Quarterly Groundwater Monitoring Report
Fourth Quarter 2000

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Prepared for

Mr. Paul Supple
ARCO Products Company

March 7, 2001

Prepared by

IT Corporation
1921 Ringwood Avenue
San Jose, California 95131-1721

Project 809628

Shaw Garakani
Project Manager

Andrew Lehane
Senior Engineer
RCE 55798

REGISTERED PROFESSIONAL ENGINEER
ANDREW D. LEHANE
55798
EXP. 12/31/04
CIVIL
STATE OF CALIFORNIA

Date: March 7, 2000
Quarter: 4Q00

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 0608 Address: 17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

ARCO Environmental Engineer: Paul Supple
Consulting Co./Contact Person: IT Corporation (IT) – Shaw Garakani
Consultant Project No.: 809628
Primary Agency/Regulatory ID No.: Alameda County Health Care Services Agency
Monitoring Events Performed to Date: 47

WORK PERFORMED THIS QUARTER (Fourth – 2000):

1. Submitted third quarter 2000 groundwater monitoring report.
2. IT performed fourth quarter 2000 groundwater monitoring event on December 14-15, 2000.
3. Prepared third quarter 2000 groundwater monitoring and remedial system performance evaluation report.
4. Continued monthly payments to homeowners for not using domestic irrigation wells.
5. Continued homeowner quarterly monitoring results notification program.
6. Continued operation and maintenance of the groundwater extraction and treatment (GWET) system.

WORK PROPOSED FOR NEXT QUARTER (First – 2001):

1. Prepare and submit fourth quarter 2000 groundwater monitoring and remedial system performance evaluation report.
2. IT will perform first quarter 2001 groundwater monitoring event.
3. Continue operation, maintenance and performance monitoring of GWET system.
4. Continue monthly payments to homeowners for not using domestic irrigation wells.
5. Continue homeowner quarterly monitoring results notification program.

Current Phase of Project:	Remediation/Monitoring	(Assmnt, Remed., etc.)
Frequency of Groundwater Sampling:	Quarterly-Annually	(Quarterly, etc.)
Frequency of Groundwater Monitoring:	Quarterly	(Monthly, etc.)
Is Free Product (FP) Present On-Site:	No	(Yes/No)
FP Recovered this Quarter:	None	(gallons)
Cumulative FP Recovered to Date:	None	(gallons)
Bulk Soil Removed This Quarter:	None	(cubic yards)
Bulk Soil Removed to Date:	200	(cubic yards)
Current Remediation Techniques:	GWET	(SVE/Sparge/FP Removal, etc.)
Approximate Depth to Groundwater:	9.14 to 12.25	(Measure Feet)
Groundwater Gradient:	NA/NA	(Direction/Magnitude)
Period TPPH-g/Benzene/MtBE Removed:	0.05/ 0.00/ 0.02	(gallons)
Cumulative TPPH-g/Benzene/MtBE Removed:	0.98/ 0.04/ 0.11	(gallons)

DISCUSSION:

- Please refer to Pacific Environmental Group, Inc.'s *Quarterly Groundwater Monitoring Report – Fourth Quarter 1996* for additional historical groundwater elevation and analytical data.
- **Based on elevated concentrations of methyl tert-butyl ether (MtBE), the GWET system was reactivated on June 5, 2000.** Performance evaluation of the GWET system is presented as Attachment C.

ATTACHMENTS:

- Table 1 - Groundwater Sampling Schedule
- Table 2 - Groundwater Elevation and Analytical Data – Groundwater Monitoring Wells
- Table 3 - Groundwater Analytical Data – Domestic Irrigation Wells
- Figure 1 – Site Map
- Figure 2 – Groundwater Elevation Contour Map – Fourth Quarter 2000
- Figure 3 – TPPH-g/Benzene/MtBE Concentration Map – Fourth Quarter 2000
- Attachment A – Field and Laboratory Procedures
- Attachment B – Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
- Attachment C – Remedial System Performance Evaluation
- Attachment D – Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets for the Groundwater Extraction and Treatment System

cc: Mr. Amir K. Gholami, REHS, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Alameda, CA 94502
Mr. Ron Sykora/Mr. Robert L. Webster, David D. Bohannon Organization, 60 Hillsdale Mall, San Mateo, CA 94403
Mr. Chuck Headlee, Regional Water Quality Control Board - San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612

Table 1
Groundwater Sampling Schedule

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
MW-5	a	a	a	a	Quarterly
MW-7	----------Removed from Program----------				
MW-8	a	a	a	a	Quarterly
MW-9	a	a	a	a	Quarterly
MW-10	a	a	a	a	Quarterly
MW-11	a	a	a	a	Quarterly
E-1A	a	a	a	a	Quarterly
MW-13	----------Removed from Program----------				
MW-14	a				Annually
MW-15	a	a	a	a	Quarterly
MW-16	a	a	a	a	Quarterly
MW-17	----------Destroyed----------				
MW-18	a				Annually
MW-19	----------Removed from Program----------				
MW-20	----------Destroyed----------				
MW-21	a				Annually
MW-22	a	a	a	a	Quarterly
MW-23	a				Annually
MW-24	----------Removed from Program----------				
MW-25	a	a	a	a	Quarterly
MW-26	a				Annually
Domestic Irrigation Wells					
590H	----------Destroyed----------				
633H	----------Destroyed----------				
634H	a	a	a	a	Quarterly
642H	a	a	a	a	Quarterly
675H	a	a	a	a	Quarterly
17197 VM	a	a	a	a	Quarterly

Table 1
Groundwater Sampling Schedule

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sampling Frequency
Domestic Irrigation Wells (cont.)					
17200 VM	----------Destroyed----------				
17203 VM	a	a	a	a	Quarterly
17302 VM	a	a	a	a	Quarterly
17348 VE	a	a	a	a	Quarterly
17349 VM	a	a	a	a	Quarterly
17371 VM	a	a	a	a	Quarterly
17372 VM	a	a	a	a	Quarterly
17393 VM	----------Destroyed----------				

a. Samples analyzed for TPPH-g, BTEX compounds, and MtBE according to EPA Methods 8015 (modified) and 8020.

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number		Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
MW-5	††	03/13,14/96		33.99	9.75	24.24	1,600	30	<10	13	<10	NA	NM
		05/28,29/96			11.48	22.51	240	2.4	<0.50	<0.50	<0.50	NA	NM
		08/28/96			12.58	21.41	250	210	8.0	<1.0	<1.0	210	NM
		11/25,26/96			12.07	21.92	<500	<5.0	<5.0	<5.0	<5.0	280	NM
		03/31/97	†		12.42	21.57	<50	<0.50	<0.50	<0.50	<0.50	41	NM
		06/25/97			12.64	21.35	NS	NS	NS	NS	NS	NS	NM
		09/09,10/97			12.75	21.24	<50	<0.50	<0.50	<0.50	<0.50	19	NM
		11/24,25/97			12.60	21.39	<50	0.9	<0.50	<0.50	<0.50	23	1.4
		03/19,20/98			10.43	23.56	61	1.0	0.56	0.55	<0.50	75	1.2
		06/04/98			11.24	22.75	150	<0.30	<0.30	0.32	0.74	20	1.4
		09/21,22/98			12.45	21.54	110	0.59	<0.50	<0.50	<0.50	25	1.8
		12/14,15/98			11.85	22.14	<200	<2.0	<2.0	<2.0	<2.0	600	1.2
		03/15,16/99			11.05	22.94	50.9	<0.50	<0.50	<0.50	<0.50	211	1.0
		06/14,15/99			12.25	21.74	211	<0.50	<0.50	<0.50	<0.50	212	1.2
		09/15,16/99			12.70	21.29	139	<0.50	<0.50	<0.50	<0.50	184	2.4
		12/08,09/99			12.56	21.43	87.4	<0.50	<0.50	<0.50	<0.50	197	1.2
		03/15/00			10.10	23.89	82.4	<0.50	0.710	<0.50	0.579	906	1.2
		03/15/00	a		--	--	--	--	--	--	--	1,230	--
		06/13/00	b		12.44	21.55	96.7	<0.50	<0.50	<0.50	<0.50	551	2.0
		9/19,20/00			12.45	21.54	<50.0	<0.50	<0.50	<0.50	<0.50	51	2.2
		12/14,15/00			12.03	21.96	152.0	1.33	0.56	<0.50	<0.50	<2.50	1.0
MW-7		03/13,15/96		34.40	9.73	24.67	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		05/28,29/96			11.60	22.80	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		08/28,29/96			12.63	21.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		11/25,26/96			12.10	22.30	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		03/31-04/01/97			11.72	22.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		06/25/97			12.98	21.42	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		09/09,10/97			12.25	22.15	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
		11/24,25/97			12.57	21.83	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.0
		03/19,20/98			10.35	24.05	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.0
		06/04/98			11.30	23.10	<50	<0.30	<0.30	<0.30	<0.60	<10	0.7
		09/21,22/98			12.48	21.92	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.4
		12/14,15/98			11.90	22.50	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.2
		03/15,16/99			11.10	23.30	<50	<0.50	<0.50	<0.50	<0.50	<	0.0
		06/14,15/99				Removed From Gauging and Sampling Program							
MW-8		03/13,14/96		32.79	8.90	23.89	670	5.1	<2.0	<2.0	<2.0	NA	NM
		05/28,29/96			10.58	22.21	490	<1.0	<1.0	0.91	0.91	NA	NM
		08/28/96			11.30	21.49	680	29	2.1	3.0	2.4	80	NM
		11/25/96			10.80	21.99	620	1.2	2.6	2.9	2.0	46	NM
		03/31-04/01/97			10.76	22.03	530	<1.0	1.7	2.0	3.8	380	NM
		06/25/97			11.65	21.14	480	6.7	0.69	0.8	0.71	88	NM
		09/09,10/97			11.67	21.12	570	57	<1.0	2.1	1.7	57	2.0
		09/09,10/97	a		--	--	--	--	--	--	--	48	--
		11/24,25/97			11.50	21.29	530	3.0	1.7	1.9	1.5	26	2.0
		03/19,20/98			9.40	23.39	440	1.4	<0.50	<0.50	3.7	140	2.2
		06/03/98			10.25	22.54	360	2.2	1.2	1.8	1.0	47	0.3
		09/21,22/98			11.37	21.42	380	<2.5	<2.5	<2.5	<2.5	620	0.0
		12/14,15/98			10.80	21.99	<50	<0.50	<0.50	<0.50	<0.50	1,600	0.0
		03/15,16/99			10.00	22.79	<500	<5.0	<5.0	<5.0	<5.0	625	0.0
		06/14,15/99			11.17	21.62	166	<0.50	<0.50	<0.50	<0.50	141	NM
		09/15,16/99			11.65	21.14	<500	<5.0	<5.0	<5.0	<5.0	2,380	2.4
		12/08,09/99			11.48	21.31	213	<0.50	<0.50	<0.50	<0.50	4,160	2.8
		03/15/00			9.38	23.41	133	<0.50	3.44	<0.50	0.548	1,350	2.2
		03/15/00	a		--	--	--	--	--	--	--	1,980	--
		06/13/00	b		11.93	20.86	227	<0.50	<0.50	<0.50	<0.50	657	1.0
		9/19,20/2000			11.46	21.33	191	1.7	3.2	<0.50	1.2	160	1.0
		12/14,15/00			10.97	21.82	243	<0.50	<0.50	<0.50	<0.50	248	2.0
MW-9		03/13,15/96		32.11	7.65	24.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		05/28/96			9.67	22.44	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		08/28,29/96			10.78	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		11/25/96			10.24	21.87	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		03/31-04/01/97			9.95	22.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		06/25/97			10.85	21.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		09/09,10/97			10.87	21.24	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
		11/24,25/97			10.70	21.41	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
		03/19,20/98			8.63	23.48	<50	<0.50	<0.50	<0.50	<0.50	58	4.8
		06/04/98			9.35	22.76	<50	<0.30	<0.30	<0.30	<0.60	<10	2.0
		09/21,22/98			10.55	21.56	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells

ARCO Service Station 0608
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San Lorenzo, California

Well Number		Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
MW-9		12/14,15/98			9.98	22.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
(cont.)		03/15,16/99			9.10	23.01	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.0
		06/14,15/99			10.32	21.79	<50	<0.50	<0.50	<0.50	<0.50	3.27	2.2
		09/15,16/99			10.83	21.28	<50	<0.50	<0.50	<0.50	<0.50	<5.0	3.2
		12/08,09/99			10.70	21.41	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.6
		03/15/00			8.58	23.53	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
		06/13/00	b		10.48	21.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
		9/19,20/00			10.53	21.58	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
		12/14,15/00			10.35	21.76	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
MW-10	††	03/13,14/96		31.67	7.78	23.89	870	35	<5.0	5.2	7.0	NA	NM
		05/29/96			10.00	21.67	800	<1.0	<1.0	<1.0	<1.0	NA	NM
		08/28/96			10.93	20.74	NS	NS	NS	NS	NS	NS	NM
		11/25,26/96			10.45	21.22	1,100	6.0	4.9	3.8	9.5	200	NM
		03/31/97	†		10.15	21.52	160	<0.50	<0.50	<0.50	<0.50	140	NM
		06/25/97			10.99	20.68	800	4.2	1.4	1.5	1.4	170	NM
		09/09,10/97			11.08	20.59	950	<1.2	3.3	2.5	3.7	240	2.0
		09/09,10/97	a		--	--	--	--	--	--	--	210	--
		11/24,25/97			10.85	20.82	920	5.7	6.7	<5.0	<5.0	160	2.4
		11/24,25/97			--	--	--	--	--	--	--	160	--
		03/19/98			8.78	22.89	330	1.7	<0.50	<0.50	<0.50	130	1.0
		06/04/98			9.59	22.08	680	<0.30	4.8	2.3	8.6	79	0.0
		09/21,22/98			10.77	20.90	650	<0.50	<0.50	3.5	1.3	99	0.0
		12/14/98			10.18	21.49	828	<1.0	<1.0	3.39	<1.0	152	0.4
		03/15,16/99			9.30	22.37	910	17.6	1.3	5.24	<1.0	268	0.0
		06/14,15/99			10.57	21.10	643	<0.50	0.761	1.13	1.35	232	NM
		09/15,16/99			11.03	20.64	655	<1.25	1.26	<1.25	<1.25	315	5.8
		12/08,09/99			10.88	20.79	898	5.7	1.29	<1.0	<1.0	236	5.6
		03/15/00			8.68	22.99	459	<1.0	<1.0	<1.0	<1.0	266	2.2
		03/15/00	a		--	--	--	--	--	--	--	342	--
		06/13/00	b		10.85	20.82	617	6.82	2.77	3.07	1.92	437	1.0
		9/19,20/00			10.70	20.97	527	<0.50	0.86	0.99	1.19	413	2.2
		12/14,15/00			10.35	21.32	456	10.50	1.01	0.60	<0.50	145	4.0
MW-11		03/13,14/96		32.54	8.60	23.94	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		05/28/96			10.55	21.99	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
		08/28/96			11.52	21.02	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		11/25/96			11.00	21.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		03/31-04/01/97			10.88	21.66	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		06/25/97			11.65	20.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
		09/09,10/97			11.75	20.79	80	<0.50	<0.50	<0.50	0.65	<2.5	2.0
		11/24,25/97			11.50	21.04	<50	<0.50	<0.50	<0.50	<0.50	3.8	2.4
		03/19/98			9.43	23.11	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
		06/03/98			10.27	22.27	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.8
		09/21,22/98			11.43	21.11	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
		12/14/98			10.85	21.69	<50	<0.50	<0.50	<0.50	<0.50	<2.0	1.4
		03/15,16/99			10.05	22.49	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.2
		06/14,15/99			11.25	21.29	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.4
		09/15/99			11.68	20.86	<50	<0.50	<0.50	<0.50	<0.50	<5.0	3.4
		12/08,09/99			11.53	21.01	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.0
		03/15/00			9.32	23.22	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.7
		06/13/00	b		11.05	21.49	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
		9/19,20/00			11.37	21.17	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
		12/14,15/00			11.00	21.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
E-1A (MW-12)	††	03/13,14/96		33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA	NM
		05/28,29/96			11.50	21.56	1,400	410	18	55	5.5	NA	NM
		08/28/96			11.70	21.36	NS	NS	NS	NS	NS	NS	NM
		11/25,26/96			11.18	21.88	4,300	13	<5.0	100	20	220	NM
		03/31/97	†		12.65	20.41	1,900	7.9	<2.0	62	3.5	140	NM
		06/25/97			11.82	21.24	4,900	21	<5.0	53	6.8	160	NM
		09/09,10/97			11.85	21.21	3,200	9.0	<5.0	45	<5.0	85	2.0
		09/09,10/97	a		--	--	--	--	--	--	--	70	--
		11/24,25/97			11.75	21.31	2,000	10	<2.5	42	2.8	65	1.0
		03/19,20/98			9.65	23.41	11,000	1,300	<0.50	550	380	220	6.2
		06/04/98	b		10.47	22.59	4,500	3.3	0.92	41	4.0	51	1.5
		09/21,22/98			11.60	21.46	3,300	1.7	<0.50	29	3.6	52	1.8
		12/14,15/98			11.10	21.96	3,100	21	6.7	28	<5.0	140	1.0
		03/15,16/99			10.25	22.81	3,900	24.5	<20	41.2	<20	296	1.0
		06/14,15/99			11.47	21.59	5,090	<5.0	<5.0	6.01	<5.0	234	1.4
		09/15,16/99			11.90	21.16	2,200	7.93	<5.0	10.50	<5.0	142	3.2

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
E-1A	12/08,09/99			11.75	21.31	1,490	6.57	1.36	9.21	<1.25	364	NM
(MW-12)	03/15/00			9.52	23.54	4,430	26.1	<10.0	15.3	<10.0	786	1.8
(con't)	03/15/00	a		--	--	--	--	--	--	--	908	--
	06/13/00	b		22.31	10.75	262	9.52	0.584	0.535	<0.5	534	3.4
	9/19,20/00			23.15	9.91	143	1.01	<0.50	<0.50	<0.50	76	2.8
	12/14,15/00			NA	NA	181	<0.50	<0.50	0.789	<0.50	100	1.4
MW-13	03/13,15/96		35.42	10.90	24.52	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96			12.90	22.52	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			13.89	21.53	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			13.41	22.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			13.11	22.31	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			13.98	21.44	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			14.09	21.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97			13.90	21.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	03/19,20/98			11.80	23.62	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.8
	06/04/98			12.63	22.79	<50	<0.30	<0.30	<0.30	<0.60	<10	1.3
	09/21,22/98			13.77	21.65	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	12/14,15/98			13.28	22.14	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/15,16/99	b		12.48	22.94	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.2
	06/14,15/99			Removed From Gauging and Sampling Program								
MW-14	03/13,15/96		30.46	6.63	23.83	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			8.83	21.63	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			9.83	20.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			9.33	21.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			9.04	21.42	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			9.94	20.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			10.08	20.38	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97			9.78	20.68	<50	<0.50	<0.50	<0.50	<0.50	2.9	2.6
	03/19/98			7.92	22.54	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	06/03/98			8.52	21.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.1
	09/21,22/98			9.72	20.74	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.8
	12/14/98			9.15	21.31	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.8
	03/15,16/99			8.20	22.26	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.6
	06/14,15/99			9.54	20.92	Well Sampled Annually						
	09/15/99			9.98	20.48	Well Sampled Annually						
	12/08,09/99			9.84	20.62	Well Sampled Annually						
	03/15/00			7.78	22.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.6
	06/13/00	b		9.45	21.01	Well Sampled Annually						
	9/19,20/00			9.68	20.78	Well Sampled Annually						
	12/14,15/00			9.14	21.32	Well Sampled Annually						
MW-15	03/13,15/96		31.41	8.13	23.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96			10.30	21.11	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.30	20.11	<50	<0.50	<0.50	<0.50	<0.50	5.3	NM
	11/25/96			10.83	20.58	<50	<0.50	<0.50	<0.50	<0.50	12	NM
	03/31-04/01/97			10.45	20.96	<50	<0.50	<0.50	<0.50	<0.50	7.2	NM
	06/25/97			11.39	20.02	<50	<0.50	<0.50	<0.50	<0.50	7.0	NM
	09/09,10/97			11.50	19.91	Well Inaccessible						
	11/24,25/97					Well Inaccessible						
	03/19/98			9.15	22.26	<50	<0.50	<0.50	<0.50	<0.50	5.3	2.2
	06/04/98			NM		Well Inaccessible						
	09/21,22/98			NM		Well Inaccessible						
	12/14/98			10.63	20.78	<50	<0.50	<0.50	<0.50	<0.50	48.2	1.8
	03/15,16/99			NM		Well Inaccessible						
	06/14,15/99			NM		Well Inaccessible						
	09/15, 16/99			NM		Well Inaccessible						
	12/08,09/99			11.28	20.13	<50	<0.5	<0.5	<0.5	<0.5	167.0	NM
	03/15/00			9.03	22.38	<50	<0.5	<0.5	<0.5	<0.5	82.1	1.5
	03/15/00	a		--	--	--	--	--	--	--	105	--
	06/13/00	b		10.96	20.45	<50	<0.5	0.703	<0.5	0.870	69.8	2.0
	9/19,20/00			11.10	20.31	<50	<0.5	<0.5	<0.5	<0.5	156.0	2.2
	12/14,15/00			NM		Well Inaccessible						
MW-16	03/13/96		31.39	8.62	22.77	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			10.90	20.49	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.84	19.55	<50	<0.50	<0.50	<0.50	<0.50	89	NM
	11/25/96			11.32	20.07	<50	<0.50	<0.50	<0.50	<0.50	66	NM
	03/31-04/01/97			11.06	20.33	<50	<0.50	<0.50	<0.50	<0.50	49	NM
	06/25/97			11.92	19.47	<50	<0.50	<0.50	<0.50	<0.50	59	NM

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
MW-16	09/09,10/97			12.03	19.36	<50	<0.50	<0.50	<0.50	<0.50	63	3.0
(cont.)	09/09,10/97	a		–	–	–	–	–	–	–	86	–
	11/24,25/97			11.76	19.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	03/19/98			9.80	21.59	<50	<0.50	<0.50	<0.50	<0.50	8.4	3.0
	06/03/98			10.55	20.84	<50	<0.50	<0.50	<0.50	<0.50	22	1.6
	09/21,22/98			11.77	19.62	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.2
	12/14/98			11.20	20.19	<50	<0.50	<0.50	<0.50	<0.50	25	1.0
	03/15,16/99			10.30	21.09	<50	<0.50	<0.50	<0.50	<0.50	<5.0	3.6
	06/14,15/99			11.55	19.84	<50	<0.50	<0.50	<0.50	<0.50	3.13	3.4
	09/15/99			11.99	19.40	<50	<0.50	<0.50	<0.50	<0.50	8.70	3.8
	12/08,09/99			11.80	19.59	<50	<0.50	<0.50	<0.50	<0.50	10.1	2.4
	03/15/00			9.56	21.84	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	06/13/00	b		11.64	19.75	<50	<0.50	0.517	<0.50	0.603	6.29	1.0
	9/19,20/00			11.64	19.75	<50	<0.50	<0.50	<0.50	<0.50	5.01	2.0
	12/14,15/00			11.25	20.14	<50	<0.50	<0.50	<0.50	<0.50	6.14	2.0
MW-17				Well Destroyed								
MW-18	03/13/96		29.70	7.53	22.17	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			9.88	19.82	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.82	18.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.18	19.52	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			10.14	19.56	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.94	18.76	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			11.00	18.70	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4.0
	11/24,25/97			10.65	19.05	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.4
	03/19/98			8.95	20.75	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	06/03/98			9.57	20.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.8
	09/21,22/98			10.80	18.90	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
	12/14/98			10.18	19.52	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.6
	03/15,16/99			9.20	20.50	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.0
	06/14,15/99			10.60	19.10	Well Sampled Annually						
	09/15/99			10.96	18.74	Well Sampled Annually						
	12/08,09/99			10.79	18.91	Well Sampled Annually						
	03/15/00			8.80	20.90	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/13/00	b		10.60	19.10	Well Sampled Annually						
	9/19,20/00			10.63	19.07	Well Sampled Annually						
	12/14,15/00			10.39	19.31	Well Sampled Annually						
MW-19	03/13/96		29.02	7.06	21.96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			9.42	19.60	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.33	18.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			9.67	19.35	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			9.65	19.37	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.41	18.61	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			10.47	18.55	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	11/24,25/97			10.35	18.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.6
	03/19/98			8.67	20.35	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/03/98			9.15	19.87	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2
	09/21,22/98			10.28	18.74	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
	12/14/98			9.70	19.32	<50	<0.50	<0.50	0.588	0.647	<2.0	2.4
	03/15,16/99			Well Inaccessible								
	06/14,15/99			Removed From Gauging and Sampling Program								
MW-20				Well Destroyed								
MW-21	03/13/96		28.72	7.58	21.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96			9.85	18.87	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			10.75	17.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.00	18.72	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			10.03	18.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			10.83	17.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			10.90	17.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97			10.50	18.22	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98			9.08	19.64	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.08
	06/03/98			9.57	19.15	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.6
	09/21,22/98			10.75	17.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.4
	12/14/98			10.11	18.61	<50	<0.50	<0.50	<0.50	<0.50	<2.0	0.6
	03/15,16/99			9.10	19.62	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.0
	06/14,15/99			10.58	18.14	Well Sampled Annually						
	09/15/99			10.93	17.79	Well Sampled Annually						

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17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
MW-21	12/08,09/99			10.70	18.02	---------- Well Sampled Annually ----------						
(cont.)	03/15/00			8.95	19.77	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.3
	06/13/00	b		10.97	17.75	---------- Well Sampled Annually ----------						
	9/19,20/00			10.66	18.06	---------- Well Sampled Annually ----------						
	12/14,15/00			10.30	18.42	---------- Well Sampled Annually ----------						
MW-22	03/13/96		29.29	7.83	21.46	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			10.33	18.96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			11.28	18.01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			10.61	18.68	<50	<0.50	<0.50	<0.50	<0.50	3.0	NM
	12/30/96			10.61	18.68	NA	NA	NA	NA	NA	3.3	NM
	03/31-04/01/97			10.56	18.73	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			11.51	17.78	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			11.45	17.84	<50	<0.50	<0.50	<0.50	<0.50	3.4	1.0
	11/24,25/97			11.08	18.21	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.6
	03/19/98			9.40	19.89	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	06/03/98			10.00	19.29	<50	<0.50	<0.50	<0.50	<0.50	0.87	3.2
	09/21,22/98			11.27	18.02	<50	<0.50	<0.50	<0.50	<0.50	2.1	2.8
	12/14/98			10.65	18.64	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.4
	03/15,16/99			9.67	19.62	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.4
	06/14,15/99			11.06	18.23	<50	<0.50	<0.50	<0.50	<0.50	5.05	1.0
	09/15/99	a		11.46	17.83	<50	<0.50	<0.50	<0.50	<0.50	49.2	1.2
	12/08,09/99			11.25	18.04	<50	<0.50	<0.50	<0.50	<0.50	17.9	1.4
	03/15/00			9.20	20.09	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.1
	06/13/00	b		11.06	18.23	<50	<0.50	<0.50	<0.50	<0.50	6.85	1.0
	9/19,20/00			11.12	18.17	<50	<0.50	<0.50	<0.50	<0.50	3.18	1.8
	12/14,15/00			10.85	18.44	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
MW-23	03/13/96		30.99	9.13	21.86	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			11.37	19.62	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			12.31	18.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			11.76	19.23	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			11.56	19.43	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			12.39	18.60	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			12.53	18.46	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
	11/24,25/97			12.13	18.86	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98			10.22	20.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.4
	06/03/98			11.03	19.96	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.3
	09/21,22/98			12.31	18.68	<50	<0.50	0.54	1.9	<0.50	<2.5	2.2
	12/14/98			11.67	19.32	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.0
	03/15,16/99			10.82	20.17	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.6
	06/14,15/99			12.08	18.91	---------- Well Sampled Annually ----------						
	09/15/99			12.48	18.51	---------- Well Sampled Annually ----------						
	12/08,09/99			12.29	18.70	---------- Well Sampled Annually ----------						
	03/15/00			10.04	20.95	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
	06/13/00	b		11.95	19.04	---------- Well Sampled Annually ----------						
	9/19,20/00			12.15	18.84	---------- Well Sampled Annually ----------						
	12/14,15/00			12.25	18.74	---------- Well Sampled Annually ----------						
MW-24	03/13,15/96		34.38	10.10	24.28	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			12.25	22.13	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28/96			13.28	21.10	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			12.71	21.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			12.50	21.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			13.38	21.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			13.46	20.92	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0
	11/24,25/97			13.25	21.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/19,20/98			11.32	23.06	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	06/04/98			12.00	22.38	<50	<0.30	<0.30	<0.30	<0.60	<10	0.8
	09/21,22/98			13.13	21.25	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.4
	12/14,15/98			12.53	21.85	<50	<0.50	<0.50	<0.50	<0.50	<2.5	0.2
	03/15,16/99			11.58	22.80	<50	<0.50	<0.50	<0.50	<0.50	<5.0	0.0
	06/14,15/99			---------- Removed From Gauging and Sampling Program ----------								
MW-25	03/13,14/96		34.12	9.61	24.51	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28,29/96			11.30	22.82	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28,29/96			12.32	21.80	<50	<0.50	<0.50	<0.50	<0.50	51	NM
	11/25/96			11.83	22.29	<50	<0.50	<0.50	<0.50	<0.50	110	NM
	03/31-04/01/97			11.55	22.57	<50	<0.50	<0.50	<0.50	<0.50	39	NM
	06/25/97			14.57	19.55	<50	<0.50	<0.50	<0.50	<0.50	49	NM
	09/09,10/97			12.45	21.67	<50	<0.50	<0.50	<0.50	<0.50	78	1.0

Table 2
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Number	Date Sampled		Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
MW-25	09/09,10/97	a		--	--	--	--	--	--	--	79	--
(cont.)	11/24,25/97			12.30	21.82	<50	<0.50	<0.50	<0.50	<0.50	130	0.0
	03/19,20/98			10.18	23.94	<50	<0.50	<0.50	<0.50	<0.50	96	1.8
	06/04/98			11.00	23.12	<50	<0.30	<0.30	<0.30	<0.60	44	0.8
	09/21,22/98			12.13	21.99	<50	<0.50	<0.50	<0.50	<0.50	150	0.4
	12/14,15/98			11.60	22.52	<50	<0.50	<0.50	<0.50	<0.50	44	1.0
	03/15,16/99			10.78	23.34	<50	<0.50	<0.50	<0.50	<0.50	26.6	2.0
	06/14,15/99			11.97	22.15	<50	<0.50	<0.50	<0.50	<0.50	98.9	2.2
	09/15,16/1999			12.34	21.78	<50	<0.50	<0.50	<0.50	<0.50	66.4	NM
	12/08,09/99			12.25	21.87	<50	<0.50	<0.50	<0.50	<0.50	55.5	0.0
	03/15/00			10.16	23.96	<50	<0.50	<0.50	<0.50	<0.50	154	1.0
	03/15/00	a		--	--	--	--	--	--	--	206	--
	06/13/00	b		11.72	22.40	<50	<0.50	<0.50	<0.50	<0.50	77.7	1.0
	9/19,20/00			12.08	22.04	<50	1	<0.50	<0.50	<0.50	192.0	1.2
	12/14,15/00			11.74	22.38	<50	<50	<50	<50	<50	134.0	4.0
MW-26	03/13,15/96		33.71	9.38	24.33	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/28/96			11.57	22.14	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/28,29/96			12.55	21.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	11/25/96			12.03	21.68	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31-04/01/97			11.84	21.87	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97			12.94	20.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09,10/97			12.77	20.94	<50	<0.50	<0.50	<0.50	<0.50	<2.5	5.0
	11/24,25/97			12.55	21.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.6
	03/19,20/98			10.55	23.16	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.6
	06/04/98			11.22	22.49	<50	<0.30	<0.30	<0.30	<0.60	<10	2.1
	09/21,22/98			12.45	21.26	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	12/14,15/98			11.83	21.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
	03/15,16/99			10.86	22.85	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.0
	06/14,15/99			12.17	21.54	Well Sampled Annually						
	09/15/99			12.70	21.01	Well Sampled Annually						
	12/08,09/99			12.57	21.14	Well Sampled Annually						
	03/15/00			10.50	23.21	<50	<0.50	<0.50	<0.50	<0.50	6.55	1.4
	06/13/00	b		12.20	21.51	Well Sampled Annually						
	9/19,20/00			12.38	21.33	Well Sampled Annually						
	12/14,15/00			11.88	21.83	Well Sampled Annually						

MtBE = Methyl tert-butyl ether
MSL = Mean sea level
TOB = Top of box
ppb = Parts per billion
ppm = Parts per million
< = Less than laboratory detection limit stated to the right.
† = Well sampled without purging.
†† = ORC program at well was initiated on September 21, 1995 and discontinued on May 15, 1997.

NA = Not analyzed
NM = Not measured
NS = Not sampled
a. = MtBE result confirmed by EPA Method 8260.
b. = Depths to water originally measured from TOC. Depth to water adjusted to reflect a TOB measurement by adding the average difference between TOB and TOC measurements over the last four gauging events.

Please see certified analytical reports for laboratory notes and definitions.

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)		Dissolved Oxygen (ppm)
590 H	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	05/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	08/29/96 a	NS	NS	NS	NS	NS	NA		NM
	11/26/96	NS	NS	NS	NS	NS	NS		NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM
	06/25/97 a	NS	NS	NS	NS	NS	NS		NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		2.0
	11/24/97 a	NS	NS	NS	NS	NS	NS		NM
	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5		1.0
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50		3.8
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5		3.2
	12/14/98	<50	<0.50	<0.50	<0.50	<0.50	<2.0		2.2
	03/15/99 a	NS	NS	NS	NS	NS	NS		NM
	06/14/99	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM
	09/15/99 a	NS	NS	NS	NS	NS	NS		NM
	12/08/99 a	NS	NS	NS	NS	NS	NS		NM
	03/15/00 a	NS	NS	NS	NS	NS	NS		NM
	06/13/00 a	NS	NS	NS	NS	NS	NS		NM
		Well Destroyed							
633 H	03/14/96	480	10	11	1.8	140	NA		NM
	05/13/96 b	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	3.70		NM
	12/30/96	--	--	--	--	--	4.9	c	NM
	03/31/97	NS	NS	NS	NS	NS	NS		NM
	06/25/97 a	NS	NS	NS	NS	NS	NS		NM
	09/10/97	<50	<0.50	<0.50	<0.50	0.66	<2.5		1.0
	11/24/97	110	2.0	2.1	1.0	4.2	<2.5	c	NM
	03/19/98	150	1.8	0.62	<0.50	28	77		NM
	03/19/98	--	--	--	--	--	<2.0	c	NM
	06/03/98	480	6.2	4.3	2.9	120	28		1.3
	09/21/98	<50	<0.50	<0.50	<0.50	0.66	<2.5		1.2
	12/14/98	<50	<0.50	<0.50	<0.50	2.21	11.7		NM
	03/15/99	<50	0.513	<0.50	<0.50	0.542	31		NM
	06/14/99	<50	<0.50	<0.50	<0.50	<0.50	7.93		NM
	09/15/99	<50	<0.50	<0.50	<0.50	<0.50	5.65		0.0
	12/08/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0		1.4
	03/15/00	<50	<0.50	<0.50	<0.50	<0.50	17.5		1.2
	06/13/00	240	5.03	1.01	2.39	63.8	10.5		NM
		Well Destroyed							
634 H	03/13/96 a	NS	NS	NS	NS	NS	NA		NM
	05/27/96 a	NS	NS	NS	NS	NS	NA		NM
	08/29/96 a	NS	NS	NS	NS	NS	NA		NM
	11/26/96	NS	NS	NS	NS	NS	NS		NM
	03/31/97	NS	NS	NS	NS	NS	NS		NM
	06/25/97 a	NS	NS	NS	NS	NS	NS		NM
	09/09/97 g	NS	NS	NS	NS	NS	NS		NM
	11/24/97 g	NS	NS	NS	NS	NS	NS		NM
	03/19/98 e	NS	NS	NS	NS	NS	NS		NM

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
634 H	06/03/98 e	NS	NS	NS	NS	NS	NS	NM
(cont.)	09/21/98 e	NS	NS	NS	NS	NS	NS	NM
	12/14/98 e	NS	NS	NS	NS	NS	NS	NM
	03/15/99 e	NS	NS	NS	NS	NS	NS	NM
	06/14/99 e	NS	NS	NS	NS	NS	NS	NM
	09/15/99 e	NS	NS	NS	NS	NS	NS	NM
	12/08/99 e	NS	NS	NS	NS	NS	NS	NM
	03/15/00 e	NS	NS	NS	NS	NS	NS	NM
	06/13/00 e	NS	NS	NS	NS	NS	NS	NM
	09/19/00 e	NS	NS	NS	NS	NS	NS	NM
	12/14/00	NS	NS	NS	NS	NS	NS	NM
642 H	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97	NS	NS	NS	NS	NS	NS	NM
	09/09/97 a	NS	NS	NS	NS	NS	NS	NM
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/19/98 a	NS	NS	NS	NS	NS	NS	NM
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	NM
	09/21/98 a	NS	NS	NS	NS	NS	NS	NM
	12/14/98 a	NS	NS	NS	NS	NS	NS	NM
	03/15/99 a	NS	NS	NS	NS	NS	NS	NM
	06/14/99	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.0
	09/15/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.2
	12/08/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0	2.4
	03/15/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.8
	06/13/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/19/00 a	NS	NS	NS	NS	NS	NS	NM
	12/14/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
675 H	03/13/96 a	NS	NS	NS	NS	NS	NA	NM
	05/27/96 a	NS	NS	NS	NS	NS	NA	NM
	08/29/96 d	NS	NS	NS	NS	NS	NA	NM
	11/26/96	NS	NS	NS	NS	NS	NS	NM
	03/31/97	NS	NS	NS	NS	NS	NS	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98 f	NS	NS	NS	NS	NS	NS	NM
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 a,f	NS	NS	NS	NS	NS	NS	NM
	12/14/98 f	NS	NS	NS	NS	NS	NS	NM
	03/15/99 f	NS	NS	NS	NS	NS	NS	NM
	06/14/99 f	NS	NS	NS	NS	NS	NS	NM
	09/15/99 f	NS	NS	NS	NS	NS	NS	NM
	12/08/99 f	NS	NS	NS	NS	NS	NS	NM
	03/15/00 f	NS	NS	NS	NS	NS	NS	NM
	06/13/00 f	NS	NS	NS	NS	NS	NS	NM
	09/19/00 f	NS	NS	NS	NS	NS	NS	NM
	12/14/00 f	NS	NS	NS	NS	NS	NS	NM

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
17197 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.4
	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
	12/14/98	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.4
	03/15/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.6
	06/14/99	<50	<0.50	<0.50	<0.50	<0.50	<2.5	1.8
	09/15/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0	1.0
	12/08/99 a	NS	NS	NS	NS	NS	NS	NM
	03/15/00 a	NS	NS	NS	NS	NS	NS	NM
	06/13/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/19/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	12/14/00 f	NS	NS	NS	NS	NS	NS	NM
17200 VM	03/15/96	730	<1.0	<1.0	1.5	1.7	NA	NM
	05/27/96	200	<0.50	<0.50	1.4	1.8	NA	NM
	08/29/96	Well Destroyed						
17203 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97 f	NS	NS	NS	NS	NS	NS	NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98	Well Dry						
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 f	NS	NS	NS	NS	NS	NS	NM
	12/14/98 f	NS	NS	NS	NS	NS	NS	NM
	03/15/99 f	NS	NS	NS	NS	NS	NS	NM
	06/14/99 f	NS	NS	NS	NS	NS	NS	NM
	09/15/99 f	NS	NS	NS	NS	NS	NS	NM
	12/08/99 f	NS	NS	NS	NS	NS	NS	NM
	03/15/00 f	NS	NS	NS	NS	NS	NS	NM
	06/13/00 f	NS	NS	NS	NS	NS	NS	NM
	09/19/00 f	NS	NS	NS	NS	NS	NS	NM
	12/14/00 f	NS	NS	NS	NS	NS	NS	NM
17302 VM	03/15/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	09/09/97 f	NS	NS	NS	NS	NS	NS	NM
	11/24/97 f	NS	NS	NS	NS	NS	NS	NM
	03/19/98 f	NS	NS	NS	NS	NS	NS	NM

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)		Dissolved Oxygen (ppm)
17302 VM	06/03/98 f	NS	NS	NS	NS	NS	NS		NM
(cont.)	09/21/98 f	NS	NS	NS	NS	NS	NS		NM
	12/14/98 f	NS	NS	NS	NS	NS	NS		NM
	03/15/99 f	NS	NS	NS	NS	NS	NS		NM
	06/14/99 f	NS	NS	NS	NS	NS	NS		NM
	09/15/99 f	NS	NS	NS	NS	NS	NS		NM
	12/08/99 f	NS	NS	NS	NS	NS	NS		NM
	12/08/99 f	NS	NS	NS	NS	NS	NS		NM
	03/15/00 f	NS	NS	NS	NS	NS	NS		NM
	06/13/00 f	NS	NS	NS	NS	NS	NS		NM
	09/19/00 f	NS	NS	NS	NS	NS	NS		NM
	12/14/00 f	NS	NS	NS	NS	NS	NS		NM
17348 VE	03/13/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	05/27/96	Well Dry							
	08/29/96	Well Dry							
	11/26/96	Well Dry							
	03/31/97	Well Dry							
	06/25/97	Well Inaccessible							
	09/09/97 g	NS	NS	NS	NS	NS	NS		NM
	11/24/97 g	NS	NS	NS	NS	NS	NS		NM
	03/19/98 a	NS	NS	NS	NS	NS	NS		NM
	06/03/98 a	NS	NS	NS	NS	NS	NS		NM
	09/21/98 a	NS	NS	NS	NS	NS	NS		NM
	12/14/98 a	NS	NS	NS	NS	NS	NS		NM
	03/15/99 a	NS	NS	NS	NS	NS	NS		NM
	06/14/99 f	NS	NS	NS	NS	NS	NS		NM
	09/15/99 f	NS	NS	NS	NS	NS	NS		NM
	12/08/99 f	NS	NS	NS	NS	NS	NS		NM
	03/15/00 a	NS	NS	NS	NS	NS	NS		NM
	06/13/00 f	NS	NS	NS	NS	NS	NS		NM
	09/19/00 f	NS	NS	NS	NS	NS	NS		NM
	12/14/00 f	NS	NS	NS	NS	NS	NS		NM
17349 VM	03/15/96	1,700	<2.0	<2.0	2.5	13	NA		NM
	05/27/96	320	4.2	1.3	0.95	0.71	NA		NM
	08/29/96	410	7.5	<0.50	<0.50	1.1	NA		NM
	11/26/96	300	<1.0	1.7	<1.0	2.1	55	*	NM
	03/31/97	430	<1.0	2.7	<1.0	1.0	57	c	NM
	06/25/97 **	2,100	30	<5.0	<5.0	6.7	140		NM
	08/18/97	320	2.0	<0.5	<0.5	<0.5	34		NM
	08/18/97	--	--	--	--	--	31	c	NM
	09/09/97	380	6.0	1.4	0.98	<0.50	38		3.0
	09/09/97	--	--	--	--	--	34	c	NM
	11/24/97	240	<1.0	1.1	<1.0	1.4	53		2.4
	11/24/97	--	--	--	--	--	33	c†	NM
	03/19/98	1,300	14	<0.50	<0.50	1.2	250		1.0
	03/19/98	--	--	--	--	--	27	c	NM
	06/03/98	860	8.7	<0.50	0.7	8.0	38		4.9
	07/29/98	860	20	2.1	<1.2	<1.2	27		NM
	07/29/98	--	--	--	--	--	25	c	NM
	09/21/98	200	<0.50	<0.50	<0.50	14	14		5.2
	12/14/98	254	<0.50	6.92	0.604	1.58	21.7		1.0
	03/15/99	172	1.35	<0.50	<0.50	<0.50	24.2		3.6

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)		Dissolved Oxygen (ppm)
17349 VM	06/14/99	91	<0.50	3.53	<0.50	<0.50	88.3		2.8
(cont.)	09/15/99 a	133	<0.50	<0.50	<0.50	<0.50	184		2.2
	12/08/99	136	0.681	<0.50	<0.50	<0.50	267	c	2.4
	03/15/00	<50	<0.50	<0.50	<0.50	<0.50	82.1	c	2.8
	06/13/00	319	5.28	<0.5	<0.50	<0.50	97.1		NM
	06/13/00	--	--	--	--	--	85.1	c	NM
	09/19/00	106	<0.50	2	<0.50	<0.50	204.0		NM
	09/19/00	--	--	--	--	--	84.0	c	NM
	12/14/00	65.9	0.61	<0.50	<0.50	<0.50	188		1.8
	12/14/00	--	--	--	--	--	197	c	NM
17371 VM	03/13/96 e	NS	NS	NS	NS	NS	NA		NM
	05/27/96 e	NS	NS	NS	NS	NS	NA		NM
	08/29/96 e	NS	NS	NS	NS	NS	NA		NM
	11/26/96 e	NS	NS	NS	NS	NS	NS		NM
	03/31/97 e	NS	NS	NS	NS	NS	NS		NM
	06/25/97 e	NS	NS	NS	NS	NS	NS		NM
	09/09/97 e	NS	NS	NS	NS	NS	NS		NM
	11/24/97 e	NS	NS	NS	NS	NS	NS		NM
	03/19/98 e	NS	NS	NS	NS	NS	NS		NM
	06/03/98 e	NS	NS	NS	NS	NS	NS		NM
	09/21/98 e	NS	NS	NS	NS	NS	NS		NM
	12/14/98 e	NS	NS	NS	NS	NS	NS		NM
	03/15/99 e	NS	NS	NS	NS	NS	NS		NM
	06/14/99 e	NS	NS	NS	NS	NS	NS		NM
	09/15/99 e	NS	NS	NS	NS	NS	NS		NM
	12/08/99 f	NS	NS	NS	NS	NS	NS		NM
	03/15/00 f	NS	NS	NS	NS	NS	NS		NM
	06/13/00 f	NS	NS	NS	NS	NS	NS		NM
	09/19/00 f	NS	NS	NS	NS	NS	NS		NM
	12/14/00 f	NS	NS	NS	NS	NS	NS		NM
17372 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA		NM
	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM
	03/31/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM
	06/25/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM
	09/09/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		4.0
	11/24/97	<50	<0.50	<0.50	<0.50	<0.50	<2.5		2.0
	03/19/98	<50	<0.50	<0.50	<0.50	<0.50	1,200		1.8
	03/19/98	--	--	--	--	--	1,400	c	NM
	06/03/98	<50	<0.50	<0.50	<0.50	<0.50	16,000		1.8
	07/29/98	<200	<2.0	<2.0	<2.0	<2.0	940		NM
	07/29/98	--	--	--	--	--	1,100	c	NM
	09/21/98	<50	<0.50	<0.50	<0.50	<0.50	200		1.6
	09/21/98	--	--	--	--	--	360	c	NM
	12/14/98	<50	<0.50	0.823	<0.50	<0.50	20.1		3.8
	03/15/99	<50	<0.50	<0.50	<0.50	<0.50	6.66		4.6
	06/14/99	<50	<0.50	<0.50	<0.50	<0.50	3.33		4.0
	09/15/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0		2.0
	12/08/99	<50	<0.50	<0.50	<0.50	<0.50	<5.0		NM
	03/15/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5		1.6
	06/13/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5		NM

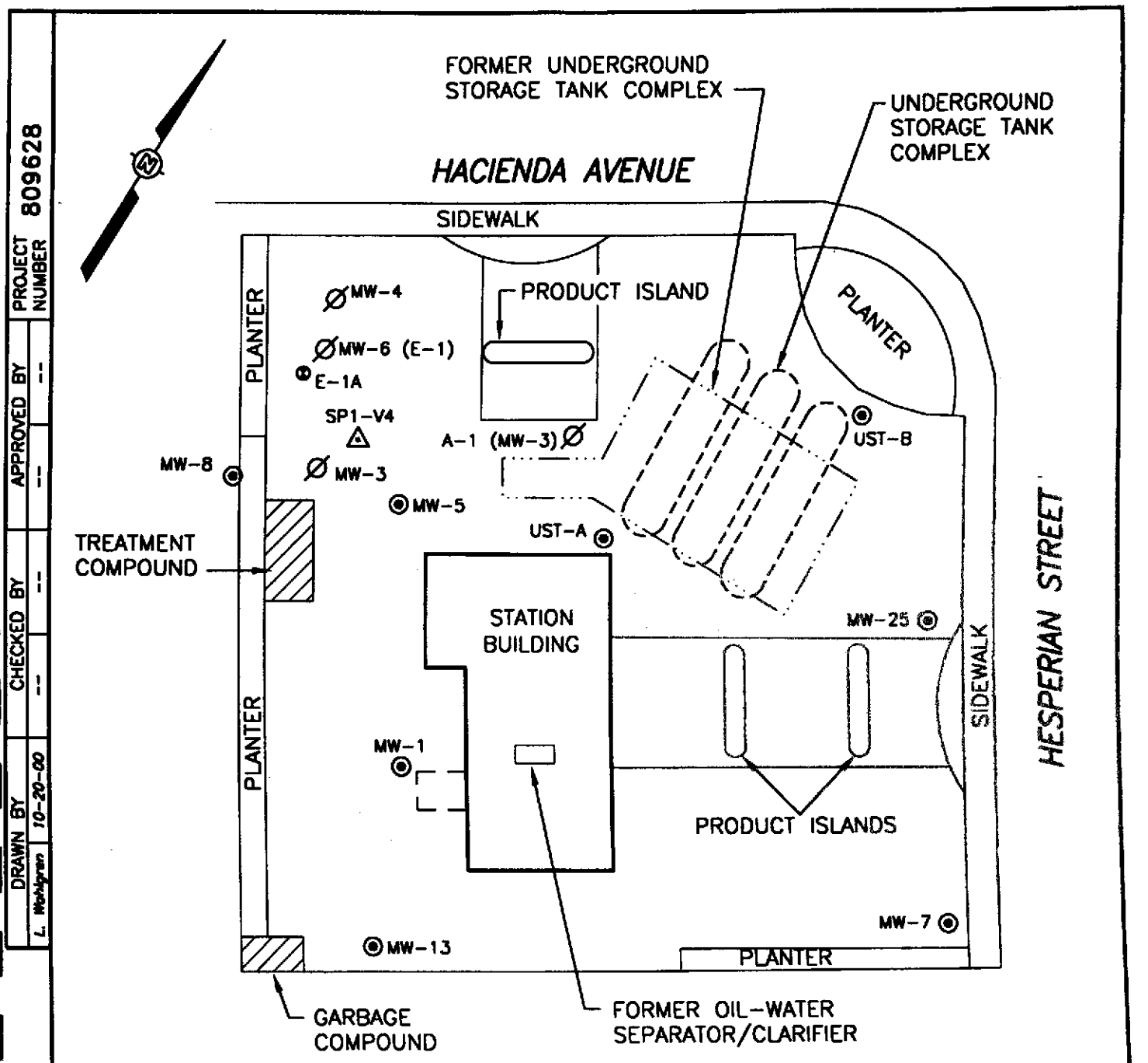
Table 3
Groundwater Analytical Data
Domestic Irrigation Wells

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)	Dissolved Oxygen (ppm)
17372 VM	09/19/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
(cont.)	12/14/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.0
17393 VM	03/14/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	05/27/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
VM	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
	03/31/97 a	NS	NS	NS	NS	NS	NS	NM
	06/25/97	Well Destroyed						

TPPH = Total purgeable petroleum hydrocarbons
MtBE = Methyl tert-butyl ether
NA = Not analyzed
NS = Not sampled
ppb = Parts ber billion
H = Hacienda Avenue
VM = Via Magdalena
VE = Via Encinas
< = Less than laboratory detection limit stated to the right.
* = MtBE data maybe anamolous; unable to confirm with EPA Method 8260.
** = Concentration data are suspect due to inadequate purging. Well resampled on August 18, 1997 for confirmation purposes.
a. Owner not available to approve sampling access; well not sampled.
b. Well resampled to confirm data of March 14, 1996.
c. MtBE result confirmed by EPA Method 8260.
d. Pumping equipment obstructing sampling access; well not sampled.
e. Access denied by owner; well not sampled.
f. Pump on well does not work.
g. Well blocked and pump non-operational; well cannot be sampled.

Notes:
Homeowners are contacted 1 week prior to sampling event.
Please see certified analytical reports for laboratory notes and definitions



PROJECT NUMBER 809628

DRAWN BY	CHECKED BY	APPROVED BY
L. Wahlgren 10-20-00	--	--

LEGEND

- ◉ GROUNDWATER MONITORING WELL
- ⊛ GROUNDWATER EXTRACTION WELL
- ∅ DESTROYED GROUNDWATER MONITORING WELL
- ◬ DUAL VAPOR EXTRACTION/SPARSE WELL

NOTE: UST-A AND UST-B ARE TANK-PIT OBSERVATION WELLS AND ARE NOT INCLUDED IN THE GROUNDWATER MONITORING PROGRAM

SCALE

0 30 60 FEET

IT CORPORATION

ARCO SERVICE STATION 0608

FIGURE 1
SITE MAP

17601 HESPERIAN BLVD at HACIENDA AVE
SAN LORENZO, CALIFORNIA

PROJECT NUMBER 809628
APPROVED BY
CHECKED BY
DRAWN BY L. Wahlgren J-5-01

VIA MANZANAS
VIA MEDIA
VIA FLORES
POTRERO CT.
VIA MAGDALENA
VIA ARRIBA
APARTMENTS
APARTMENTS
SHOPS
HESPERIAN BOULEVARD
RESTAURANT
CHURCH AND SCHOOL
RESIDENTIAL
RESTAURANT
RESIDENTIAL
VIA ENCINAS COURT
HACIENDA AVENUE
VIA ALAMO
SHOPS

MW-20
MW-19 †
MW-21 (18.42)
MW-18 (19.31)
MW-17
17200
MW-14 (21.32)
MW-24 †
MW-26 (21.83)
MW-9 (21.76)
MW-10 (21.32)
E-1A*
MW-8 (21.82)
MW-25 (22.38)
MW-7 †
MW-5 (21.96)
MW-13 †
SP-2/V-5
SP-1/V-4
MW-11 (21.54)
MW-16 (20.14)
MW-15*
MW-22 (18.44)
MW-23 (18.74)
17197
17203
17302
17372
17349
17371
17348
17393
633
590
634
642
675

-19-
-20-
-21-
-22-

LEGEND

- GROUNDWATER MONITORING WELL
- △ DUAL COMPLETION AIR SPARGING/ SOIL VAPOR EXTRATION WELL
- ∅ DESTROYED WELL
- GROUNDWATER EXTRACTION WELL
- ■ DOMESTIC IRRIGATION WELL
- (21.58) GROUNDWATER ELEVATION (FT.–MSL); MEASURED 12–15–00
- GROUNDWATER ELEVATION CONTOUR (FT.–MSL)
- † WELL REMOVED FROM MONITORING PROGRAM
- * WELL NOT GAUGED

APPROXIMATE DIRECTION OR GROUNDWATER FLOW

APPROXIMATE GRADIENT = 0.003

SCALE
0 150 300

IT CORPORATION

ARCO SERVICE STATION 0608

FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP
FOURTH QUARTER 2000
17601 HESPERIAN BLVD at HACIENDA AVE
SAN LORENZO, CALIFORNIA

N:\cad\DWG\809628\GWC.dwg Mon, 05/Mar/01 05:15pm lwahlgren

PROJECT NUMBER	APPROVED BY	CHECKED BY	DRAWN BY
809628			L. Wahlgren 3-5-01

VIA MANZANAS
VIA MEDIA
VIA FLORES
POTRERO COURT
VIA MAGDALENA
VIA ARRIBA
APARTMENTS
APARTMENTS
SHOPS
HESPERIAN BOULEVARD
RESTAURANT
CHURCH AND SCHOOL
RESIDENTIAL
RESTAURANT
RESIDENTIAL
VIA ENCINAS COURT
HACIENDA AVENUE
VIA ALAMO
SHOPS

MW-20
MW-19†
MW-21*
MW-18*
MW-17
MW-14*
MW-24†
MW-26*
MW-9
MW-16
MW-10
MW-8
MW-22
MW-15
MW-11
MW-7†
MW-13†
MW-23*
SP-2/V-5
SP-1/V-4

17197 NS
17203 NS
17200
17302 NS
17372 <50 / <0.50 / <2.5
633
17349 65.9 / 0.61 / 188 (197)
17371 NS
17393
17348 NS
675 NS
642 <50 / <0.50 / <2.5
634 NS
590

MW-16 <50 / <0.50 / 6.14
MW-10 456 / 10.5 / 145
243 / <0.50 / 243
MW-22 <50 / <0.50 / <2.5
MW-11 <50 / <0.50 / <2.5
MW-9 <50 / <0.50 / <2.5
E-1A 181 / <0.50 / 100
MW-25 <50 / <0.50 / 134
MW-5 152 / 1.33 / <2.5

LEGEND

- ⊙ GROUNDWATER MONITORING WELL
- △ DUAL COMPLETION AIR SPARGING/ SOIL VAPOR EXTRATION WELL
- Ø DESTROYED WELL
- ⊕ GROUNDWATER EXTRACTION WELL
- ■ DOMESTIC IRRIGATION WELL
- 143 / 1.01 /76 TPPH-G/BENZENE/MtBE CONCENTRATIONS IN GROUNDWATER (PARTS PER BILLION); SAMPLED 12-14 and 12-15-00
- (84.0) MtBE CONCENTRATION CONFIRMED BY EPA METHOD 8260
- NS NOT SAMPLED
- * WELL SAMPLED ANNUALLY IN FIRST QUARTER
- † WELL REMOVED FROM SAMPLING PROGRAM

SCALE
0 150 300

IT CORPORATION

ARCO SERVICE STATION 0608

FIGURE 3
TPPH-g/BENZENE/MtBE CONCENTRATION MAP
FOURTH QUARTER 2000
17601 HESPERIAN BLVD at HACIENDA AVE
SAN LORENZO, CALIFORNIA

N:\cad\DWG\809628\CHEM.dwg Mon, 05/Mar/01 05:05pm lwahlgren

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

The sampling procedure for each well consists first of measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon® bailer, or an oil-water interface probe. Wells not containing SPH are then purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. Equipment used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California State-certified laboratory.

Analytical Procedures

Laboratory. The groundwater samples were analyzed for the presence of total purgeable petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylenes; and methyl tert-butyl ether. The analyses were performed according to EPA Methods 8015 (modified) and 8020, utilizing a purge-and-trap extraction technique. Final detection was by gas chromatography using flame- and photo-ionization detectors. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical report, chain-of-custody documentation, and field data sheets are presented as Attachment B.

Field. Dissolved oxygen is measured in the field utilizing Hydac AccuVac test kit.

ATTACHMENT B

CERTIFIED ANALYTICAL REPORTS, CHAIN-OF-CUSTODY DOCUMENTATION, AND FIELD DATA SHEETS

Sequoia Analytical

885
Morgan Hill,
(408)
FAX (408)
www.sequo

JAN 16 2001

11 January, 2001

Shaw Garakani
Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose, CA 95131

RE: Arco
Sequoia Report: MJL0578

Enclosed are the results of analyses for samples received by the laboratory on 12/18/00 11:37. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	**Reported** 01/11/01 12

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
MW-5 (MJL0578-01) Water Sampled: 12/15/00 15:50 Received: 12/18/00 11:37								
Purgeable Hydrocarbons	**152**	50.0	ug/l	1	0L20002	12/20/00	12/20/00	DHS LUFT
Benzene	**1.33**	0.500	"	"	"	"	"	"
Toluene	**0.558**	0.500	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"
Xylenes (total)	ND	0.500	"	"	"	"	"	"
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*70-130*		"	"	"	"
MW-8 (MJL0578-02) Water Sampled: 12/15/00 14:40 Received: 12/18/00 11:37								
Purgeable Hydrocarbons	**243**	50.0	ug/l	1	0L20003	12/20/00	12/20/00	DHS LUFT
Benzene	ND	0.500	"	"	"	"	"	"
Toluene	ND	0.500	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"
Xylenes (total)	ND	0.500	"	"	"	"	"	"
Methyl tert-butyl ether	**243**	2.50	"	"	"	"	"	"
Surrogate: a,a,a-Trifluorotoluene		*89.5 %*	*70-130*		"	"	"	"
MW-9 (MJL0578-03) Water Sampled: 12/15/00 13:50 Received: 12/18/00 11:37								
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0L20003	12/20/00	12/20/00	DHS LUFT
Benzene	ND	0.500	"	"	"	"	"	"
Toluene	ND	0.500	"	"	"	"	"	"
Ethylbenzene	ND	0.500	"	"	"	"	"	"
Xylenes (total)	ND	0.500	"	"	"	"	"	"
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"
Surrogate: a,a,a-Trifluorotoluene		*74.0 %*	*70-130*		"	"	"	"

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/11/01 12:03

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0L20002 - EPA 5030B [P/T]										
Blank (0L20002-BLK1)				Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*70-130*			
LCS (0L20002-BS1)				Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	261	50.0	ug/l	250		104	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			
Matrix Spike (0L20002-MS1)	**Source: MJL0539-01**			Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	227	50.0	ug/l	250	ND	90.8	60-140			
Surrogate: a,a,a-Trifluorotoluene	*11.0*		"	*10.0*		*110*	*70-130*			
Matrix Spike Dup (0L20002-MSD1)	**Source: MJL0539-01**			Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	231	50.0	ug/l	250	ND	92.4	60-140	1.75	25	
Surrogate: a,a,a-Trifluorotoluene	*10.8*		"	*10.0*		*108*	*70-130*			
Batch 0L20003 - EPA 5030B [P/T]										
Blank (0L20003-BLK1)				Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*9.36*		"	*10.0*		*93.6*	*70-130*			

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/11/01 12:03

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0L20003 - EPA 5030B [P/T]										
LCS (0L20003-BS1)				Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	98.6	50.0	ug/l				70-130			
Benzene	9.97	0.500	"	10.0		99.7	70-130			
Toluene	9.31	0.500	"	10.0		93.1	70-130			
Ethylbenzene	9.38	0.500	"	10.0		93.8	70-130			
Xylenes (total)	27.5	0.500	"	30.0		91.7	70-130			
Methyl tert-butyl ether	ND	2.50	"				70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.52*		"	*10.0*		*95.2*	*70-130*			
Matrix Spike (0L20003-MS1)		**Source: MJL0578-03**		Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	91.8	50.0	ug/l		ND		60-140			
Benzene	9.29	0.500	"	10.0	ND	92.9	60-140			
Toluene	8.57	0.500	"	10.0	ND	85.7	60-140			
Ethylbenzene	8.61	0.500	"	10.0	ND	86.1	60-140			
Xylenes (total)	25.6	0.500	"	30.0	ND	85.3	60-140			
Methyl tert-butyl ether	ND	2.50	"		ND		60-140			
Surrogate: a,a,a-Trifluorotoluene	*8.53*		"	*10.0*		*85.3*	*70-130*			
Matrix Spike Dup (0L20003-MSD1)		**Source: MJL0578-03**		Prepared & Analyzed: 12/20/00						
Purgeable Hydrocarbons	94.8	50.0	ug/l		ND		60-140	3.22	25	
Benzene	9.29	0.500	"	10.0	ND	92.9	60-140	0	25	
Toluene	8.62	0.500	"	10.0	ND	86.2	60-140	0.582	25	
Ethylbenzene	8.62	0.500	"	10.0	ND	86.2	60-140	0.116	25	
Xylenes (total)	25.8	0.500	"	30.0	ND	86.0	60-140	0.778	25	
Methyl tert-butyl ether	ND	2.50	"		ND		60-140		25	
Surrogate: a,a,a-Trifluorotoluene	*8.45*		"	*10.0*		*84.5*	*70-130*			
Batch 0L21002 - EPA 5030B [P/T]										
Blank (0L21002-BLK1)				Prepared & Analyzed: 12/21/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/11/01 12:03

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0L21002 - EPA 5030B [P/T]										
Blank (0L21002-BLK1)				Prepared & Analyzed: 12/21/00						
Surrogate: a,a,a-Trifluorotoluene	*9.96*		*ug/l*	*10.0*		*99.6*	*70-130*			
LCS (0L21002-BS1)				Prepared & Analyzed: 12/21/00						
Benzene	10.2	0.500	ug/l	10.0		102	70-130			
Toluene	10.3	0.500	"	10.0		103	70-130			
Ethylbenzene	10.2	0.500	"	10.0		102	70-130			
Xylenes (total)	30.1	0.500	"	30.0		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			
Matrix Spike (0L21002-MS1)		**Source: MJL0546-01**		Prepared & Analyzed: 12/21/00						
Benzene	10.8	0.500	ug/l	10.0	ND	108	60-140			
Toluene	10.8	0.500	"	10.0	ND	108	60-140			
Ethylbenzene	9.95	0.500	"	10.0	ND	99.5	60-140			
Xylenes (total)	29.5	0.500	"	30.0	ND	98.3	60-140			
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			
Matrix Spike Dup (0L21002-MSD1)		**Source: MJL0546-01**		Prepared & Analyzed: 12/21/00						
Benzene	10.8	0.500	ug/l	10.0	ND	108	60-140	0	25	
Toluene	10.7	0.500	"	10.0	ND	107	60-140	0.930	25	
Ethylbenzene	9.73	0.500	"	10.0	ND	97.3	60-140	2.24	25	
Xylenes (total)	28.3	0.500	"	30.0	ND	94.3	60-140	4.15	25	
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			
Batch 0L22004 - EPA 5030B [P/T]										
Blank (0L22004-BLK1)				Prepared & Analyzed: 12/22/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.6*		"	*10.0*		*106*	*70-130*			

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/11/01 12:03

Notes and Definitions

M-03	Sample was analyzed at a second dilution.
P-01	Chromatogram Pattern: Gasoline C6-C12
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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JAN 1 6 2001

3 January, 2001

Shaw Garakani
Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose, CA 95131

RE: Arco
Sequoia Report: MJL0523

Enclosed are the results of analyses for samples received by the laboratory on 12/15/00 12:41. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
17372VM	MJL0523-01	Water	12/14/00 09:50	12/15/00 12:41
17349VM	MJL0523-02	Water	12/14/00 10:15	12/15/00 12:41
642H	MJL0523-03	Water	12/14/00 11:00	12/15/00 12:41
E-1A	MJL0523-04	Water	12/14/00 11:10	12/15/00 12:41

Wayne Stevenson, Client Services Manager

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
17372VM (MJL0523-01) Water Sampled: 12/14/00 09:50 Received: 12/15/00 12:41									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0L19004	12/19/00	12/19/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*70-130*		"	"	"	"	
17349VM (MJL0523-02) Water Sampled: 12/14/00 10:15 Received: 12/15/00 12:41									
Purgeable Hydrocarbons	**65.9**	50.0	ug/l	1	0L19004	12/19/00	12/19/00	DHS LUFT	P-03
Benzene	**0.609**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**188**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*70-130*		"	"	"	"	
642H (MJL0523-03) Water Sampled: 12/14/00 11:00 Received: 12/15/00 12:41									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0L19004	12/19/00	12/19/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*70-130*		"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E-1A (MJL0523-04) Water Sampled: 12/14/00 11:10 Received: 12/15/00 12:41									
Purgeable Hydrocarbons	**181**	50.0	ug/l	1	0L19004	12/19/00	12/19/00	DHS LUFT	P-01
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	**0.789**	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**100**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*114 %*	*70-130*		"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

MTBE Confirmation by EPA Method 8260A

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
17349VM (MJL0523-02) Water Sampled: 12/14/00 10:15 Received: 12/15/00 12:41									
Methyl tert-butyl ether	**197**	5.00	ug/l	5	1A02016	12/29/00	12/29/00	EPA 8260A	H-02
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*70-130*		"	"	"	"	*H-02*

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0L19004 - EPA 5030B [P/T]										
Blank (0L19004-BLK1)				Prepared & Analyzed: 12/19/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.5*		"	*10.0*		*105*	*70-130*			
LCS (0L19004-BS1)				Prepared & Analyzed: 12/19/00						
Purgeable Hydrocarbons	228	50.0	ug/l	250		91.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.66*		"	*10.0*		*96.6*	*70-130*			
Matrix Spike (0L19004-MS1)		**Source: MJL0500-01**		Prepared & Analyzed: 12/19/00						
Purgeable Hydrocarbons	267	50.0	ug/l	250	ND	107	60-140			
Surrogate: a,a,a-Trifluorotoluene	*11.6*		"	*10.0*		*116*	*70-130*			
Matrix Spike Dup (0L19004-MSD1)		**Source: MJL0500-01**		Prepared & Analyzed: 12/19/00						
Purgeable Hydrocarbons	212	50.0	ug/l	250	ND	84.8	60-140	23.0	25	
Surrogate: a,a,a-Trifluorotoluene	*10.8*		"	*10.0*		*108*	*70-130*			

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:12

MTBE Confirmation by EPA Method 8260A - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A02016 - EPA 5030B [P/T]										
Blank (1A02016-BLK1)				Prepared & Analyzed: 12/29/00						
Methyl tert-butyl ether	ND	1.00	ug/l							
Surrogate: 1,2-Dichloroethane-d4	*8.77*		"	*10.0*		*87.7*	*70-130*			
LCS (1A02016-BS1)				Prepared & Analyzed: 12/29/00						
Methyl tert-butyl ether	9.63	1.00	ug/l	10.0		96.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.3*		"	*10.0*		*103*	*70-130*			
Matrix Spike (1A02016-MS1)		**Source: MJL0425-01**		Prepared & Analyzed: 12/29/00						
Methyl tert-butyl ether	2660	50.0	ug/l	1000	1730	93.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.4*		"	*10.0*		*104*	*70-130*			
Matrix Spike Dup (1A02016-MSD1)		**Source: MJL0425-01**		Prepared & Analyzed: 12/29/00						
Methyl tert-butyl ether	2480	50.0	ug/l	1000	1730	75.0	70-130	7.00	25	
Surrogate: 1,2-Dichloroethane-d4	*10.3*		"	*10.0*		*103*	*70-130*			

Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: Arco #0608/809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	01/03/01 09:

Notes and Definitions

H-02	This sample was analyzed outside of EPA recommended hold time.
P-01	Chromatogram Pattern: Gasoline C6-C12
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ARCO Products Company
Division of AtlanticRichfieldCompany

809628 Task Order No. 24150200

Chain of

ARCO Facility no. 0608	City (Facility) 7601 Hesperian Blvd	Project manager (Consultant) Shaw Garakani	Laboratory n: SE
ARCO engineer Mike Whelan	Telephone no. (ARCO) San Leandro	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) 408/437-9600
Consultant name 1T Group	Address (Consultant) 1921 Ringwood Ave San Jose CA		Contract num

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/M8015 MTBE	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
*173320W		3		W		Y	HCl		9:50		X											01
*173490W									10:15													02
*6420H									11:00													03
E-1A									11:10													04

Condition of sample:

Relinquished by sampler — Date 12/14/00 Time 15:30

Relinquished by — Date 12/15/00 Time 1241

Relinquished by — Date Time

Temperature received:

Received by

Received by

Received by laboratory — Date Time

Method of sh: MTBE

Special detec Limit/reporting: 01 02 03 04

Special QA/QC

Remarks: *1201 MTBE ON HOLY WELLS HITS.

Lab number

Turnaround tim

Priority Rush 1 Business Da

Rush 2 Business Da

Expedited 5 Business Da

Standard 10 Business D

Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

WELL SAMPLING REQUEST

SAMPLING PROTOCOL

Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:		Client Engineer:
809628	608	17601 Hesperian, San Lorenzo	4Q00	Shaw Garakani	8HRS	12/1500	Sequoia	24152 00	Mike Wheilan

0000000

Well Number	Sampling Order	Sample I.D.	Gauge/Sample Frequency	Analyses	TOB TOC	Well Depth	Top of Screen	Casing Diameter	Well goes Dry?	Comments
MW-5	16		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	14		4"	YES	Please repair or replace
MW-7	15		--	**Removed from Program**	--	19		3"	NO	missing or broken locks, j-plugs,
MW-8	17		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	22		3"	NO	slip caps, lid bolts ect. Please
MW-9	14		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	19		3"	YES	note any repairs performed or that
MW-10	18		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	22		3"	YES	need to be performed.
MW-11	10		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	19		3"	YES	DO: BEFORE PURGE
MW-13	9		--	**Removed from Program**	--	23.5		3"	YES	ON ALL WELLS
MW-14	8		**QLY/ANNUAL 1Q**	MtBE/GAS/BTEX	TOB/TOC	24		3"	YES	
MW-15	7		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	24		3"	YES	
MW-16	6		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	23		3"	YES	
MW-18	5		**QLY/ANNUAL 1Q**	MtBE/GAS/BTEX	TOB/TOC	22		3"	YES	
MW-19	4		--	**Removed from Program**	--	22		3"	YES	
MW-21	3		**QLY/ANNUAL 1Q**	MtBE/GAS/BTEX	TOB/TOC	22		3"	YES	
MW-22	2		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	22		3"	YES	
MW-23	1		**QLY/ANNUAL 1Q**	MtBE/GAS/BTEX	TOB/TOC	22		3"	YES	
MW-24	11		--	**Removed from Program**	--	20		2"	YES	
MW-25	12		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	21		2"	YES	
MW-26	13		**QLY/ANNUAL 1Q**	MtBE/GAS/BTEX	TOB/TOC	20		2"	YES	
E-1A	19		QLY/QLY	MtBE/GAS/BTEX	TOB/TOC	26		?	YES	

the igroup

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 809628 LOCATION: 17601 Hesperian Blvd DATE: 12/15/00

CLIENT/STATION NO.: Arco/0608 FIELD TECHNICIAN: Ruben Guevara DAY OF WEEK: FRIDAY

PROBE TYPE/ID No.
- ☐ Oil/Water IF/ _____
- ☒ H_2O level indicator _____
- ☐ Other: _____

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SERARATE-PHASE HYDROCARBONS (SPH) SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	COLOR: Weathered	COLOR: Gas	COLOR: Oil	VISCOSITY: Lite	VISCOSITY: Medium	VISCOSITY: Heavy	LIQUID REMOVED (gallons) SPH / H_2O
	MW-5	11:25	X	X	X	X	X	14.0	11.70 / 11.70	12.03 / 12.03										
	MW-7																			
	MW-8	11:23	X	X	X	X	X	22.0	10.20 / 10.20	10.97 / 10.97										
	MW-9	11:20	X	X	X	X	X	19.0	9.56 / 9.56	10.35 / 10.35										
	MW-10	11:11	X	X	X	X	X	22.0	9.70 / 9.70	10.35 / 10.35										
	MW-11	11:17	X	X	X	X	X	19.0	10.61 / 10.61	11.0 / 11.0										
	MW-13																			
	MW-14	11:14						24.0	8.87 / 8.87	9.14 / 9.14										
	MW-15	NA																		

Comments: MW15 NA CARSON TOP OF WELL

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FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 809628 LOCATION: 17601 Hesperian Blvd. DATE: 12/15/00

CLIENT/STATION NO.: ARCO/6085 FIELD TECHNICIAN: Ruben Guevara DAY OF WEEK: FRI

PROBE TYPE/ID No.:
- ☐ Oil/Water IF/ _____
- ☐ H_2O level Indicator _____
- ☐ Other: _____

Dtw Order	Well ID	Time	Surface Seal	Lid Secure	Gasket	Lock	Expanding Cap	Total Depth (feet)	First Depth to Water (feet) TOB/TOC	Second Depth to Water (feet) TOB/TOC	SEPARATE-PHASE HYDROCARBONS (SPH): SPH Depth (feet) TOB/TOC	SPH Thickness (feet)	COLOR: Fresh	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons): SPH / H_2O
	MW-16	11:09	X	X	X	X	X	23	10.76 / 10.76	11.25 / 11.25										
	MW-18	11:00	X	X	X	X	X	22	10.10 / 10.10	10.39 / 10.39										
	MW-19																			
	MW-21	10:51	X	X	X	X	X	22	9.88 / 9.89	10.30 / 10.30										
	MW-22	10:42	X	X	X	X	X	22	10.56 / 10.56	10.85 / 10.85										
	MW-23	10:35	X	X	X	X	X	22	12.0 / 12.0	12.25 / 12.25										
	MW-24																			
	MW-25	11:27	X	X	X	X	X	21	11.17 / 11.17	11.74 / 11.74										
	MW-26	11:30	X	X	X	X	X	20	11.48 / 11.48	11.88 / 11.88										

Comments:

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 809628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW5

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 12.03 TOB 11.70 TOC
Total depth: — TOB 14.0 TOC
Date: 12/18/00 Time (2400): —

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator WATER
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☐	3	0.38
☑	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 14.0 - DTW 11.70 = 2.3 x Gal/Linear Foot .66 = 1.52 x Number of Casings 3 = Calculated Purge 4.55

DATE PURGED: 12/15/00 START: 15:33 END (2400 hr): — PURGED BY: Rguevara

DATE SAMPLED: 12/15/00 START: 15:50 END (2400 hr): — SAMPLED BY: Rguevara

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:36	2	6.9	926.7	20.6	cloudy	LIGHT	Faint
15:38	3	6.79	937.9	23.3	cloudy	LIGHT	Faint
15:41	5	6.76	946.1	21.5	cloudy	LIGHT	Faint

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☒ Other: Suzi

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: Disposable
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW5	12/15/00	15:50	3	40ml	VOA	HCL	GAS/BTEX/MTBE

REMARKS: DO: 1 All samples taken

SIGNATURE: Ruben Guevara

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 809628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW8

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: ——— TOB ——— TOC
Depth to water: 10.97 TOB 10.20 TOC
Total depth: ——— TOB 22.0 TOC
Date: 12/15/00 Time (2400): ———

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator WATER
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☑	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 22.0 - DTW 10.2 = 11.8 x Gal/Linear Foot .38 = 4.48 x Number of Casings 3 = Calculated Purge 13.45

DATE PURGED: 12/15/00 START: 14:25 END (2400 hr): ——— PURGED BY: RGuevara

DATE SAMPLED: 12/15/00 START: 14:40 END (2400 hr): ——— SAMPLED BY: RGuevara

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14:27	5	6.94	926.8	20.3	clear	Light	Faint
14:29	10	6.88	923.5	20.9	clear	Light	Faint
14:31	13.5	6.90	922.6	20.6	clear	Light	Faint

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ——— TOB/TOC ———

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☑ Other: Grundfos

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: Disposable
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW8	12/15/00	14:40	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO:2 ALL SAMPLES TAKEN

SIGNATURE: Ruben Guevara

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 809628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW9

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.04 TOB 9.56 TOC
Total depth: — TOB 19.0 TOC
Date: 12/15/00 Time (2400): —

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☑ Electronic indicator water
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☑	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 19.0 - DTW 9.56 = 9.44 x Gal/Linear Foot .38 = 3.59 x Number of Casings 3 = Calculated Purge 10.76

DATE PURGED: 12/15/00 START: 13:33 END (2400 hr): — PURGED BY: Rguevara

DATE SAMPLED: 12/15/00 START: 13:50 END (2400 hr): — SAMPLED BY: Rguevara

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:36	4	7.01	930.9	19.8	Cloudy	Light	None
13:39	8	6.97	938.4	20.7	Cloudy	Light	None
13:42	11	6.97	935.8	20.8	Cloudy	Light	None

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: — TOB/TOC —

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☒ Other: Jacuzzi

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: Disposable
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW9	12/15/00	13:50	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO: 3 ALL SAMPLES TAKEN

SIGNATURE:

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 809628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW10

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: ——— TOB ——— TOC
Depth to water: 10.35 TOB 9.70 TOC
Total depth: ——— TOB 22.0 TOC
Date: 12/15/00 Time (2400): ———

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator WATER
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☒	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 22.0 - DTW 9.70 = 12.3 x Gal/Linear Foot .38 = 4.67 x Number of Casings 3 = Calculated Purge 14.02

DATE PURGED: 12/15/00 START: 13:56 END (2400 hr): ——— PURGED BY: Eguez

DATE SAMPLED: 12/15/00 START: 14:10 END (2400 hr): ——— SAMPLED BY: Eguez

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
14.00	5	6.83	881.4	19.7	cloudy	Light	moderate
14:02	10	6.81	882.1	20.2	cloudy	Light	moderate
14:04	14.5	6.83	881.5	20.2	cloudy	Light	moderate

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ——— TOB/TOC ———

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☒ Other: SAM 221

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: Disposable
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW10	12/15/00	14:10	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO: 4 ALL SAMPLES TAKEN

SIGNATURE: Ruben Guevara

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WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 209628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW11

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: ——— TOB ——— TOC
Depth to water: 11.12 TOB 10.61 TOC
Total depth: ——— TOB 19.0 TOC
Date: 12/15/00 Time (2400): ———

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator water
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2	———	0.17
☑ 3	———	0.38
☐ 4	———	0.66
☐ 4.5	———	0.83
☐ 5	———	1.02
☐ 6	———	1.5
☐ 8	———	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 19.0 - DTW 10.61 = 8.39 x Gal/Linear Foot .38 = 3.19 x Number of Casings 3 = Calculated Purge 9.56

DATE PURGED: 12/15/00 START: 13:06 END (2400 hr): ——— PURGED BY: Rguev

DATE SAMPLED: 12/15/00 START: 13:16 END (2400 hr): ——— SAMPLED BY: Rguev

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
13:10	3.5	6.96	941.3	19.4	Cloudy	Light	None
13:12	7.0	6.90	939.8	19.5	Cloudy	Light	None
13:14	10.0	6.90	939.1	19.3	Cloudy	Light	None

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ——— TOB/TOC ———

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ———
- ☐ Airlift Pump: ———
- ☐ Centrifugal Pump: ———
- ☐ Dedicated: ———
- ☑ Other: Jacuzzi

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: Disposable
- ☐ Dedicated: ———
- ☐ Other: ———

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW11	12/15/00	13:16	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO: 1 ALL Samples TAKEN

SIGNATURE: R. Guev

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 209628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW22

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: — TOB — TOC
Depth to water: 10.85 TOB 10.56 TOC
Total depth: — TOB 22.0 TOC
Date: 12/15/00 Time (2400): —

Probe Type and I.D. #
- ☐ Oil/Water interface
- ☒ Electronic indicator WATER
- ☐ Other;

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☑	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other;

TD 22.0 - DTW 10.56 = 11.44 x Gal/Linear Foot .38 = 4.35 x Number of Casings 3 = Calculated Purge 13.04

DATE PURGED: 12/15/00 START: 11:45 END (2400 hr): — PURGED BY: Rguevara

DATE SAMPLED: 12/15/00 START: 12:05 END (2400 hr): — SAMPLED BY: Rguevara

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
11:45	5	6.49	904.3	18.3	Cloudy	Light	None
11:50	10	6.88	889.0	18.3	Cloudy	Light	None
11:55	13.5	6.98	898.0	18.4	Cloudy	Light	None

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ____ TOB/TOC ____

PURGING EQUIPMENT/I.D. #
- ☐ Bailer:
- ☐ Airlift Pump:
- ☐ Centrifugal Pump:
- ☐ Dedicated:
- ☒ Other: QUANTI

SAMPLING EQUIPMENT/I.D. #
- ☒ Bailer: Disposable
- ☐ Dedicated:
- ☐ Other:

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW22	12/15/00	12:05	3	40ml	VOA	HCL	GAS/BTEX/MTBE

REMARKS: DO: 2 ALL SAMPLES Taken

SIGNATURE: Rguevara

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FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 809628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: MW25

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Ruben Guevara

WELL INFORMATION

Depth to Liquid: ——— TOB ——— TOC
Depth to water: 11.74 TOB 11.17 TOC
Total depth: ——— TOB 21.0 TOC
Date: 12/15/00 Time (2400): ———

Probe Type and I.D. #
- ☐ Oil/Water interface ———
- ☒ Electronic indicator WATER
- ☐ Other; ———

CASING DIAMETER		GAL/ LINEAR FT.
☑	2	0.17
☐	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; ———

TD 21.0 - DTW 11.17 = 9.83 x Gal/Linear Foot .17 = 1.67 x Number of Casings 3 = Calculated Purge 5.01

DATE PURGED: 12/15/00 START: 15:00 END (2400 hr): ——— PURGED BY: RGuev

DATE SAMPLED: 12/15/00 START: 15:15 END (2400 hr): ——— SAMPLED BY: RGuev

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
15:04	2	7.1	860.4	19.1	Brown	moderate	none
15:06	4	7.0	958.8	20.6	Brown	moderate	none
15:08	5.5	7.08	959.1	22.1	Brown	moderate	none

Color: Cobalt 0-100, Clear, Cloudy, Yellow, Brown
Turbidity: NTU 0-200, Heavy, Moderate, Light, Trace
Odor: Strong, Moderate, Faint, None

Pumped dry Yes / (No)

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: ——— TOB/TOC ———

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: ———
- ☐ Airlift Pump: ———
- ☐ Centrifugal Pump: ———
- ☐ Dedicated: ———
- ☒ Other: Jacuzzi

SAMPLING EQUIPMENT/I.D. #
- ☑ Bailer: Disposable
- ☐ Dedicated: ———
- ☐ Other: ———

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW25	12/15/00	15:15	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO: 4 All Samples Taken

SIGNATURE: Ruben Guevara

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WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager	Approval	Date/s	Laboratory:	Client Engineer:
809628	608	17601 Hesperian San Lorenzo	4Q00	Shaw Garakani			Sequoia 24152 00	Mike Whelan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Top of Screen	Well goes Dry?	Comments
		590 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC	well destroyed 9/15				SEE ATTACHED CONTACT FORM.
		633 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC	well destroyed 9/15				SAMPLE HOMEOWNER WELLS ON
Mrs Albright		634 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					Friday, December 15
Ms. Corregedor		642 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr/Mrs Roberts		675 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					**Instruct Sequoia to run 8260 MtBE
Mr Luehrs		17348 Via Encinas	QLY	GAS/BTEX/MtBE	TOB/TOC					confirmation on homeowner wells
Mr. Gordin		17197 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					with hits > 35 ppb.
Cavalry Church		17200 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC	Well Paved Over				
Mrs. Gomez		17203 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr/Mrs Johanson		17302 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr. Kast		17349 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr. Manry		17371 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr. Pimental		17372 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC					
Mr. Whaley		17393 Via Magdalena	QLY	GAS/BTEX/MtBE	TOB/TOC	Well Abandoned 7/97.				

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 209628 LOCATION: 1760 Hesperian Blvd. San Lorenzo WELL ID #: 64Q H

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: Pedro E. Ruiz

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☐ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER		GAL/ LINEAR FT.
☐	2	0.17
☑	3	0.38
☐	4	0.66
☐	4.5	0.83
☐	5	1.02
☐	6	1.5
☐	8	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot .38 = _____ x Number of Casings _____ = Calculated Purge _____

DATE PURGED: 12-14-00 START: _____ END (2400 hr): — PURGED BY: PE

DATE SAMPLED: 12-14-00 START: 11:00 END (2400 hr): — SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR

Pumped dry Yes / No

Cobalt 0-100: Clear, Cloudy, Yellow, Brown
NTU 0-200: Heavy, Moderate, Light, Trace
Strong, Moderate, Faint, None

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC 7.11 1340 62.1 Clear Light None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Grab

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
64Q H	12-14-00	11:00	3	40ml	VOA	HCL	Gas/BTEX/MTBE

REMARKS: DO: 2.2 Purge about 10 Min
10:45 ⇒ 10:55

SIGNATURE: _____

the group

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 309628 LOCATION: 1760 HESPERIAN BLVD. San Lorenzo WELL ID #: 17372W4

CLIENT/STATION No.: Arco / 0608 FIELD TECHNICIAN: PEDRO E. Ruiz

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: _____ TOB _____ TOC
Total depth: _____ TOB _____ TOC
Date: _____ Time (2400): _____

Probe Type and I.D. #
- ☐ Oil/Water interface _____
- ☐ Electronic indicator _____
- ☐ Other; _____

CASING DIAMETER		GAL/ LINEAR FT.
☐ 2	———	0.17
☑ 3	———	0.38
☐ 4	———	0.66
☐ 4.5	———	0.83
☐ 5	———	1.02
☐ 6	———	1.5
☐ 8	———	2.6

SAMPLE TYPE
- ☑ Groundwater
- ☐ Duplicate
- ☐ Extraction well
- ☐ Trip blank
- ☐ Field blank
- ☐ Equipment blank
- ☐ Other; _____

TD _____ - DTW _____ = _____ x Gal/Linear Foot .38 = _____ x Number of Casings _____ = Calculated Purge _____

DATE PURGED: 12-14-00 START: _____ END (2400 hr): ——— PURGED BY: PE

DATE SAMPLED: 12-14-00 START: 9:50 END (2400 hr): ——— SAMPLED BY: PE

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 2 5°C)	TEMPERATURE (° F)	COLOR	TURBIDITY	ODOR
			118				

Cobalt 0-100: Clear, Cloudy, Yellow, Brown
NTU 0-200: Heavy, Moderate, Light, Trace
Strong, Moderate, Faint, None

Pumped dry Yes / No

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: _____ TOB/TOC 7.07 1180 57.0 Clear Light None

PURGING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMPLING EQUIPMENT/I.D. #
- ☐ Bailer: _____
- ☐ Dedicated: _____
- ☒ Other: Grab

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
17372W4	12-14-00	9:50	3	40ml	VOA	HCL	GAS/BTEX/MTBE

REMARKS: DO: 2.0 Purge For 10 Min
9:40 => 9:50

SIGNATURE: _____

the igroup

Arco Work Request

Fourth Quarter 2000

Project Number: 809628 00002000

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
17197 Via Magdalena	Alice Gonsman				
510) 481 5039 WELL IS DOWN, will be Repair. by owner		1Q00	operational	13-Mar-00	Recently passed away - present owner unknown
		2Q00	operational	07-Jun-00	Recently passed away - present owner unknown
		3Q00	operational	12-Sep-00	Recently passed away - present owner unknown - try to get info
		4Q00	operational	08-Dec-00	Do not sample - present owner unknown - try to get contact info
17203 Via Magdalena	Martha Gomez				
510) 481 8019 9AM => 7PM Hrs NEED A NEW PUMP. Pump is not working.		1Q00	non-operational	13-Mar-00	Sample anytime
		2Q00	non-operational	07-Jun-00	sample anytime (pump not working 6/13)
		3Q00	non-operational	12-Sep-00	number changed to (408) 984-1345 - unable to reach for clarification
		4Q00	non-operational	08-Dec-00	Do not sample - check to see who lives here now - try to get contact info
17302 Via Magdalena	Mr & Mrs Johnson				
No ACCES		1Q00	non-operational	13-Mar-00	Well still broken - Do not sample
		2Q00	non-operational	09-Jun-00	Do not sample - well still broken
		3Q00	non-operational	12-Sep-00	Do not sample - well still broken
		4Q00	non-operational	08-Dec-00	Do not sample - well still broken

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
17348 Via Encinas	Mr. Dunn				
		1Q00	non-operational	13-Mar-00	Do not sample
		2Q00	non-operational	09-Jun-00	stop by BEFORE NOON - dog will be kept in house (knock to make sure)
		3Q00	non-operational	18-Sep-00	unable to contact in person
		4Q00	non-operational	08-Dec-00	stop by BEFORE NOON - dog will be kept in house (knock to make sure)
17349 Via Magdalena	Mr. Kastner				
		1Q00	operational	13-Mar-00	OK to sample anytime
		2Q00	operational	07-Jun-00	OK to sample anytime
		3Q00	operational	12-Sep-00	sample anytime
		4Q00	operational	08-Dec-00	sample anytime
17371 Via Magdalena	Mr. Manry				
		1Q00	operational	13-Mar-00	Do not sample - well not working
		2Q00	operational	07-Jun-00	Do not sample
		3Q00	operational	12-Sep-00	Do not sample
		4Q00	operational	08-Dec-00	Do not sample
17372 Via Magdalena	Mr. Pimentel				
		1Q00	operational	13-Mar-00	OK to sample anytime
		2Q00	operational	07-Jun-00	OK to sample anytime
		3Q00	operational	18-Sep-00	unable to contact
		4Q00	operational	13-Dec-00	sample anytime

No answer
Pump not working

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
17995 Via Magdalena	Mr. James Whaley, Jr.				
		1Q00	non-operational	13-Mar-00	Well abandoned 7/97
		2Q00	non-operational	07-Jun-00	Well abandoned 7/97
		3Q00	non-operational	12-Sep-00	Well abandoned 7/97
		4Q00	non-operational		Well abandoned 7/97
590 Hacienda	Charles & Jody Newsom				
		1Q00	operational	13-Mar-00	No answer
		2Q00	operational	12-Jun-00	no answer
		3Q00	operational	12-Sep-00	Well destroyed (9/15/00)
		4Q00	operational		Well destroyed (9/15/00)
632 Hacienda	Mr. Dahman				
		1Q00	operational	13-Mar-00	OK to sample anytime - shut gate when done
		2Q00	operational	09-Jun-00	no answer
		3Q00	operational	12-Sep-00	Well destroyed (9/15/00)
		4Q00	operational		Well destroyed (9/15/00)
642 Hacienda	Ms. Corregedor				
		1Q00	operational	13-Mar-00	OK to sample anytime
		2Q00	operational	07-Jun-00	OK to sample anytime
		3Q00	operational	18-Sep-00	left message 9/12 - unable to contact in person
		4Q00	operational	08-Dec-00	sample anytime

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
675 Hacienda [redacted]	M[redacted]				
		1Q00	non-operational	13-Mar-00	OK to sample anytime
		2Q00	non-operational	09-Jun-00	OK to sample anytime
		3Q00	non-operational	12-Sep-00	sample anytime
		4Q00	non-operational	08-Dec-00	sample anytime

NEED to Contact H.M TO ADVISED WHAT NEED'S to DO ABOUT UNCOMPLET. POMP. NEED HOLDING TANK & POWER TO THE Motor

ARCO Products Company Division of AtlanticRichfieldCompany 809628 **Task Order No.** 2415200 **Chain of Custody**

ARCO Facility no. 0608 | City (Facility) 17601 Hesperian Blvd | Project manager (Consultant) Shaw Garakani | Laboratory name Sequoia

ARCO engineer Mike Whelan | Telephone no. (ARCO) San Lorenzo | Telephone no. (Consultant) (408)453-7300 | Fax no. (Consultant) (408)437-9526 | Contract number

Consultant name IT Group | Address (Consultant) 1921 Ringwood Ave San Jose CA

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 MTBE	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
*17372WM		3		W		Y	HCL		9:50		X											
*17349WM		↓		↓		↓	↓		10:15		↓											
*6422H		↓		↓		↓	↓		11:00		↓											
E-1A		↓		↓		↓	↓		11:10		↓											

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks
*Run 8260 MTBE Confirmation on Monitoring wells with Hits >35ppb

Lab number

Condition of sample:

Temperature received:

Relinquished by sampler	Date	Time	Received by
[signature]	12/1/00	15:30	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory / Date / Time

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☐

Standard 10 Business Days ☒

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

APC-3292 (2-91)

ARCO Products Company Division of AtlanticRichfieldCompany — 809628 — **Task Order No.** 00002000 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 1760 Hesperian BLVD	Project manager (Consultant) Shawn Kanaani	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO) San Ramon	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name IT Group	Address (Consultant) 1921 Ringwood Ave San Jose, CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW5		3		X		X	HCl	12/14/00	15:50		X											
MW6									14:40													
MW9									13:50													
MW10									14:10													
MW11									13:16													
MW16									12:55													
MW22									12:05													
MW25									15:15													

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Method of shipment

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler	12/15/00	17:15	Received by
Relinquished by	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 (2-91)

ATTACHMENT C

REMEDIAL SYSTEM PERFORMANCE EVALUATION

ATTACHMENT C
REMEDIAL SYSTEM PERFORMANCE EVALUATION

REMEDIAL SYSTEM PERFORMANCE EVALUATION

Remedial action consisting of groundwater extraction and treatment (GWET) was initiated at the site on September 26, 1991 and was deactivated on August 21, 1995 with approval from the Alameda County Health Care Services Agency (ACHCSA). The GWET system was reactivated June 5, 2000 to address elevated concentrations of metyl tert-butyl ether (MtBE). Remedial objectives from the GWET system at this site include: (1) migration control of the impacted groundwater plume and (2) MtBE mass reduction. To evaluate GWET system performance, IT monitored well water levels, instantaneous and average extraction flow rates. IT also sampled the influent between carbon vessels and the effluent of the treatment system for total purgeable petroleum hydrocarbons as gasoline (TPPH-g); benzene, toluene, ethylbenzene, xylene (BTEX compounds); and Methyl tert Butyl Ether (MtBE) on a monthly basis. Treatment system effluent is also analyzed for chemical oxygen demand, total suspended solids, and pH as requested by the Oro Loma Sanitary District. A brief description and a performance evaluation of the GWE system from September 8 to December 28, 2000 are presented below.

Description

The GWET system is comprised of an extraction well (E-1A) containing an electric submersible pump, and three 1,200-pound granular activated carbon (GAC) vessels to treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in a series, with valves to permit bed order rotation to maximize the useful life of the GAC. This allows for the rotation of the carbon vessels after the carbon in the primary vessel has been renewed. Sample ports are located at the treatment system influent, effluent, and the mid-points between the carbon vessels. Treatment system effluent is discharged into the sanitary sewer system in accordance with Permit No. SDP-037, issued by the Oro Loma Sanitary District on May 15, 2000. The permit will be effective through May 14, 2001.

Migration Control

Progress toward meeting the migration control objective is evaluated by a comparison of the groundwater elevation map (Figure 2) and the TPPH-g, benzene, and MtBE concentrations

map (Figure 3) from the current quarterly groundwater monitoring event with those from previous monitoring events. Considering the above, IT concluded that the operation of the GWET system was influencing migration of the impacted plume.

Mass Reduction

Progress toward meeting the mass reduction objective is determined by evaluating GWET system mass removal data and the concentration trends in nearby groundwater monitoring wells. GWE system operational data are collected monthly. The system flow and influent sample analysis data are used to estimate mass removal values. Performance data for the GWET system are presented in Table C-1. GWET system certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment D of this report. Progress toward site remediation is presented in the following table.

Technology	Mass Removed			
	9/8/00 to 12/5/00		Cumulative	
Analyte	(lbs)	(gal)	(lbs)	(gal)
Groundwater Extraction				
TPPH-g	0.31	0.05	5.96	0.98
Benzene	0.001	0.00	0.31	0.04
MtBE*	0.14	0.02	0.79	0.11

lbs = Pounds
gal = Gallons
TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline
* = MtBE was not calculated prior to 06/15/00

Graphs of TPPH-g and benzene mass removal rates and concentrations versus time are shown on Figures C-1 and C-2, respectively. Graphical presentations of MtBE mass removal rate and concentration versus time are shown on Figures C-3 and C-4, respectively.

Groundwater Extraction System Operational Data

The GWE system was 96 percent operational during the reporting period. During the reporting period, the GWE system discharged treated groundwater at an average flow rate of approximately 2.0 gallons per minute (gpm) for a period discharge of 242,540 gallons. The instantaneous groundwater system flow rate ranged from 2.5 to 3.0 gpm. Treatment system analytical data are presented in Table C-2.

During this quarter, the GWE system was in compliance with all conditions stipulated in the discharge permit, including pH, total suspended solids, and chemical oxygen demand. Operation and maintenance field data sheets and certified analytical reports are presented as Attachment D of this report.

Groundwater Extraction System Performance Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)		Net Volume (gallons)		Average Flow (gpm)	TPPH as Gasoline			Benzene			MtBE			Primary MtBE Carbon Loading (%)
								Influent Concentration (µg/L)	Net Removed (pounds)	Removed To Date (pounds)	Influent Concentration (µg/L)	Net Removed (pounds)	Removed To Date (pounds)	Influent Concentration (µg/L)	Net Removed (pounds)	Removed To Date (pounds)	
09/25/91	0	N/A	0		0		0.0	ND	N/A	0.00	N/A	0.000	0.00	N/A	N/A	N/A	0.0
09/26/91	N/A	N/A	1,144		1,144		N/A	38	0.00	0.00	4.8	0.000	0.00	N/A	N/A	N/A	0.0
10/22/91	26	96	12,844		11,700		7.6	ND	N/A	0.00	ND	0.000	0.00	N/A	N/A	N/A	0.0
11/22/91	77	93	52,532		39,688		13.0	ND	N/A	0.00	0.52	0.000	0.00	N/A	N/A	N/A	0.0
12/19/91	322	62	122,540		70,008		4.8	ND	N/A	0.00	ND	0.000	0.00	N/A	N/A	N/A	0.0
01/16/92	994	0	283,289		160,749		4.0	ND	N/A	0.00	ND	0.000	0.00	N/A	N/A	N/A	0.0
02/19/92	1,809	0	485,200		201,911		4.1	370	0.31	0.31	14	0.012	0.01	N/A	N/A	N/A	0.4
03/17/92	2,462	0	662,847		177,647		4.5	160	0.39	0.70	18	0.024	0.04	N/A	N/A	N/A	0.9
04/15/92	3,150	1	851,100		188,253		4.6	200	0.28	0.99	11	0.023	0.06	N/A	N/A	N/A	1.2
05/14/92	3,849	0	1,030,086		178,986		4.3	45	0.18	1.17	1.4	0.009	0.07	N/A	N/A	N/A	1.5
06/19/92	4,712	0	1,229,960		199,874		3.9	ND	N/A	1.17	ND	0.001	0.07	N/A	N/A	N/A	1.5
07/14/92	5,001	52	1,291,201		61,241		3.5	97	0.02	1.19	25.0	0.006	0.08	N/A	N/A	N/A	1.5
08/18/92	N/A	N/A	1,410,018		118,817		N/A	ND	N/A	1.19	ND	0.012	0.09	N/A	N/A	N/A	1.5
09/15/92	6,298	N/A	1,535,640		125,622		3.1	ND	N/A	1.19	ND	0.000	0.09	N/A	N/A	N/A	1.5
10/16/92	7,012	4	1,651,623		115,983		2.7	ND	N/A	1.19	ND	0.000	0.09	N/A	N/A	N/A	1.5
11/18/92	7,809	0	1,768,076		116,453		2.4	ND	N/A	1.19	ND	0.000	0.09	N/A	N/A	N/A	1.5
12/17/92	8,502	0	1,864,300		96,224		2.3	96	0.04	1.23	7.7	0.003	0.09	N/A	N/A	N/A	1.5
01/18/93	8,798	61	1,915,165		50,865		2.9	100	0.04	1.27	13	0.004	0.10	N/A	N/A	N/A	1.6
02/22/93	9,607	0	2,096,930		181,765		3.7	480	0.44	1.71	36	0.037	0.13	N/A	N/A	N/A	2.1
03/15/93	10,113	0	2,205,833		108,903		3.6	310	0.36	2.07	29	0.030	0.16	N/A	N/A	N/A	2.6
04/09/93	10,517	33	2,298,770		92,937		3.8	140	0.17	2.25	11	0.015	0.18	N/A	N/A	N/A	2.8
05/13/93	11,211	15	2,449,160		150,390		3.6	530	0.42	2.67	27	0.024	0.20	N/A	N/A	N/A	3.3
06/04/93	11,734	1	2,543,500		94,340		3.0	170	0.28	2.94	5.2	0.013	0.21	N/A	N/A	N/A	3.7
07/20/93	12,573	24	2,689,697		146,197		2.9	200	0.23	3.17	12	0.010	0.22	N/A	N/A	N/A	4.0
08/16/93	13,219	0	2,791,366		101,669		2.6	150	0.15	3.32	4.9	0.007	0.23	N/A	N/A	N/A	4.1
09/13/93	13,888	0	2,884,736		93,370		2.3	80	0.09	3.41	2.2	0.003	0.23	N/A	N/A	N/A	4.3
10/08/93	14,485	1	2,951,737		67,001		1.9	ND	0.02	3.43	ND	0.001	0.24	N/A	N/A	N/A	4.3
11/19/93	15,494	0	3,036,032		84,295		1.4	ND	0.00	3.43	ND	0.000	0.24	N/A	N/A	N/A	4.3
12/21/93	16,260	0	3,113,565		77,533		1.7	73	0.02	3.45	3.5	0.001	0.24	N/A	N/A	N/A	4.3
01/18/94	16,939	0	3,190,900		77,335		1.9	60	0.04	3.49	3.1	0.002	0.24	N/A	N/A	N/A	4.4
02/17/94	17,658	0	3,273,720		82,820		1.9	ND	0.02	3.51	2.5	0.002	0.24	N/A	N/A	N/A	4.4
03/15/94	18,235	7	3,344,249		70,529		2.0	ND	0.00	3.51	ND	0.001	0.24	N/A	N/A	N/A	4.4
04/21/94	18,849	31	3,418,537		74,288		2.0	110	0.03	3.55	7.6	0.002	0.24	N/A	N/A	N/A	4.4
05/13/94	19,351	5	3,478,910		60,373		2.0	230	0.09	3.63	8.3	0.004	0.25	N/A	N/A	N/A	4.5
06/14/94	19,680	57	3,518,608	a	39,698		2.0	230	0.08	3.71	12	0.003	0.25	N/A	N/A	N/A	4.6
07/14/94	20,145	35	3,574,408	b	55,800		2.0	270	0.12	3.83	6.9	0.004	0.26	N/A	N/A	N/A	4.8
08/17/94	20,920	5	51,260	c	91,580	c	2.0	ND	0.10	3.93	1.8	0.003	0.26	N/A	N/A	N/A	4.9
09/12/94	21,549	0	120,910		69,650		1.8	ND	0.00	3.90	ND	0.001	0.26	N/A	N/A	N/A	4.9
10/18/94	22,408	1	211,880		90,970		1.8	ND	0.00	3.90	ND	0.000	0.26	N/A	N/A	N/A	4.9
11/15/94	23,080	0	280,840		68,960		1.7	ND	0.00	3.90	0.66	0.000	0.26	N/A	N/A	N/A	4.9

Table 3-1

Groundwater Extraction System Performance Data

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	TPPH as Gasoline: Influent Concentration (µg/L)	TPPH as Gasoline: Net Removed (pounds)	TPPH as Gasoline: Removed To Date (pounds)	Benzene: Influent Concentration (µg/L)	Benzene: Net Removed (pounds)	Benzene: Removed To Date (pounds)	MtBE: Influent Concentration (µg/L)	MtBE: Net Removed (pounds)	MtBE: Removed To Date (pounds)	Primary MtBE Carbon Loading (%)
12/05/94	23,489	15	325,830	44,990	1.8	470	0.09	3.99	32	0.006	0.27	N/A	N/A	N/A	5.0
01/04/95	24,205	1	408,740	82,910	1.9	ND	0.16	4.15	1.1	0.011	0.28	N/A	N/A	N/A	5.2
02/06/95	24,926	9	499,690	90,950	2.1	100	0.04	4.19	2.4	0.001	0.28	N/A	N/A	N/A	5.2
03/02/95	25,465	6	569,180	69,490	2.1	ND	0.03	4.22	ND	0.001	0.28	N/A	N/A	N/A	5.3
04/04/95	26,253	1	672,510	103,330	2.2	290	0.12	4.34	6.6	0.003	0.28	N/A	N/A	N/A	5.4
05/02/95	26,924	0	760,350	87,840	2.2	240	0.19	4.54	7.1	0.005	0.29	N/A	N/A	N/A	5.7
06/05/95	27,721	2	848,810	88,460	1.9	ND	0.09	4.62	ND	0.003	0.29	N/A	N/A	N/A	5.8 f
07/06/95	28,464	0	921,260	72,450	1.6	270	0.08	4.71	2.4	0.001	0.29	N/A	N/A	N/A	N/A g
08/21/95 d	29,568	0	993,320	72,060	1.1	230	0.15	4.86	1.8	0.001	0.29	N/A	N/A	N/A	N/A g
06/05/00 e	29,592	N/A	976,600	N/A	N/A	700	N/A	4.86	7.2	N/A	0.29	361	N/A	0.00	N/A g
06/05/00	29,593	0	979,800	3,200	53.3	700	0.02	4.88	7.2	0.000	0.29	361	0.01	0.01	N/A g
07/08/00	30,352	4	1,131,560	151,760	3.3	133	0.53	5.40	5.1	0.008	0.30	272	0.40	0.41	N/A g
08/07/00	30,955	16	1,228,240	96,680	2.7	144	0.11	5.51	2.8	0.003	0.30	126	0.16	0.57	N/A g
09/08/00	31,528	25	1,306,300	78,060	2.3	261	0.13	5.65	2.7	0.002	0.30	120	0.08	0.65	N/A g
10/10/00	32,230	9	1,393,820	87,520	2.1	114	0.14	5.78	ND	0.001	0.31	ND	0.04	0.69	N/A g
11/07/00	32,880	3	1,472,930	79,110	2.0	128	0.08	5.86	ND	0.000	0.31	99	0.03	0.73	N/A g
12/05/00	33,516	5	1,548,840	75,910	2.0	167	0.09	5.96	0.78	0.000	0.31	104	0.06	0.79	N/A g
REPORTING PERIOD:			**09/08/00 - 12/05/00**												
TOTAL GALLONS EXTRACTED:			**5,180,288**												
PERIOD GALLONS EXTRACTED:			**242,540**												
TOTAL POUNDS REMOVED:							**5.96**			**0.31**			**0.79**		
TOTAL GALLONS REMOVED:							**0.98**			**0.04**			**0.11**		
AVERAGE PERIOD FLOW RATE (gpm):			**2.0**												
PERIOD PERCENT OPERATIONAL:			**96%**												
PERIOD POUNDS REMOVED:							**0.31**			**0.001**			**0.14**		
PERIOD GALLONS REMOVED:							**0.05**			**0.000**			**0.02**		

TPPH = Total purgeable petroleum hydrocarbons
gpm = Gallons per minute
µg/L = Micrograms per liter
N/A = Not available or not applicable
ND = Not detected above detection limit
Densities: Gasoline = 6.1 lbs/gallon; Benzene = 7.34 lbs/gallon.
MtBE not quantified prior to 6/5/00

a. Totalizer broken; volume estimated from hourmeter and flow rate.
b. Volume estimated from hourmeter and instantaneous flow rate.
c. Sewer totalizer replaced July 28, 1994; volume discharged estimated between July 14 and 28, 1994 at 2.0 gpm.
d. GWE system temporarily shut down August 21, 1995.
e. GWE system restarted June 5, 2000.
f. Prior to June 5, 2000 primary carbon loading for benzene estimated using isotherm of 8 percent by weight.
g. Unable to predict Primary carbon loading for MtBE, because the MtBE loading prior to 6/5/00 is unknown.

Equations: Net Dissolved TPH-g Removed [pounds] = TPH-g concentration, [ug/L] x net volume (gallon) x density of gasoline [pound/gallon]
(Net dissolved TPH-g removed is calculated by averaging influent concentrations)

Table C-2
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MtBE (µg/L)
INFL (influent to primary carbon)						
09/26/91	38	4.8	0.6	1.6	1.1	NS
10/22/91	<30	<0.3	<0.3	<0.3	<0.3	NS
11/22/91	<30	0.5	<0.3	<0.3	<0.3	NS
12/19/91	<30	<0.3	<0.3	<0.3	<0.3	NS
01/16/91	<30	<0.3	<0.3	<0.3	<0.3	NS
02/19/92	370	14	0.34	14	2.4	NS
03/17/92	160	18	0.32	0.56	1.6	NS
04/15/92	200	11	<0.3	7.3	0.77	NS
05/14/92	45	1.4	<0.3	<0.3	<0.3	NS
06/19/92	<30	<0.3	<0.3	<0.3	<0.3	NS
07/14/92	97	25	<0.5	8.5	<0.5	NS
08/18/92	<50	<0.5	<0.5	<0.5	<0.5	NS
09/15/92	<50	<0.5	<0.5	<0.5	<0.5	NS
10/16/92	<50	<0.5	<0.5	<0.5	<0.5	NS
11/18/92	<50	<0.5	<0.5	<0.5	<0.5	NS
12/17/92	96	7.7	13	0.56	9.7	NS
01/18/93	100	13	6.6	1.1	11	NS
02/22/93	480	36	29	4.9	96	NS
03/15/93	310	29	14	4.9	55	NS
04/09/93	140	11	2.8	2.6	17	NS
05/13/93	530	27	12	18	96	NS
06/04/93	170	5.2	1.6	2.5	23	NS
07/20/93	200	12	0.91	8.2	29	NS
08/16/93	150	4.9	0.63	2.9	15	NS
09/13/93	80	2.2	<0.5	<0.5	4.8	NS
10/08/93	<50	<0.5	<0.5	<0.5	<0.5	NS
11/19/93	<50	<0.5	<0.5	<0.5	<0.5	NS
12/21/93	73	3.5	<0.5	1.9	8.4	NS
01/18/94	60	3.1	<0.5	3.2	4.3	NS
02/17/94	<50	2.5	<0.5	2.1	3.1	NS
03/15/94	<50	<0.5	<0.5	<0.5	<0.5	NS
04/21/94	110	7.8	<1.0	9.6	<1.0	NS
05/13/94	230	8.3	<0.5	14	6.0	NS
06/14/94	230	12	<0.5	16	1.5	NS
07/14/94	270	6.9	<0.5	15	1.9	NS
08/18/94	<50	1.8	<0.5	1.5	<0.5	NS
09/12/94	<50	<0.5	<0.5	<0.5	<0.5	NS
10/18/94	<50	<0.5	<0.5	<0.5	<0.5	NS
11/05/94	<50	0.66	<0.5	2.6	<0.5	NS
12/05/94	470	32	0.59	29	6.2	NS
01/04/95	<50	1.1	<0.50	1.4	<0.50	NS
02/06/95	100	2.4	1.1	1.2	2.8	NS
03/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
04/04/95	290	6.6	<0.50	10	1.7	NS
05/02/95	240	7.1	<0.50	3.2	1.6	NS
06/05/95	<50	<0.50	<0.50	<0.50	<0.50	NS
07/06/95	270	2.4	<0.50	7.6	1.0	NS
08/21/95	230	1.8	<0.50	1.6	0.9	NS
06/05/00	700	7.2	<1.00	2.1	<1.0	361

Table C-2
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MtBE (µg/L)
INFL (influent to primary carbon) (cont.)						
07/08/00	133	5.1	0.6	<0.50	<0.50	272
08/10/00	144	2.8	<0.50	1.0	<0.50	126
09/08/00	261	2.7	0.8	0.6	<0.50	120
10/10/00	114	<0.50	1.7	0.8	<0.50	<2.5
11/07/00	128	<0.50	<0.50	<0.50	<0.50	99
12/05/00	167	0.775	<0.500	<0.500	<0.500	104
MID-1 (between primary and secondary carbons)						
09/26/91	<30	<0.3	<0.3	<0.3	<0.3	NS
10/22/91	<30	<0.3	<0.3	<0.3	<0.3	NS
12/19/91	<30	<0.3	<0.3	<0.3	<0.3	NS
01/16/91	<30	<0.3	<0.3	<0.3	<0.3	NS
02/19/92	<30	<0.3	<0.3	<0.3	<0.3	NS
03/17/92	<30	<0.3	<0.3	<0.3	<0.3	NS
04/15/92	<30	<0.3	<0.3	<0.3	<0.3	NS
05/14/92	<30	<0.3	<0.3	<0.3	<0.3	NS
06/19/92	<30	<0.3	<0.3	<0.3	<0.3	NS
07/14/92	NS	NS	NS	NS	NS	NS
08/18/92	NS	NS	NS	NS	NS	NS
09/15/92	NS	NS	NS	NS	NS	NS
10/16/92	NS	NS	NS	NS	NS	NS
11/18/92	NS	NS	NS	NS	NS	NS
12/17/92	NS	NS	NS	NS	NS	NS
01/18/93	NS	NS	NS	NS	NS	NS
02/22/93	NS	NS	NS	NS	NS	NS
03/15/93	NS	NS	NS	NS	NS	NS
04/09/93	NS	NS	NS	NS	NS	NS
05/13/93	NS	NS	NS	NS	NS	NS
06/04/93	NS	NS	NS	NS	NS	NS
07/14/94	ND	ND	ND	ND	ND	NS
08/17/94	NS	NS	NS	NS	NS	NS
09/12/94	NS	NS	NS	NS	NS	NS
10/18/94	NS	NS	NS	NS	NS	NS
11/05/94	NS	NS	NS	NS	NS	NS
12/05/94	NS	NS	NS	NS	NS	NS
01/04/95	NS	NS	NS	NS	NS	NS
02/06/95	NS	NS	NS	NS	NS	NS
03/02/95	NS	NS	NS	NS	NS	NS
06/05/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
07/08/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
08/10/00	<50	<0.50	<0.50	<0.50	<0.50	<5.0
09/08/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/10/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/07/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
12/05/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Table C-2
Treatment System Analytical Data
Total Petroleum Hydrocarbons
(TPPH as Gasoline and BTEX Compounds)

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

Date Sampled	TPPH as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MtBE (µg/L)
EFFL (effluent to sewer) (cont.)						
02/06/95	<50	<0.50	<0.50	<0.50	<0.50	NS
03/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
04/04/95	<50	<0.50	<0.50	<0.50	<0.50	NS
05/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
06/05/95	<50	<0.50	<0.50	<0.50	<0.50	NS
07/06/95	<50	<0.50	<0.50	<0.50	<0.50	NS
08/21/95	<50	<0.50	<0.50	<0.50	<0.50	NS
06/05/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
06/12/00	<50	NS	NS	NS	NS	NS
07/08/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
08/10/00	<50	<0.50	<0.50	<0.50	<0.50	<5.0
09/08/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
10/10/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/07/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
12/05/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5

TPPH = Total purgeable petroleum hydrocarbons
MtBE = Methyl tert Butyl Ether
ppb = Parts per billion
< = Denotes minimum laboratory detection limit.
NS = Not sampled
ND = Not detected

Figure C-1

Groundwater Extraction System Mass Removal Trend
TPPH-g and Benzene

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

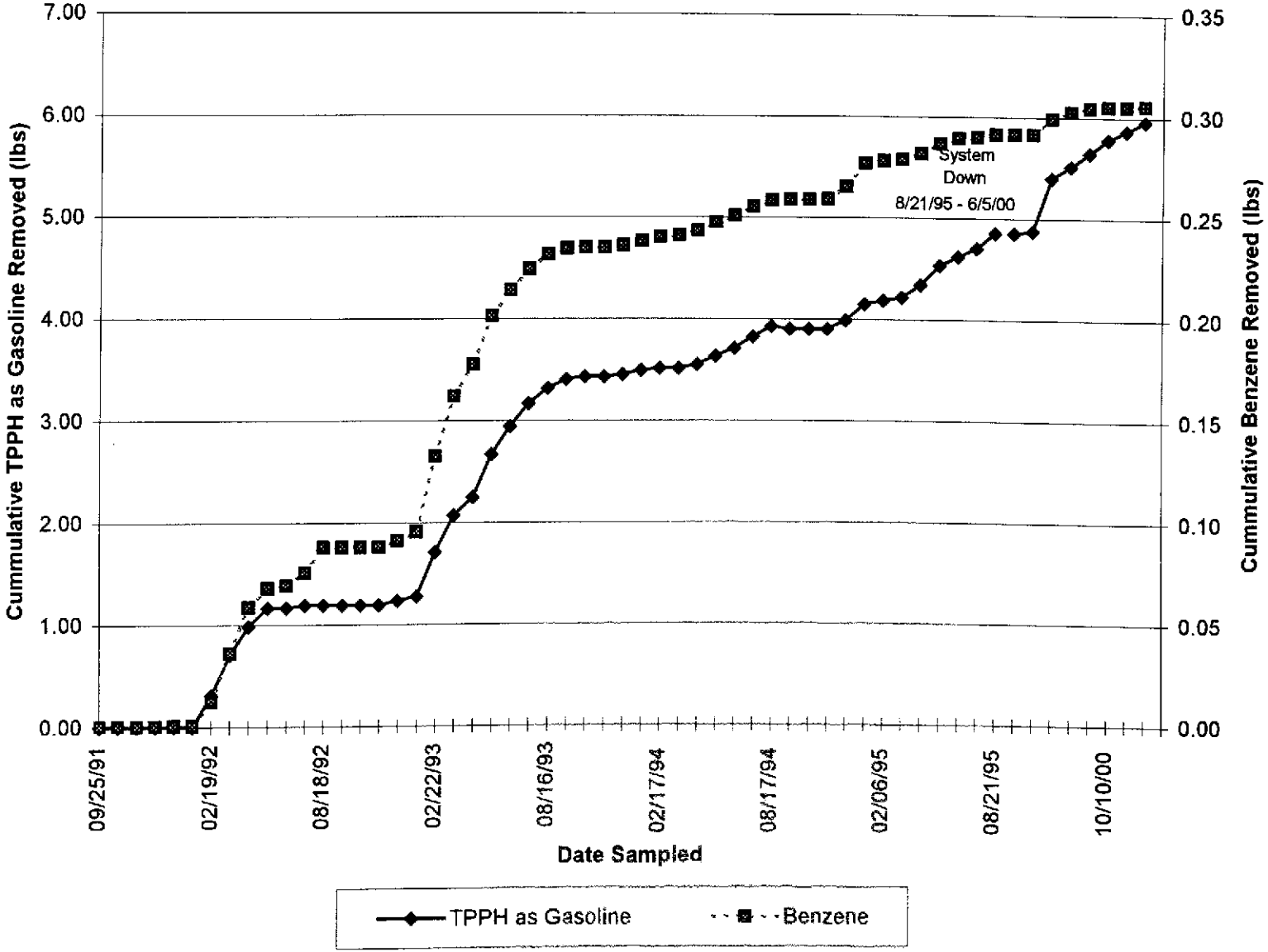


Figure C-2

Groundwater Extraction System Concentration Trend

TPPH-g and Benzene

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

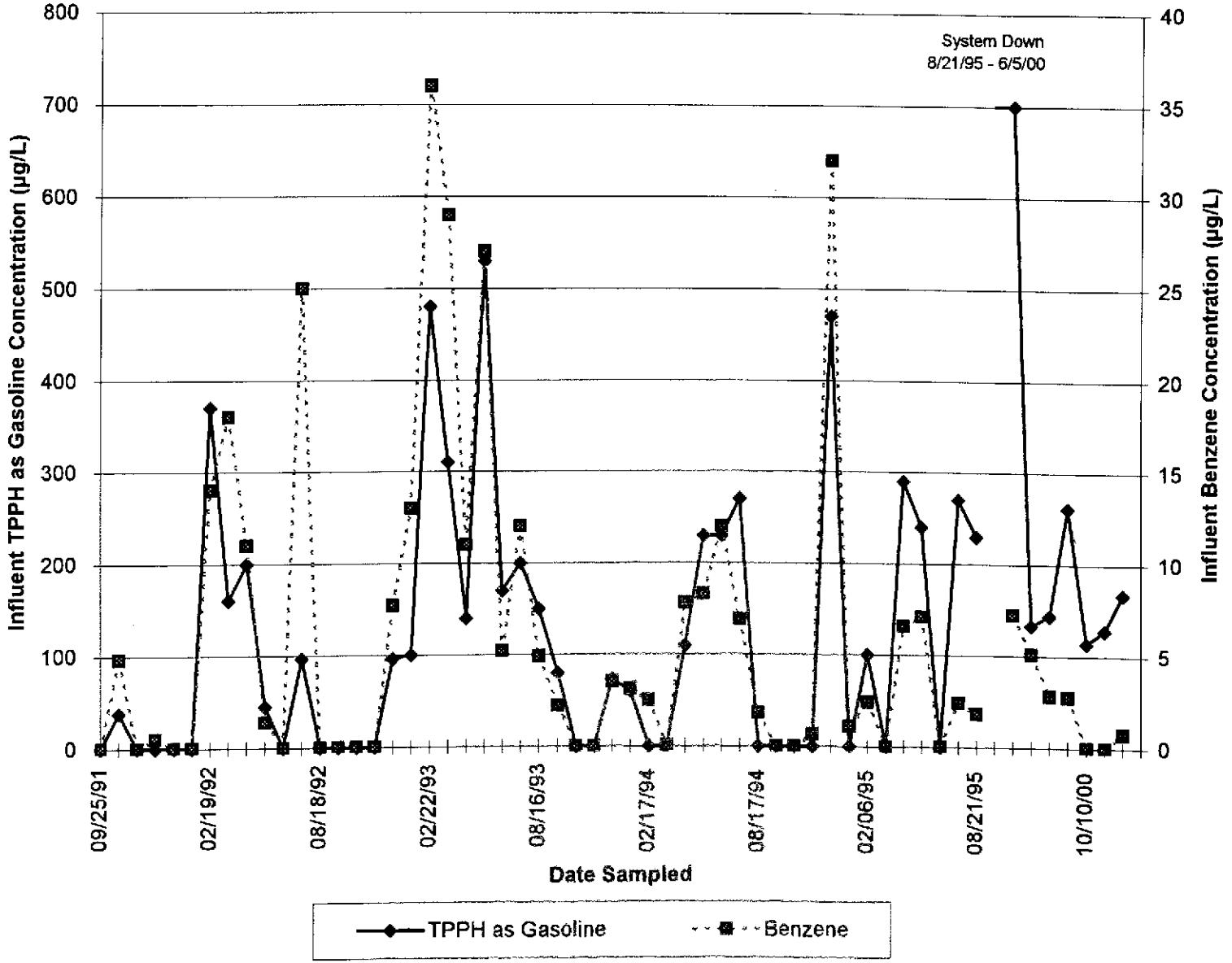


Figure C-3
Groundwater Extraction System Mass Removal Trend
MtBE

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California

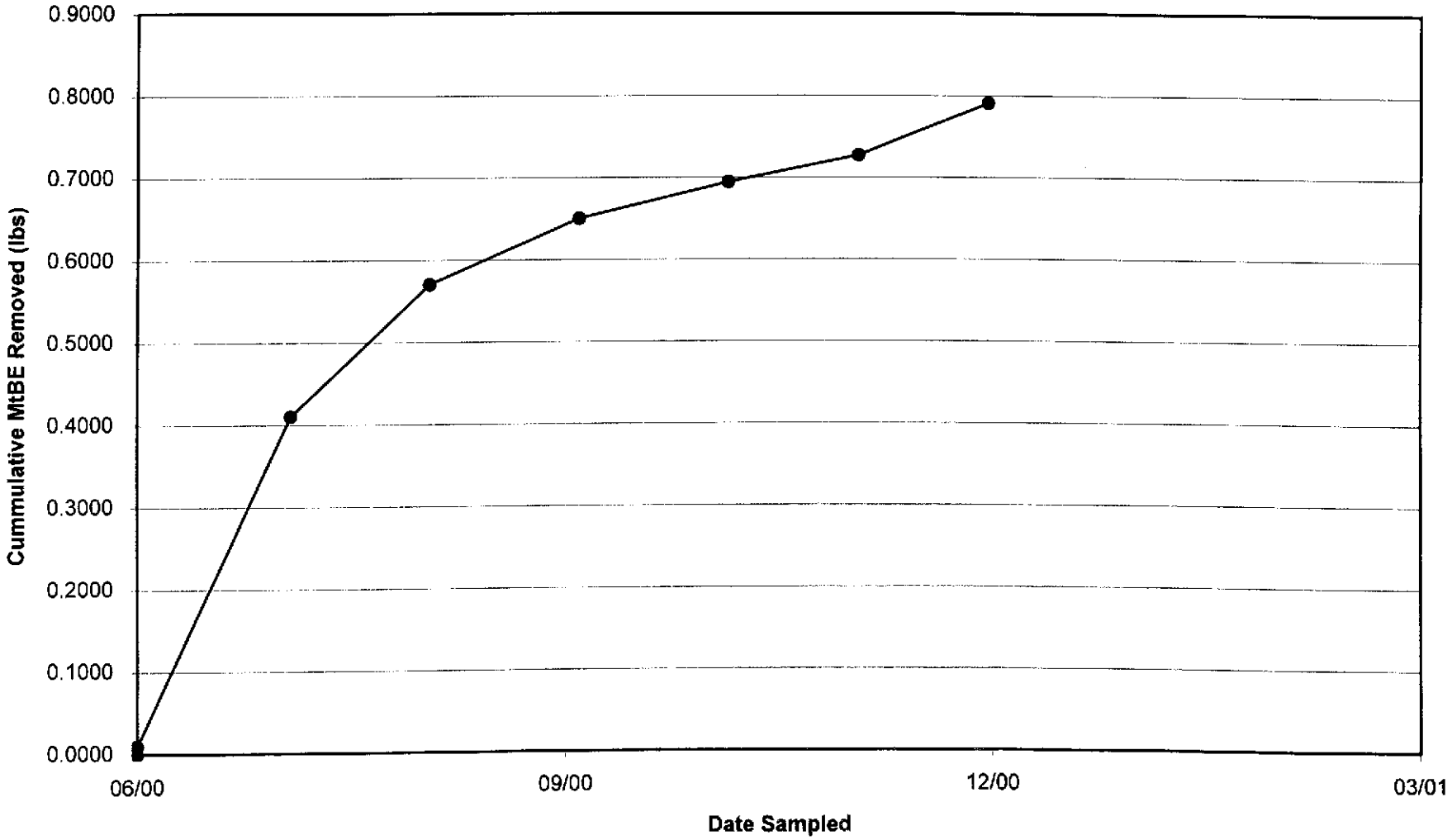
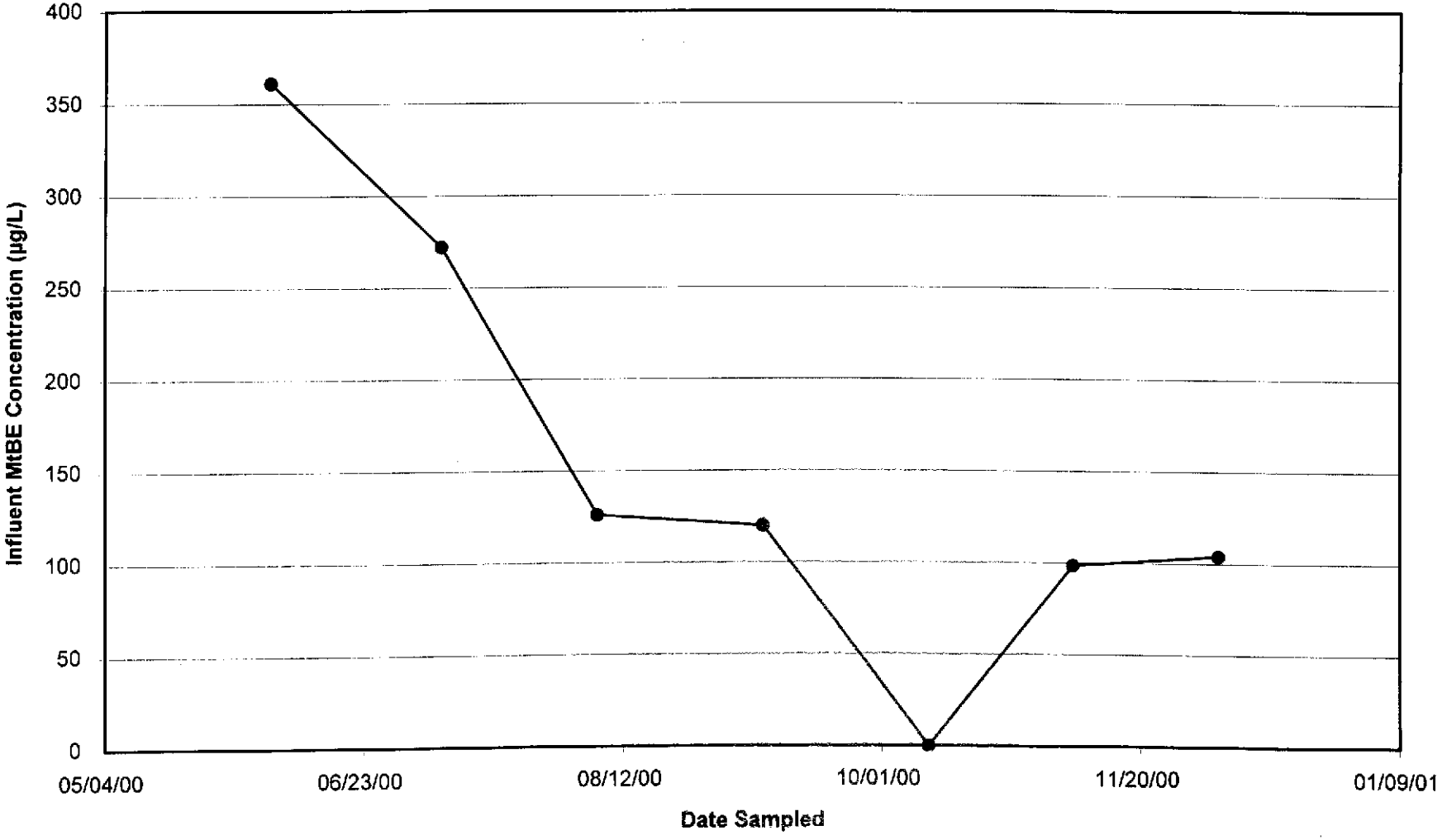


Figure C-4
Groundwater Extraction System Concentration Trend
MtBE

ARCO Service Station 0608
17601 Hesperian Boulevard at Hacienda Avenue
San Lorenzo, California



ATTACHMENT D

CERTIFIED ANALYTICAL REPORTS, CHAIN-OF-CUSTODY DOCUMENTATION, AND FIELD DATA SHEETS FOR GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

Sequoia Analytical

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Morgan Hill, CA 95037
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FAX (408) 782-6308
www.sequoialabs.com

3 November, 2000

Shaw Garakani
Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose, CA 95131

RE: Arco
Sequoia Report: MJJ0305

Enclosed are the results of analyses for samples received by the laboratory on 10/11/00 17:21. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
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www.sequoialabs.com

Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	Reported: 11/03/00 09:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INFL	MJJ0305-01	Water	10/10/00 13:00	10/11/00 17:21
MID-1	MJJ0305-02	Water	10/10/00 13:05	10/11/00 17:21
EFFL	MJJ0305-03	Water	10/10/00 13:15	10/11/00 17:21

Sequoia Analytical - Morgan Hill

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.

Wayne Stevenson, Client Services Manager

Sequoia Analytical

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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	**Reported:** 11/03/00 09:11

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
INFL (MJJ0305-01) Water Sampled: 10/10/00 13:00 Received: 10/11/00 17:21									
Purgeable Hydrocarbons	114	50.0	ug/l	1	0J19001	10/19/00	10/19/00	DHS LUFT	P-03
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	1.68	0.500	"	"	"	"	"	"	
Ethylbenzene	0.843	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*118 %*	*70-130*		"	"	"	"	
MID-1 (MJJ0305-02) Water Sampled: 10/10/00 13:05 Received: 10/11/00 17:21									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0J17004	10/17/00	10/17/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95.8 %*	*70-130*		"	"	"	"	
EFFL (MJJ0305-03) Water Sampled: 10/10/00 13:15 Received: 10/11/00 17:21									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0J17004	10/17/00	10/17/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.0 %*	*70-130*		"	"	"	"	

Sequoia Analytical

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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	Reported: 11/03/00 09:11

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EFFL (MJJ0305-03) Water Sampled: 10/10/00 13:15 Received: 10/11/00 17:21									
Chemical Oxygen Demand	ND	20.0	mg/l	1	0J27022	10/27/00	10/27/00	EPA 410.4	
Total Suspended Solids	ND	10.0	"	"	0J17008	10/16/00	10/17/00	EPA 160.2	

Sequoia Analytical

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Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose CA, 95131

Project: Arco
Project Number: 809628
Project Manager: Shaw Garakani

Reported:
11/03/00 09:11

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0J17004 - EPA 5030B [P/T]										
Blank (0J17004-BLK1)				Prepared & Analyzed: 10/17/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*9.69*		"	*10.0*		*96.9*	*70-130*			
LCS (0J17004-BS1)				Prepared & Analyzed: 10/17/00						
Purgeable Hydrocarbons	243	50.0	ug/l	250		97.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.07*		"	*10.0*		*90.7*	*70-130*			
Matrix Spike (0J17004-MS1)		Source: MJJ0334-02		Prepared & Analyzed: 10/17/00						
Purgeable Hydrocarbons	200	50.0	ug/l	250	ND	80.0	60-140			
Surrogate: a,a,a-Trifluorotoluene	*8.99*		"	*10.0*		*89.9*	*70-130*			
Matrix Spike Dup (0J17004-MSD1)		Source: MJJ0334-02		Prepared & Analyzed: 10/17/00						
Purgeable Hydrocarbons	201	50.0	ug/l	250	ND	80.4	60-140	0.499	25	
Surrogate: a,a,a-Trifluorotoluene	*8.60*		"	*10.0*		*86.0*	*70-130*			
Batch 0J19001 - EPA 5030B [P/T]										
Blank (0J19001-BLK1)				Prepared & Analyzed: 10/19/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*9.86*		"	*10.0*		*98.6*	*70-130*			

Sequoia Analytical

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28 November, 2000

Shaw Garakani
Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose, CA 95131

RE: Arco
Sequoia Report: MJK0303

Enclosed are the results of analyses for samples received by the laboratory on 11/08/00 13:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

for Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose CA, 95131

Project: Arco
Project Number: 809628
Project Manager: Shaw Garakani

Reported:
11/28/00 10:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INFL	MJK0303-01	Water	11/07/00 10:20	11/08/00 13:52
MID-1	MJK0303-02	Water	11/07/00 10:25	11/08/00 13:52
EFFL	MJK0303-03	Water	11/07/00 10:35	11/08/00 13:52

Sequoia Analytical - Morgan Hill

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.

for
Wayne Stevenson, Client Services Manager

Sequoia Analytical

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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	**Reported:** 11/28/00 10:44

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
INFL (MJK0303-01) Water Sampled: 11/07/00 10:20 Received: 11/08/00 13:52									
Purgeable Hydrocarbons	**128**	50.0	ug/l	1	0K14004	11/14/00	11/14/00	DHS LUFT	P-03
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**98.6**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.1 %*	*70-130*		"	"	"	"	
M1D-1 (MJK0303-02) Water Sampled: 11/07/00 10:25 Received: 11/08/00 13:52									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0K14004	11/14/00	11/14/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*86.6 %*	*70-130*		"	"	"	"	
EFFL (MJK0303-03) Water Sampled: 11/07/00 10:35 Received: 11/08/00 13:52									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0K14004	11/14/00	11/14/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*89.9 %*	*70-130*		"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	11/28/00 10:44

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EFFL (MJK0303-03) Water Sampled: 11/07/00 10:35 Received: 11/08/00 13:52									
Chemical Oxygen Demand	ND	20.0	mg/l	1	0K27005	11/22/00	11/27/00	EPA 410.4	
Total Suspended Solids	ND	10.0	"	"	0K16010	11/15/00	11/16/00	EPA 160.2	O-04

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 809628	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	11/28/00 10:44

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0K14004 - EPA 5030B [P/T]										
Blank (0K14004-BLK1)				Prepared & Analyzed: 11/14/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*8.97*		"	*10.0*		*89.7*	*70-130*			
LCS (0K14004-BS1)				Prepared & Analyzed: 11/14/00						
Benzene	9.17	0.500	ug/l	10.0		91.7	70-130			
Toluene	9.65	0.500	"	10.0		96.5	70-130			
Ethylbenzene	9.84	0.500	"	10.0		98.4	70-130			
Xylenes (total)	28.5	0.500	"	30.0		95.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	*8.71*		"	*10.0*		*87.1*	*70-130*			
Matrix Spike (0K14004-MS1)	Source: MJK0303-03			Prepared & Analyzed: 11/14/00						
Benzene	9.29	0.500	ug/l	10.0	ND	92.9	60-140			
Toluene	9.73	0.500	"	10.0	ND	97.3	60-140			
Ethylbenzene	9.80	0.500	"	10.0	ND	98.0	60-140			
Xylenes (total)	28.3	0.500	"	30.0	ND	94.3	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.05*		"	*10.0*		*90.5*	*70-130*			
Matrix Spike Dup (0K14004-MSD1)	Source: MJK0303-03			Prepared & Analyzed: 11/14/00						
Benzene	9.35	0.500	ug/l	10.0	ND	93.5	60-140	0.644	25	
Toluene	9.72	0.500	"	10.0	ND	97.2	60-140	0.103	25	
Ethylbenzene	9.81	0.500	"	10.0	ND	98.1	60-140	0.102	25	
Xylenes (total)	28.4	0.500	"	30.0	ND	94.7	60-140	0.353	25	
Surrogate: a,a,a-Trifluorotoluene	*8.77*		"	*10.0*		*87.7*	*70-130*			

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Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose CA, 95131

Project: Arco
Project Number: 809628
Project Manager: Shaw Garakani

Reported:
11/28/00 10:44

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0K16010 - General Preparation										
Blank (0K16010-BLK1)				Prepared & Analyzed: 11/16/00						
Total Suspended Solids	ND	10.0	mg/l							
Duplicate (0K16010-DUP1)		Source: MJK0297-02		Prepared & Analyzed: 11/16/00						
Total Suspended Solids	ND	10.0	mg/l		ND				20	
Batch 0K27005 - General Preparation										
Blank (0K27005-BLK1)				Prepared: 11/22/00 Analyzed: 11/27/00						
Chemical Oxygen Demand	ND	20.0	mg/l							
LCS (0K27005-BS1)				Prepared: 11/22/00 Analyzed: 11/27/00						
Chemical Oxygen Demand	90.5	20.0	mg/l	100		90.5	80-120			
Matrix Spike (0K27005-MS1)		Source: MJK0303-03		Prepared: 11/22/00 Analyzed: 11/27/00						
Chemical Oxygen Demand	105	20.0	mg/l	100	ND	105	75-125			
Matrix Spike Dup (0K27005-MSD1)		Source: MJK0303-03		Prepared: 11/22/00 Analyzed: 11/27/00						
Chemical Oxygen Demand	96.3	20.0	mg/l	100	ND	96.3	75-125	8.64	20	

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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: 809628 Project Manager: Shaw Garakani	**Reported:** 11/28/00 10:44

Notes and Definitions

O-04	This sample was analyzed outside the EPA recommended holding time.
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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27 December, 2000

Shaw Garakani
Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose, CA 95131

RE: Arco
Sequoia Report: MJL0318

Enclosed are the results of analyses for samples received by the laboratory on 12/07/00 17:09. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Client Services Manager

CA ELAP Certificate #1210

Sequoia Analytical
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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: Arco #0608 Project Manager: Shaw Garakani	**Reported:** 12/27/00 09:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INFL	MJL0318-01	Water	12/05/00 12:10	12/07/00 17:09
MID	MJL0318-02	Water	12/05/00 12:15	12/07/00 17:09
EFFL	MJL0318-03	Water	12/05/00 12:25	12/07/00 17:09

Wayne Stevenson, Client Services Manager

Sequoia Analytical

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Pacific Environmental Group (Arco)
1921 Ringwood Avenue
San Jose CA, 95131

Project: Arco
Project Number: Arco #0608
Project Manager: Shaw Garakani

Reported: 12/27/00 09:09

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

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
INFL (MJL0318-01) Water Sampled: 12/05/00 12:10 Received: 12/07/00 17:09									
Purgeable Hydrocarbons	167	50.0	ug/l	1	0L14003	12/14/00	12/14/00	DHS LUFT	P-03
Benzene	0.775	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	104	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95.7 %*	*70-130*		"	"	"	"	
MID (MJL0318-02) Water Sampled: 12/05/00 12:15 Received: 12/07/00 17:09									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0L14003	12/14/00	12/14/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91.6 %*	*70-130*		"	"	"	"	
EFFL (MJL0318-03) Water Sampled: 12/05/00 12:25 Received: 12/07/00 17:09									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0L14003	12/14/00	12/14/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*88.8 %*	*70-130*		"	"	"	"	

Sequoia Analytical

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(408)
FAX (408)
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Pacific Environmental Group (Arco) 1921 Ringwood Avenue San Jose CA, 95131	Project: Arco Project Number: Arco #0608 Project Manager: Shaw Garakani	**Reported:** 12/27/00 09:09

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	N
EFFL (MJL0318-03) Water Sampled: 12/05/00 12:25 Received: 12/07/00 17:09									
Chemical Oxygen Demand	44.0	20.0	mg/l	1	0L15017	12/14/00	12/15/00	EPA 410.4	
Total Suspended Solids	ND	10.0	"	"	0I.14012	12/13/00	12/14/00	EPA 160.2	

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	August 28, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s)/Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de-Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by: _____ Date: 10-3 00
Arrival time: _____ Departure time: _____
Sample this visit?: _____ Engineer contacted? _____

Site Address:
Project # :

Table 1

10.03.00

	Befor hydrogen peroxide application, Date	Next day after hydrogen peroxide application, date
pH at well sample port, Well EIA	7.19	6.92
pH at well sample port, Well --------		
pH at well sample port, Well --------		
pH at holding tank		
pH at effluent from tertiary	7.11	6.92
Biomass at well totalizer hosing (none/very light/light/medium/heavy)		

1375170

CHAGE BAG FILTER BEFORE LEAVE SITE

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Identification **Request Frequency:Monthly**

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	August 28, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by:_____ Date: 10-10-00
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date:____________

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
August 28, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? ✓ (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	29140	HOUR METER READING (hrs)	322303

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	1393610	1393820
FILTER INLET PRESSURE (psig)	10	(ideal range: 8 to 12 psig) 12
CARBON #1 INLET PRESSURE (psig)	10	(ideal range: 5 to 9 psig) 9
CARBON #2 INLET PRESSURE (psig)	5	(ideal range: 1 to 4 psig) 4
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS H2O2 injection on E-1A. After collecting samples

PART C: WELL DATA (Semi-Monthly)

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS/ ADJUSTMENTS
E-1A	20.60			NA

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MTBE 13:00	RE
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE 13:15	RE
MID 1	TPH-gasoline, BTEX compounds, MTBE 13:05	RE

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (monthly)	COD, TSS, pH 500 H2O2 14SP Plant.	RE

PART E: READINGS (Monthly)

	TEMP (^{O}F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT	66.9	1330	7.25	1.8

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?		CHANGE FILTERS? (if necessary)	YES
PUMP AMP DRAW		H202 injection well EA-1 (if necessary)	YES
SWEEP ENCLOSURE			

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	August 28. 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s) To be Completed		Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by: _____ Date: 10-28-00
Arrival time: _____ Departure time: _____
Sample this visit? _____ Engineer contacted? _____

Date: _____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
August 28, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? _____ (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	29493	HOUR METER READING (hrs)	3262382

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	1491800	1494830
FILTER INLET PRESSURE (psig)	10 psi	(ideal range: 8 to 12 psig) 9
CARBON #1 INLET PRESSURE (psig)	7 psi	(ideal range: 5 to 9 psig) 7
CARBON #2 INLET PRESSURE (psig)	6	(ideal range: 1 to 4 psig) 6
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS

Concrete pad at Compound was 1/4 full of Rain Water. Drain out water until Dry

* ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS/ ADJUSTMENTS
E-1A	21.10 => 23.85		2.5 => 3.	

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MTBE	
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE	
MID 1	TPH-gasoline, BTEX compounds, MTBE	

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (monthly)	COD, TSS, pH 500 H2004 1430 Plant.	

PART E: READINGS (Monthly)

EFFLUENT	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?	about 20	CHANGE FILTERS? (if necessary)	YES
PUMP AMP DRAW	5.6	H202 injection well EA-1 (if necessary)	N/A
SWEEP ENCLOSURE	N/A		

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Wattenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	November 3, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE)	X

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:

weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by:_____ Date: 11-7-00
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date: 11-7-00

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
November 3, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Setting (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? Running. (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	290460	HOUR METER READING (hrs)	3288000

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	1472790	1472930
FILTER INLET PRESSURE (psig)	20 PSI	(ideal range: 8 to 12 psig) 12
CARBON #1 INLET PRESSURE (psig)	6 PSI	(ideal range: 5 to 9 psig) 6
CARBON #2 INLET PRESSURE (psig)	5	(ideal range: 1 to 4 psig) 5
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS H2O2 injection on E-1A
DTW on Ust wells, Empty Compound
Rain water.

PART C: WELL DATA (Semi-Monthly)

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

WELL	DTW	[illegible]	(gpm)	COMMENTS/ ADJUSTMENTS
E-1A	10.45=>17.10		2.5 GPM	
UST-A	11.11 DRY TOC	N/A	N/A	
UST-B	11.15-11.23 TOC	N/A	N/A	
SP1-V4	11.92 TOC ① 11.57 TOB 20.35 TD.	N/A	~~N/A~~ ② 10.95 TOC 11.49 TOB 12.57 TD	

MW-1 8.49 Dry

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MTBE 10:20	
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE 10:35	
MID 1	TPH-gasoline, BTEX compounds, MTBE 10:25	

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (monthly)	COD, TSS, pH 10:35	

PART E: READINGS (Monthly)

	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT	61.9	1310	7.24	1.0

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?		CHANGE FILTERS? (if necessary)	YES
PUMP AMP DRAW		H202 injection well EA-1 (if necessary)	YES
SWEEP ENCLOSURE	N/A		

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

ARCO Products Company
Division of AtlanticRichfieldCompany

809608 Task Order No.

Chain of Custody

ARCO Facility no. 0608	City (Facility) 7001 HESPERIAN BLVD	Project manager (Consultant) SHAW (SARAKAN	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO) SW LOREN	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9500
Consultant name HT GROUP	Address (Consultant) 1901 RINGWOOD AV, SAN JOSE CA 95131		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
INFL		3		W		4	HCl	11-7-00	10:00		X											
MID		3					HCl		10:25													
EFFL		6					HCl 40 H2SO4		10:35												X	X

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Method of shipment

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	Date 11-7-00 Time 15:30	Received by	
Relinquished by	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

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Waterpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	November 3, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s) To Be Completed		Budgeted Hrs	Actual Hrs	Mob dev Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by: _____ Date: 11.20.00
Arrival time: _____ Departure time: _____
Sample this visit?: _____ Engineer contacted? _____

Date: 11-20-00

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
November 3, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? Down (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)		HOUR METER READING (hrs)	331661

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)		1508160
FILTER INLET PRESSURE (psig)		(ideal range: 8 to 12 psig) 10 psi
CARBON #1 INLET PRESSURE (psig)		(ideal range: 5 to 9 psig) 7 psi
CARBON #2 INLET PRESSURE (psig)		(ideal range: 1 to 4 psig) 6 psi
DISCHARGE PRESSURE (psig)		(ideal range: 0 to 2 psig) 0 psi

PART B: COMMENTS System was Down on 11-9 9:39AM
Change Bag Re start System.

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	November 3, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s) To be Completed	[redacted]	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE [redacted]	[redacted]				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response

Completed by:_____ Date: 11.30.00
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date:_____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
November 3, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? RUNNING (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	20972	HOUR METER READING (hrs)	333988

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)		1534960
FILTER INLET PRESSURE (psig)		(ideal range: 8 to 12 psig) 10
CARBON #1 INLET PRESSURE (psig)		(ideal range: 5 to 9 psig) 7
CARBON #2 INLET PRESSURE (psig)		(ideal range: 1 to 4 psig) 5
DISCHARGE PRESSURE (psig)		(ideal range: 0 to 2 psig) 0

PART B: COMMENTS_____

PART C: WELL DATA (Semi-Monthly)

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS: ADJUSTMENTS
E-1A	21.55=>23.80	1534960	25 CAPM	
UST-A	11.35	N/A	N/A	
UST-B	11.81	N/A	N/A	
SP1-V4	11.86 -21.00TD	N/A	N/A	

11.81

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MTBE	
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE	
MID 1	TPH-gasoline, BTEX compounds, MTBE	

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (monthly)	COD, TSS, pH	

PART E: READINGS (Monthly)

	TEMP (^{O}F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT				

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?	17 FILTERS	CHANGE FILTERS? (if necessary)	N/A
PUMP AMP DRAW	5.6 AMPS	H202 injection well EA-1 (if necessary)	N/A
SWEEP ENCLOSURE	YES		

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	November 3, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s)/Part(s) To be Completed		Budgeted Hrs	Actuals Hrs	Mob-demob Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by:_____ Date: 12500
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date: _____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
November 3, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? Down (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	20945	HOUR METER READING (hrs)	335165

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	1548610	1548840
FILTER INLET PRESSURE (psig)	Hr 335165	(ideal range: 8 to 12 psig) 10 psi
CARBON #1 INLET PRESSURE (psig)	8	(ideal range: 5 to 9 psig) 6
CARBON #2 INLET PRESSURE (psig)	6	(ideal range: 1 to 4 psig) 6
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS H2O2 injection after collecting Mp. Samples, Let H2O2 on well for 1½ Hr Turn System on. ~~the~~ Bio-mass will Collect on filter until High press Swept Compound.
Install High Level Switch on Containment pan it needs to be wire to Elect. panel

PART C: WELL DATA (Semi-Monthly)

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

WELL	DTW (ft)	TOTALIZER	FLOW RATE (gpm)	COMMENTS/ ADJUSTMENTS
E-1A	23.90 = 221.05			NA
UST-A	11.35 DTW TD	N/A	N/A	
UST-B	11.80 DTW 11.86 TD	N/A	N/A	
SP1-V4	11.91 - 2105	N/A	N/A	

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MTBE	12:10 RE
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE	12:25 RE
MID 1	TPH-gasoline, BTEX compounds, MTBE	12:15 RE

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (monthly)	COD, TSS, pH	RE

PART E: READINGS (Monthly)

	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT	68.8	1370	7.78	1.4

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?	20	CHANGE FILTERS? (if necessary)	YES
PUMP AMP DRAW	5.7 AMPS	H202 injection well EA-1 (if necessary)	YES
SWEEP ENCLOSURE	YES		

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Request Frequency:Monthly

Identification

Project #	809628 (330-006)
Station #	0608
Site Address:	17601 Hesperian Blvd @ Hacienda Avenue
County:	Alameda
Project Manager:	Shaw Garakani
Requestor:	Don Watenpaugh
Client:	ARCO
Client P.O.C.:	Mike Whelan
Revision Date:	December 20, 2000
Laboratory:	Sequoia Analytical

Site Remedial Technologies:

Groundwater Extraction (GWE) [X]

Complete attached Data Sheets as prescribed in the following table:

Scheduling Table

Data Sheet Section(s) / Part(s)	To be Completed	Budgeted Hrs	Actual Hrs	Mob-de Mob	Completed
GWE (A,B,C,F)	Semi-Monthly				
GWE (D,E)	Monthly†				
GWE (G)	Quarterly				

† = sampling to be performed

Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-monthly = twice a month on week 2 and 4

Field Technician Response:

Completed by:_____ Date: 12-28-00
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date:_____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
December 20, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Set Depth (TOB)
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: Rosedale P2 25 micron

PART A: SYSTEM DATA (Semi-Monthly)

System on upon arrival? Down (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	20107	HOUR METER READING (hrs)	337807

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	1576360	1576520
FILTER INLET PRESSURE (psig)		(ideal range: 8 to 12 psig) 10
CARBON #1 INLET PRESSURE (psig)		(ideal range: 5 to 9 psig) 8
CARBON #2 INLET PRESSURE (psig)		(ideal range: 1 to 4 psig) 5
DISCHARGE PRESSURE (psig)		(ideal range: 0 to 2 psig) 0

PART B: COMMENTS High pressure on filter & Carbon #1

PART C: WELL DATA (Semi-Monthly)

*** ALLOW SYSTEM TO RUN 1 HOUR BEFORE OBTAINING DTW READINGS**

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOWRATE (gpm)	COMMENTS/ ADJUSTMENTS
E-1A				TOB 1980 → DRAW DOWN 2160
UST-A	11.20 DTW 11.23 TD	N/A	N/A	
UST-B	11.13 DRY	N/A	N/A	
SP1-V4	- 11.21. DTW ~~20.36~~ TD - 11.23	N/A	N/A	

PART D: SAMPLING (Monthly)

SAMPLE	ANALYSIS	COMPLETED
INFLUENT	TPH-gasoline, BTEX compounds, MtBE	
EFFLUENT	TPH-gasoline, BTEX compounds, MtBE COD, TSS	
MID-1	TPH-gasoline, BTEX compounds, MtBE	
MID-2	TPH-gasoline, BTEX compounds, MtBE	

PART E: READINGS (Monthly)

	TEMP (^{O}F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT				

PART F: SYSTEM MAINTENANCE I (Semi-Monthly)

NUMBER OF SPARE FILTERS ON SITE?	10	CHANGE FILTERS? (if necessary)	YES
PUMP AMP DRAW	60.4	H202 injection well EA-1 (if necessary)	N/A
SWEEP ENCLOSURE	N/A		

PART G: SYSTEM MAINTENANCE II (Quarterly)

TEST ALARM SWITCHES	YES	BACKFLUSH CARBONS	
CLEAN TOTALIZERS			