100	130	450	680	12	1.39	NP
MW-4 *	02/03/00	156.53	7.41	149.12	9,300	2,800	96	330	400	73	1.0	NP
MW-5	01/31/96	151.33	8.64	142.69	<50	<0.5	<0.5	<0.5	<0.5	NA	NM	
MW-5	04/10/96	151.33	N/A	--	<50	<0.5	<0.5	<0.5	<0.5	NA	NM	
MW-5	07/16/96	151.33	8.15	143.18	<50	0.79	1.3	<0.5	<0.5	<2.5	NM	
MW-5	10/14/96	151.33	7.92	143.41	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NM	
MW-5	03/27/97	151.33	7.75	143.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NM	
MW-5	05/27/97	151.33	8.16	143.17	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NM	
MW-5	08/12/97	151.33	---------- Well Inaccessible ----------									
MW-5	11/17/97	151.33	8.75	142.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.0	NP
MW-5	03/16/98	151.33	6.90	144.43	<50	<0.5	<0.5	<0.5	<0.5	<3	1.5	P

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
MW-5	05/12/98	151.33	7.24	144.09	<50	<0.5	<0.5	<0.5	<0.5	<3	2.2	P
MW-5	07/27/98	151.33	7.91	143.42	<50	<0.5	<0.5	<0.5	<0.5	<3	1.3	P
MW-5	10/15/98	151.33	8.31	143.02	<50	<0.5	<0.5	<0.5	0.6	<3	3.0	P
MW-5	02/18/99	151.33	7.25	144.08	<50	<0.5	<0.5	<0.5	<0.5	<3	2.0	P
MW-5	05/24/99	151.33	7.52	143.81	<50	<0.5	<0.5	<0.5	<0.5	<3	2.0	NP
MW-5	08/27/99	151.33	8.31	143.02	<50	<0.5	<0.5	<0.5	<0.5	<3	2.28	P
MW-5	10/26/99	151.33	8.61	142.72	<50	<0.5	<0.5	<0.5	<1	<3	1.99	P
MW-5	02/03/00	151.33	10.09	141.24	<50	<0.5	<0.5	<0.5	<1	<3	1.0	NP
MW-6	01/31/96	153.84	5.15	148.69	Not Sampled: Well Sampled Annually							
MW-6	04/10/96	153.84	4.58	149.26	Not Sampled: Well Sampled Annually							
MW-6	07/16/96	153.84	4.96	148.88	<50	<0.5	<0.5	<0.5	<0.5	150	NM	
MW-6	10/14/96	153.84	6.15	147.69	Not Sampled: Well Sampled Annually							
MW-6	03/27/97	153.84	4.40	149.44	Not Sampled: Well Sampled Annually							
MW-6	05/27/97	153.84	4.90	148.94	Not Sampled: Well Sampled Annually							
MW-6	08/12/97	153.84	5.43	148.41	<50	<0.5	<0.5	<0.5	<0.5	39	NM	
MW-6	11/17/97	153.84	5.87	147.97	Not Sampled: Well Sampled Annually							
MW-6	03/16/98	153.84	4.52	149.32	Not Sampled: Well Sampled Annually							
MW-6	05/12/98	153.84	4.42	149.42	Not Sampled: Well Sampled Annually							
MW-6	07/27/98	153.84	4.75	149.09	<50	<0.5	<0.5	<0.5	<0.5	18	0.9	P
MW-6	10/15/98	153.84	5.75	148.09	Not Sampled: Well Sampled Annually							
MW-6	02/18/99	153.84	3.93	149.91	Not Sampled: Well Sampled Annually							
MW-6	05/24/99	153.84	4.32	149.52	<50	<0.5	<0.5	<0.5	<0.5	6	2.0	NP
MW-6	08/27/99	153.84	5.72	148.12	<50	<0.5	<0.5	<0.5	<0.5	8	1.02	NP
MW-6	10/26/99	153.84	5.94	147.90	Not Sampled: Well Sampled Annually						2.51	
MW-6	02/03/00	153.84	5.44	148.40	<50	<0.5	<0.5	<0.5	<1	<3	1.0	NP

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)

MSL	= Mean sea level.
TOC	= Top of casing.
TPPH	= Total purgeable petroleum hydrocarbons by modified EPA method 8015.
BTEX	= Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/26/99).
MTBE	= Methyl tert -Butyl Ether by EPA method 8021B (EPA method 8020 prior to 10/26/99).
ppb	= Parts per billion.
ppm	= Parts per million.
<	= Less than laboratory detection limit stated to the right.
NA	= Not analyzed.
NM	= Not measured.
N/A	= Not available.
*	= ORCs installed in well MW-3 beginning 11/14/95 and in well MW-4 beginning 09/29/98. Please refer to Appendix D for details.

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
01-31-96	Southwest	0.04
04-10-96	Southwest	0.04
07-16-96	Southwest	0.03
10-14-96	Southwest	0.03
03-27-97	Southwest	0.04
05-27-97	Southwest	0.03
08-12-97	Southwest	0.04
11-17-97	Southwest	0.03
03-16-98	Southwest	0.03
05-12-98	Southwest	0.04
07-27-98	Southwest	0.04
10-15-98	Southwest	0.02
02-18-99	Southwest	0.05
05-24-99	Southwest	0.03
08-27-99	Southwest	0.03
10-26-99	Southwest	0.03
02-03-00	**Southwest**	**0.047**

Table D-1
Intrinsic Bioremediation Evaluation and Enhancement Data

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

Well	Date Sampled		Field Analyses: Groundwater Temperature (deg F)	pH (units)	Conductivity (µmhos)	D.O. (mg/L)	Ferrous Iron (mg/L)	Laboratory Analyses: Total Alkalinity (mg CaCO3/L)	B.O.D. (mg/L)	Carbon Dioxide (mg/L)	C.O.D. (mg/L)	Methane (%)	Nitrate as Nitrate (mg/L)	Nitrite as Nitrite (mg/L)	Sulfate (mg/L)	TPH as Gasoline (µg/L)	Total BTEX (µg/L)
MW-3	11/14/95	**	65.5*	6.76*	508*	7.17	N/A	NS	NS	NS	NS	NS	6.6	<1.0	NS	140	46
MW-3	06/06/96	**	66.2	7.38	700	12.28	N/A	NS	NS	NS	NS	NS	NS	NS	NS	84†	5.4†
MW-3	07/16/96		67.8	7.08	1,010	8.73	0.0	280	1.8	270	44	<0.020	<1.0	NS	78	<50	2.2
MW-3	01/21/97	**	59	N/A	N/A	11.15	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	08/12/97	**	74.4	6.65	600	6.7	1.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	11/17/97		N/A	N/A	N/A	12.0	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	03/16/98		68.5	7.75	806	4.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-3	05/12/98		NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	07/27/98		68.1	6.81	904	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	74	ND
MW-3	09/29/98	**	ORC installed														
MW-3	10/15/98		NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	02/18/99		NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	05/24/99		66.2	7.24	799	6.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-3	07/26/99	**	ORC installed														
MW-3	08/27/99		69.0	7.97	782	16.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-3	10/26/99		66.5	5.93	794	14.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-3	02/03/00		62.0	7.42	7,877	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-4	07/16/96		69.5	6.72	1,370	3.20	4.20	420	NS	470	NS	0.11	<1.0	NS	18	5,600	2,020
MW-4	03/16/98		66.2	6.89	1,411	1.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-4	05/12/98		NM	NM	NM	NM	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	07/27/98		70.5	6.34	1,434	0.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21,000	8,900
MW-4	09/29/98	**	ORC installed														
MW-4	10/15/98		NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	02/18/99		NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	05/24/99		67.6	6.72	1,509	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18,000	7,660
MW-4	07/26/99	**	ORC installed														

Table D-1
Intrinsic Bioremediation Evaluation and Enhancement Data

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

		Field Analyses					Laboratory Analyses									
Well	Date Sampled	Groundwater Temperature (deg F)	pH (units)	Conductivity (µmhos)	D.O. (mg/L)	Ferrous Iron (mg/L)	Total Alkalinity (mg CaCO3/L)	B.O.D. (mg/L)	Carbon Dioxide (mg/L)	C.O.D. (mg/L)	Methane (%)	Nitrate as Nitrate (mg/L)	Nitrite as Nitrite (mg/L)	Sulfate (mg/L)	TPH as Gasoline (µg/L)	Total BTEX (µg/L)
MW-4	08/27/99	70.5	7.09	1,469	1.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12,000	4,670
MW-4	10/26/99	66.8	7.05	1,565	1.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12,000	4,360
MW-4	02/03/00	64.1	7.27	1,506	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9,300	3,626
MW-5	07/16/96	70.4	6.85	690	6.80	0.0	170	NS	180	NS	<0.020	<1.0	NS	35	<50	1.1
MW-5	03/16/98	69.5	7.19	584	1.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	05/12/98	65.9	7.04	619	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	07/27/98	73.6	7.39	569	1.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	10/15/98	65.8	6.88	626	3.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	0.6
MW-5	02/18/99	63.4	6.98	616	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	05/24/99	66.7	6.70	591	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	08/27/99	72.6	7.10	624	2.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	10/26/99	70.4	5.95	601	1.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-5	02/03/00	62.1	7.31	6,072	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-6	06/06/96	N/A	N/A	N/A	3.47	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	03/16/98	N/A	N/A	N/A	N/A	N/A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	05/12/98	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	07/27/98	70.3	6.67	638	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-6	10/15/98	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	02/18/99	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	05/24/99	65.5	6.62	713	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-6	08/27/99	73.0	7.12	589	1.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND
MW-6	10/26/99	NM	NM	NM	2.51	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	02/03/00	61.7	7.32	5,091	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ND	ND

Table D-1
Intrinsic Bioremediation Evaluation and Enhancement Data

ARCO Service Station 0374
6407 Telegraph Avenue, Oakland, California

		Field Analyses					Laboratory Analyses									
Well	Date Sampled	Groundwater Temperature (deg F)	pH (units)	Conductivity (µmhos)	D.O. (mg/L)	Ferrous Iron (mg/L)	Total Alkalinity (mg CaCO3/L)	B.O.D. (mg/L)	Carbon Dioxide (mg/L)	C.O.D. (mg/L)	Methane (%)	Nitrate as Nitrate (mg/L)	Nitrite as Nitrite (mg/L)	Sulfate (mg/L)	TPH as Gasoline (µg/L)	Total BTEX (µg/L)

D.O.	= Dissolved oxygen	µg/L	= Micrograms per liter
B.O.D	= Biochemical oxygen demand	NM	= not measured
C.O.D	= Chemical oxygen demand	NS	= Not sampled
TPPH	= Total purgeable petroleum hydrocarbons	ND	= Not detected
BTEX	= Benzene, toluene, ethylbenzene, and xylenes	N/A	= Not available
deg F	= Degrees Fahrenheit	*	Field measurements collected on November 2, 1995.
µmhos	= Micromhos	**	ORC installed
mg/L	= Milligrams per liter	†	From April 10, 1996 groundwater monitoring event.

ATTACHMENT C

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY

Sequoia Analytical

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

30 April, 2002

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

RE: ARCO 374, Oakland, CA
Sequoia Report: S204352

Enclosed are the results of analyses for samples received by the laboratory on 04/19/02 15:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lito Diaz
Laboratory Director

CA ELAP Certificate #1624

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 374, Oakland, CA	
3164 Gold Camp Drive Ste. 200	Project Number: 374, Oakland, CA	Reported:
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3	S204352-01	Water	04/17/02 08:50	04/19/02 15:20
MW-4	S204352-02	Water	04/17/02 09:18	04/19/02 15:20
MW-5	S204352-03	Water	04/17/02 09:40	04/19/02 15:20
TB	S204352-04	Water	04/17/02 06:00	04/19/02 15:20

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

819 Striker Avenue, Suite 8
Sacramento, CA 95834
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Delta Environmental Consultants (Rancho Cordova	Project: ARCO 374, Oakland, CA	
3164 Gold Camp Drive Ste. 200	Project Number: 374, Oakland, CA	Reported:
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (S204352-01) Water Sampled: 04/17/02 08:50 Received: 04/19/02 15:20									
Purgeable Hydrocarbons	ND	50	ug/l	1	2040321	04/25/02	04/25/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**8.7**	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*60-140*		"	"	"	"	
MW-4 (S204352-02) Water Sampled: 04/17/02 09:18 Received: 04/19/02 15:20									
Purgeable Hydrocarbons	**7100**	5000	ug/l	100	2040341	04/26/02	04/27/02	DHS LUFT	HC-12
Benzene	**2200**	50	"	"	"	"	"	"	
Toluene	**110**	50	"	"	"	"	"	"	
Ethylbenzene	**290**	50	"	"	"	"	"	"	
Xylenes (total)	**450**	50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*92.9 %*	*60-140*		"	"	"	"	
MW-5 (S204352-03) Water Sampled: 04/17/02 09:40 Received: 04/19/02 15:20									
Purgeable Hydrocarbons	ND	50	ug/l	1	2040321	04/25/02	04/26/02	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	C-07
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	C-07
Xylenes (total)	ND	0.50	"	"	"	"	"	"	C-07
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.8 %*	*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 374, Oakland, CA	
3164 Gold Camp Drive Ste. 200	Project Number: 374, Oakland, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB (S204352-04) Water Sampled: 04/17/02 06:00 Received: 04/19/02 15:20									
Purgeable Hydrocarbons	ND	50	ug/l	1	2040321	04/25/02	04/26/02	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		*107 %*		*60-140*	"	"	"	"	

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3164 Gold Camp Drive Ste. 200	Project Number: 374, Oakland, CA	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

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 2040321 - EPA 5030B (P/T)										
Blank (2040321-BLK1)				Prepared & Analyzed: 04/25/02						
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	*9.54*		"	*10.0*		*95.4*	*60-140*			
LCS (2040321-BS1)				Prepared & Analyzed: 04/25/02						
Benzene	10.9	0.50	ug/l	10.0		109	70-130			
Toluene	11.1	0.50	"	10.0		111	70-130			
Ethylbenzene	10.8	0.50	"	10.0		108	70-130			
Xylenes (total)	33.5	0.50	"	30.0		112	70-130			
Methyl tert-butyl ether	12.0	2.5	"	10.0		120	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.0*		"	*10.0*		*100*	*60-140*			
LCS Dup (2040321-BSD1)				Prepared & Analyzed: 04/25/02						
Benzene	10.6	0.50	ug/l	10.0		106	70-130	2.79	25	
Toluene	10.5	0.50	"	10.0		105	70-130	5.56	25	
Ethylbenzene	10 3	0.50	"	10.0		103	70-130	4.74	25	
Xylenes (total)	31.4	0.50	"	30.0		105	70-130	6.47	25	
Methyl tert-butyl ether	10.2	2.5	"	10.0		102	70-130	16.2	25	
Surrogate: a,a,a-Trifluorotoluene	*10.1*		"	*10.0*		*101*	*60-140*			
Batch 2040341 - EPA 5030B (P/T)										
Blank (2040341-BLK1)				Prepared & Analyzed: 04/26/02						
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	*10.0*		"	*10.0*		*100*	*60-140*			

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3164 Gold Camp Drive Ste. 200	Project Number: 374, Oakland, CA	Reported:
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

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 2040341 - EPA 5030B (P/T)										
LCS (2040341-BS1)				Prepared & Analyzed: 04/26/02						
Benzene	10.9	0.50	ug/l	10.0		109	70-130			
Toluene	10 9	0.50	"	10.0		109	70-130			
Ethylbenzene	10.5	0.50	"	10 0		105	70-130			
Xylenes (total)	32.5	0.50	"	30.0		108	70-130			
Methyl tert-butyl ether	10.2	2.5	"	10.0		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.6*		*"*	*10 0*		*106*	*60-140*			
Matrix Spike (2040341-MS1)		**Source: S204356-08**		Prepared & Analyzed: 04/26/02						
Benzene	10.6	0.50	ug/l	10.0	ND	106	60-140			
Toluene	10.5	0.50	"	10.0	ND	105	60-140			
Ethylbenzene	10.2	0 50	"	10.0	ND	102	60-140			
Xylenes (total)	31.3	0.50	"	30.0	ND	104	60-140			
Methyl tert-butyl ether	15.7	2.5	"	10.0	3.5	122	60-140			
Surrogate: a,a,a-Trifluorotoluene	*10.2*		*"*	*10.0*		*102*	*60-140*			
Matrix Spike Dup (2040341-MSD1)		**Source: S204356-08**		Prepared & Analyzed: 04/26/02						
Benzene	11.0	0.50	ug/l	10.0	ND	110	60-140	3.70	25	
Toluene	10.8	0.50	"	10.0	ND	108	60-140	2.82	25	
Ethylbenzene	10.5	0.50	"	10.0	ND	105	60-140	2.90	25	
Xylenes (total)	32.1	0.50	"	30.0	ND	107	60-140	2 52	25	
Methyl tert-butyl ether	16.5	2.5	"	10.0	3.5	130	60-140	4.97	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: 374, Oakland, CA	Reported:
Rancho Cordova CA, 95670	Project Manager: Steven Meeks	04/30/02 17:02

Notes and Definitions

C-07	The reported compound(s) have been confirmed by a second (dissimilar) column or detector.
HC-12	Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
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. 2598900

Chain of Custody

ARCO Facility No.	374
City (Facility)	OAKland CA
Project Manager (Consultant)	STeven meeks
ARCO engineer	PAul Supple
Telephone no. (ARCO)	
Telephone no. (Consultant)	638 2085
Fax no. (Consultant)	638 8585
Company name (Consultant)	
Address (Consultant)	

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 MTBE EPA M602/8021/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	BTEX + MTBE EPA 8260	BTEX + Standard Oxygenates EPA 8260	TCLP Semi Metals☐ VOA☐ VOA☐	CAM Metals EPA 6010/7000 TTLC☐ STLC☐	Lead Org/DHS ☐ Lead EPA 7420/7421 ☐			
MW-3		2		X		X	X	4-17-02	8:50		X				S204-1352-01							
MW-4		|		|		|	|		9:18		X							-02				
MW-5		|		|		|	|		9:40		X							-03				
TB		|		|		|	|		6:00									-04				

Laboratory name: Sequoia

Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

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 ☒

Condition of sample:

Temperature received:

Relinquished by sampler: [signature]	Date: 4-19-02	Time	Received by: Monica Gegen	4/19/02 1530
Relinquished by: [signature]	Date	Time	Received by	
Relinquished by	Date	Time	Received by laboratory	Date / Time

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

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Delta Env. | DATE Received at Lab: 4/19/09
REC. BY (PRINT) Manuel | TIME Received at Lab: 1530
WORKORDER: 904352 | LOG IN DATE: 4/22/09

(Drinking water) for regulatory purposes: YES / NO
(Wastewater) for regulatory purposes: YES / NO

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s)	Present / (Absent)	904352	01	MW-3	VOA	W	4/17/09	
	Intact / Broken*		02	1-4	1	1	1	
2. Chain-of-Custody	(Present) / Absent*	1	03	1-5	1	1	1	
3. Traffic Reports or Packing List:	Present / (Absent)	1	04	TB	1	1	1	
4. Airbill:	Airbill / Sticker							
	Present / (Absent)							
5. Airbill #:								
6. Sample Labels:	(Present) / Absent							
7. Sample IDs:	(Listed) / Not Listed							
	on Chain-of-Custody							
8. Sample Condition:	(Intact) / Broken* /							
	Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	(Yes) / No*							
10. Sample received within hold time:	(Yes) / No*							
11. Proper Preservatives used:	(Yes) / No*							
12. Temp Rec. at Lab:								
(Acceptance range for samples requiring thermal pres.:4+/-2°C)	Yes / No*							

*If Circled, contact Project Manager and attach record of resolution.

ATTACHMENT D

FIELD DATA SHEETS

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: 6407 Telegraph Avenue, Oakland, California
Arco Project Manager: Paul Supple
Site Sampled By: Doolos
Arco Site Number: 374
Delta Project No.: D000-302
Delta Project PM: Steven W. Meeks
Date Sampled: 4-17-02

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	Other ____	Dissolved Oxygen (mg/L)	Sample Freqency (A, S, Q)	Sample I.D.	Sample Time
MW-1	8:00	5.54	7.0	26.3	☐		4 inch	2.0			☐	☐	☐	☐		A/2	—	—
MW-2	8:03	6.45	7.0	25.9	☐		4 inch	2.0			☐	☐	☐	☐		A/2	—	—
MW-3	8:12	5.31	7.0	26.5	☐		4 inch	2.0	14.1	42.38	☐	☐	☐	☐	4.31	S/5,11		8:50
MW-4	8:07	6.23	7.0	26.6	☐		4 inch	2.0		40.7	☐	☐	☐	☐	0.97	S/5,11		9:18
MW-5	8:09	6.61	10.0	22.7	☐		4 inch	2.0		32	☑	☑	☑	☐	4.76	Q/2,5,8,11	MW5	9:40
MW-6	8:15	5.11	5.0	14.5	☐		4 inch	2.0			☐	☐	☐	☐		A/2	—	—

(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: Annual: MW-1, MW-2, MW-3, Semi-Annual: MW-3, MW-4 Quarterly: MW-5

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.
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.

Original Copies of Field Sampling Sheets are Located in Project File

TLA (Arco 0374-GW Sampling XLS)

Last Printed 12/1/00

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: 6407 Telegraph Avenue, Oakland, California
Arco Site Number: 374
Delta Project No.: D000-302
Arco Project Manager: Paul Supple
Delta Project PM: Steven W. Meeks
Site Contact & Phone Number:
Site Sampled By: Doules
Date Sampled: 4-17-02

Well ID	Time	Temp °C	pH Units	Sp. Cond.	Gallons
MW-1					
MW-2					
MW-3	8:25	18.4	6.79	296	13
	8:28	20.0	6.46	295	26
	8:31	21.9	6.75	297	42.3
MW-4	9:00	17.8	6.64	813	14
	9:03	17.9	6.46	830	26
	9:06	19.1	6.44	826	40
MW-5	9:23	17.9	7.29	508	10
	9:26	17.0	6.94	414	20
	9:29	17.0	6.96	401	32
MW-6					

Notes: NP = NO PURGE

Original Copies of Field Sampling Sheets are Located in Project File

ATTACHMENT E

EDCC REPORT
AND
EDF, GEOWELL SUBMITTAL CONFIRMATION NUMBER

Error Summary Log

08/20/02

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Sacramento, CA
Project Name:	ARCO 374, Oakland, CA
Work Order Number:	S204352
Global ID:	NA
Lab Report Number:	S2043520430200217O2

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
S20435204302002 1702	MW-3	S20435201	W	CS	SW8021B	SW5030B	04/17/02	04/25/02	04/25/02	2040321	1	
S20435204302002 1702	MW-4	S20435202	W	CS	SW8021B	SW5030B	04/17/02	04/26/02	04/27/02	2040341	1	
S20435204302002 1702	MW-5	S20435203	W	CS	SW8021B	SW5030B	04/17/02	04/25/02	04/26/02	2040321	1	
S20435204302002 1702	TB	S20435204	W	CS	SW8021B	SW5030B	04/17/02	04/25/02	04/26/02	2040321	1	
		S20435608	W	NC	SW8021B	SW5030B	/ /	04/26/02	04/26/02	2040341	1	
		2040321BSD1	WQ	BD1	SW8021B	SW5030B	/ /	04/25/02	04/25/02	2040321	1	
		2040321BS1	WQ	BS1	SW8021B	SW5030B	/ /	04/25/02	04/25/02	2040321	1	
		2040321BLK1	WQ	LB1	SW8021B	SW5030B	/ /	04/25/02	04/25/02	2040321	1	
		2040341BS1	WQ	BS1	SW8021B	SW5030B	/ /	04/26/02	04/26/02	2040341	1	
		2040341BLK1	WQ	LB1	SW8021B	SW5030B	/ /	04/26/02	04/26/02	2040341	1	
		2040341MS1	W	MS1	SW8021B	SW5030B	/ /	04/26/02	04/26/02	2040341	1	
		2040341MSD1	W	SD1	SW8021B	SW5030B	/ /	04/26/02	04/26/02	2040341	1	

EDFSAMP: Error Summary Log

08/20/02

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

EDFTEST: Error Summary Log

08/20/02

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					/ /	0

EDFRES: Error Summary Log

08/20/02

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	2040341MS1	MS1	W	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	2040341MS1	MS1	W	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	2040341MS1	MS1	W	SW8021B	PR	04/26/02	1	XYLENES
Warning: extra parameter	2040341MSD1	SD1	W	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	2040341MSD1	SD1	W	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	2040341MSD1	SD1	W	SW8021B	PR	04/26/02	1	XYLENES
Warning: extra parameter	S20435201	CS	W	SW8021B	PR	04/25/02	1	AAATFBZME
Warning: extra parameter	S20435201	CS	W	SW8021B	PR	04/25/02	1	MTBE
Warning: extra parameter	S20435201	CS	W	SW8021B	PR	04/25/02	1	PHCG
Warning: extra parameter	S20435201	CS	W	SW8021B	PR	04/25/02	1	XYLENES
Warning: extra parameter	S20435202	CS	W	SW8021B	PR	04/27/02	1	AAATFBZME
Warning: extra parameter	S20435202	CS	W	SW8021B	PR	04/27/02	1	MTBE
Warning: extra parameter	S20435202	CS	W	SW8021B	PR	04/27/02	1	PHCG
Warning: extra parameter	S20435202	CS	W	SW8021B	PR	04/27/02	1	XYLENES
Warning: extra parameter	S20435203	CS	W	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	S20435203	CS	W	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	S20435203	CS	W	SW8021B	PR	04/26/02	1	PHCG
Warning: extra parameter	S20435203	CS	W	SW8021B	PR	04/26/02	1	XYLENES
Warning: extra parameter	S20435204	CS	W	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	S20435204	CS	W	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	S20435204	CS	W	SW8021B	PR	04/26/02	1	PHCG
Warning: extra parameter	S20435204	CS	W	SW8021B	PR	04/26/02	1	XYLENES
Warning: extra parameter	S20435608	NC	W	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	S20435608	NC	W	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	S20435608	NC	W	SW8021B	PR	04/26/02	1	XYLENES

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	2040321BLK1	LB1	WQ	SW8021B	PR	04/25/02	1	AAATFBZME
Warning: extra parameter	2040321BLK1	LB1	WQ	SW8021B	PR	04/25/02	1	MTBE
Warning: extra parameter	2040321BLK1	LB1	WQ	SW8021B	PR	04/25/02	1	PHCG
Warning: extra parameter	2040321BLK1	LB1	WQ	SW8021B	PR	04/25/02	1	XYLENES
Warning: extra parameter	2040321BS1	BS1	WQ	SW8021B	PR	04/25/02	1	AAATFBZME
Warning: extra parameter	2040321BS1	BS1	WQ	SW8021B	PR	04/25/02	1	MTBE
Warning: extra parameter	2040321BS1	BS1	WQ	SW8021B	PR	04/25/02	1	XYLENES
Warning: extra parameter	2040321BSD1	BD1	WQ	SW8021B	PR	04/25/02	1	AAATFBZME
Warning: extra parameter	2040321BSD1	BD1	WQ	SW8021B	PR	04/25/02	1	MTBE
Warning: extra parameter	2040321BSD1	BD1	WQ	SW8021B	PR	04/25/02	1	XYLENES
Warning: extra parameter	2040341BLK1	LB1	WQ	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	2040341BLK1	LB1	WQ	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	2040341BLK1	LB1	WQ	SW8021B	PR	04/26/02	1	PHCG
Warning: extra parameter	2040341BLK1	LB1	WQ	SW8021B	PR	04/26/02	1	XYLENES
Warning: extra parameter	2040341BS1	BS1	WQ	SW8021B	PR	04/26/02	1	AAATFBZME
Warning: extra parameter	2040341BS1	BS1	WQ	SW8021B	PR	04/26/02	1	MTBE
Warning: extra parameter	2040341BS1	BS1	WQ	SW8021B	PR	04/26/02	1	XYLENES

EDFQC: Error Summary Log

08/20/02

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

EDFCL: Error Summary Log

08/20/02

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

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Submittal Date/Time:	**10/24/2002 11:51:09 AM**
Confirmation Number:	**7102970719**

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Confirmation Number: 1789038836
Date/Time of Submittal: 10/24/2002 10:15:08 AM
Facility Global ID: T0600100106
Facility Name: ARCO
Submittal Title: EDCC report for Site 0374
Submittal Type: GW Monitoring Report

Logged in as URSCORP-OAKLAND (CONTRACTOR)

CONTACT SITE ADMINISTRATOR.