Delta
Environmental
Consultants, Inc.

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

January 25, 2002

Mr. Amir Gholami, REHS
Hazardous Materials Specialists
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: *Abandonment of Vapor Extraction Well AV-3 and Airsparging Wells AS-5 and AS-8 due to Tank Pull and Replacement and Quarterly Monitoring Results for First Quarter 2002*
ARCO 5387
20200 Hesperian Boulevard
Hayward, California
Delta Project No. D000-318

Dear Mr. Gholami:

On behalf of the Atlantic Richfield Company, Delta Environmental Consultants, Inc. (Delta), is submitting this letter to present the information you requested during our telephone conversation on January 22, 2002 regarding the proposed abandonment of wells due to tank removal activities scheduled to occur on Friday, February 1, 2002. This letter also presents the latest quarterly groundwater sampling and monitoring data collected on January 15, 2002 at the site (Figure 1).

Well Abandonments

Due to the location of vapor extraction well AV-3 and airsparging wells AS-5 and AS-8, and the difficulty in protecting these wells during tank excavation activities, Delta proposes to have the wells abandoned by pressure grouting. These wells are part of the former operating remediation system at the site and are not part of the groundwater-sampling regime. The wells lie in the perimeter of the existing and proposed tank fields (Figure 1). Due to the shallow depth of AV-3, which was completed to an approximate depth of 13 feet below ground surface (bgs), this well will be entirely removed through excavation means during the tank removal activities. Since the depths of airsparging wells AS-5 and AS-8 are approximately 34 and 39 feet bgs, respectively, these wells will be abandoned by pressure grouting. Prior to grouting, the wells will be tagged for their depths and then pressure grouted with a pressure of approximately 30 psig. Afterwards, the top 5 feet of the casings will be drilled out and filled with grout to the surface. Enclosure A includes the signed and approved well abandonment permits.

Due to the limited details available on these wells, the well details have been estimated based on common geologic and engineering practices. It is estimated that each airsparging well is screened over the last 5 feet with 0.02-slotted PVC well screen and that the remaining portion of the wells consists of solid PVC casing. It is also estimated that the type of sand pack is a Monterey No. 3.

Groundwater Sampling and Monitoring Results

At the request of Atlantic Richfield Company, Delta contracted with Dolous Environmental Inc. to perform groundwater sampling and monitoring at the site (Figure 1). The following documents the results of quarterly sampling and monitoring activities conducted on January 15, 2002 at the site. All work was conducted in accordance with the field methods and procedures described in Enclosure B.

Groundwater Elevation Measurements and Flow Direction

On January 15, 2002, depth to groundwater was measured in groundwater monitoring wells MW-1, MW-2, and A-1 through A-10 and recovery wells AR-1 and AR-2. Depths to groundwater ranged from 8.48 feet in MW-3 to 12.23 feet in A-7. Table 1 presents the cumulative groundwater elevations measurements. Figure 2 presents the groundwater elevation contour map. Based on the map, the groundwater gradient is approximately 0.004 towards the west. Monitoring wells MW-3 and A-5 were not included in the contour map due to unexplained groundwater mounding. A copy of the field data sheets is included in Enclosure C.

Groundwater Analytical Results

On January 15, 2002, groundwater monitoring wells MW-1, MW-2, and A-1 through A-9 and recovery wells AR-1 and AR-2 were purged and sampled using the methods described in Enclosure B. Monitoring well A-10 could not be purged due to an obstruction in the well; however, a grab sample was still collected and analyzed. Groundwater samples were submitted to Sequoia Analytical Laboratory (a California-certified laboratory), for the analyses of BTEX and MTBE using EPA Methods 8021 and TPH as gasoline using EPA Method 8015 Modified. EPA Method 8260 was used to confirm or refute concentrations of MTBE. EPA Method 8260 was also used to confirm or refute concentrations of BTEX in the sample collected from monitoring well MW-2. Table 1 presents the cumulative groundwater analytical results for the site. Figure 3 presents the groundwater analytical summary map of the latest sampling event. A copy of the groundwater analytical report is included in Enclosure D.

Discussion of Groundwater Analytical Results

Benzene concentrations in samples collected from all of the sampled wells, with the exception of MW-2, were not detected at or above the laboratory reporting limits. MW-2 had confirmed concentrations of benzene at 3.9 µg/L by EPA Method 8260. Confirmed concentrations of MTBE by EPA Method 8260 were found to exist in samples collected from MW-1 (11 µg/L), MW-2 (750 µg/L), AR-1 (4.1 µg/L), AR-2 (29 µg/L), and A-8 (2.8 µg/L).

Based on the review of the past and present groundwater analytical results, and the fact that there appears to be no confirmed off-site migration of dissolved petroleum constituents, the overall data indicate that this site is a low risk. If the concentrations from MW-2 are deemed to be too excessive for closure status, one to two groundwater batch extractions from this well would be proposed in an effort to adequately reduce the MTBE concentrations in the localized area of impact to an acceptable closure level.

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

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Steven W. Meeks, P.E.
Project Manager

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

1/25/02

SWM (Lrp002.318)
Enclosures

cc: Paul Supple – Atlantic Richfield Company
Chuck Headlee - Regional Water Quality Control Board, San Francisco Bay Region

925

299-8891

(925)

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
AR-1	09/14/92	38.11	15.21	22.90	67	<1.0	8.8	6.7	820	---
	11/12/92	38.11	15.36	22.75	66	<0.5	4.3	3.7	140	---
	02/11/93	38.11	12.81	25.30	190	<2.5	8.6	<2.5	360	---
	04/14/93	38.11	11.77	26.34	240	5.2	30	8.7	420	---
	08/12/93	38.11	13.55	24.56	150	<2	11	<2	370	---
	10/26/93	38.11	13.98	24.13	98	<2	11	<2	240	---
	02/17/94	37.46	12.15	25.31	1,100	<10	140	26	4,700	---
	05/03/94	37.46	12.03	25.43	130	1.3	48	4.3	620	---
	08/17/94	37.33	12.92	24.41	630	<5	200	12	3,600	---
	11/18/94	37.33	12.41	24.92	720	6.1	337	15	12,100	---
	09/26/95	37.46	11.34	26.12	8.3	ND	ND	ND	ND	---
	12/06/95	37.46	11.87	25.59	20	ND	20	0.6	120	---
	02/14/96	37.46	10.48	26.98	ND	ND	ND	0.52	ND	---
	10/29/96	37.46	11.80	25.66	ND	0.99	ND	ND	ND	---
	01/29/97	37.46	11.25	26.21	0.41	<0.3	<0.3	<0.3	<50	<20
	04/30/97	37.46	12.24	25.22	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	37.46	10.80	26.66	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	37.46	11.90	25.56	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	37.46	11.20	26.26	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	37.46	12.20	25.26	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	37.46	9.10	28.36	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	37.46	9.80	27.66	2.1	<0.3	3.6	<0.5	270	190
	01/13/99	37.46	10.10	27.36	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	37.46	11.35	26.11	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	37.46	11.88	25.58	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	37.46	9.43	28.03	<0.5	<0.5	<0.5	1.1	<50	*5.4/4.1

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Well Number	Date Sampled	Casing 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)
AR-2	03/30/93	38.39	11.53	26.86	4.1	1.6	<0.5	47	390	---
	04/14/93	38.39	11.87	26.52	18	<0.5	0.67	36	310	---
	08/12/93	38.39	13.59	24.80	16	<0.5	1.7	0.57	130	---
	10/26/93	38.39	14.25	24.14	15	<0.5	1.8	<0.5	110	---
	02/17/94	37.98	12.76	25.22	2.9	<0.5	15	0.8	130	---
	05/03/94	37.98	12.60	25.38	<0.5	<0.5	<0.5	<0.5	<50	---
	08/17/94	38.18	13.86	24.32	140	140	220	91	3,000	---
	11/18/94	38.18	13.33	24.85	10.5	10.5	27.9	8.0	623	---
	09/26/95	37.98	11.67	26.31	ND	ND	ND	ND	ND	---
	12/06/95	37.98	12.32	25.66	12	12	23	2.1	320	---
	02/14/96	37.98	10.74	27.24	ND	ND	ND	0.76	ND	---
	10/29/96	37.98	11.95	26.03	ND	ND	ND	ND	ND	---
	01/29/97	37.98	11.35	26.63	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	37.98	12.15	25.83	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	37.98	11.20	26.78	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	37.98	12.14	25.84	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	37.98	10.05	27.93	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	37.98	12.10	25.88	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	37.98	9.50	28.48	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	37.98	10.45	27.53	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	37.98	10.50	27.48	<0.3	0.40	<0.3	0.53	<50	<20
	04/29/99	37.98	11.48	26.50	<0.3	<0.3	<0.3	0.82	<50	<5
	07/21/99	37.98	11.80	26.18	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	37.98	10.36	27.62	<0.5	<0.5	<0.5	<0.5	<50	*17/29

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Well Number	Date Sampled	Casing 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	08/08/86	38.36	11.25	27.11	132	8.7	439	230	7,040	---
	12/24/91	38.36	16.12	22.24	190	8.5	6.9	2.6	2,200	---
	03/10/92	38.36	13.34	25.02	270	29	56	39	2,800	---
	06/09/92	38.36	14.12	24.24	960	27	99	63	2,900	---
	09/14/92	38.36	15.34	23.02	450	<5.0	45	21	2,600	---
	11/12/92	38.36	15.46	22.90	310	7.2	22	8.9	1,600	---
	02/11/93	38.36	11.95	26.41	510	47	200	91	4,000	---
	04/14/93	38.36	11.65	26.71	260	20	100	70	1,700	---
	08/12/93	38.36	12.93	25.43	60	3.8	39	3.6	830	---
	10/26/93	38.36	14.13	24.23	140	<10	41	<10	8,800	---
	02/17/94	37.26	11.86	25.40	130	12	54	58	1,200	---
	05/03/94	37.26	11.58	25.68	---	---	---	---	---	---
	08/17/94	37.33	12.78	24.55	86	5.1	78	9.4	3,900	---
	11/18/94	37.33	12.31	25.02	112	8.4	107	35	6,350	---
	09/26/95	37.26	11.26	26.00	ND	ND	ND	ND	ND	---
	12/06/95	37.26	12.16	25.10	0.86	0.46	0.38	0.92	4,100	---
	02/14/96	37.26	8.53	28.73	ND	0.56	ND	0.82	ND	---
	10/29/96	37.26	10.23	27.03	ND	ND	ND	ND	130	---
	01/29/97	37.26	8.15	29.11	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	37.26	8.05	29.21	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	37.26	10.50	26.76	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	37.26	11.15	26.11	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	37.26	4.95	32.31	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	37.26	8.10	29.16	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	37.26	8.02	29.24	<0.3	<0.3	<0.3	<0.5	<50	40
	10/22/98	37.26	9.70	27.56	0.43	1.9	0.99	0.99	230	33
	01/13/99	37.26	9.60	27.66	0.43	<0.3	<0.3	<0.5	<50	<20
	04/29/99	37.26	8.05	29.21	<0.3	<0.3	<0.3	<0.5	<50	*31/17
	07/21/99	37.26	9.60	27.66	<0.3	<0.3	<0.3	<0.5	<51	*31/18
	01/15/02	37.26	9.28	27.98	<0.5	<0.5	<0.5	<0.5	<50	*21/11

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MW-2	08/08/86	38.58	11.62	26.96	20.1	2.8	1.8	---	1,910	---
	12/24/91	38.58	16.50	22.08	1,500	1,100	480	1,400	23,000	---
	03/10/92	38.58	13.50	25.08	44,000	3,900	1,700	5,800	210,000	---
	06/09/92	38.58	14.52	24.06	2,300	370	780	2,600	33,000	---
	09/14/92	38.58	15.78	22.80	3,700	10	470	1,000	16,000	---
	11/12/92	38.58	15.98	22.60	3,800	86	470	910	16,000	---
	02/11/93	38.58	12.27	26.31	3,500	720	1,600	380	27,000	---
	04/14/93	38.58	12.01	26.57	3,500	220	2,200	5,100	27,000	---
	08/12/93	38.58	13.81	24.77	1,600	27	1,300	1,200	16,000	---
	10/26/93	38.58	14.53	24.05	1,200	<25	510	330	12,000	---
	02/17/94	38.58	12.81	25.77	1,800	21	850	540	15,000	---
	05/03/94	38.58	12.63	25.95	---	---	---	---	---	---
	08/17/94	37.99	13.69	24.30	850	13	640	270	14,000	---
	11/18/94	38.06	13.18	24.88	640	3.4	532	156	14,900	---
	09/26/95	37.99	12.23	25.76	40	25	2.5	18	5,100	---
	12/06/95	37.99	12.82	25.17	34	23	11	11	810	---
	02/14/96	37.99	10.87	27.12	0.75	0.54	0.64	0.53	420	---
	10/29/96	37.99	12.95	25.04	1.7	1.3	0.6	0.8	670	---
	01/29/97	37.99	11.15	26.84	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	37.99	11.09	26.90	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	37.99	11.70	26.29	<0.3	0.58	0.53	<0.5	330	<20
	10/22/97	37.99	11.05	26.94	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	37.99	9.50	28.49	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	37.99	11.15	26.84	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	37.99	10.20	27.79	<0.3	<0.3	<0.3	<0.5	78	97
	10/22/98	37.99	11.10	26.89	0.37	2.0	0.91	0.73	270	26
	01/13/99	37.99	11.10	26.89	5.8	1.0	1.4	1.1	650	<20
	04/29/99	37.99	11.05	26.94	<0.3	<0.3	<0.3	<0.5	<50	*23/16
	07/21/99	37.99	11.07	26.92	<0.3	<0.3	<0.3	<0.5	<51	*15/9.2
	01/15/02	37.99	10.36	27.63	*15/3.9	*4.5/<5	*<0.5/<2	*<0.5/<5	1,200	**190/750

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Hayward, California

Well Number	Date Sampled	Casing 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-3	08/08/86	37.77	10.61	27.16	510	549	409	1,380	7,450	---
	12/24/91	37.77	15.60	22.17	450	10	610	45	6,800	---
	03/10/92	37.77	12.90	24.87	2,500	75	400	560	11,000	---
	06/09/92	37.77	13.60	24.17	2,000	69	1,300	2,600	16,000	---
	09/14/92	37.77	14.78	22.99	630	<50	1,500	2,400	14,000	---
	11/12/92	37.77	14.92	22.85	400	<25	860	330	7,400	---
	02/11/93	37.77	11.65	26.12	580	<20	710	300	8,600	---
	04/14/93	37.77	11.16	26.61	300	8.8	580	99	6,900	---
	08/12/93	37.77	12.82	24.95	56	<5	190	<5	3,400	---
	10/26/93	37.77	13.60	24.17	42	<10	76	<10	2,900	---
	02/17/94	36.80	11.53	25.27	160	<10	36	8.6	3,100	---
	05/03/94	36.80	11.36	25.44	44	<2.5	8.0	<2.5	2,300	---
	08/17/94	36.87	12.38	24.49	7.0	<9.5	4.4	<5	1,900	---
	11/18/94	36.87	11.93	24.94	1.1	<0.5	0.9	4.0	909	---
	09/26/95	36.80	10.96	25.84	1.3	1.9	2.3	3.3	410	---
	12/06/95	36.80	11.56	25.24	0.9	4.6	3.0	4.3	---	---
	02/14/96	36.80	7.47	29.33	ND	0.49	0.46	ND	99	---
	10/29/96	36.80	9.80	27.00	0.7	0.6	ND	ND	250	---
	01/29/97	36.80	7.50	29.30	<0.3	<0.3	<0.3	<0.5	170	<20
	04/30/97	36.80	12.10	24.70	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	36.80	9.90	26.90	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	36.80	12.10	24.70	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	36.80	7.50	29.30	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	36.80	12.30	24.50	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	36.80	8.30	28.50	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	36.80	9.10	27.70	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	36.80	9.50	27.30	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	36.80	5.93	30.87	<0.3	0.35	<0.3	<0.5	<50	<5
	07/21/99	36.80	10.53	26.27	<0.4	<0.3	<0.3	<0.5	<50	<5
	01/15/02	36.80	8.48	28.32	<0.5	<0.5	<0.5	<0.5	<50	*7.9/<2

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Hayward, California

Well Number	Date Sampled	Casing 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)
A-4	03/06/91	39.46	13.22	26.24	11,000	870	2,500	2,100	34,000	---
	12/24/91	39.86	17.60	22.26	29	1.9	25	29	1,900	---
	03/10/92	39.86	14.76	25.10	37	<0.60	11	73	7,400	---
	06/09/92	39.86	15.63	24.23	3.2	1.5	37	16	4,500	---
	09/14/92	39.86	16.83	23.03	<2.5	2.5	61	6.8	1,300	---
	11/12/92	39.86	16.97	22.89	7.2	0.98	34	0.97	610	---
	02/11/93	39.86	13.43	26.43	2.4	<0.5	5.0	3.5	740	---
	04/14/93	39.86	13.06	26.80	<0.5	<0.5	10	1.6	380	---
	08/12/93	39.86	14.94	24.92	0.93	<0.5	0.91	<0.5	1,200	---
	10/26/93	39.86	15.52	24.34	<0.5	<0.5	1.0	<0.5	160	---
	02/17/94	39.46	14.02	25.44	0.5	<0.5	28	0.9	320	---
	05/03/94	39.46	13.85	25.61	<0.5	<0.5	1.1	<0.5	130	---
	08/17/94	39.53	14.95	39.53	34.58	<0.5	<0.5	<0.5	62	---
	11/18/94	39.53	14.46	25.07	1.3	0.6	<0.5	<0.5	98	---
	12/06/95	39.53	13.82	25.71	0.6	ND	ND	ND	ND	---
	02/14/96	39.53	11.24	28.29	ND	2.3	ND	0.71	ND	---
	10/29/96	39.53	13.50	26.03	ND	ND	ND	ND	140	---
	01/29/97	39.53	12.65	26.88	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	39.53	13.97	25.56	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	39.53	12.70	26.83	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	39.53	13.95	25.58	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	39.53	11.90	27.63	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	39.53	13.92	25.61	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	39.53	10.80	28.73	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	39.53	12.60	26.93	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	39.53	12.60	26.93	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	39.53	12.61	26.92	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	39.53	13.95	25.58	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	39.53	11.30	28.23	<0.5	<0.5	<0.5	<0.5	<50	*6.2/<2

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-5	12/24/91	38.94	16.85	22.09	21	<0.30	32	52	1,600	---
	03/10/92	38.94	13.83	25.11	1.6	<0.30	43	100	1,000	---
	06/09/92	38.94	14.91	24.03	34	<1.5	14	16	680	---
	09/14/92	38.94	16.14	22.80	12	<0.30	51	65	770	---
	11/12/92	38.94	16.35	22.59	3.0	<2.5	29	36	520	---
	02/11/93	38.94	13.21	25.73	1.6	0.96	5.1	1.5	150	---
	04/14/93	38.94	12.97	25.97	5.4	<0.5	1.5	0.97	190	---
	08/12/93	38.94	14.12	24.82	1.7	<0.5	5.3	0.94	230	---
	10/26/93	38.94	14.72	24.22	2.8	<0.5	5.5	2.0	190	---
	02/17/94	38.47	13.20	25.27	<0.5	<0.5	13	2.9	340	---
	05/03/94	38.47	13.08	25.39	1.4	<0.5	4.0	1.9	170	---
	08/17/94	38.54	14.18	24.36	0.6	<0.5	7.3	1.1	270	---
	11/18/94	38.54	13.73	24.81	---	<0.5	4.6	<0.5	338	---
	09/26/95	38.47	12.44	26.03	0.63	1.1	ND	1.2	ND	---
	12/06/95	38.47	12.92	25.55	ND	ND	ND	ND	ND	---
	02/14/96	38.47	10.76	27.71	ND	2.0	ND	1.1	ND	---
	10/29/96	38.47	12.35	26.12	ND	ND	ND	ND	ND	---
	01/29/97	38.47	10.85	27.62	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	38.47	13.56	24.91	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	38.47	11.80	26.67	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	38.47	12.20	26.27	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	38.47	10.12	28.35	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	38.47	13.50	24.97	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	38.47	10.20	28.27	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	38.47	11.50	26.97	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	38.47	10.15	28.32	0.32	0.38	<0.3	<0.5	<50	<20
	04/29/99	38.47	11.50	26.97	<0.3	<0.3	<0.3	0.58	<50	<5
	07/21/99	38.47	10.80	27.67	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	38.47	11.58	26.89	<0.5	<0.5	<0.5	<0.5	<50	*5/<2

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-6	12/24/91	39.07	16.88	22.19	<0.3	<0.3	<0.3	<0.3	<30	---
	03/10/92	39.07	13.73	25.34	<0.3	<0.3	<0.3	<0.3	<30	---
	06/09/92	39.07	14.95	24.12	<0.3	<0.3	<0.3	<0.3	<30	---
	09/14/92	39.07	16.20	22.87	<0.5	<0.5	<0.5	<0.5	<50	---
	11/12/92	39.07	16.35	22.72	<0.5	<0.5	<0.5	<0.5	<50	---
	02/11/93	39.07	13.04	26.03	<0.5	<0.5	<0.5	<0.5	<50	---
	04/14/93	39.07	12.23	26.84	<0.5	<0.5	<0.5	<0.5	<50	---
	08/12/93	39.07	14.18	24.89	<0.5	<0.5	<0.5	<0.5	<50	---
	10/26/93	39.07	14.85	24.22	<0.5	<0.5	<0.5	<0.5	<50	---
	05/03/94	39.07	13.66	25.41	<0.5	<0.5	<0.5	<0.5	<50	---
	08/17/94	38.78	14.34	24.44	<0.5	<0.5	<0.5	<0.5	<50	---
	11/18/94	38.78	13.76	25.02	<0.5	<0.5	<0.5	<0.5	<50	---
	09/26/95	38.78	12.56	26.22	ND	ND	ND	ND	ND	---
	12/06/95	38.78	13.18	25.60	ND	ND	ND	ND	ND	---
	02/14/96	38.78	12.46	26.32	ND	ND	ND	ND	ND	---
	10/29/96	38.78	12.40	26.38	ND	ND	ND	ND	50	---
	01/29/97	38.78	13.85	24.93	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	38.78	12.49	26.29	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	38.78	12.10	26.68	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	38.78	15.20	23.58	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	38.78	13.80	24.98	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	38.78	12.45	26.33	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	38.78	10.30	28.48	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	38.78	11.10	27.68	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	38.78	10.40	28.38	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	38.78	13.80	24.98	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	38.78	14.50	24.28	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	38.78	10.74	28.04	<0.5	<0.5	<0.5	<0.5	<50	*5.7/<2

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-7	12/24/91	39.95	18.11	21.84	88	16	170	610	10,000	---
	03/10/92	39.95	15.30	24.65	9.3	0.54	8.8	34	320	---
	06/09/92	39.95	16.12	23.83	11	1.1	8.9	26	340	---
	09/14/92	39.95	17.35	22.60	12	<2.0	30	51	510	---
	11/12/92	39.95	17.47	22.48	17	0.83	50	73	760	---
	02/11/93	39.95	13.80	26.15	20	1.0	11	21	260	---
	04/14/93	39.95	13.60	26.35	89	2.1	48	87	1,300	---
	08/12/93	39.95	15.54	24.41	9.0	<0.50	13	9.0	360	---
	10/26/93	39.95	16.28	23.67	1.7	<0.50	4.0	3.0	99	---
	02/17/94	39.38	14.44	24.94	38	<1	35	25	1,300	---
	05/03/94	39.38	14.34	25.04	8.1	<0.5	7.8	3.7	330	---
	08/17/94	39.45	15.40	24.05	2.2	<0.5	9.6	3.6	350	---
	11/18/94	39.45	14.95	24.50	1.3	<0.5	6.2	2	412	---
	09/26/95	39.38	13.92	25.46	ND	ND	ND	ND	ND	---
	12/06/95	39.38	14.42	24.96	ND	ND	ND	ND	ND	---
	02/14/96	39.38	12.38	27.00	ND	1.1	ND	0.59	ND	---
	10/29/96	39.38	12.33	27.05	ND	ND	ND	ND	ND	---
	01/29/97	39.38	13.10	26.28	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	39.38	11.70	27.68	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	39.38	13.25	26.13	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	39.38	14.42	24.96	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	39.38	13.00	26.38	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	39.38	11.65	27.73	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	39.38	11.20	28.18	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	39.38	13.75	25.63	<0.3	<0.3	<0.3	<0.5	51	<5
	01/13/99	39.38	14.45	24.93	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	39.38	13.74	25.64	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	39.38	14.40	24.98	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	39.38	12.23	27.15	<0.5	<0.5	<0.5	<0.5	<50	*4.8/<2

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-8	09/14/92	37.23	14.19	23.04	<0.5	<0.5	<0.5	<0.5	<50	---
	11/12/92	37.23	14.35	22.88	<0.5	<0.5	<0.5	<0.5	<50	---
	02/11/93	37.23	11.25	25.98	<0.5	<0.5	<0.5	<0.5	<50	---
	04/14/93	37.23	12.33	24.90	<0.5	<0.5	<0.5	<0.5	<50	---
	08/12/93	37.23	12.41	24.82	<0.5	<0.5	<0.5	<0.5	<50	---
	10/26/93	37.23	13.02	24.21	<0.5	<0.5	<0.5	<0.5	<50	---
	02/17/94	36.76	11.47	25.29	<0.5	<0.5	<0.5	<0.5	<50	---
	05/03/94	36.76	11.35	25.41	<0.5	<0.5	<0.5	<0.5	<50	---
	08/17/94	36.84	12.34	24.50	<0.5	1.7	<0.5	1.4	<50	---
	11/18/94	36.84	11.90	24.94	1.0	<0.5	<0.5	<0.5	<50	---
	09/26/95	36.76	10.94	25.82	ND	ND	ND	ND	ND	---
	12/06/95	36.76	11.42	25.34	ND	ND	ND	ND	ND	---
	02/14/96	36.76	8.80	27.96	ND	0.48	ND	ND	ND	---
	10/29/96	36.76	11.30	25.46	ND	ND	ND	ND	200	---
	01/29/97	36.76	7.60	29.16	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	36.76	10.54	26.22	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	36.76	11.20	25.56	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	36.76	12.14	24.62	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	36.76	4.43	32.33	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	36.76	10.55	26.21	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	36.76	9.07	27.69	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	36.76	12.12	24.64	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	36.76	9.60	27.16	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	36.76	9.08	27.68	<0.3	<0.3	<0.3	1.5	<50	<5
	07/21/99	36.76	10.60	26.16	<0.3	<0.3	<0.3	<0.3	<50	<5
	01/15/02	36.76	8.93	27.83	<0.5	<0.5	<0.5	<0.5	<50	*5.6/2.8

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-9	09/14/92	38.71	16.12	22.59	<0.5	<0.5	<0.5	<0.5	<50	---
	11/12/92	38.71	16.29	22.42	<0.5	<0.5	<0.5	<0.5	<50	---
	02/11/93	38.71	12.31	26.40	<0.5	<0.5	<0.5	<0.5	<50	---
	04/14/93	38.71	12.01	26.70	<0.5	<0.5	<0.5	<0.5	<50	---
	08/12/93	38.71	13.90	24.81	<0.5	<0.5	<0.5	<0.5	<50	---
	10/26/93	38.71	14.86	23.85	<0.5	<0.5	<0.5	<0.5	<50	---
	02/17/94	38.19	12.99	25.20	<0.5	<0.5	<0.5	<0.5	<50	---
	08/17/94	38.19	14.03	24.16	<0.5	<0.5	<0.5	<0.5	<50	---
	11/18/94	37.24	13.44	23.80	<0.5	<0.5	<0.5	<0.5	<50	---
	09/26/95	38.24	12.43	25.81	<0.5	ND	ND	ND	ND	---
	12/06/95	38.19	13.14	25.05	<0.5	ND	ND	ND	ND	---
	02/14/96	38.19	9.05	29.14	ND	1.8	0.49	0.82	ND	---
	10/29/96	38.19	12.85	25.34	ND	ND	ND	ND	ND	---
	01/29/97	38.19	9.02	29.17	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/30/97	38.19	12.05	26.14	<0.3	<0.3	<0.3	<0.5	<20	<50
	07/31/97	38.19	12.18	26.01	<0.3	<0.3	<0.3	<0.5	<50	<20
	10/22/97	38.19	7.45	30.74	<0.3	<0.3	<0.3	<0.5	<50	<20
	01/28/98	38.19	21.25	16.94	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	38.19	12.10	26.09	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	38.19	10.40	27.79	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	38.19	1.55	24.64	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	38.19	12.05	26.14	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	38.19	7.43	30.76	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	38.19	7.45	30.74	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	38.19	10.53	27.66	<0.5	<0.5	<0.5	<0.5	<50	*4.3/<2

TABLE 1

GROUNDWATER ANALYTICAL DATA

ARCO Service Station 5387
20200 Hesperian Blvd.
Hayward, California

Well Number	Date Sampled	Casing 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)
A-10	12/07/92	38.94	16.81	22.13	30	<2.5	<2.5	<2.5	660	---
	02/11/93	38.94	13.15	25.79	<0.5	0.97	<0.5	<0.5	210	---
	04/14/93	38.94	12.19	26.75	<0.5	3.0	0.76	1.9	770	---
	08/12/93	38.94	14.87	24.07	<0.5	<0.5	<0.5	0.84	390	---
	10/26/93	38.94	15.65	23.29	<0.5	<0.5	<0.5	<0.5	290	---
	02/17/94	38.66	14.16	24.50	<0.5	<0.5	<0.5	<0.5	52	---
	05/03/94	38.66	14.00	24.66	<0.5	<0.5	<0.5	<0.5	<50	---
	08/17/94	38.72	15.08	23.64	<0.5	<0.5	<0.5	<0.5	<50	---
	11/18/94	38.72	14.68	24.04	<0.5	<0.5	<0.5	<0.5	<50	---
	09/26/95	38.66	13.58	25.08	ND	ND	ND	ND	ND	---
	12/06/95	38.66	14.24	24.42	ND	ND	ND	ND	ND	---
	02/14/96	38.66	6.70	31.96	ND	ND	ND	ND	ND	---
	10/29/96	38.66	14.10	24.56	ND	ND	ND	1.1	ND	---
	01/29/97	38.66	11.20	24.46	0.41	4.8	0.6	4.4	<50	37
	04/30/97	38.66	12.66	26.00	0.40	4.2	0.5	3.8	<20	50
	07/31/97	38.66	13.20	25.46	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/22/98	38.66	12.60	26.06	<0.3	<0.3	<0.3	<0.5	<50	<20
	07/08/98	38.66	8.08	30.58	<0.3	<0.3	<0.3	<0.5	<50	<5
	10/22/98	38.66	11.15	27.51	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/13/99	38.66	9.60	29.06	<0.3	<0.3	<0.3	<0.5	<50	<20
	04/29/99	38.66	11.15	27.51	<0.3	<0.3	<0.3	<0.5	<50	<5
	07/21/99	38.66	9.62	29.04	<0.3	<0.3	<0.3	<0.5	<50	<5
	01/15/02	38.66	11.79	26.87	<0.5	<0.5	<0.5	<0.5	<50	*17/<2

TPH = Total Petroleum Hydrocarbons

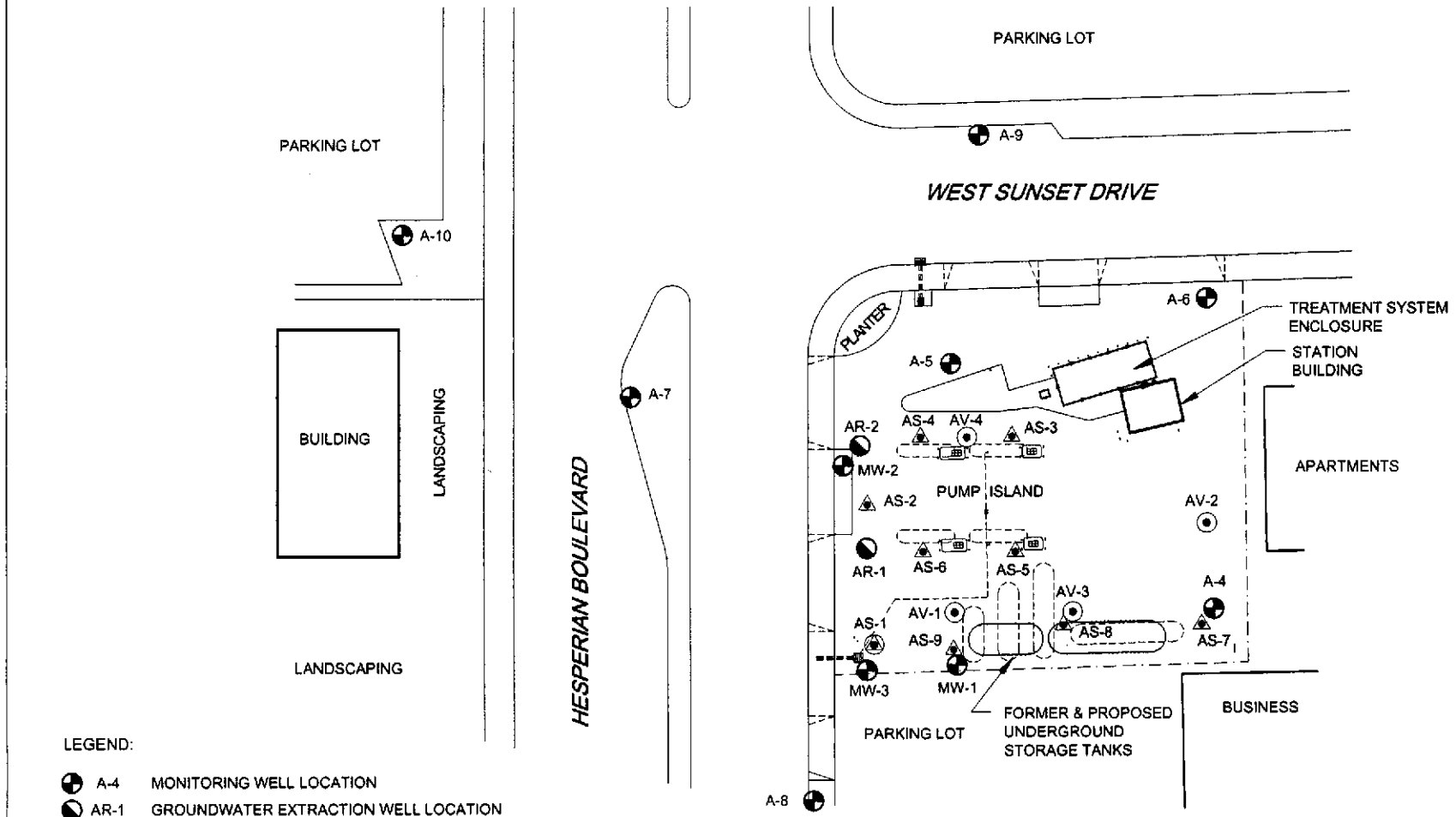
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B (8020) unless otherwise noted

*EPA Method 8020 / 8260

ND = Nondetectable

" --- " = Not analyzed/Not available

µg/L = Micrograms per liter



LEGEND:

- A-4 MONITORING WELL LOCATION
- AR-1 GROUNDWATER EXTRACTION WELL LOCATION
- AV-1 SOIL VAPOR EXTRACTION WELL LOCATION
- AS-2 AIR SPARGE WELL LOCATION
- AS-1 DUAL AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATION

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

North

0 50 FT

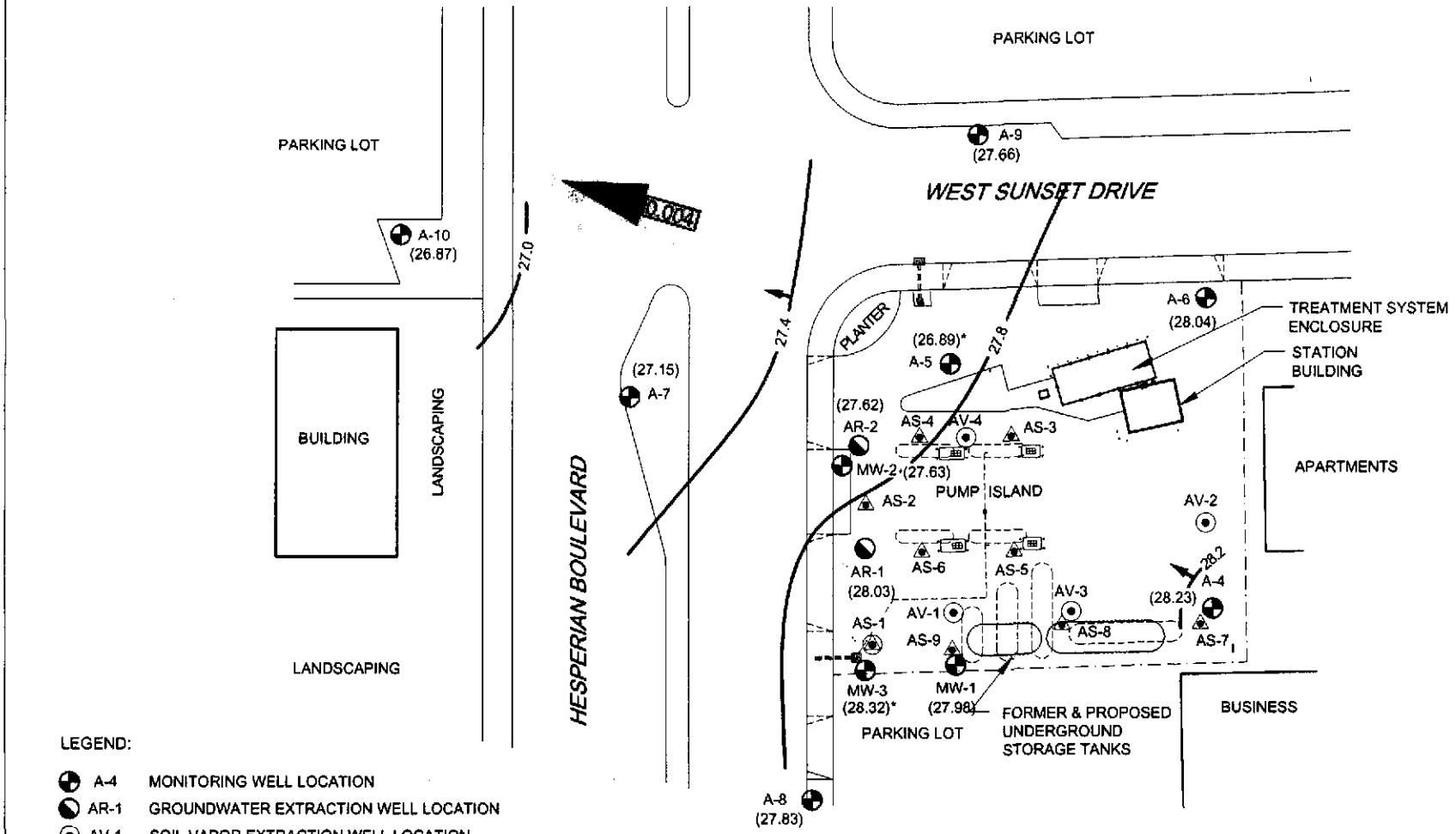
SCALE

FIGURE 1
SITE MAP

ARCO SERVICE STATION NO. 5387
20200 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA

PROJECT NO. D000-318	DRAWN BY TLA 1/24/02
FILE NO. 5387-1	PREPARED BY TLA
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND:

A-4	MONITORING WELL LOCATION
AR-1	GROUNDWATER EXTRACTION WELL LOCATION
AV-1	SOIL VAPOR EXTRACTION WELL LOCATION
AS-2	AIR SPARGE WELL LOCATION
AS-1	DUAL AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATION
(27.98)	GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
— 27.0 —	WATER TABLE CONTOUR IN FEET ABOVE MSL
→	GROUND WATER FLOW DIRECTION
0.004	APPROXIMATE GROUND WATER FLOW GRADIENT
*	MONITORING WELL(S) NOT USED IN GROUND WATER CONTOUR MAP CONSTRUCTION

North

0 50 FT

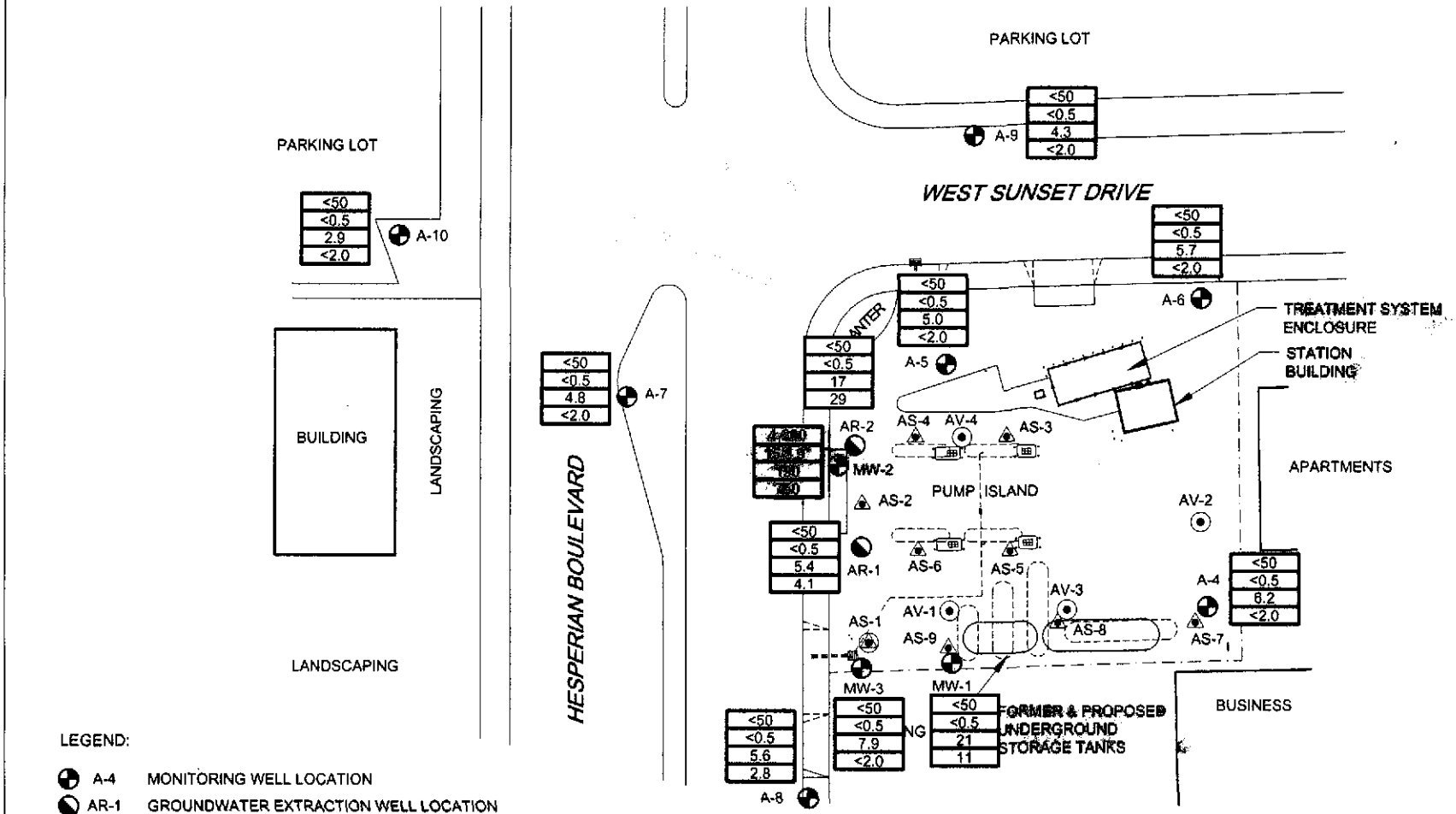
SCALE

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

FIGURE 2
GROUND WATER ELEVATION CONTOUR MAP
FIRST QUARTER 2002 (1/15/02)
ARCO SERVICE STATION NO. 5387
20200 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA

PROJECT NO. 0000-318	DRAWN BY TLA 1/24/02
FILE NO. 5387-1	PREPARED BY TLA
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND:

◓	A-4	MONITORING WELL LOCATION
◔	AR-1	GROUNDWATER EXTRACTION WELL LOCATION
⊙	AV-1	SOIL VAPOR EXTRACTION WELL LOCATION
▲	AS-2	AIR SPARGE WELL LOCATION
◉	AS-1	DUAL AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATION

<50	TPH AS GASOLINE IN MICROGRAMS PER LITER
<0.5	BENZENE IN MICROGRAMS PER LITER
<2.5	MTBE BY EPA METHOD 8020 IN MICROGRAMS PER LITER
<2.0	MTBE BY EPA METHOD 8260B IN MICROGRAMS PER LITER
NS	NOT SAMPLED
15/3.9*	BENZENE BY EPA METHOD 8020/8260B

North

0 50 FT

SCALE

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

FIGURE 3
GROUND WATER ANALYTICAL SUMMARY
FIRST QUARTER 2002 (1/15/02)
ARCO SERVICE STATION NO. 5387
20200 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA

PROJECT NO. D000-316	DRAWN BY TLA 1/24/02
FILE NO. 5387-1	PREPARED BY TLA
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, Inc.

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
ARCO Service Station No. 05387
30200 Hesperian Boulevard
Hayward, California

CLIENT
Name Atlantic Richfield Company
Address P.O. Box 6549 Phone
City Moraga, California Zip 94570

APPLICANT
Name Delta Environmental Consultants, Inc.
Fax (916) 638-8395
Address 3164 Gold Camp Dr. #200 Phone (916) 638-2164
City Rancho Cordova Zip 95670

TYPE OF PROJECT
Well Construction — Geotechnical Investigation
Cathodic Protection — General
Water Supply — Contamination
Monitoring — Well Destruction ✓

PROPOSED WATER SUPPLY WELL USE
New Domestic — Replacement Domestic
Municipal — Irrigation
Industrial — Other

DRILLING METHOD:
Mud Rotary — Air Rotary — Auger
Cable — Other

DRILLER'S NAME Cascade Drilling

DRILLER'S LICENSE NO. C57 # 717510

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth 13.70 ft.
Surface Seal Depth ____ ft. Owner's Well Number AV-3
Soil Vapor Extraction Well

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 1/31/02
ESTIMATED COMPLETION DATE 1/31/02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Brett Bardsley DATE 1/23/02

PLEASE PRINT NAME Brett Bardsley

Rev.5-13-00

FOR OFFICE USE
PERMIT NUMBER W02-0050
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

Excavate and replace in kind to existing condition.

APPROVED [signature] DATE 1-24-02

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
ARCO Service Station No. 09387
20300 Hesperian Boulevard
Hayward, California

CLIENT
Name Atlantic Richfield Company
Address P.O. Box 6549 Phone
City Moraga, California Zip 94570

APPLICANT
Name Delta Environmental Consultants, Inc.
Fax (916) 638-8385
Address 3164 Gold Camp Dr. #200 Phone (916) 638-2164
City Rancho Cordova Zip 95670

TYPE OF PROJECT
Well Construction — Geotechnical Investigation
Cathodic Protection — General
Water Supply — Contamination
Monitoring — Well Destruction ✓

PROPOSED WATER SUPPLY WELL USE
New Domestic — Replacement Domestic
Municipal — Irrigation
Industrial — Other

DRILLING METHOD:
Mud Rotary — Air Rotary — Auger
Cable — Other

DRILLER'S NAME Cascade Drilling
DRILLER'S LICENSE NO. C57 # 717510

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth 37 ft.
Surface Seal Depth ____ ft. Owner's Well Number AS-8
Air sparge well

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 1/31/02
ESTIMATED COMPLETION DATE 1/31/02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Brett Bardsley DATE 1/23/02
PLEASE PRINT NAME Brett Bardsley

FOR OFFICE USE
PERMIT NUMBER W02-0051
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

(F) WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

Pressure grout

APPROVED [signature] DATE 1-24-02

Rev. 3-13-00

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5554
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
ARCO Service Station No. 05387
20200 Hesperian Boulevard
Hayward, California

CLIENT
Name Atlantic Richfield Company
Address P.O. Box 6549 Phone
City Moraga, California Zip 94570

APPLICANT
Name Delta Environmental Consultants, Inc.
3164 Gold Camp Dr. #200 Fax (916) 638-8385
Address Phone (916) 638-2164
City Rancho Cordova Zip 95670

TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection	General
Water Supply	Contamination
Monitoring	Well Destruction ✓

PROPOSED WATER SUPPLY WELL USE

New Domestic	Replacement Domestic
Municipal	Irrigation
Industrial	Other

DRILLING METHOD:

Mud Rotary	Air Rotary	Auger
Cable	Other	

DRILLER'S NAME Cascade Drilling
DRILLER'S LICENSE NO. C57 # 717510

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth 33.79 ft.
Surface Seal Depth ____ ft. Owner's Well Number MS-5
Air Sparge well

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 1/31/02
ESTIMATED COMPLETION DATE 1/31/02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Brett Bardsley DATE 1/23/02
PLEASE PRINT NAME Brett Bardsley

FOR OFFICE USE

PERMIT NUMBER W02-0052
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

→ Pressure Grout

APPROVED [signature] DATE 1-24-0

Rev. 5-13-00

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.

M10 - M... change for lock 17.00 comb 5387

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: 20200 Hesperian Blvd Arco Site Number: 05387
Hayward
Arco Project Manager: Delta Project No:
Site Contact & Phone Number: Site Sampled By: JERRY GONZALES Delta Project PM:
Date Sampled: 1-15-02

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	830	9.28		28.00	☐	18.72	2"	.5	9.4	9.6	☐	☐	☐	☐			MW-1	13:00
MW-2	8:40	10.36		26.40	☐	16.04	2"	.5	8	8.0	☐	☐	☐	☐			MW-2	10:42
MW-3	8:25	8.48		27.40	☐	18.92	2"	.5	9.46	10.0	☐	☐	☐	☐			MW-3	13:25
A-4	8:15	11.30		34.40	☐	23.1	3"	1.1	24.4	24.5	☐	☐	☐	☐			A-4	12:35
A-5	8:35	11.58		29.20	☐	17.62	3"	1.1	19.4	19.4	☐	☐	☐	☐			A-5	11:40
A-6	8:20	10.74		34.25	☐	23.51	3"	1.1	25.9	25.9	☐	☐	☐	☐			A-6	12:05
A-7	8:50	12.23		34.85	☐	22.62	3"	1.1	24.9	24.9	☐	☐	☐	☐			A-7	10:05
A-8	8:45	8.93		33.60	☐	24.67	2"	.5	12.3	12.3	☐	☐	☐	☐			A-8	10:25
A-9	9:00	10.53		33.50	☐	22.97	2"	.5	11.4	11.4	☐	☐	☐	☐			A-9	11:05
A-10	8:55	11.79		34.15	☒		2"	.5			☐	☐	☐	☐			A-10	9:40
AR-1	9:10	9.43		34.00	☐	24.57	6"	4.4	108	108	☐	☐	☐	☐			AR-1	14:00
AR-2	9:05	10.36		34.60	☐	24.24	6"	4.4	106	106.6	☐	☐	☐	☐			AR-2	14:45
					☐						☐	☐	☐	☐				
AS-1	1450			14.60	☐						☐	☐	☐	☐				
AS-2	1452			28.20	☐						☐	☐	☐	☐				
AS-3	1456			32.10	☐						☐	☐	☐	☐				
AS-4	15:00			33.0	☐						☐	☐	☐	☐				
AS-5	15:10			33.70	☐						☐	☐	☐	☐				
AS-6	15:07			33.02	☐						☐	☐	☐	☐				
AS-7	15:30			34.67	☐						☐	☐	☐	☐				
AS-8	15:35			37.0	☐						☐	☐	☐	☐				

(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: Quarterly: Semi-Annual:

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

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: 20200 Hwy 4 at Hesperian Blvd
Arco Site Number: 05587
Site Contact & Phone Number:
Arco Project Manager:
Delta Project No.:
Site Sampled By: Jerry Gonzales
Delta Project PM:
Date Sampled: 1-15-02

Well ID	Time	Temp °F	pH Units	Sp. Cond.	Gallons
MW-1	1250	18.4	665	712	
	1255	18.3	668	709	
	12:59	18.6	667	716	
MW-2	10:37	17.5	661	800	
		18.40	6.87	812	
MW-3	13.11	18.9	670	776	
	13.19	19.4	704	900	
		18.9	672	794	
A-4	1225	17.0	661	723	
	12.30	18:0	656	624	
	12:34	17.7	668	698	
A-5	11:20	18.2	663	795	
	1135	17.8	672	737	
A-6	1150	16.9	667	632	
		17.2	671	624	
	12:04	17.1	673	631	
A-7	165		670	804	10.9
	15-3		688	835	
A-8	1015	16.2	663	781	
		16.4	670	785	
		16.6	675	801	
A-9	1055	14.1	657	787	
	10:04	17.2	679	765	
A-10		14.9	689	1122	
AR-1	1335	19.5	709	787	30
	1348	19.5	705	768	66
		19.9	706	784	108
AR-2	1415	19.2	704	842	
	1425	19.6	703	822	
	14:40	19.6	695	805	

Notes: NP = NO PURGE

FLA (Arco Blank Sampling Sheets XLS)

Original Copies of Field Sampling Sheets are Located in Project File

Last Printed: 2/2/02

APPENDIX D

Certified Analytical Reports
And
Chain-of-Custody Documentation

Sequoia
Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673
www.sequoialabs.com

24 January, 2002

Steve Meeks
Delta Environmental - Rancho Cordova
3164 Gold Camp Dr., Ste. # 200
Rancho Cordova, CA 95670

RE: Arco
Sequoia Report: W201228

Enclosed are the results of analyses for samples received by the laboratory on 15-Jan-02 18:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dimple Sharma
Project Manager

CA ELAP Certificate #1271

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925)988-9600
FAX (916)988-9673
www.sequoialabs.com

Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	W201228-01	Water	15-Jan-02 13:00	15-Jan-02 18:55
MW-2	W201228-02	Water	15-Jan-02 10:42	15-Jan-02 18:55
MW-3	W201228-03	Water	15-Jan-02 13:25	15-Jan-02 18:55
A-4	W201228-04	Water	15-Jan-02 12:35	15-Jan-02 18:55
A-5	W201228-05	Water	15-Jan-02 11:40	15-Jan-02 18:55
A-6	W201228-06	Water	15-Jan-02 12:05	15-Jan-02 18:55
A-7	W201228-07	Water	15-Jan-02 10:05	15-Jan-02 18:55
A-8	W201228-08	Water	15-Jan-02 10:25	15-Jan-02 18:55
A-9	W201228-09	Water	15-Jan-02 11:05	15-Jan-02 18:55
A-10	W201228-10	Water	15-Jan-02 09:40	15-Jan-02 18:55
AR-1	W201228-11	Water	15-Jan-02 14:00	15-Jan-02 18:55
AR-2	W201228-12	Water	15-Jan-02 14:45	15-Jan-02 18:55
TB	W201228-13	Water	15-Jan-02 06:00	15-Jan-02 18:55

Sequoia Analytical - Walnut Creek

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.

Dimple Sharma, Project Manager

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W201228-01) Water Sampled: 15-Jan-02 13:00 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**21**	2.5	"	"	"	"	"	"	Q-28b
Surrogate: a,a,a-Trifluorotoluene		*100 %*	*70-130*		"	"	"	"	
MW-2 (W201228-02) Water Sampled: 15-Jan-02 10:42 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	**1200**	50	ug/l	1	2A15002	16-Jan-02	16-Jan-02	EPA 8015M/8021	
Benzene	**15**	0.50	"	"	"	"	"	"	
Toluene	**4.5**	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**190**	2.5	"	"	"	"	"	"	Q-28
Surrogate: a,a,a-Trifluorotoluene		*122 %*	*70-130*		"	"	"	"	
MW-3 (W201228-03) Water Sampled: 15-Jan-02 13:25 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**7.9**	2.5	"	"	"	"	"	"	Q-28b
Surrogate: a,a,a-Trifluorotoluene		*116 %*	*70-130*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-4 (W201228-04) Water Sampled: 15-Jan-02 12:35 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**6.2**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*104 %*	*70-130*		"	"	"	"	
A-5 (W201228-05) Water Sampled: 15-Jan-02 11:40 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**5.0**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*115 %*	*70-130*		"	"	"	"	
A-6 (W201228-06) Water Sampled: 15-Jan-02 12:05 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**5.7**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*70-130*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-7 (W201228-07) Water Sampled: 15-Jan-02 10:05 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**4.8**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*107 %*	*70-130*		"	"	"	"	
A-8 (W201228-08) Water Sampled: 15-Jan-02 10:25 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**5.6**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*70-130*		"	"	"	"	
A-9 (W201228-09) Water Sampled: 15-Jan-02 11:05 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**4.3**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*111 %*	*70-130*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-10 (W201228-10) Water Sampled: 15-Jan-02 09:40 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	**1.1**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**2.9**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*111 %*	*70-130*		"	"	"	"	
AR-1 (W201228-11) Water Sampled: 15-Jan-02 14:00 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**5.4**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*70-130*		"	"	"	"	
AR-2 (W201228-12) Water Sampled: 15-Jan-02 14:45 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	**17**	2.5	"	"	"	"	"	"	Q-28a
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*70-130*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB (W201228-13) Water Sampled: 15-Jan-02 06:00 Received: 15-Jan-02 18:55									
Purgeable Hydrocarbons (C6-C12)	ND	50	ug/l	1	2A15002	15-Jan-02	15-Jan-02	EPA 8015M/8021	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*109 %*		*70-130*		"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

MTBE Confirmation by EPA Method 8260B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W201228-01) Water Sampled: 15-Jan-02 13:00 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	**11**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*100 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*50-150*		"	"	"	"	
MW-2 (W201228-02) Water Sampled: 15-Jan-02 10:42 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	**750**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	E
Surrogate: Dibromofluoromethane		*118 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*125 %*	*50-150*		"	"	"	"	
MW-3 (W201228-03) Water Sampled: 15-Jan-02 13:25 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*106 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*113 %*	*50-150*		"	"	"	"	
A-4 (W201228-04) Water Sampled: 15-Jan-02 12:35 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*106 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*118 %*	*50-150*		"	"	"	"	
A-5 (W201228-05) Water Sampled: 15-Jan-02 11:40 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*108 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*122 %*	*50-150*		"	"	"	"	
A-6 (W201228-06) Water Sampled: 15-Jan-02 12:05 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*107 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*121 %*	*50-150*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

MTBE Confirmation by EPA Method 8260B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-7 (W201228-07) Water Sampled: 15-Jan-02 10:05 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*106 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*129 %*	*50-150*		"	"	"	"	
A-8 (W201228-08) Water Sampled: 15-Jan-02 10:25 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	**2.8**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*112 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*119 %*	*50-150*		"	"	"	"	
A-9 (W201228-09) Water Sampled: 15-Jan-02 11:05 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*113 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*119 %*	*50-150*		"	"	"	"	
A-10 (W201228-10) Water Sampled: 15-Jan-02 09:40 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*117 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*123 %*	*50-150*		"	"	"	"	
AR-1 (W201228-11) Water Sampled: 15-Jan-02 14:00 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	**4.1**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*113 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*120 %*	*50-150*		"	"	"	"	
AR-2 (W201228-12) Water Sampled: 15-Jan-02 14:45 Received: 15-Jan-02 18:55									
Methyl tert-butyl ether (MTBE)	**29**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Surrogate: Dibromofluoromethane		*114 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*126 %*	*50-150*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

BTEX by EPA Method 8260B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W201228-02) Water Sampled: 15-Jan-02 10:42 Received: 15-Jan-02 18:55									
Benzene	**3.9**	2.0	ug/l	1	2A16007	16-Jan-02	16-Jan-02	EPA 8260B	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	2.0	"	"	"	"	"	"	
Total Xylenes	ND	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*	*50-150*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*125 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*50-150*		"	"	"	"	

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A15002 - EPA 5030B P/T										
Blank (2A15002-BLK1)				Prepared & Analyzed: 15-Jan-02						
Purgeable Hydrocarbons (C6-C12)	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 (MTBE)	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*32.1*		"	*30.0*		*107*	*70-130*			
Blank (2A15002-BLK2)				Prepared & Analyzed: 15-Jan-02						
Purgeable Hydrocarbons (C6-C12)	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 (MTBE)	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*31.4*		"	*30.0*		*105*	*70-130*			
Blank (2A15002-BLK3)				Prepared & Analyzed: 16-Jan-02						
Purgeable Hydrocarbons (C6-C12)	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 (MTBE)	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*32.7*		"	*30.0*		*109*	*70-130*			
LCS (2A15002-BS1)				Prepared & Analyzed: 15-Jan-02						
Benzene	18.7	0.50	ug/l	20.0		94	70-130			
Toluene	19.5	0.50	"	20.0		98	70-130			
Ethylbenzene	20.3	0.50	"	20.0		102	70-130			
Xylenes (total)	60.6	0.50	"	60.0		101	70-130			
Surrogate: a,a,a-Trifluorotoluene	*30.9*		"	*30.0*		*103*	*70-130*			

Sequoia Analytical

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

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

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A15002 - EPA 5030B P/T										
LCS (2A15002-BS2)				Prepared & Analyzed: 15-Jan-02						
Benzene	20.6	0.50	ug/l	20.0		103	70-130			
Toluene	20.1	0.50	"	20.0		100	70-130			
Ethylbenzene	19.9	0.50	"	20.0		100	70-130			
Xylenes (total)	60.5	0.50	"	60.0		101	70-130			
Surrogate: a,a,a-Trifluorotoluene	*29.0*		"	*30.0*		*97*	*70-130*			
LCS (2A15002-BS3)				Prepared & Analyzed: 16-Jan-02						
Benzene	19.8	0.50	ug/l	20.0		99	70-130			
Toluene	20.7	0.50	"	20.0		104	70-130			
Ethylbenzene	21.3	0.50	"	20.0		106	70-130			
Xylenes (total)	63.8	0.50	"	60.0		106	70-130			
Surrogate: a,a,a-Trifluorotoluene	*30.9*		"	*30.0*		*103*	*70-130*			
LCS Dup (2A15002-BSD1)				Prepared & Analyzed: 15-Jan-02						
Benzene	19.1	0.50	ug/l	20.0		96	70-130	2	20	
Toluene	20.2	0.50	"	20.0		101	70-130	4	20	
Ethylbenzene	21.1	0.50	"	20.0		106	70-130	4	20	
Xylenes (total)	63.4	0.50	"	60.0		106	70-130	5	20	
Surrogate: a,a,a-Trifluorotoluene	*30.3*		"	*30.0*		*101*	*70-130*			
Matrix Spike (2A15002-MS1)		**Source: W201228-10**		Prepared: 15-Jan-02 Analyzed: 16-Jan-02						
Benzene	19.9	0.50	ug/l	20.0	ND	100	70-130			
Toluene	20.7	0.50	"	20.0	ND	104	70-130			
Ethylbenzene	22.1	0.50	"	20.0	ND	110	70-130			
Xylenes (total)	65.7	0.50	"	60.0	1.1	108	70-130			
Surrogate: a,a,a-Trifluorotoluene	*31.6*		"	*30.0*		*105*	*70-130*			
Matrix Spike Dup (2A15002-MSD1)		**Source: W201228-10**		Prepared: 15-Jan-02 Analyzed: 16-Jan-02						
Benzene	19.7	0.50	ug/l	20.0	ND	98	70-130	1	20	
Toluene	20.4	0.50	"	20.0	ND	102	70-130	1	20	
Ethylbenzene	21.6	0.50	"	20.0	ND	108	70-130	2	20	
Xylenes (total)	64.3	0.50	"	60.0	1.1	105	70-130	2	20	
Surrogate: a,a,a-Trifluorotoluene	*31.0*		"	*30.0*		*103*	*70-130*			

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

MTBE Confirmation by EPA Method 8260B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A16007 - EPA 5030B (P/T)										
Blank (2A16007-BLK1)				Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*58.3*		"	*50.0*		*117*	*50-150*			
Blank (2A16007-BLK2)				Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	*50.8*		"	*50.0*		*102*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		"	*50.0*		*99*	*50-150*			
LCS (2A16007-BS1)				Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	49.3	2.0	ug/l	50.0		99	70-130			
Surrogate: Dibromofluoromethane	*57.0*		"	*50.0*		*114*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*63.2*		"	*50.0*		*126*	*50-150*			
LCS (2A16007-BS2)				Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	43.6	2.0	ug/l	50.0		87	70-130			
Surrogate: Dibromofluoromethane	*52.1*		"	*50.0*		*104*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*54.0*		"	*50.0*		*108*	*50-150*			
LCS Dup (2A16007-BSD1)				Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	47.2	2.0	ug/l	50.0		94	70-130	4	25	
Surrogate: Dibromofluoromethane	*56.6*		"	*50.0*		*113*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*64.3*		"	*50.0*		*129*	*50-150*			
Matrix Spike (2A16007-MS1)	**Source: W201206-06**			Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	48.1	2.0	ug/l	50.0	ND	96	60-150			
Surrogate: Dibromofluoromethane	*56.9*		"	*50.0*		*114*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*58.5*		"	*50.0*		*117*	*50-150*			

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

MTBE Confirmation by EPA Method 8260B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A16007 - EPA 5030B (P/T)										
Matrix Spike Dup (2A16007-MSD1)	**Source: W201206-06**			Prepared & Analyzed: 16-Jan-02						
Methyl tert-butyl ether (MTBE)	50.6	2.0	ug/l	50.0	ND	101	60-150	5	25	
Surrogate: Dibromofluoromethane	*57.2*		"	*50.0*		*114*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*63.6*		"	*50.0*		*127*	*50-150*			

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

BTEX by EPA Method 8260B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2A16007 - EPA 5030B (P/T)										
Blank (2A16007-BLK1)				Prepared & Analyzed: 16-Jan-02						
Benzene	ND	2.0	ug/l							
Toluene	ND	5.0	"							
Ethylbenzene	ND	2.0	"							
Total Xylenes	ND	5.0	"							
Surrogate: Dibromofluoromethane	*56.2*		"	*50.0*		*112*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*55.0*		"	*50.0*		*110*	*50-150*			
Surrogate: Toluene-d8	*52.5*		"	*50.0*		*105*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*54.9*		"	*50.0*		*110*	*50-150*			
LCS (2A16007-BS1)				Prepared & Analyzed: 16-Jan-02						
Benzene	46.0	2.0	ug/l	50.0		92	70-130			
Toluene	44.4	5.0	"	50.0		89	70-130			
Surrogate: Dibromofluoromethane	*53.5*		"	*50.0*		*107*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*51.4*		"	*50.0*		*103*	*50-150*			
Surrogate: Toluene-d8	*49.8*		"	*50.0*		*100*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*54.4*		"	*50.0*		*109*	*50-150*			
LCS Dup (2A16007-BSD2)				Prepared & Analyzed: 16-Jan-02						
Benzene	43.4	2.0	ug/l	50.0		87	70-130		25	
Toluene	42.1	5.0	"	50.0		84	70-130		25	
Surrogate: Dibromofluoromethane	*55.0*		"	*50.0*		*110*	*50-150*			
Surrogate: 1,2-Dichloroethane-d4	*55.9*		"	*50.0*		*112*	*50-150*			
Surrogate: Toluene-d8	*50.8*		"	*50.0*		*102*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*54.0*		"	*50.0*		*108*	*50-150*			

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Delta Environmental - Rancho Cordova	Project: Arco	
3164 Gold Camp Dr., Ste. # 200	Project Number: Arco # 5387, Hayward	**Reported:**
Rancho Cordova CA, 95670	Project Manager: Steve Meeks	24-Jan-02 15:06

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
Q-28	The opening calibration verification standard was outside acceptance criteria by -15%. Although the Laboratory Control Sample verified the accuracy of the batch, this should be considered in evaluating the data for its intended purpose.
Q-28a	The opening calibration verification standard was outside acceptance criteria by -3.5%. Although the Laboratory Control Sample verified the accuracy of the batch, this should be considered in evaluating the data for its intended purpose.
Q-28b	The opening calibration verification standard was outside acceptance criteria by 1%. Although the Laboratory Control Sample verified the accuracy of the batch, this should be considered in evaluating the data for its intended purpose.
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. 2879900 W201228

Chain of Custody

ARCO Facility No. 5397	City (Facility) Hayward	Project Manager (Consultant) Steve Meeks	Laboratory name Sequoia
ARCO engineer Paul Supple	Telephone no. (ARCO)	Telephone no. (Consultant) 916-632-2065	Fax no. (Consultant) 916-638-8385
Company name (Consultant) Delta	Address (Consultant) Rancho Cordova		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Preservation: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8021	BTEX/TPH 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 ☐	MTBE 8260	
MW-1		4		X		X	X		13:00		X										-01A-D
MW-2									10:42												-02
MW-3									13:25												-03
MW-4									12:35												-04
A-5									11:40												-05
A-6									12:05												-06
A-7									10:05												-07
A-8									10:25												-08
A-9									11:05												-09
A-10									9:40												-10
AR-1									14:00												-11
AR-2		↓							14:45		↓									V	-12
TB		2							6:00												-13

Condition of sample:

Temperature received:

Relinquished by sampler	Date 11-15-02	Time 1855	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory: Michael Gain — Date 11/15/02 — Time 1855

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

Special detection Limit/reporting

Special QA/QC

Remarks
ASAP
OVER NIGHT
TURNAROUND

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 ☐

01/25/02 04:01 :02/02 NO:206
925 988 9673
SEQUOIA ANALYTICAL