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Review RB 12/4/2000 AG

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ENVIRONMENTAL PROTECTION

Quarterly Groundwater Monitoring Report
Second Quarter 2000

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

779

Prepared for

Mr. Michael Whelan
ARCO Products Company

October 20, 2000

Prepared by

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

Project 809628

Shaw Garakani
Project Engineer

Andrew Lehane
Senior Engineer
RCE 55798

REGISTERED PROFESSIONAL ENGINEER
ANDREW D. LEHANE
55798
EXP. 12/31/06
CIVIL
STATE OF CALIFORNIA

Date: October 20, 2000
Quarter: 2Q00

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 0608	Address: 17601 Hesperian Boulevard at Hacienda Avenue San Lorenzo, California
ARCO Environmental Engineer:	Michael Whelan
Consulting Co./Contact Person:	IT Corporation (IT)/formerly Pacific Environmental Group, Inc. (PEG) -- Shaw Garakani
Consultant Project No.:	809628
Primary Agency/Regulatory ID No.:	Alameda County Health Care Services Agency
Monitoring Events Performed to Date:	45

WORK PERFORMED THIS QUARTER (Second – 2000):

1. Submitted first quarter 2000 groundwater monitoring report.
2. IT performed second quarter 2000 groundwater monitoring event on June 13, 2000.
3. Prepared second 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. Re-activated operation of the groundwater extraction and treatment (GWET) system on June 5, 2000.

WORK PROPOSED FOR NEXT QUARTER (Third – 2000):

1. Submit second quarter 2000 groundwater monitoring and remedial system performance evaluation report.
2. IT will perform third quarter 2000 groundwater monitoring event.
3. Prepare third quarter 2000 groundwater monitoring and remedial system performance evaluation report.
4. Continue monthly payments to homeowners for not using domestic irrigation wells.
5. Continue homeowner quarterly monitoring results notification program.
6. Abandonment of homeowner irrigation wells at 590 and 633 Hacienda.
7. Perform a one time vacuum truck groundwater extraction event at Wells MW-5, MW-8, and MW-10.
8. Continue operation, maintenance and performance monitoring of GWET system.

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:	9.45 to 22.31	(Measure Feet)
Groundwater Gradient:	NA/NA	(Direction/Magnitude)
Period TPPH-g/Benzene/MtBE Removed:	0.1/ 0.0/ 0.0002	(gallons)
Cumulative TPPH-g/Benzene/MtBE Removed:	0.8/ 0.04/ 0.0002	(gallons)

DISCUSSION:

- Please refer to PEG's *Quarterly Groundwater Monitoring Report – Fourth Quarter 1996* for additional historical groundwater elevation and analytical data.
- Based on concentrations of methyl tert-butyl ether (MtBE) during the recent monitoring events, the existing GWET system was reactivated on June 5, 2000. Performance evaluation of the GWET system is presented as Attachment C.
- IT, on behalf of ARCO Products Co., obtained written authorization from the property owners to abandon irrigation wells at 590 and 633 Hacienda. Well abandonment was successfully completed on September 15, 2000.

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 Map
- Figure 3 - TPPH-g/Benzene/MtBE Concentration Map
- 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 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	a	a	a	a	Quarterly
633H	a	a	a	a	Quarterly
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 (continued)
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
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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
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	<5.0	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
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

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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-9		09/09,10/97			10.87	21.24	<50	<0.50	<0.50	<0.50	<0.50	<2.5	3.0
(cont.)		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
		12/14,15/98			9.98	22.13	<50	<0.50	<0.50	<0.50	<0.50	<2.5	2.2
		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
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
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
E-1A	††	03/13,14/96		33.06	10.35	22.71	2,700	38	<5.0	130	6.2	NA	NM
(MW-12)		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	--

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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	11/24,25/97			11.75	21.31	2,000	10	<2.5	42	2.8	65	1.0
(cont.)	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
	12/08,09/99			11.75	21.31	1,490	6.57	1.36	9.21	<1.25	364	NM
	03/15/00			9.52	23.54	4,430	26.1	<10.0	15.3	<10.0	786	1.8
	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
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						
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					Well Inaccessible						
	09/21,22/98					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					Well Inaccessible						
	06/14,15/99					Well Inaccessible						
	09/15, 16/99					Well Inaccessible						

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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-15	12/08,09/99			11.28	20.13	<50	<0.5	<0.5	<0.5	<0.5	167.0	NM
(cont.)	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
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
	09/09,10/97			12.03	19.36	<50	<0.50	<0.50	<0.50	<0.50	63	3.0
	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			9.55	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
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						
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											

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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-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						
	12/08,09/99		10.70	18.02	Well Sampled Annually						
	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						
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
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						
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

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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-24	11/25/96		12.71	21.67	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
(cont.)	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
	09/09,10/97 a		--	--	--	--	--	--	--	79	--
	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
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						

Table 2 (continued)
Groundwater Elevation and Analytical Data
Groundwater Monitoring Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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)

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.

Table 3
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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
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
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 (continued)
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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
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
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
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

Table 3 (continued)
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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	08/29/96	<50	<0.50	<0.50	<0.50	<0.50	NA	NM
(cont.)	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
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
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
	06/03/98 f	NS	NS	NS	NS	NS	NS	NM
	09/21/98 f	NS	NS	NS	NS	NS	NS	NM

Table 3 (continued)
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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	12/14/98 f	NS	NS	NS	NS	NS	NS		NM
(cont.)	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
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
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
	06/14/99	91	<0.50	3.53	<0.50	<0.50	88.3		2.8
	09/15/99 a	133	<0.50	<0.50	<0.50	<0.50	184		2.2

Table 3 (continued)
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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

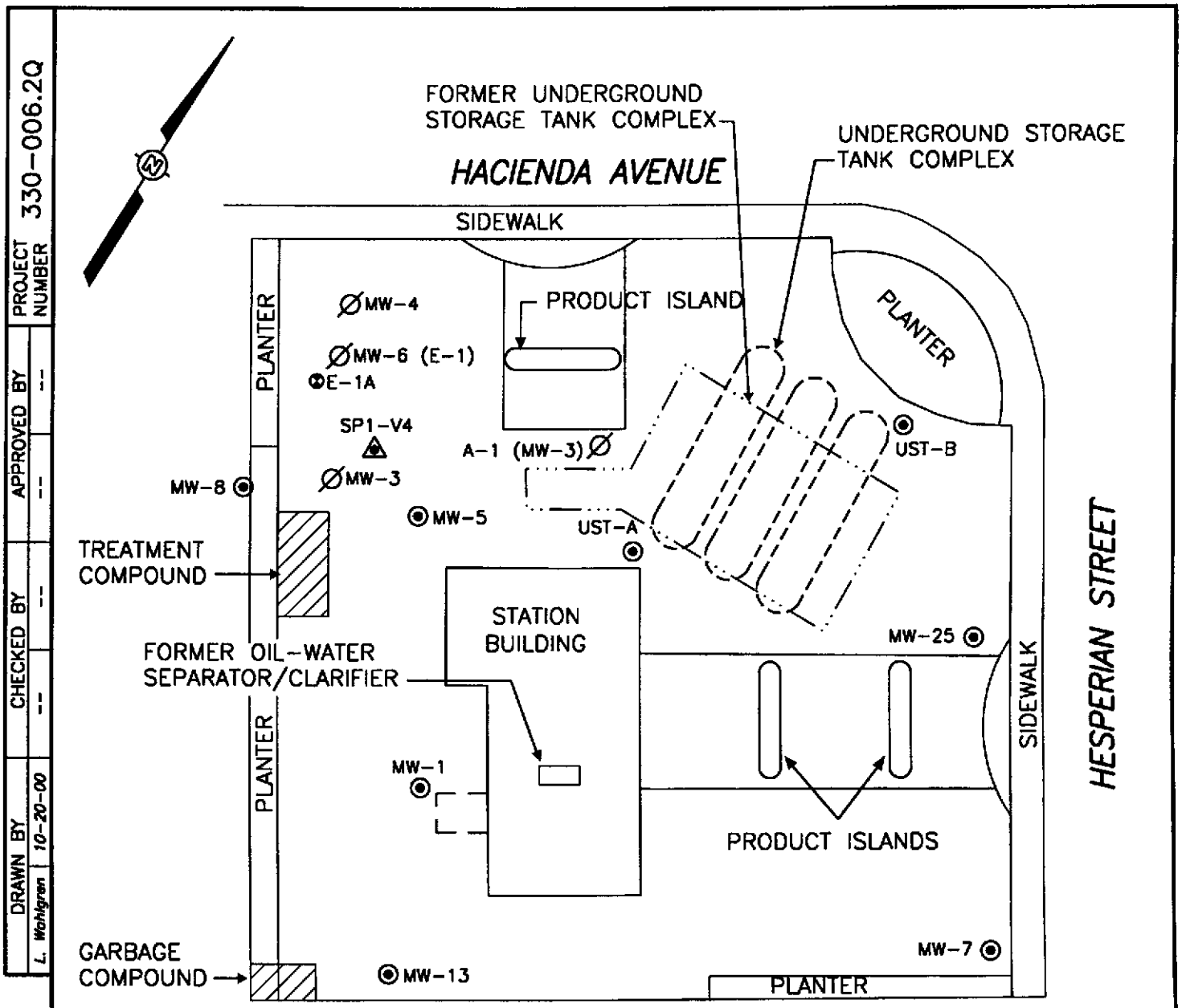
Well Address	Date Sampled	TPPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MtBE (ppb)		Dissolved Oxygen (ppm)
17349 VM	12/08/99	136	0.681	<0.50	<0.50	<0.50	267	c	2.4
(cont.)	03/15/00	<50	<0.50	<0.50	<0.50	<0.50	82.1	c	2.8
	06/13/00	319	5.28	<0.5	<0.50	<0.50	97.1		NM
	06/13/00	--	--	--	--	--	85.1	c	NM
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
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
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

Table 3 (continued)
Groundwater Analytical Data
Domestic Irrigation Wells
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, MtBE, and Dissolved Oxygen)

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)
17393 VM	11/26/96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NM
(cont.)	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.
Note: Homeowners are contacted 1 week prior to sampling event.



PROJECT NUMBER 330-006.2Q

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

LEGEND

- ◉ GROUNDWATER MONITORING WELL
- ⊛ GROUNDWATER EXTRACTION WELL
- Ø 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

N:\cad\DWG\809628\Sitemap.dwg Fri, 20/Oct/00 03:25pm lwahlgren

PROJECT NUMBER 809628
APPROVED BY
CHECKED BY
DRAWN BY K. Black 10-16-00

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

MW-20
MW-19 †
MW-18 (19.10)
MW-21 (17.75)
MW-22 (18.23)
MW-23 (19.04)
MW-17
17200
MW-14 (21.01)
MW-24 †
MW-26 (21.51)
MW-9 (21.63)
E-1A (10.75)
MW-10 (20.82)
MW-8 (20.86)
MW-25 (22.40)
MW-5 (21.55)
MW-7 †
MW-13 †
MW-16 (19.75)
MW-15 (20.45)
MW-11 (21.49)
SP-2/V-5
SP-1/V-4
17197
17203
17302
17372
633
590
17349
17371
17348
17393
675
634
642

18 19 20 21 13 15 17 19 21 22

LEGEND

- ◉ GROUNDWATER MONITORING WELL
- △ DUAL COMPLETION AIR SPARGING/ SOIL VAPOR EXTRATION WELL
- Ø DESTROYED WELL
- ⊙ GROUNDWATER EXTRACTION WELL
- ■ DOMESTIC IRRIGATION WELL
- (21.51) GROUNDWATER ELEVATION (FT.–MSL); MEASURED 6–13–00
- GROUNDWATER ELEVATION CONTOUR (FT.–MSL)
- † WELL REMOVED FROM MONITORING PROGRAM

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
SECOND QUARTER 2000
17601 HESPERIAN BLVD at HACIENDA AVE
SAN LORENZO, CALIFORNIA

N:\cad\DWG\809628\GWC.dwg Tue, 17/Oct/00 05:42pm kblack

PROJECT NUMBER	APPROVED BY	CHECKED BY	DRAWN BY
809628			L. Wahlgren 9-19-00

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

MW-20
MW-19 †
MW-21*
MW-18*
17200
MW-17
MW-14*
MW-24 †
MW-26*
MW-9
ND / ND / ND
E-1A
262 / 9.52 / 534
MW-25
ND / ND / 77.7
MW-8
MW-5
96.7 / ND / 551
MW-7†
MW-13 †
SP-1/V-4
590
NS
MW-16
ND / ND / 6.29
MW-10
617 / 6.82 / 437
SP-2/V-5
MW-15
ND / ND / 69.8
MW-11
ND / ND / ND
MW-22
ND / ND / 6.85
MW-23*
17393
MW-12 †

17197
ND / ND / ND
17203
NS
17302
NS
17372
ND / ND / ND
633
240 / 5.03 / 10.5
17349
319 / 5.28 / 97.1 (85.1)
17371
NS
17348
NS
675
NS
642
ND / ND / ND
634
NS
227 / ND / 657

LEGEND

- ⊙ GROUNDWATER MONITORING WELL
- △ DUAL COMPLETION AIR SPARGING/ SOIL VAPOR EXTRATION WELL
- Ø DESTROYED WELL
- ⊙ GROUNDWATER EXTRACTION WELL
- ■ DOMESTIC IRRIGATION WELL
- 262 / 9.52 / 534 TPPH-G/BENZENE/MtBE CONCENTRATIONS IN GROUNDWATER (PARTS PER BILLION); SAMPLED 6-13-00
- (87.1) 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
SECOND QUARTER 2000
17601 HESPERIAN BLVD at HACIENDA AVE
SAN LORENZO, CALIFORNIA

N:\cad\DWG\809628\CHEM.dwg Wed, 18/Oct/00 02:49pm 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 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 8021, 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

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

FIELD SERVICES / O & M REQUEST

SITE INFORMATION FORM

Project #: 330-006.2P

Station #: 0608

Site Address: 17601 Hesperian Blvd. San Lorenzo, California

County: Alameda

Project Manager: Shaw Garakani

Requestor: Kurt Lueneburger

Client: Arco

☐ 1st time visit

☐ 1st ☒ 2nd ☐ 3rd ☐ 4th

☐ Monthly

☐ Semi-Monthly

☐ Weekly

☐ One time Event

☐ Other._____

Client P.O.C.: M. Whelan.

Date of Request: 2Q99

Ideal Field Date: 6/13-14

Purge water_____

Budget Hrs._____

Actual Hrs._____

Mob de Mob_____

Total Wells_____

Prefield contacts: All Homeowners are to be contacted 1-2 weeks in advance of arrival.

Field Tasks: For General Description

Quarterly Monitoring Event. Measure TOB/TOC, and DO. Purge all wells, irrigation wells for at least 15 minutes before sampling. Also record time when purging starts and when purging is stopped. **Instruct Sequoia to run EPA 8260 on homeowner wells with MtBE greater than 35 ppb.** Attempt to sample all homeowner wells and if wells are non-operational, note the problem as best as you can and what it would take to repair pump/well. Sample homeowner wells on **March 15, 1999. Note: the sample frequency for some of the wells has been reduced. See attached sample protocol.**
WA#24152 00

Comments, remarks, from Field Staff (include problems encountered

H2O pump Thought Treatment System on Site NEED Filter WATER

Completed by: [signature] Date: 6/13/00

Checked by:_____

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	Station #	Project Name	SEQUENCE	Project Manager Approval	Date/s	Laboratory:		Client Engineer:
330-006.2P	608	17601 Hesperian, San Lorenzo	2Q00	Shaw Garakani	14-Jun	Sequoia	24152 00	Mike Wheilan

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	
MW-13	9		--	Removed from Program	--	23.5		3"	YES	
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	

WELL SAMPLING REQUEST

SAMPLING PROTOCOL								
Project No.	**Station #**	**Project Name**	**SEQUENCE**	**Project Manager** **Approval**	**Date/s**	**Laboratory:**		**Client Engineer:**
330-006.2P	608	17601 Hesperian San Lorenzo	2q00	Shaw Garakani	14-Jun	**Sequoia**	24152 00	Mike Wheilan

Well Number	Ideal Sampling Order	Sample I.D.	Sampling Frequency	Analyses	TOB TOC	Well Depth	Casing Diameter	Top of Screen	Well goes Dry?	Comments
Mr/Mrs Silva		590 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					**SEE ATTACHED CONTACT FORM.**
Mr. Dahmann		633 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					**SAMPLE HOMEOWNER WELLS ON**
Mrs Albright		634 Hacienda	QLY	GAS/BTEX/MtBE	TOB/TOC					**WEDNESDAY, JUNE 14**
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**
?		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 Toles		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.**

17601 Hesperian Blvd.
San Lorenzo

Arco Work Request

Second Quarter 2000

Project Number: 330-006.2P

sample highlighted addresses only !!!

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
17197 ~~Via Encinas~~	(passed away)	1Q00	operational	13-Mar-00	Recently passed away - present owner unknown
V Magdalena	(passed away)	2Q00	operational	07-Jun-00	Recently passed away - present owner unknown
					481 5939 ALEX GORDIN
17203 Via Magdalena	Mrs. Toles	1Q00	operational	13-Mar-00	Sample anytime
	Mrs. Toles	2Q00	operational	07-Jun-00	sample anytime Pump is not working
17302 Via Magdalena	Mr. & Mrs. Johanson	1Q00	non-operational	13-Mar-00	Well still broken - Do not sample
	Mr. & Mrs. Johanson	2Q00	non-operational	09-Jun-00	Do not sample - well still broken
17348 Via Encinas	Mr. Luehrs	1Q00	non-operational	13-Mar-00	Do not sample
	Mr. Luehrs	2Q00	non-operational	09-Jun-00	stop by BEFORE NOON - dog will be kept in house (knock to make sure)
					Pump not working
17349 Via Magdalena	Mr. Kast	1Q00	operational	13-Mar-00	OK to sample anytime
	Mr. Kast	2Q00	operational	07-Jun-00	OK to sample anytime

Address	Contact	Quarter	PumpCondition	DateContacted	Notes
17371 Via Magdalena	Mr. Manry	1Q00	operational	13-Mar-00	Do not sample - well not working
	Mr. Manry	2Q00	operational	07-Jun-00	Do not sample
17372 Via Magdalena	Mr. Pimental	1Q00	operational	13-Mar-00	OK to sample anytime
	Mr. Pimental	2Q00	operational	07-Jun-00	OK to sample anytime
17393 Via Magdalena	Mr. James Whaley	1Q00	non-operational	13-Mar-00	Well abandoned 7/97
	Mr. James Whaley	2Q00	non-operational	07-Jun-00	Well abandoned 7/97
590 Hacienda	Charles & Jody Newsom	1Q00	operational	13-Mar-00	No answer
	Charles & Jody Newsom	2Q00	operational	07-Jun-00	number invalid till 6/12 check with owner to see if sampling OK. NO ONE HOME
633 Hacienda	Mr. Dahman	1Q00	operational	13-Mar-00	OK to sample anytime - shut gate when done
	Mr. Dahman	2Q00	operational	09-Jun-00	no answer check with owner to see if sampling OK.
642 Hacienda	Ms. Corregedor	1Q00	operational	13-Mar-00	OK to sample anytime
	Ms. Corregedor	2Q00	operational	07-Jun-00	OK to sample anytime
675 Hacienda	Mr. & Mrs. Roberts	1Q00	non-operational	13-Mar-00	OK to sample anytime
	Mr. & Mrs. Roberts	2Q00	non-operational	09-Jun-00	OK to sample anytime Pump not working

FIELD REPORT

DEPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 17601 HESPERIAN DATE: 6.13.00

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: JF DAY OF WEEK: Tue

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
	MW5	1000	ok	Y	N/A	Y	Y	14.05	12.03											
	MW7																			
	MW8	1005	ok	Y	N/A	Y	Y	21.62	11.06											
	MW9		-	-	-	-	-		9.95 9.95											
	MW10	0923	ok	Y	N	Y	Y	22.89	10.24											
	MW11	0920	ok	Y	N	Y	Y	19.01	10.63											
	MW13																			
	MW14	0930	ok	Y	N	Y	Y	23.18	9.17											
	MW15	0917	ok	Y	N	Y	Y	23.68	10.51											

Comments: _____

FIELD REPORT

EPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-0062 LOCATION: 1760 HESPERIAN BLVD. SAN LORENZO DATE: 6.1300

CLIENT/STATION NO.: ARCO/0608 FIELD TECHNICIAN: J.T DAY OF WEEK: TUE

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	0913	OK	Y	N	Y	Y	23.51	11.23											
	MW-17																			
	MW-18	910	OK	Y	N	Y	Y	21.81	10.31											
	MW-19	9.06	OK	Y	N	Y	Y	21.65	9.89											
	MW-20	~~9.56~~	~~OK~~	~~Y~~	~~N~~	~~Y~~	~~Y~~	~~21.65~~	~~9.89~~											
	MW-21	9:01	OK	Y	N	Y	Y	21.95	10.45											
	MW-22	8:56	OK	Y	N	Y	Y	21.72	10.78											
	MW-23	8:54	OK	Y	N	Y	Y	21.91	11.66											
	EI-A	8:47	OK	Y	N/A	N/A	N/A		20.91											

Comments: _____

FIELD REPORT

EPTH TO WATER/SEPARATE-PHASE HYDROCARBON SURVEY

PROJECT No.: 330-006.2 LOCATION: 1760 HESPERIAN BLVD SAN LORENZO DATE: 6-13-00

CLIENT/STATION NO.: ARCO/ FIELD TECHNICIAN: JT DAY OF WEEK: TUE

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	Weathered	Gas	Oil	VISCOSITY: Lite	Medium	Heavy	LIQUID REMOVED (gallons): SPH / H_2O
	MW-24	0941	ok	Y	N/A	Y	Y	20.03	12.44											
	MW-25	8:35						20.71	11.21											
	MW-26	0945	ok	Y	N/A	Y	Y	19.83	11.75											

Comments: _____

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2P LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-5

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 11.00 DTW 10.05 = 1.95 x Gal/Linear Foot 0.66 = 1.28 x Number of Casings 3 = Calculated Purge 3.86

DATE PURGED: 6/13/00 START: 12:00 END (2400 hr): _____ PURGED BY: RE/JF

DATE SAMPLED: 6/13/00 START: 12:10 END (2400 hr): _____ SAMPLED BY: RE/JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
12:05	1.25	8.00	1350	71.9	Cloudy	Mod	Faint
12:08	2.5	7.90	1320	71.1	Cloudy	Mod	Faint
12:11	3.75	7.80	1330	70.7	Cloudy	Mod	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: _____

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: _____
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-5	6/13/00	12:15	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: 12:20 PUT A NEW 4" J CAP RAINBOW SEAL ON TOP OF RISER CASING

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2P LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-8

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John Fernandez

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 11.06 TOB _____ TOC
Total depth: 21.82 TOB _____ TOC
Date: 6-13-00 Time (2400): 1005

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 21.82 - DTW 11.06 = 10.76 x Gal/Linear Foot 0.38 = 4.08 x Number of Casings 3 = Calculated Purge 12.24

DATE PURGED: 6.13.00 START: 1250 END (2400 hr): _____ PURGED BY: RE / JF

DATE SAMPLED: 6.13.00 START: 1300 END (2400 hr): _____ SAMPLED BY: RE / JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1253	4	7.45	9139	84.7	Clear	Clear	Slight Solvent Odor
1256	8	7.43	9338	83.2	〃	〃	No
1300	12.5	7.42	9391	81.2	〃	〃	No

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: 12.21 TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-8	6.13.00	1302	3	40ml	VOA	HCl	GAS / BTEX

REMARKS: DO: 1

SIGNATURE: R E Fernandez

PACIFIC ENVIRONMENTAL GROUP, INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-9

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John Fernandez

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 9.95 TOB _____ TOC
Total depth: 18.41 TOB _____ TOC
Date: 6-13-00 Time (2400): 1225

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 18.41 - DTW 9.95 = 8.46 x Gal/Linear Foot 0.38 = 3.21 x Number of Casings 3 = Calculated Purge 9.64

DATE PURGED: 6/13/00 START: 1225 END (2400 hr): _____ PURGED BY: RE / JF

DATE SAMPLED: 6/13/00 START: 1240 END (2400 hr): _____ SAMPLED BY: RE / JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1232	3.2	7.46	9773	76.5	Clear	Clear	No
1235	6.4	7.43	9809	75.0	〃	〃	〃
1238	9.6	7.42	9849	74.7	〃	〃	〃

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: 10.37 TOB/TOC _____

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-9	6/13/00	1240	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 2

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-10

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John FERNANDEZ

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.24 TOB _____ TOC
Total depth: 22.89 TOB _____ TOC
Date: 6-13-00 Time (2400): 0923

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 22.89 - DTW 10.24 = 12.65 x Gal/Linear Foot 0.38 = 4.80 x Number of Casings 3 = Calculated Purge 14.42

DATE PURGED: 6.13.00 START: 1305 END (2400 hr): _____ PURGED BY: RE / JF

DATE SAMPLED: 6.13.00 START: 1317 END (2400 hr): _____ SAMPLED BY: RE / JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1308	4.8	7.42	8222	81.2	CLEAR	CLEAR	NO
1312	9.6	7.43	8415	78.1	"	"	"
1317	14.5	7.42	8375	77.0	"	"	"

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: 11.81 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
MW-10	6.13.00	1320	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 1

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-11

CLIENT/STATION No.: ARCO/0608 FIELD TECHNICIAN: John FERNANDEZ

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.63 TOB _____ TOC
Total depth: 19.01 TOB _____ TOC
Date: 6-13-00 Time (2400): 0920

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 19.01 - DTW 10.63 = 8.38 x Gal/Linear Foot 0.38 = 3.18 x Number of Casings 3 = Calculated Purge 9.55

DATE PURGED: 6/13/00 START: 1210 END (2400 hr): _____ PURGED BY: RE/JF

DATE SAMPLED: 6/13/00 START: 1220 END (2400 hr): _____ SAMPLED BY: RE/JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1215	3.2	7.42	9455	78.0	Clear	Clear	No
1217	6.4	7.50	9502	76.9	〃	〃	〃
1220	9.6	7.48	9676	75.3	〃	〃	〃

Color: 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: 11.12 TOB/TOC

PURGING EQUIPMENT/I.D.

- ☐ Bailer: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☒ Other: Jacuzi pump

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: Disposable
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-11	6/13/00	1222	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 1

PACIFIC ENVIRONMENTAL GROUP, INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-15

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John FARNDOR

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.51 TOB _____ TOC
Total depth: 23.68 TOB _____ TOC
Date: 6-13-00 Time (2400): 0917

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 23.68 - DTW 10.51 = 13.17 x Gal/Linear Foot 0.38 = 5.00 x Number of Casings 3 = Calculated Purge 15.01

DATE PURGED: 6-13-00 START: 1145 END (2400 hr): _____ PURGED BY: RE / JF

DATE SAMPLED: 6-13-00 START: 1200 END (2400 hr): _____ SAMPLED BY: RE / JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1150	5	7.50	94.41	81.2	Clear	Clear	No
1155	10	7.49	8938	77.7	"	"	"
1200	15	7.48	8812	76.3	"	"	"

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: 11.59 TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-15	6-13-00	1205	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 2

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-16

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John FERNANDEZ

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 11.23 TOB _____ TOC
Total depth: 23.51 TOB _____ TOC
Date: 6-13-00 Time (2400): 0913

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 23.51 - DTW 11.23 = 12.28 x Gal/Linear Foot 0.38 = 4.66 x Number of Casings 3 = Calculated Purge 13.99

DATE PURGED: 6/13/00 START: 1120 END (2400 hr): — PURGED BY: PE/JF

DATE SAMPLED: 6/13/00 START: 1140 END (2400 hr): — SAMPLED BY: PE/JF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
1125	4.6	7.46	8994	75.8	Clear	Clear	ND
1132	9.2	7.43	8776	76.2	〃	〃	〃
1138	14	7.42	8698	76.4	〃	〃	〃

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

Pumped dry Yes / No D.O - 1

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 12.45 TOB/TOC

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-16	6/13/00	1140	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 1

SIGNATURE: Pat E. Fernandez

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-22

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: John FERNANDEZ

WELL INFORMATION

Depth to Liquid: _____ TOB _____ TOC
Depth to water: 10.78 TOB _____ TOC
Total depth: 21.72 TOB _____ TOC
Date: 6-13-00 Time (2400): 0856

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 21.72 - DTW 10.78 = 10.94 x Gal/Linear Foot 0.38 = 4.15 x Number of Casings 3 = Calculated Purge 12.47

DATE PURGED: 6-13-00 START: 1050 END (2400 hr): 1105 PURGED BY: VF

DATE SAMPLED: 6-13-00 START: 1105 END (2400 hr): 1109 SAMPLED BY: VF

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
(1053) ~~1050~~	9.20	7.46	1705	75.8	Clear	Clear	No
1100	8.40	7.48	1009	74.3	↓	↓	↓
1105	12.5	7.49	1003	73.4	↓	↓	↓

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

Pumped dry Yes / No D.O. - 1

FIELD MEASUREMENTS AT TIME OF SAMPLE, AFTER RECHARGE:

DTW: 11.42 TOB/TOC

PURGING EQUIPMENT/I.D.

- ☐ Bailer: _____
- ☐ Airlift Pump: _____
- ☐ Centrifugal Pump: _____
- ☐ Dedicated: _____
- ☒ Other: Jacuzzi pump

SAMPLING EQUIPMENT/I.D.

- ☑ Bailer: Disposable
- ☐ Dedicated: _____
- ☐ Other: _____

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-22	6-13-00	1109	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: D.O. - 1

SIGNATURE: [signature]

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA WELL ID #: MW-25

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E. ROJ

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 21.00 - DTW 11.21 = 9.79 x Gal/Linear Foot 0.38 = 1.66 x Number of Casings 3 = Calculated Purge 4.99

DATE PURGED: 6/13/00 START: 11:40 END (2400 hr): _____ PURGED BY: PE/JT

DATE SAMPLED: 6/13/00 START: 11:55 END (2400 hr): _____ SAMPLED BY: PE/JT

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
11:43	1.75	7.50	1470	68.9	Cloudy	Mod	Mod
11:46	3.5	7.09	1390	69.8	Cloudy	Mod	Mod
11:50	5.25	7.14	1400	68.9	Cloudy	Mod	Mod

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: _____

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
MW-25	6/13/00	11:55	3	40ml	VOA	HCl	BTEX

REMARKS: D.T.O.

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.2P LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: EW-1A

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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 6.13.00 START: _____ END (2400 hr): _____ PURGED BY: P.E./J.F.

DATE SAMPLED: 6.13.00 START: 12:40 END (2400 hr): _____ SAMPLED BY: P.E./J.F.

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

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 7.05 1530 74.1 CLEAR TRACE FAINT

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
EW-1A	6.13.00	12:40	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 3.1 EW-1A WAS INACCESSIBLE AT TIME OF SAMPLING DUE TO PARKED VEHICLE BLOCKING WELL COMPOUND

SIGNATURE:

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: AW-633H

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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 6/13/00 START: _____ END (2400 hr): _____ PURGED BY: PE/JT

DATE SAMPLED: 6/13/00 START: 9:50 END (2400 hr): _____ SAMPLED BY: PE/JT

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

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 7.67 1420 715 CLEAR TRACE 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
AW-633H	6/13/00	9:50	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 1.6

Start 9:36 = 55gal
stop 9:44

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW~~ 6611

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO E. REIT

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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 6/13/00 START: _____ END (2400 hr): _____ PURGED BY: PE/JT

DATE SAMPLED: 6/13/00 START: 11:25 END (2400 hr): _____ SAMPLED BY: PE/JT

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

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 7.80 1300 7.10 CLEAR TRACE ODOR

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

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

SAMP. CNTRL #	DATE	TIME (2400)	No. of Cont.	SIZE	CONTAINER	PRESERVE	ANALYTICAL PARAMETER
~~MW~~ 6611	6/13/00	11:26	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 2.0 HOME OWNER HOOK UP TO PORT TO USE WATER ON LAWN PRE-PURGE

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: MW-13 32M

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 0.38 = _____ x Number of Casings 3 = Calculated. Purge _____

DATE PURGED: 6.13.00 START: _____ END (2400 hr): _____ PURGED BY: PE/JT

DATE SAMPLED: 6.13.00 START: 1010 END (2400 hr): _____ SAMPLED BY: PE/JT

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

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 7.20 1230 939 CLEAR TRACE 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
MW-13 32M	6.13.00	1010	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 2.0
HOME BUILT USING WATER BEFORE SAMPLING.

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO CA. WELL ID #: ~~MW-~~ 17197M

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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 6/13/00 START: _____ END (2400 hr): _____ PURGED BY: PE/JT

DATE SAMPLED: 6/13/00 START: 11:00 END (2400 hr): _____ SAMPLED BY: PE/JT

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

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 806 1540 71.2 CLEAR FRACE LOW

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
~~MW-~~ 17197M	6/13/00	11:00	3	40ml	VOA	HCl	GAS/BTEX

REMARKS: DO: 12.8 HOME OWNER HOOKED UP IN TO PORT TO USE WATER ON CAR- PRE PURGE

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

FIELD DATA SHEET

WATER SAMPLE FIELD DATA SHEET

PROJECT No.: 330-006.20 LOCATION: 17601 HESPERIAN BLVD SAN LORENZO (CA) WELL ID #: ~~MW~~ 17349 YM

CLIENT/STATION No.: ARCO / 0608 FIELD TECHNICIAN: PEDRO . R / JT

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 0.38 = _____ x Number of Casings 3 = Calculated Purge _____

DATE PURGED: 6/13/00 START: _____ END (2400 hr): _____ PURGED BY: PE / JT

DATE SAMPLED: 6/13/00 START: 10:40 END (2400 hr): _____ SAMPLED BY: PE / JT

TIME (2400 hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25°C)	TEMPERATURE (°F)	COLOR	TURBIDITY	ODOR
			13				

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 7.00 1300 7.08 CLEAR TRACE 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
~~MW~~ 17349YM	6/13/00	10:40	3	40ml	VOA	HCl	BTEX

REMARKS: DO: 1.6 START 1000 PUMP 6GAL
STOP 1032

SIGNATURE: _____

PACIFIC ENVIRONMENTAL GROUP, INC.

ARCO Products Company Division of AtlanticRichfieldCompany — 33000620 — **Task Order No.** 91500 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD	Project manager (Consultant) SHAW GHANGANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO) SAN LORENZO	Telephone no. (Consultant) 408 453 7300	Fax no. (Consultant) 408 453 7476
Consultant name I.T. GROUP PACIFIC ENVIRONMENTAL	Address (Consultant) 1921 RINGWOOD AV. SAN JOSE 95131		Contract number

Method of shipment

Special detection Limit/reporting

Special QA/QC

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 ☐	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 ☐
*633H		3		W		4	HCL	6/13/00	9:50		X								
*612H									11:25										
*17376VM									10:10										
*17197VM									11:00										
*17349VM									10:40										
MW5									12:15										
MW8									13:02										
MW9									12:40										
MW10									13:20										
MW11									12:02										
MW15									12:05										
MW16									11:40										
MW22									11:09										
MW25									11:55										
E/A									12:40										

Remarks: *RUN EPA 8260 ON THIS WELLS W/MTBE GRATER THAN 35 ppb

Lab number

Turnaround time

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 6/13/00 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

APC-3292 (2-91)

Sequoia Analytical

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

JUL 10 2000

29 June, 2000

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

RE: Arco
Sequoia Report: MJF0548

Enclosed are the results of analyses for samples received by the laboratory on 06/14/00 13:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ted Terrasas
Project Manager

CA ELAP Certificate #1210

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: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
633H	MJF0548-01	Water	06/13/00 09:50	06/14/00 13:55
642H	MJF0548-02	Water	06/13/00 11:25	06/14/00 13:55
17372VM	MJF0548-03	Water	06/13/00 10:10	06/14/00 13:55
17197VM	MJF0548-04	Water	06/13/00 11:00	06/14/00 13:55
17349VM	MJF0548-05	Water	06/13/00 10:40	06/14/00 13:55
MW-5	MJF0548-06	Water	06/13/00 12:15	06/14/00 13:55
MW-8	MJF0548-07	Water	06/13/00 13:02	06/14/00 13:55
MW-9	MJF0548-08	Water	06/13/00 12:40	06/14/00 13:55
MW-10	MJF0548-09	Water	06/13/00 13:20	06/14/00 13:55
MW-11	MJF0548-10	Water	06/13/00 12:22	06/14/00 13:55
MW-15	MJF0548-11	Water	06/13/00 12:05	06/14/00 13:55
MW-16	MJF0548-12	Water	06/13/00 11:40	06/14/00 13:55
MW-22	MJF0548-13	Water	06/13/00 11:09	06/14/00 13:55
MW-25	MJF0548-14	Water	06/13/00 11:55	06/14/00 13:55
E/A	MJF0548-15	Water	06/13/00 12:40	06/14/00 13:55

Ted Terrasas, Project Manager

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: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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
633H (MJF0548-01) Water Sampled: 06/13/00 09:50 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**240**	50.0	ug/l	1	0F26002	06/26/00	06/26/00	DHS LUFT	P-01
Benzene	**5.03**	0.500	"	"	"	"	"	"	
Toluene	**1.01**	0.500	"	"	"	"	"	"	
Ethylbenzene	**2.39**	0.500	"	"	"	"	"	"	
Xylenes (total)	**63.8**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**10.5**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*70-130*		"	"	"	"	
642H (MJF0548-02) Water Sampled: 06/13/00 11:25 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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		*92.5 %*	*70-130*		"	"	"	"	
17372VM (MJF0548-03) Water Sampled: 06/13/00 10:10 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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		*93.8 %*	*70-130*		"	"	"	"	

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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
17197VM (MJF0548-04) Water Sampled: 06/13/00 11:00 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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		*92.7 %*		*70-130*	"	"	"	"	
17349VM (MJF0548-05) Water Sampled: 06/13/00 10:40 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**319**	50.0	ug/l	1	0F26002	06/26/00	06/26/00	DHS LUFT	P-03
Benzene	**5.28**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**97.1**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*105 %*		*70-130*	"	"	"	"	
MW-5 (MJF0548-06) Water Sampled: 06/13/00 12:15 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**96.7**	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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	**551**	5.00	"	2	"	"	06/27/00	"	M-03
Surrogate: a,a,a-Trifluorotoluene		*95.7 %*		*70-130*	"	"	*06/26/00*	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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
MW-8 (MJF0548-07) Water Sampled: 06/13/00 13:02 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**227**	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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	**657**	5.00	"	2	"	"	06/27/00	"	M-03
Surrogate: a,a,a-Trifluorotoluene		*105 %*	*70-130*		"	"	*06/26/00*	"	
MW-9 (MJF0548-08) Water Sampled: 06/13/00 12:40 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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		*92.5 %*	*70-130*		"	"	"	"	
MW-10 (MJF0548-09) Water Sampled: 06/13/00 13:20 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**617**	50.0	ug/l	1	0F27001	06/27/00	06/27/00	DHS LUFT	P-01
Benzene	**6.82**	0.500	"	"	"	"	"	"	
Toluene	**2.77**	0.500	"	"	"	"	"	"	
Ethylbenzene	**3.07**	0.500	"	"	"	"	"	"	
Xylenes (total)	**1.92**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**437**	25.0	"	10	"	"	06/26/00	"	A-01,M-03
Surrogate: a,a,a-Trifluorotoluene		*140 %*	*70-130*		"	"	*06/27/00*	"	*S-02*

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1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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
MW-11 (MJF0548-10) Water Sampled: 06/13/00 12:22 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26002	06/26/00	06/26/00	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		*94.9 %*	*70-130*		"	"	"	"	
MW-15 (MJF0548-11) Water Sampled: 06/13/00 12:05 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26001	06/26/00	06/26/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	**0.703**	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	**0.870**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**69.8**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*111 %*	*70-130*		"	"	"	"	
MW-16 (MJF0548-12) Water Sampled: 06/13/00 11:40 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26001	06/26/00	06/26/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	**0.517**	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	**0.603**	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**6.29**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*70-130*		"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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
MW-22 (MJF0548-13) Water Sampled: 06/13/00 11:09 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26001	06/26/00	06/26/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**6.85**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*104 %*	*70-130*		"	"	"	"	
MW-25 (MJF0548-14) Water Sampled: 06/13/00 11:55 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F26001	06/26/00	06/26/00	DHS LUFT	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**77.7**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*70-130*		"	"	"	"	
E/A (MJF0548-15) Water Sampled: 06/13/00 12:40 Received: 06/14/00 13:55									
Purgeable Hydrocarbons	**262**	50.0	ug/l	1	0F26001	06/26/00	06/26/00	DHS LUFT	P-01
Benzene	**9.52**	0.500	"	"	"	"	"	"	
Toluene	**0.584**	0.500	"	"	"	"	"	"	
Ethylbenzene	**0.535**	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**534**	5.00	"	2	"	"	06/26/00	"	M-03
Surrogate: a,a,a-Trifluorotoluene		*123 %*	*70-130*		"	"	*06/26/00*	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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 0F26001 - EPA 5030B [P/T]										
Blank (0F26001-BLK1)				Prepared & Analyzed: 06/26/00						
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	*10.8*		"	*10.0*		*108*	*70-130*			
LCS (0F26001-BS1)				Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	230	50.0	ug/l	250		92.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			
Matrix Spike (0F26001-MS1)		**Source: MJF0638-01**		Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	235	50.0	ug/l	250	ND	94.0	60-140			
Surrogate: a,a,a-Trifluorotoluene	*11.3*		"	*10.0*		*113*	*70-130*			
Matrix Spike Dup (0F26001-MSD1)		**Source: MJF0638-01**		Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	237	50.0	ug/l	250	ND	94.8	60-140	0.847	25	
Surrogate: a,a,a-Trifluorotoluene	*11.2*		"	*10.0*		*112*	*70-130*			
Batch 0F26002 - EPA 5030B [P/T]										
Blank (0F26002-BLK1)				Prepared & Analyzed: 06/26/00						
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	*9.52*		"	*10.0*		*95.2*	*70-130*			

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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 0F26002 - EPA 5030B [P/T]										
LCS (0F26002-BS1)				Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	246	50.0	ug/l	250		98.4	70-130			
Surrogate: a,a,a-Trifluorotoluene	*13.5*		"	*10.0*		*135*	*70-130*			*S-02*
Matrix Spike (0F26002-MS1)		**Source: MJF0548-02**		Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	252	50.0	ug/l	250	ND	101	60-140			
Surrogate: a,a,a-Trifluorotoluene	*12.9*		"	*10.0*		*129*	*70-130*			
Matrix Spike Dup (0F26002-MSD1)		**Source: MJF0548-02**		Prepared & Analyzed: 06/26/00						
Purgeable Hydrocarbons	246	50.0	ug/l	250	ND	98.4	60-140	2.41	25	
Surrogate: a,a,a-Trifluorotoluene	*12.0*		"	*10.0*		*120*	*70-130*			
Batch 0F27001 - EPA 5030B [P/T]										
Blank (0F27001-BLK1)				Prepared & Analyzed: 06/27/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50	"							
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*70-130*			
LCS (0F27001-BS1)				Prepared & Analyzed: 06/27/00						
Benzene	10.5	0.500	ug/l	10.0		105	70-130			
Toluene	10.7	0.500	"	10.0		107	70-130			
Ethylbenzene	10.8	0.500	"	10.0		108	70-130			
Xylenes (total)	32.7	0.500	"	30.0		109	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*70-130*			

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1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

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 0F27001 - EPA 5030B [P/T]										
Matrix Spike (0F27001-MS1)		**Source: MJF0615-04**		Prepared & Analyzed: 06/27/00						
Benzene	10.0	0.500	ug/l	10.0	ND	100	60-140			
Toluene	10.0	0.500	"	10.0	ND	100	60-140			
Ethylbenzene	10.3	0.500	"	10.0	ND	103	60-140			
Xylenes (total)	30.9	0.500	"	30.0	ND	103	60-140			
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*70-130*			
Matrix Spike Dup (0F27001-MSD1)		**Source: MJF0615-04**		Prepared & Analyzed: 06/27/00						
Benzene	10.2	0.500	ug/l	10.0	ND	102	60-140	1.98	25	
Toluene	10.1	0.500	"	10.0	ND	101	60-140	0.995	25	
Ethylbenzene	10.4	0.500	"	10.0	ND	104	60-140	0.966	25	
Xylenes (total)	31.6	0.500	"	30.0	ND	105	60-140	2.24	25	
Surrogate: a,a,a-Trifluorotoluene	*10.3*		"	*10.0*		*103*	*70-130*			

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1921 Ringwood Avenue	Project Number: 17601 Hesperian Blvd, San Lorenzo	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	06/29/00 11:52

Notes and Definitions

A-01	MTBE was prepared on 6/26/00.
M-03	Sample was analyzed at a second dilution per clients request.
P-01	Chromatogram Pattern: Gasoline C6-C12
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ARCO Products Company
Division of AtlanticRichfieldCompany

3300062P

Task Order No. 24152.00

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD.	Project manager (Consultant) SHAM GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO) 510/567-8700	Telephone no. (Consultant) 408 453 7300	Fax no. (Consultant) 408/453-8269
Consultant name T.J. CROSS PACIFIC ENVIRONMENTAL	Address 1921 RINGWOOD AV. SAN JOSE 95131		Contract number

Method of shipment: MJF0548

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 ☐
*633H	01	3		W		4	HCl	6/13/00	9:50		X									
*602H	02								11:05											
*MW3	03								10:10											
*MW7	04								11:00											
*MW9	05								10:40											
MW5	06								12:15											
MW8	07								13:00											
MW9	08								12:40											
MW10	09								13:20											
MW11	10								12:00											
MW15	11								12:05											
MW16	12								11:40											
MW22	13								11:09											
MW25	14								11:55											
E/A	16								12:40											

Special detection Limit/reporting:

Special QA/QC:

Remarks: *RUN EPA 8260 ON THIS WELLS W/MTBE GRATER THAN 35 ppb

Lab number:

Turnaround time

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 6/13/00 Time 15:30	Received by	6/14/00 9:05
Relinquished by	Date 6/14/00 Time 1353	Received by	
Relinquished by	Date Time	Received by laboratory	Date 6/14/00 Time 1355

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

ARC-3292 (9-91)

ATTACHMENT C

REMEDIAL SYSTEM PERFORMANCE EVALUATION

ATTACHMENT C
REMEDIAL SYSTEM PERFORMANCE EVALUATION

REMEDIAL SYSTEM PERFORMANCE EVALUATION

Remedial action consisting of groundwater extraction (GWE) 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 remedial system was reactivated June 5, 2000 to address elevated concentrations of methyl tert-butyl ether (MtBE) during the recent quarterly monitoring event. Remedial objectives at this site include: (1) migration control of the impacted groundwater plume and (2) MtBE mass reduction. In order to evaluate treatment system performance, IT monitored well water levels, instantaneous and average extracted water flow rates, and sampled the influent and effluent of the treatment system for total purgeable petroleum hydrocarbons calculated as gasoline (TPPH-g); benzene, toluene, ethylbenzene, xylenes (BTEX compounds); and 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 June 5 to July 8, 2000 are presented below.

Description

The GWE system is comprised of an extraction well (E-1A) containing an electric submersible pump and three 1,200-pound granular activated carbon (GAC) vessels that treat the influent groundwater stream before it is discharged into the sanitary sewer. The carbon vessels are arranged in series, with valving to permit bed order rotation to maximize the useful life of the GAC. This allows for the primary vessel to become the secondary vessel after the carbon has been renewed. The third vessel serves as a polishing vessel. 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 comparisons of the groundwater elevation map (Figure 2) and the TPPH-g, benzene, and MtBE concentration

map (Figure 3) from the current quarterly groundwater monitoring event with those corresponding figures from previous monitoring events. Based on the above, IT concludes that operation of the GWE system is influencing the migration of the impacted plume.

Mass Reduction

Progress toward meeting the mass reduction objective is determined by evaluating GWE 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. During this quarter, the GWE system removed 0.5 pound (0.09 gallon) of TPPH-g; 0.01 pound (negligible gallon) of benzene; and 0.02 pound (negligible gallon) of MtBE from the impacted groundwater beneath the site. To date, GWE has removed approximately 5.4 pounds (0.9 gallon) of TPPH-g, 0.30 pound (0.04 gallon) of benzene, and 0.018 pound (0.0025 gallon) of MtBE from impacted groundwater beneath the site. MtBE was not a constant of concern prior during the last phase of GWE system operation and therefore was not quantified. Mass removal data for the GWE system are presented in Table C-1. Treatment system certified analytical reports, chain-of-custody documentation, and field data sheets are presented as Attachment D. Cumulative progress toward site remediation is presented in the following table.

	Mass Removed 06/05/00 to 07/08/00		Cumulative	
Analyte	(lbs)	(gal)	(lbs)	(gal)
Groundwater Extraction				
TPPH-g	0.5	0.09	5.4	0.9
Benzene	0.01	<0.01	0.30	0.04
MtBE*	<0.02	<0.01	<0.02	<0.01

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

Graphs of MtBE mass removal rate and concentration versus time are shown on Figures C-1 and C-2, respectively.

Groundwater Extraction System Operational Data

The GWE system was 96 percent operational during the reporting period. The GWE system was reactivated on June 5, 2000. During the reporting period, the GWE system discharged treated groundwater at an average operational flow rate of approximately 1.7 gallons per minute (gpm) for a period discharge of 154,960 gallons. The instantaneous groundwater system flow rate ranged from 2.0 to 4.0 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.

Table C-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-g Influent Concentration (µg/L)	TPPH-g Net Removed (pounds)	TPPH-g 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)	TPPH-g Primary Carbon Loading (%)
09/25/91	0	N/A	0	0	0.0	ND	N/A	0.0	N/A	0.00	0.00	N/A	N/A	N/A	0.0
10/22/91	26	96	12,844	11,700	7.6	ND	N/A	0.0	ND	0.00	0.00	N/A	N/A	N/A	0.0
12/19/91	322	62	122,540	70,008	4.8	ND	N/A	0.0	ND	0.00	0.00	N/A	N/A	N/A	0.0
02/19/92	1,809	0	485,200	201,911	4.1	370	0.3	0.3	14	0.01	0.01	N/A	N/A	N/A	0.4
04/15/92	3,150	1	851,100	188,253	4.6	200	0.3	1.0	11	0.02	0.06	N/A	N/A	N/A	1.2
06/19/92	4,712	0	1,229,960	199,874	3.9	ND	N/A	1.2	ND	0.00	0.07	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	1.2	ND	0.01	0.09	N/A	N/A	N/A	1.5
10/16/92	7,012	4	1,851,623	115,983	2.7	ND	N/A	1.2	ND	0.00	0.09	N/A	N/A	N/A	1.5
12/17/92	8,502	0	1,864,300	96,224	2.3	96	0.0	1.2	7.7	0.00	0.09	N/A	N/A	N/A	1.5
02/22/93	9,607	0	2,096,930	181,765	3.7	480	0.4	1.7	36	0.04	0.13	N/A	N/A	N/A	2.1
04/09/93	10,517	33	2,298,770	92,937	3.8	140	0.2	2.2	11	0.02	0.18	N/A	N/A	N/A	2.8
06/04/93	11,734	1	2,543,500	94,340	3.0	170	0.3	2.9	5.2	0.01	0.21	N/A	N/A	N/A	3.7
08/16/93	13,219	0	2,791,366	101,669	2.6	150	0.1	3.3	4.9	0.01	0.23	N/A	N/A	N/A	4.1
10/08/93	14,485	1	2,951,737	67,001	1.9	ND	0.0	3.4	ND	0.00	0.24	N/A	N/A	N/A	4.3
12/21/93	16,260	0	3,113,565	77,533	1.7	73	0.0	3.5	3.5	0.00	0.24	N/A	N/A	N/A	4.3
02/17/94	17,658	0	3,273,720	82,820	1.9	ND	0.0	3.5	2.5	0.00	0.24	N/A	N/A	N/A	4.4
04/21/94	18,849	31	3,418,537	74,288	2.0	110	0.0	3.5	7.8	0.00	0.24	N/A	N/A	N/A	4.4
06/14/94	19,680	57	3,518,608 a	39,698	2.0	230	0.1	3.7	12	0.00	0.25	N/A	N/A	N/A	4.6
08/17/94	20,920	5	51,260 c	91,580 c	2.0	ND	0.1	3.9	1.8	0.00	0.26	N/A	N/A	N/A	4.9
10/18/94	22,408	1	211,880	90,970	1.8	ND	0.0	3.9	ND	0.00	0.26	N/A	N/A	N/A	4.9
12/05/94	23,489	15	325,830	44,990	1.8	470	0.1	4.0	32	0.01	0.27	N/A	N/A	N/A	5.0
02/06/95	24,926	9	499,690	90,950	2.1	100	0.0	4.2	2.4	0.00	0.28	N/A	N/A	N/A	5.2
04/04/95	26,253	1	672,510	103,330	2.2	290	0.1	4.3	6.6	0.00	0.28	N/A	N/A	N/A	5.4
06/05/95	27,721	2	848,810	88,460	1.9	ND	0.1	4.6	ND	0.00	0.29	N/A	N/A	N/A	5.8
08/21/95 d	29,568	0	993,320	72,060	1.1	230	0.2	4.9	1.8	0.00	0.29	N/A	N/A	N/A	6.1
06/05/00	29,593	0	979,800	3,200	N/A	700	0.0	4.9	7.2	0.00	0.29	361	0.01	0.010	N/A

Table C-1 (continued)
Groundwater Extraction System Performance Data

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

						TPPH-g			Benzene			MtBE			TPPH-g
Influent Sample Date	Hour Meter Reading (hours)	System Down Time (%)	Volume Reading (gallons)	Net Volume (gallons)	Average Flow (gpm)	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)	Primary Carbon Loading (%)
[redacted]															

TPPH-g = Total purgeable petroleum hydrocarbons calculated as gasoline
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.

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.

Primary carbon loading estimated using isotherm of 8 percent by weight.

[redacted]

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

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	0.5	<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	270	14	0.34	1.6	2.4	NS
03/17/92	160	18	0.32	0.56	1.6	NS
04/14/92	200	11	<0.3	1.3	0.77	NS
05/14/92	45	1.4	<0.3	<0.3	<0.3	NS
06/18/92	<30	0.5	<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
10/19/92	<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	58	2.7	0.7	0.58	2.7	NS
01/18/93	100	13	6.6	1.1	11	NS
02/22/93	180	15	2.5	2.3	9.6	NS
03/15/93	310	29	14	4.9	55	NS
04/09/93	140	11	2.8	2.6	12	NS
05/13/93	530	27	12	18	96	NS
06/04/93	170	5.2	1.0	2.5	23	NS
07/20/93	200	12	0.91	8.2	29	NS
08/10/93	100	4.9	0.63	2.9	15	NS
09/13/93	80	2.2	<0.5	<0.5	4.8	NS
10/07/93	<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	70	3.5	0.6	1.0	5.4	NS
01/18/94	60	3.1	<0.5	3.2	4.3	NS
02/17/94	<50	2.5	<0.5	2.1	2.7	NS
03/15/94	<50	<0.5	<0.5	<0.5	<0.5	NS
04/20/94	110	7.3	0.7	3.5	11	NS
05/13/94	230	8.3	<0.5	14	6.0	NS
06/14/94	230	12	0.7	6.5	6.5	NS
07/14/94	270	6.9	<0.5	15	1.9	NS
08/18/94	<50	<0.5	<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	0.53	<0.5	NS
11/05/94	<50	0.66	<0.5	2.6	<0.5	NS
12/05/94	170	3.3	0.50	21	0.62	NS
01/04/95	<50	1.1	<0.50	1.4	<0.50	NS
02/03/95	100	2.4	1.1	2.5	2.8	NS
03/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
04/04/95	250	6.5	0.53	10	3.7	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	1.6	<0.50	7.5	0.7	NS
06/05/00	700	7.2	<1.00	2.1	<1.0	361

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

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.)						
07/06/00	133	5.1	0.3	<0.50	<0.50	272
MID-1 (between 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
01/16/92	<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
03/18/93	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
11/15/94	NS	NS	NS	NS	NS	NS
12/05/94	NS	NS	NS	NS	NS	NS
01/01/95	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
07/06/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
EFFL (effluent to sewer)						
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
11/22/91	<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	<50	<0.5	<0.5	<0.5	<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	<50	<0.5	<0.5	<0.5	<0.5	NS
01/18/93	<50	<0.5	<0.5	<0.5	<0.5	NS

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

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.)						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
03/15/93	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
05/13/93	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
07/20/93	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
09/13/93	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
11/19/93	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
01/18/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
03/15/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
05/13/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
07/14/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
09/12/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
11/05/94	<50	<0.5	<0.5	<0.5	<0.5	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
01/04/95	<50	<0.50	<0.50	<0.50	<0.50	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
03/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
05/02/95	<50	<0.50	<0.50	<0.50	<0.50	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
07/06/95	<50	<0.50	<0.50	<0.50	<0.50	NS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NS
06/05/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
[illegible]	[illegible]	NS	NS	NS	NS	NS
07/08/00	<50	<0.50	<0.50	<0.50	<0.50	<2.5

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

Figure C-1
Mass Removal Trends for the Groundwater Extraction System
MtBE

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

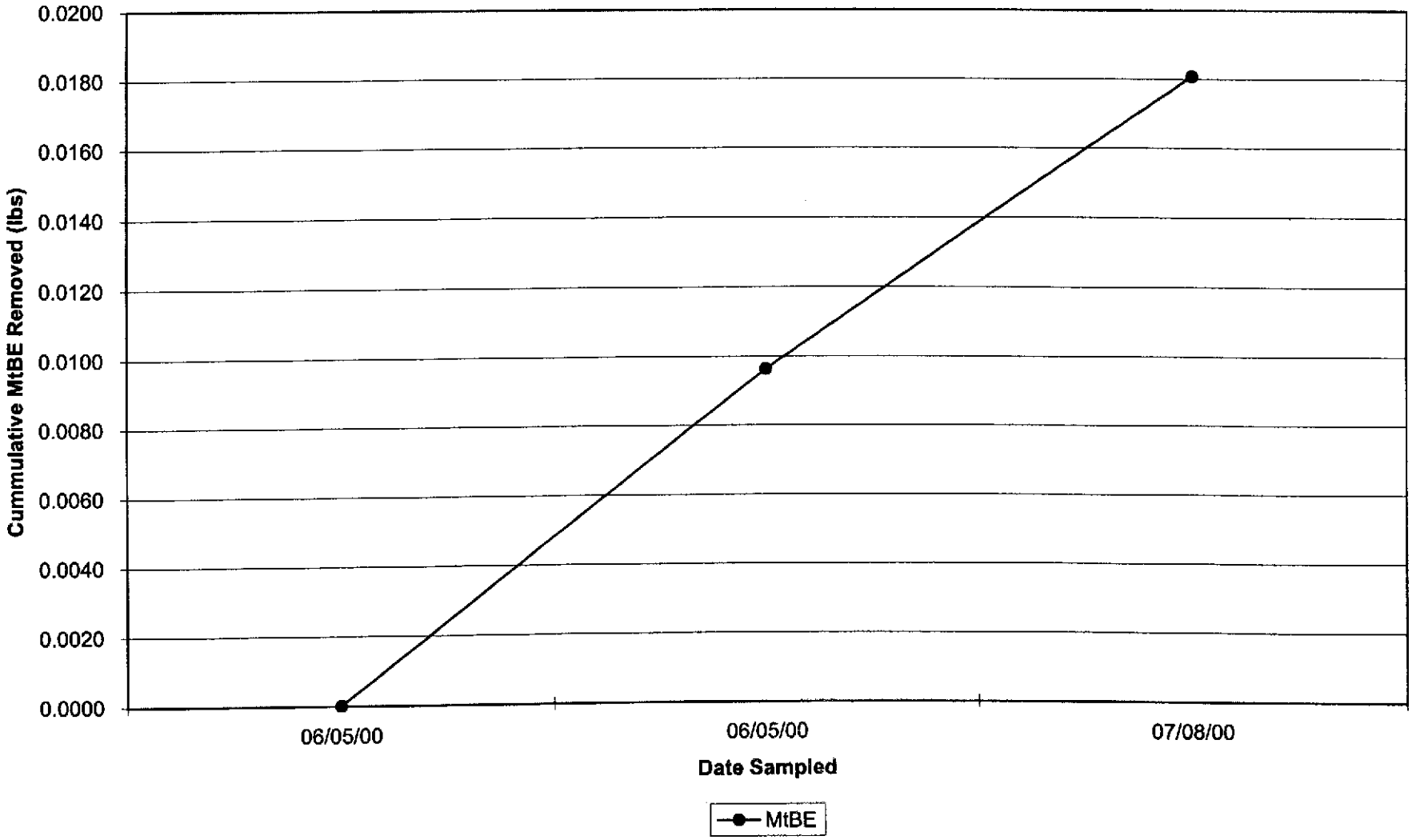
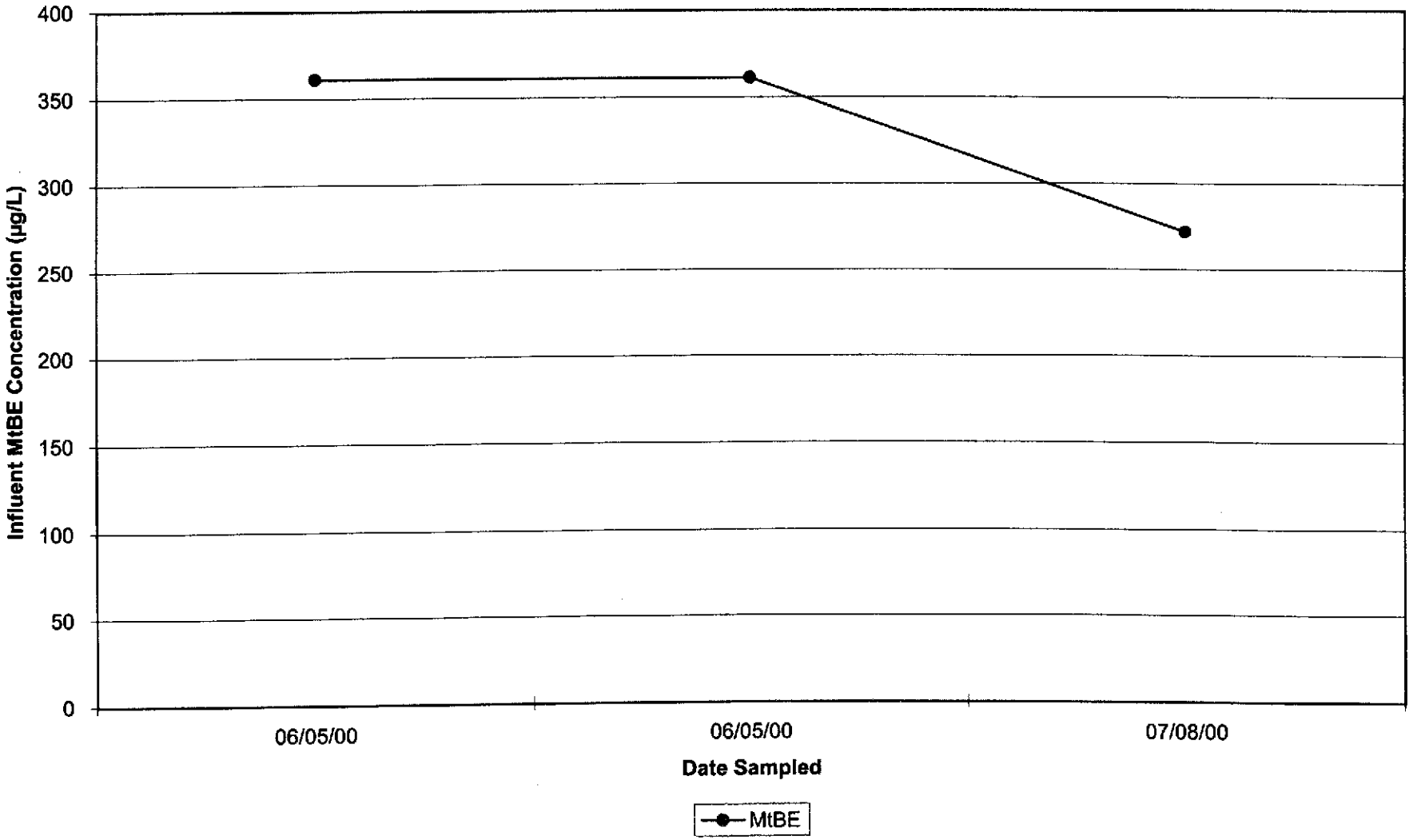


Figure C-2
Concentration Trend for the Groundwater Extraction System
MtBE

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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20 July, 2000

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

RE: Arco
Sequoia Report: MJF0182

Enclosed are the results of analyses for samples received by the laboratory on 06/06/00 10:54. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ted Terrasas
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INFL	MJF0182-01	Water	06/05/00 00:00	06/06/00 10:54
EFFL	MJF0182-02	Water	06/05/00 00:00	06/06/00 10:54
Mid-1	MJF0182-03	Water	06/05/00 00:00	06/06/00 10:54
Mid-2	MJF0182-04	Water	06/05/00 00:00	06/06/00 10:54

Ted Terrasas, Project Manager

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

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 (MJF0182-01) Water Sampled: 06/05/00 00:00 Received: 06/06/00 10:54									
Purgeable Hydrocarbons	**700**	100	ug/l	2	0F12002	06/12/00	06/12/00	DHS LUFT	P-03
Benzene	**7.24**	1.00	"	"	"	"	"	"	
Toluene	ND	1.00	"	"	"	"	"	"	
Ethylbenzene	**2.11**	1.00	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Methyl tert-butyl ether	**361**	5.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*104 %*	*70-130*		"	"	"	"	
EFFL (MJF0182-02) Water Sampled: 06/05/00 00:00 Received: 06/06/00 10:54									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F08002	06/08/00	06/08/00	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		*102 %*	*70-130*		"	"	"	"	
Mid-1 (MJF0182-03) Water Sampled: 06/05/00 00:00 Received: 06/06/00 10:54									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F08003	06/08/00	06/08/00	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		*87.0 %*	*70-130*		"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

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
Mid-2 (MJF0182-04) Water Sampled: 06/05/00 00:00 Received: 06/06/00 10:54									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F08003	06/08/00	06/09/00	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		*83.5 %*		*70-130*	"	"	"	"	

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

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 0F08002 - EPA 5030B [P/T]										
Blank (0F08002-BLK1)				Prepared & Analyzed: 06/08/00						
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 (0F08002-BS1)				Prepared & Analyzed: 06/08/00						
Benzene	10.3	0.500	ug/l	10.0		103	70-130			
Toluene	10.0	0.500	"	10.0		100	70-130			
Ethylbenzene	9.49	0.500	"	10.0		94.9	70-130			
Xylenes (total)	29.7	0.500	"	30.0		99.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	*11.2*		"	*10.0*		*112*	*70-130*			
Matrix Spike (0F08002-MS1)		**Source: MJF0182-02**		Prepared & Analyzed: 06/08/00						
Benzene	10.2	0.500	ug/l	10.0	ND	102	60-140			
Toluene	9.94	0.500	"	10.0	ND	99.4	60-140			
Ethylbenzene	9.60	0.500	"	10.0	ND	96.0	60-140			
Xylenes (total)	29.5	0.500	"	30.0	ND	98.3	60-140			
Surrogate: a,a,a-Trifluorotoluene	*11.1*		"	*10.0*		*111*	*70-130*			
Matrix Spike Dup (0F08002-MSD1)		**Source: MJF0182-02**		Prepared & Analyzed: 06/08/00						
Benzene	9.37	0.500	ug/l	10.0	ND	93 7	60-140	8.48	25	
Toluene	9.02	0.500	"	10.0	ND	90.2	60-140	9.70	25	
Ethylbenzene	8.57	0.500	"	10.0	ND	85.7	60-140	11.3	25	
Xylenes (total)	26.9	0.500	"	30.0	ND	89.7	60-140	9.22	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: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

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 0F08003 - EPA 5030B [P/T]										
Blank (0F08003-BLK1)				Prepared & Analyzed: 06/08/00						
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	*9.42*		"	*10.0*		*94.2*	*70-130*			
LCS (0F08003-BS1)				Prepared & Analyzed: 06/08/00						
Purgeable Hydrocarbons	219	50.0	ug/l	250		87.6	70-130			
Surrogate: a,a,a-Trifluorotoluene	*13.0*		"	*10.0*		*130*	*70-130*			
Batch 0F12002 - EPA 5030B [P/T]										
Blank (0F12002-BLK1)				Prepared & Analyzed: 06/12/00						
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	*9.19*		"	*10.0*		*91.9*	*70-130*			
LCS (0F12002-BS1)				Prepared & Analyzed: 06/12/00						
Benzene	9.76	0.500	ug/l	10.0		97.6	70-130			
Toluene	9.75	0.500	"	10.0		97.5	70-130			
Ethylbenzene	9.63	0.500	"	10.0		96.3	70-130			
Xylenes (total)	29.4	0.500	"	30.0		98.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.36*		"	*10.0*		*93.6*	*70-130*			

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

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 0F12002 - EPA 5030B [P/T]										
Matrix Spike (0F12002-MS1)		**Source: MJF0264-02**		Prepared & Analyzed: 06/12/00						
Benzene	9.76	0.500	ug/l	10.0	ND	97.6	60-140			
Toluene	9.65	0.500	"	10.0	ND	96.5	60-140			
Ethylbenzene	9.61	0.500	"	10.0	ND	96.1	60-140			
Xylenes (total)	28.1	0.500	"	30.0	ND	93.7	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.30*		"	*10.0*		*93.0*	*70-130*			
Matrix Spike Dup (0F12002-MSD1)		**Source: MJF0264-02**		Prepared & Analyzed: 06/12/00						
Benzene	9.99	0.500	ug/l	10.0	ND	99.9	60-140	2.33	25	
Toluene	10.0	0.500	"	10.0	ND	100	60-140	3.56	25	
Ethylbenzene	9.95	0.500	"	10.0	ND	99.5	60-140	3.48	25	
Xylenes (total)	30.1	0.500	"	30.0	ND	100	60-140	6.87	25	
Surrogate: a,a,a-Trifluorotoluene	*9.62*		"	*10.0*		*96.2*	*70-130*			

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:25

Notes and Definitions

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

Sequoia
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20 July, 2000

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

RE: Arco
Sequoia Report: MJF0451

Enclosed are the results of analyses for samples received by the laboratory on 06/13/00 13:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ted Terrasas
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EFFL	MJF0451-01	Water	06/12/00 00:00	06/13/00 13:49

Ted Terrasas, Project Manager

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:26

Total Purgeable Hydrocarbons by DHS LUFT

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EFFL (MJF0451-01) Water Sampled: 06/12/00 00:00 Received: 06/13/00 13:49									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0F20009	06/20/00	06/20/00	DHS LUFT	
Surrogate: a,a,a-Trifluorotoluene		*98.7 %*	*70-130*		"	"	"	"	

Sequoia Analytical

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:26

Total Purgeable Hydrocarbons 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 0F20009 - EPA 5030B [P/T]										
Blank (0F20009-BLK1)				Prepared & Analyzed: 06/20/00						
Purgeable Hydrocarbons	ND	50.0	ug/l							
Surrogate: a,a,a-Trifluorotoluene	*9.98*		"	*10.0*		*99.8*	*70-130*			
LCS (0F20009-BS1)				Prepared & Analyzed: 06/20/00						
Purgeable Hydrocarbons	229	50.0	ug/l	250		91.6	70-130			
Surrogate: a,a,a-Trifluorotoluene	*13.1*		"	*10.0*		*131*	*70-130*			*S-02*
Matrix Spike (0F20009-MS1)		**Source: MJF0359-04**		Prepared & Analyzed: 06/20/00						
Purgeable Hydrocarbons	277	50.0	ug/l	250	ND	111	60-140			
Surrogate: a,a,a-Trifluorotoluene	*13.2*		"	*10.0*		*132*	*70-130*			*S-02*
Matrix Spike Dup (0F20009-MSD1)		**Source: MJF0359-04**		Prepared & Analyzed: 06/20/00						
Purgeable Hydrocarbons	278	50.0	ug/l	250	ND	111	60-140	0.360	25	
Surrogate: a,a,a-Trifluorotoluene	*13.9*		"	*10.0*		*139*	*70-130*			*S-02*

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Pacific Environmental Group (Arco)	Project: Arco	
1921 Ringwood Avenue	Project Number: 33000620	**Reported:**
San Jose CA, 95131	Project Manager: Shaw Garakani	07/20/00 17:26

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Sequoia
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26 July, 2000

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

RE: Arco
Sequoia Report: MJG0193

Enclosed are the results of analyses for samples received by the laboratory on 07/10/00 12:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ted Terrasas
Project Manager

CA ELAP Certificate #1210

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	07/26/00 19:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INFL	MJG0193-01	Water	07/08/00 00:00	07/10/00 12:15
EFFL	MJG0193-02	Water	07/08/00 00:00	07/10/00 12:15
MID 1	MJG0193-03	Water	07/08/00 00:00	07/10/00 12:15

Ted Terrasas, Project Manager

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	07/26/00 19:05

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 (MJG0193-01) Water Sampled: 07/08/00 00:00 Received: 07/10/00 12:15									
Purgeable Hydrocarbons	**133**	50.0	ug/l	1	0G17002	07/17/00	07/17/00	DHS LUFT	P-01
Benzene	**5.09**	0.500	"	"	"	"	"	"	
Toluene	**0.598**	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	0.500	"	"	"	"	"	"	
Methyl tert-butyl ether	**272**	2.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*70-130*		"	"	"	"	
EFFL (MJG0193-02) Water Sampled: 07/08/00 00:00 Received: 07/10/00 12:15									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0G18002	07/18/00	07/18/00	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		*95.1 %*	*70-130*		"	"	"	"	
MID 1 (MJG0193-03) Water Sampled: 07/08/00 00:00 Received: 07/10/00 12:15									
Purgeable Hydrocarbons	ND	50.0	ug/l	1	0G17002	07/17/00	07/17/00	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		*91.1 %*	*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	07/26/00 19:05

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EFFL (MJG0193-02) Water	**Sampled: 07/08/00 00:00**	**Received: 07/10/00 12:15**							
Chemical Oxygen Demand	**32.1**	20.0	mg/l	1	0G14018	07/14/00	07/14/00	EPA 410.4	
Total Suspended Solids	ND	10.0	"	"	0G11018	07/10/00	07/10/00	EPA 160.2	

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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	07/26/00 19:05

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 0G17002 - EPA 5030B [P/T]										
Blank (0G17002-BLK1)				Prepared & Analyzed: 07/17/00						
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	*9.90*		"	*10.0*		*99.0*	*70-130*			
LCS (0G17002-BS1)				Prepared & Analyzed: 07/17/00						
Purgeable Hydrocarbons	226	50.0	ug/l	250		90.4	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.6*		"	*10.0*		*106*	*70-130*			
Matrix Spike (0G17002-MS1)		**Source: MJG0193-03**		Prepared & Analyzed: 07/17/00						
Purgeable Hydrocarbons	240	50.0	ug/l	250	ND	96.0	60-140			
Surrogate: a,a,a-Trifluorotoluene	*10.6*		"	*10.0*		*106*	*70-130*			
Matrix Spike Dup (0G17002-MSD1)		**Source: MJG0193-03**		Prepared & Analyzed: 07/17/00						
Purgeable Hydrocarbons	234	50.0	ug/l	250	ND	93.6	60-140	2.53	25	
Surrogate: a,a,a-Trifluorotoluene	*10.4*		"	*10.0*		*104*	*70-130*			
Batch 0G18002 - EPA 5030B [P/T]										
Blank (0G18002-BLK1)				Prepared & Analyzed: 07/18/00						
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	*10.3*		"	*10.0*		*103*	*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	07/26/00 19:05

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 0G18002 - EPA 5030B [P/T]										
LCS (0G18002-BS1)				Prepared & Analyzed: 07/18/00						
Purgeable Hydrocarbons	251	50.0	ug/l				70-130			
Surrogate: a,a,a-Trifluorotoluene	*11.0*		"	*10.0*		*110*	*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	07/26/00 19:05

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 0G11018 - General Preparation										
Blank (0G11018-BLK1)				Prepared & Analyzed: 07/10/00						
Total Suspended Solids	ND	10.0	mg/l							
Duplicate (0G11018-DUP1)		**Source: MJG0188-01**		Prepared & Analyzed: 07/10/00						
Total Suspended Solids	ND	10.0	mg/l		ND				20	
Batch 0G14018 - General Preparation										
Blank (0G14018-BLK1)				Prepared & Analyzed: 07/14/00						
Chemical Oxygen Demand	ND	20.0	mg/l							
LCS (0G14018-BS1)				Prepared & Analyzed: 07/14/00						
Chemical Oxygen Demand	96.3	20.0	mg/l	100		96.3	80-120			
Matrix Spike (0G14018-MS1)		**Source: MJG0193-02**		Prepared & Analyzed: 07/14/00						
Chemical Oxygen Demand	111	20.0	mg/l	100	32.1	78.9	75-125			
Matrix Spike Dup (0G14018-MSD1)		**Source: MJG0193-02**		Prepared & Analyzed: 07/14/00						
Chemical Oxygen Demand	114	20.0	mg/l	100	32.1	81.9	75-125	2.67	20	

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	07/26/00 19:05

Notes and Definitions

P-01	Chromatogram Pattern: Gasoline 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.

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD, LA	Project manager (Consultant) JIM GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name IT GROUP	Address (Consultant) 921 RIVERWOOD AVE, SUNNYVALE 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 ☐	COD	T.S.S.
WFL	01	3		W		4	HCl	7-08-00	NA		X											
EFFL	02	6		↓		↓	H2SO4 HNO3	↓	↓		↓										X	X
MID1	03	3		↓		↓	HCl	↓	↓		★											

Special detection Limit/reporting

10 12 15

Special QA/QC

Remarks

Lab number

Turnaround time

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

Method of shipment: MJG0193

Condition of sample:

Temperature received:

	Date	Time
Relinquished by sampler	7-08-00	16:00
Relinquished by	7/10/00	
Relinquished by		

	Date	Time
Received by	7/10/00	9:20
Received by (MH)	7/10/00	12:15
Received by laboratory		

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

APC-3292 (2-91)

ARCO Products Company Division of AtlanticRichfieldCompany — **Chain of Custody**

Task Order No. 809628

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD	Project manager (Consultant) SHAW GHASSAEI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) 408) 453-7300	Fax no. (Consultant) 408) 437-9526
Consultant name IT GROUP		Address (Consultant) 1921 RINGWOOD AV. 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 8020/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM5520E	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 ☐		
WFL		3		W		Y	HCL	7080	NA		X											
EFFL		6		↓		↓	H2SO4 HCL NP	↓	↓		↓										XX	
MW1		3		↓		↓	HCL	↓	↓		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:

Temperature received:

	Date	Time		Date	Time
Relinquished by sampler	7-0800	10:00	Received by	7/10/00	9:20
Relinquished by			Received by		
Relinquished by			Received by laboratory		

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

APC-3292 (2-91)

FIELD SERVICES / O&M REQUEST

Work Order # 5844

SITE INFORMATION FORM

Identification

Project # 330006.2Q

Station # ARCO 608

Site Address: 17601 Hesperian San Leandro CA

County: Alameda

Project Manager: Shaw Garakani

Requestor: Don Waterpaugh

Client: ARCO

Project Type

- ☐ 1st Time Visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☐ One time event
- ☐ Other: _____

Client P.O.C.: _____

Date of Request 6/2/00

Ideal field date(s): Has to be 6/5/00

Check Appropriate Category

Budget Hrs. _____

Actual Hrs. 5

Mob de Mob _____

Field Tasks: For General Description

circle one:
Priority: 1. (emergency, must be done within 24 hrs); 2. (next visit); 3. (when available)

1) Meet PAC BELL TECH. @ site between 13:00 - 17:00 June 5 make for telephone hook up. May need access to compound.
Work order # N1835368?
- Find out what the new number will be.

2) IF we get analyticals back from the start up sampling take the water trailer with 500 gallons and pump through System and then turn the system back ON!
- Fill out a data sheet, gauge well draw down etc.
Take INF1, mid 1 & mid 2, EFF1 TPHg/BTEX/MtBE Rej TOT

3) Call Engineer

Comments, remarks, etc. from Field Staff (include problems encountered and out-of-scope work)

TASK Completed See O&M Sheet Attach.

☐ Samples taken ☐ Samples not required ☐ Soil Vapor ☐ Groundwater

☐ Weekly ☐ Semi-Monthly ☐ Monthly ☐ Quarterly ☐ Semi-Annual

PACIIFIC ENVIRONMENTAL GROUP, INC.

Completed by: _____ Date: 6500

Checked by: _____

White Copy - Originator | Yellow Copy - O & M Tech | Pink Copy - File

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Request Frequency:Monthly

Project #	330-006.2Q
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:	June 1,2000
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 Hr	Actual Hr	Mob-demob Mobs	Completed (Y/N)
GWE (A,B,C,D,F)	Monthly†				YES
GWE (E,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-annually = N/A

Field Technician Response:

Completed by: Pedro E. Ruiz Date: 6-5-00
Arrival time:_____ Departure time:_____
Sample this visit?: YES Engineer contacted? YES.

Date:_____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.2Q
June 1, 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: 10 MICRON (ROSEDALE PRODUCTS) MODEL B-30-3P-2-CBS-B.

PART A: SYSTEM DATA

System on upon arrival? NO (start up) (if no, specify reason in comments)

ELECTRIC METER READING (kw hrs)	27387	HOUR METER READING (hrs)	295924

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	*097660	097980
FILTER INLET PRESSURE (psig)	4.8 PSI	(ideal range: 8 to 12 psig)
CARBON #1 INLET PRESSURE (psig)	5 PSI	(ideal range: 5 to 9 psig)
CARBON #2 INLET PRESSURE (psig)	4 PSI	(ideal range: 1 to 4 psig)
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig)

PART B: COMMENTS *Totalizer Reading after pumping through 500 Gal. Frac trailer. Start system at 14:45 CET system Run until 15:45. Sample at 16:00 Gage Drawdown on well while system was running.
Pacific Bell Show up. For telephone Hookup at. 16:40 Leave site at 17:00 New # 2781281

PART C: WELL DATA

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

E-1A	22.40 ft. 2450 L.	09977003-1 GPM		

PART D: SAMPLING and READINGS

INFLUENT	TPH-gasoline, BTEX compounds, MTBE	YES
EFFLUENT	TPH-gasoline, BTEX compounds, MTBE	YES
MID 1	TPH-gasoline, BTEX compounds, MTBE	YES

M:DQ

	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT	71.7	1330	7.19	1.0 PPM

PART E: SAMPLING & READINGS

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT **(Quarterly)**	COD, SS	

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?	2	CHANGE FILTERS? (if necessary)	N
SWEEP ENCLOSURE	N CLEAN		

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

ARCO Products Company ◆ Division of AtlanticRichfieldCompany — **Task Order No.** 330006.2 — **Chain of Custody**

ARCO Facility no. 0608	City (Facility) 7601 Hesperian Blvd San Lorenzo	Project manager (Consultant) Shaw Chaknan	Laboratory name Sequoia
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) 408) 453-7300	Fax no. (Consultant) 408) 437-9520	Contract number
Consultant name IT Group Pacific Environmental	Address (Consultant) 1921 Ringwood Av San Jose CA 95131		Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015 MTBE	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
INFL		3		W		4	HCl	6/6/00	7:30 AM		X											
EFFL		↓		↓		↓	↓	↓	↓		↓											
MW1		↓		↓		↓	↓	↓	↓		↓											
MW2		↓		↓		↓	↓	↓	↓		↓											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 6/6/00 Time 7:30	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

APC-3292 (2-91)

Date: 6-19-00

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.2Q
June 1, 2000

System Description:

Groundwater Pumps

Well	Type	Size	Control	Depth
E-1A	Electric	3"	panel	23.9'

Carbon Vessels: Three ASC-1,200
Filter: _____

PART A: SYSTEM DATA

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

ELECTRIC METER READING (kw hrs)		HOUR METER READING (hrs)	29896

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	105231	105239
FILTER INLET PRESSURE (psig)	4	(ideal range: 8 to 12 psig) 4
CARBON #1 INLET PRESSURE (psig)	6	(ideal range: 5 to 9 psig) 5
CARBON #2 INLET PRESSURE (psig)	6	(ideal range: 1 to 4 psig) 5
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS CHANGE Filter SOCK
MAY NEED A NEW GASKET FOR
THE FILTER HOUSING.

Work Order #_____

FIELD SERVICES / ROUTINE O&M REQUEST

Identification

Request Frequency:Monthly

Project #	330-006.2Q
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:	June 1,2000
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,D,E,F)	Monthly†				
GWE (G)	Quarterly†				

† = sampling to be performed

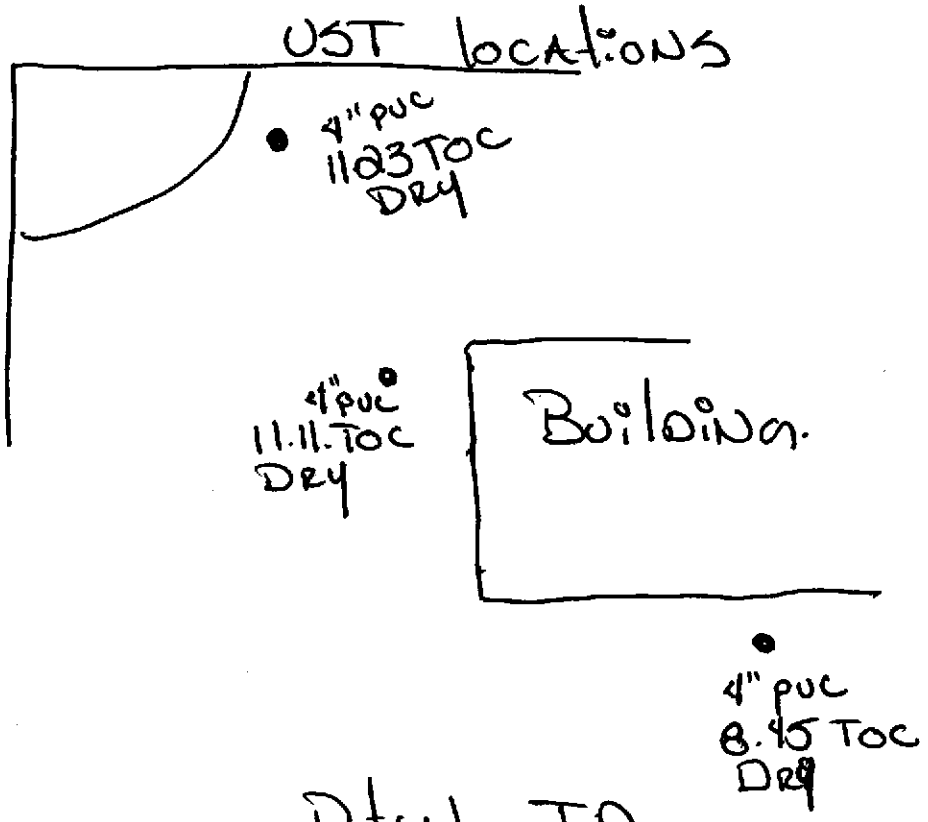
Definition of frequencies:
weekly = N/A
monthly = once a month on week 2
quarterly = on months 3,6,9,12
semi-annually = N/A

Field Technician Response:

Completed by: _____ Date: 6-28-00
Arrival time: _____ Departure time: _____
Sample this visit?: NO Engineer contacted? YES

UST SCREEN
SCREEN START AT
1' & 2' FROM GRADE

UST locations



		DTW	TD
4"	MW-5	11.68	13.65
3"	MW-8	10.28	20.96
2"	SV-1	11.27	12.50
	SV-2	11.26	20.34

PACIFIC ENVIRONMENTAL GROUP, INC.	Project No: 330006.20	Figure No:	Date: 6-28-00
			Drawn By:
Title:			

Date:_____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.2Q
June 1, 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

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

ELECTRIC METER READING (kw hrs)	276226	HOUR METER READING (hrs)	3000004

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	108212	108234
FILTER INLET PRESSURE (psig)	6	(ideal range: 8 to 12 psig)
CARBON #1 INLET PRESSURE (psig)	5	(ideal range: 5 to 9 psig)
CARBON #2 INLET PRESSURE (psig)	5	(ideal range: 1 to 4 psig)
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig)

PART B: COMMENTS

- Put together Fittings To Pump Purge Water Through Filter.
- Also Fittings for Pressure Relief & Gage (PSI)

PART C: WELL DATA

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

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

PART D: SAMPLING and READINGS

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

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

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?		CHANGE FILTERS? (if necessary)	~~YES~~ NO
SWEEP ENCLOSURE		PUMP AMP DRAW	05.6

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

FIELD SERVICES REQUEST

SITE INFORMATION FORM

Identification

Project # 330-006.2Q

Station ID #0608

Site Address: 17601 Hesperian Blvd, Oakland

Lab: Sequoia

County: Alameda

Project Manager: Shaw Garakani

Requester: Don Watenpaugh

Client: ARCO

Client P.O.C: MIKE WHELAN

Date of Request: June 9, 2000

Project Type

- ☐ Operation & Maintenance
- ☒ Sampling
- ☐ 1st time visit
- ☐ Quarterly
  - ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- ☐ Monthly
- ☐ Semi-Monthly
- ☐ Weekly
- ☒ One time event
- ☐ Other:

Ideal field date: **6/12/2000**

Check Appropriate Category

- X In Budget Site Visit
- ☐ Out of Budget Site Visit

Budget Hours: 3

Actual Hours:

Mob de Mob:

Site Safety Concerns

STANDARD

Field Tasks General Description

OBJECTIVE: Week 1 resample of system effluent.

1) Collect an effluent sample for TPH (3 VOA's HCL presev.)
2) Submit sample to Sequoia on a 5 day TAT.
3) Take Box of Filter Bags to site.

Comments, remarks from field staff

Completed By: _____ Date: _____

Pacific Environmental Group, Inc.

. Date:_____

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
330-006.2Q
June 1, 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: _____

PART A: SYSTEM DATA

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

ELECTRIC METER READING (kw hrs)	6-13 at 9:00AM 27494	HOUR METER READING (hrs)	29732(7)

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	102290(0)	102304(0)
FILTER INLET PRESSURE (psig)	22 psi	(ideal range: 8 to 12 psig) 6-9 psi
CARBON #1 INLET PRESSURE (psig)	9	(ideal range: 5 to 9 psig) 5-6
CARBON #2 INLET PRESSURE (psig)	8	(ideal range: 1 to 4 psig) 6
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS_____

PART C: WELL DATA

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

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

PART D: SAMPLING and READINGS

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

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

PART E: SAMPLING & READINGS

SAMPLE	ANALYSIS	COMPLETED
EFFLUENT (Quarterly)	COD, SS	

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?		CHANGE FILTERS? (if necessary)	
SWEEP ENCLOSURE		PUMP AMP DRAW	

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

ARCO Products Company
Division of AtlanticRichfieldCompany

330000620 Task Order No.

Chain of Custody

ARCO Facility no. 0008	City (Facility) 7601 HESPERIAN BLVD	Project manager (Consultant) SHAWN GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO) SAN LEANDRO	Telephone no. (Consultant) 408 453 7300	Fax no. (Consultant) 408 437 9526
Consultant name PACIFIC ENVIRONMENTAL GROUP	Address (Consultant) 1921 RINGWOOD AVE 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 ☐		
ETFL		3		W		4	HCl	6/12/00	NA			X										

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks
TPH-DMO.

Lab number

Turnaround time

Priority Rush 1 Business Day ☐

Rush 2 Business Days ☐

Expedited 5 Business Days ☒

Standard 10 Business Days ☐

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 6/12/00 Time 17:30	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
APC-3292 (2-91)

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:	July 6,2000
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,D,E,F)	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-annually = N/A

Field Technician Responsibilities:

Completed by:_____ Date: 7-08-00
Arrival time:_____ Departure time:_____
Sample this visit?:_____ Engineer contacted?_____

Date: 7-08-00

Groundwater Extraction & Treatment System
ARCO Service Station 0608
17601 Hesperian Boulevard
809628 (330-006.2Q)
July 6, 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

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

ELECTRIC METER READING (kw hrs)	28845	HOUR METER READING (hrs)	303517

MEASUREMENT	ON ARRIVAL	ON DEPARTURE
TOTALIZER (gallons)	113132	113156
FILTER INLET PRESSURE (psig)	14 PSI	(ideal range: 8 to 12 psig) 9-10
CARBON #1 INLET PRESSURE (psig)	7 PSI	(ideal range: 5 to 9 psig) 8
CARBON #2 INLET PRESSURE (psig)	7 PSI	(ideal range: 1 to 4 psig) 6
DISCHARGE PRESSURE (psig)	0	(ideal range: 0 to 2 psig) 0

PART B: COMMENTS CHANGE FILTER, REPLACE BATT ON Auto Dialer, BROKEN FITTING 2 1/2 ⇒ 3/4 OR 1" TO PUMP PURGE WATER THROUGH CARBON BEFORE FILTER AT THE COMPOUND. Rubber GASKET ON FILTER Could be REPLACE, ALSO GASKET ON UNION AT INFL POINT Could be REPLACE TEST Auto Dialer NEED 3 GAGES 0⇒30 PSI

PART C: WELL DATA

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

WELL	DTW (TOB)	TOTALIZER (gallons)	FLOW OUT (gpm)	COMMENTS/ ADJUSTMENTS
E-1A	20.95 - 21.80		2 ⇒ 4 GPM	none

PART D: SAMPLING

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

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

PART E: READINGS

	TEMP (°F)	CONDUCTIVITY (umhos)	pH (units)	DISSOLVED OXYGEN (ppm)
EFFLUENT	70.5	1350	7.08	4.4

PART F: SYSTEM MAINTENANCE I

NUMBER OF SPARE FILTERS ON SITE?	NEW Box	CHANGE FILTERS? (if necessary)	YES
SWEEP ENCLOSURE	CLEAN	PUMP AMP DRAW	5.5

PART G: SYSTEM MAINTENANCE II

TEST ALARM SWITCHES		BACKFLUSH CARBONS	
CLEAN TOTALIZERS			

ARCO Products Company
Division of AtlanticRichfieldCompany

809628 **Task Order No.**

Chain of Custody

ARCO Facility no. 0608	City (Facility) 17601 HESPERIAN BLVD SAN LORENZO	Project manager (Consultant) SHAW GARAKANI	Laboratory name SEQUOIA
ARCO engineer MIKE WHELAN	Telephone no. (ARCO)	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name IT GROUP	Address (Consultant) 1921 RINGWOOD AV. 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 ☐	COD.	TDS
WFL		3		W		4	HCl	7-08-00	NA		X											
EFFL		6		↓		↓	H2SO4 HCl/NP	↓	↓		↓										XX	X
MW1		3		↓		↓	HCl	↓	↓		X											

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

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

Method of shipment

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler	7-08-00	16:00	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory

Date: Time: