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Alameda County

DEC 2 6 2002

Environmental Health

QUARTERLY GROUNDWATER MONITORING REPORT

(4th Quarter, 2002)

12/23/02

Former E-Z Serve Location No. 100877 525 West 'A' Street Hayward, California STID No. 3580

Submitted to:

Restructure Petroleum Marketing Services of California, Inc. 205 S. Hoover Boulevard, Suite 101 Tampa, Florida 33609

> Submitted by ATC Associates Inc. 9620 Chesapeake Drive, Suite 203 San Diego, California 92123

ATC Work Order No. 100877-C2-11 ATC Project No. 43.25827.0024 December 23, 2002

Prepared by:

Scott D. Levin

Project Scientist

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Approved by:

Michael T. Davis, R.G. No. 7400

Senior Geologist

DATE: December 23, 2002

QUARTERLY GROUNDWATER MONITORING REPORT – FOURTH QUARTER 2002

Facility: Former E-Z Serve No. 100877	Site Address: 525 West 'A' Street, Hayward, California
Responsible Party / Contact Person:	RPMS-CA / Jeff Burke, Project Manager
Consulting Co. / Contact Person:	ATC Associates Inc. / Michael T. Davis, Project Manager (858) 569-0692
ATC Project No.:	43.35827.0024
Regulatory Agency/File No.:	RWQCB

WORK PERFORMED THIS QUARTER [October 1, 2002 - December 31, 2002]:

- 1. Performed first quarter groundwater monitoring and sampling.
- 2. Prepared first quarter groundwater monitoring report.

WORK PROPOSED FOR NEXT QUARTER [January 1, 2003 - March 31, 2003]:

- 1. Perform first quarter groundwater monitoring and sampling.
- 2. Submit first quarter groundwater monitoring report.
- 3. Implement Corrective Action.

Current Phase of Project:	Assessment	(Assessment, Remediation, etc.)
Frequency of Sampling:	Quarterly	(Quarterly, etc.)
Frequency of Monitoring:	Quarterly	(Monthly, etc.)
Liquid Phase Hydrocarbons Present On Site:	No	(Yes/No)
Cumulative PSH Recovered to Date:	Unknown	(Gallons)
PSH Recovered This Quarter:	None	(Gallons)
Purge Water Removed This Quarter:	None	(Gallons)
Permits for Discharge:	None	(NDPES, POTW, etc)
Current Remediation Techniques:	None	(SVES, PSH Recovery)
Approximate Depth to Groundwater:	16.10 to 17.63	(Measured Feet)
Groundwater Gradient:	0.0186 ft/ft	(Magnitude)
Groundwater Flow Direction:	West-southwesterly	(Direction)

Discussion: On November 15, 2002, ATC Associates, Incorporated (ATC) personnel gauged 10 groundwater monitor wells and one (1) groundwater extraction well (Figure 1 and 2). Depth to groundwater ranged between 16.10 (MW-1) to 17.63 (MW-2) feet below ground surface (bgs). MW-13 was not monitored due to a parked vehicle above the well box and wellheads of MW-8 through MW-11 remain inaccessible. The direction of groundwater flow was calculated to be west-southwesterly with a hydraulic gradient of approximately 0.0186 ft/ft (Figure 2). No measurable liquid phase hydrocarbons (PSH) were recorded in any of the wells measured during this quarters monitoring event. Groundwater elevations and contours are illustrated on Figure 2 and historic groundwater and PSH monitoring data is presented in Table 1.

On November 15, 2002, ATC collected groundwater samples from 10 monitoring wells and 1 extraction well. ATC utilized the attached no-purge sampling procedures described in Appendix A to collect groundwater samples from MW-1, MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-12, MW-14, and EX-1. Field logs are also included in Appendix A. Groundwater samples collected were analyzed for total petroleum hydrocarbons characterized as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and fuel oxygenates methyl tert-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), and tert-butyl alcohol (TBA) by EPA Test Method 8260. TPHg concentrations were reported above the laboratory Practical Quantitation Limit (PQL) in groundwater samples collected from 9 of the 11 wells sampled. The highest TPHg, benzene, and MTBE concentrations reported were 34,000, 910, and 39 µg/L, respectively. The highest TPHg, benzene, and MTBE concentrations were reported in groundwater samples collected from MW-2. TPHg, benzene, and MTBE concentrations are illustrated on Figure 2 and historic groundwater analytical results are presented in Tables 1 and 2. Hydrographs of groundwater elevations and analytical data are attached in Appendix B and complete laboratory analytical results and chain-of-custody documentation are attached in Appendix C.

Recommendations: Continue quarterly groundwater monitoring and sampling, and implement the Corrective Action Plan. Contract a professional electromagnetic subsurface survey to locate the wellheads of MW-8 through MW-11.

Summary of Unusual Activity: None.

Agency Directive Requirements: Corrective Action Plan.

ATTACHED:

- Table 1 Groundwater Elevations and Sample Analytical Results
- Table 2 Groundwater Sample Analytical Results for Fuel Oxygenates
- Figure 1 Vicinity Map
- Figure 2 Groundwater Summary Map (November 15, 2002)
- Appendix A ATC Groundwater Monitoring and Sampling Procedures, and Field Logs
- Appendix B Hydrographs
- Appendix C Laboratory Report and Chain-of-Custody Record

TABLES

Table 1 Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well	Sampling	TOC	DTW	\mathbf{GWE}^1	PSH	TPHg	В	T	E	X	MTBE
No.	Date	(feet)	(feet)	(feet)	(feet)	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)
MW-1	2/5/92	41.75	20.82	20.93	0.00	46,000	7,600	2,300	2,400	6,500	
(15'-29')	9/11/92	41.75	20.08	21.67	0.00	48,000	9,000	1,200	1,800	4,600	
	12/22/92	41.75	19.79	21.96	0.00	84,000	22,000	1,600	4,800	17,000	
	3/3/93	41.75	16.23	25.52	0.00	54,000	16,000	1,600	1,900	4,300	
	6/23/93	41.75	16.86	24.89	0.00	30,000	18,000	1,100	1,400	3,700	мн-
	9/30/93	41.75	18.04	23.71	0.00	33,000	10,000	440	940	1,700	
	2/6/94	41.75	18.15	23.60	0.00	64,000	18,000	1,600	4,700	12,000	
	5/2/94	41.75	17.26	24.49	0.00	7,200	2,100	29	490	520	
	7/1/94	41.75	17.60	24.15	0.00	13,000	3,700	150	550	12,000	
	9/20/94	41.75	20.59	21,16	0.00	10,000	3,100	75	440	870	
	12/5/94	41.75	17.83	23.92	0.00	8,700	3,700	87	520	950	
	3/10/95	41.75	14.67	27.08	0.00						
	3/15/95	41.75	14.43	27.32	0.00	290	56	2	12	47	
	9/23/96	41.75	14.92	26.83	0.00	20,000	5,200	860	700	1,100	270
	12/4/96	41.75	15.61	26.14	0.00	17,000	3,100	64	610	1,200	280
	4/8/97 ^{NP}	41.75	13.25	28.50	0.00	2,100	430	15	52	85	100
	6/30/97	41.75	14.68	27.07	0.00	10,000	2,100	<	<	320	<
	11/25/97	41.75	15.99	25.76	0.00	16,000	2,100	23	76	240	<
	6/1/98	41.75	9.98	31.77	0.00	19,000	6,100	430	1,100	2,300	420
	6/14/01	41.75	15.05	26.70	0.00	6,000	380	8.4	260	180	<25
	11/7/01 ²	41.75	16.31	25.44	0.00	12,000	1,000	30	1,000	740	11
	1/30/02	41.75	14.15	27.60	0.00	8,800	690	16	480	270	14
	5/29/02	41.75	14.15	27.20	0.00	6,400	330	13	250	260	12
	8/14/02	41.75	15.56	26.19	0.00	5,500	470	14	360	160	10
	11/15/02	41.75	16.10	25.65	0.00	10,000	440	16	310	150	15
	11/13/02	41.73	10.10	23.03	0.00	10,000	440	10	310	150	13
MW-1A	6/23/93	43.40	17.80	25.76	0.21						
(unknown)	9/30/93	43.40									
	2/6/94	43.40	18.89	24.51	0.00	8,900	1,700	42	1,000	400	
	5/2/94	43.40	18.35	25.12	0.09		•••				
	7/1/94	43.40	18.45	24,95	0.00	12,000	1,100	<1	920	1,100	
	9/20/94	43.40	21.72	21.85	0.22				-	**	
	12/5/94	43.40	18.87	24.58	0.07				75		
	3/10/95	43.40	15.83	27.57	0.00				~=		
	3/15/95	43.40	15.55	27.89	0.05						
	9/23/96	43.40	16.00	27.41	0.01				***		
	12/4/96	43.40	16.55	26.85	0.00	52,000	420	140	1,000	3,500	130
	4/8/97 ^{NP}	43.40	14.15	29.25	SHEEN		-				-
	6/30/97	43.40	15.57	27.83	0.00	17,000	180	<	140	1,100	<
	11/25/97	43.40	16.91	26.49	0.00	19,000	110	37	290	910	<
	6/1/98	43.40	10.78	32.62	0.00	18,000	200	17	230	820	91
	6/14/01	43.40	15.93	27.48	0.01	27,000	29	<5.0	620	520	<50
	11/7/012	43.40	17.32	26.08	0.00	21,000	51	<5.0	700	510	<5.0
	1/30/02	43.40	15.05	28.35	0.00	24,000	22	<5.0	390	330	<5.0
	5/29/02	43.40	15.49	27.91	0.00	12,000	32	<5.0	550	270	<5.0
	8/14/02	43.40	16.50	26.90	0.00	14,000	22	< 2.0	510	240	<2.0
	11/15/02	43.40	17.04	26.36	0.00	17,000	59	2.4	630	250	<2.0
MW-2	2/5/92	43.26	22.35	20.91	0.00	67,000	13,000	4,700	820	1,300	
(15'-29')	9/11/92	43.26	21.67	21.59	0.00	57,000	9,000	1,400	1,200	8,400	
` '	12/22/92	43.26	21.39	21.87	0.00	31,000	9,900	350	2,000	4,100	
	3/3/93	43.26	17.75	25.51	0.00	17,000	5,100	1,300	720	1,900	
	6/23/93	43.26	18.42	24.84	0.00	60,000	23,000	1,500	4,500	17,000	
		43.26	19.63	23.63	0.00	38,000	12,000	780	1,500	6,500	
	9/30/93	73.20	17.05								
	9/30/93 2/6/94	43.26	19.61	23.65	0.00	34,000	8,900	450	2,000	5,500	

Table 1 Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well	Sampling	TOC	DTW	GWE ¹	PSH	TPHg	В	T	E	X	MTBE
No.	Date	(feet)	(feet)	(feet)	(feet)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)
MW-2	7/1/94	43.26	19.18	24.08	0.00	18,000	3,700	510	870	2,600	
(15'-29')	9/20/94	43.26	22.17	21.09	0.00	19,000	4,500	300	1,200	4,000	
(Cont.)	12/6/94	43.26	19.37	23.89	0.00	22,000	4,700	340	1,400	4,500	
	3/10/95	43.26	16.33	26.93	0.00						
	3/15/95	43.26	16.89	26.37	0.00	29,000	5,600	350	1,900	6,300	
	9/23/96	43.26	16.61	26.65	0.00	29,000	3,700	150	1,000	4,300	860
	12/4/96	43.26	17.19	26.07	0.00	31,000	3,800	140	2,000	5,100	690
	4/8/97 ^{NP}	43.26	14.86	28.40	0.00	20,000	2,500	80	1,300	3,400	880
	6/30/97	43.26	16.28	26.98	0.00	41,000	2,700	130	1,200	4,000	890
	11/25/97	43.26	17.56	25.70	0.00	51,000	2,900	140	1,800	7,000	1,200
	6/1/98	43.26	11.58	31.68	0.00	33,000	2,700	130	1,800	5,700	610
	6/14/01	43.26	16.63	26.63	0.00	18,000	860	14	1,100	2,200	<100
	11/7/01 ²	43.26	17.85	25.41	0.00	20,000	880	20	1,100	2,600	21
	1/30/02	43.26	15.65	27.61	0.00	19,000	880	19	1,100	2,400	56
	5/29/02	43.26	16.12	27.14	0.00	8,100	390	16	560	1,400	32
	8/14/02	43.26	17.20	26.06	0.00	19,000	820	21	1,200	2,600	29
	11/15/02	43.26	17.63	25.63	0.00	34,000	910	31	1,000	1,400	39
	11,13,02	15.20	17.05	20.00	5100	£ 1,000	,		2,110	2,	
MW-3	2/5/92	43.89	21.85	22.04	0.00	16,000	2,700	410	<1	3,400	
(15'-29')	9/11/92	43.89	21.13	22.76	0.00	43,000	7,600	1,600	1,400	4,100	
(10 2)	12/22/92	43.89	20.88	23.01	0.00	29,000	8,800	1,200	1,500	3,700	
	3/3/93	43.89	17.29	26.60	0.00	17,000	5,000	1,500	680	1,700	
	6/23/93	43.89	17.88	26.01	0.00	5,700	3,000	120	560	790	
	9/30/93	43.89	19.18	24.71	0.00	21,000	7,000	2,100	970	2,600	
	2/6/94	43.89	19.13	24.68	0.00	24,000	7,200	1,600	990	3,200	
	5/2/94	43.89	18.30	25.59	0.00	10,000	2,200	440	470	1,200	
	7/1/94	43.89	18.63	25.26	0.00	8,200	2,000	370	350	930	
	9/20/94	43.89	21.64	22.25	0.00	7,200	2,000	360	380	1,000	
				22.23 24.74	0.00			400	440		TF
	12/6/94	43.89	19.15			9,000	2,300			1,100	
	3/10/95	43.89	16.33	27.56	0.00	4 200	000	 47	270	700	
	3/15/95	43.89	16.89	27.00	0.00	4,300	980	47 20	370 700	780 780	
	9/23/96	43.89	16.11	27.78	0.00	10,000	950				80
	12/4/96 4/8/97 ^{NP}	43.89	16.63	27.26	0.00	13,000	1,100	25	1,000	1,100	67 56
		43.89	14.25	29.64	0.00	3,800	210	4.6	270	280	56 <
	6/30/97	43.89	15.70	28.19	0.00	3,500	280	<	32	180	
	11/25/97	43.89	16.99	26.90	0.00	6,800	230	<	370	290	130
	6/1/98	43.89	1600			2 100		 -0.5	70	42	
	6/14/01	43.89	16.02	27.87	0.00	2,100	9	<0.5	78	43	<5.0
	11/7/01 ²	43.89	17.33	26.56	0.00	7,700	75	<5.0	410	150	<5.0
	1/30/02	43.89	15.10	28.79	0.00	3,600	27	<5.0	120	34	<5.0
	5/29/02	43.89	15.63	28.26	0.00	2,000	18	<5.0	53	13	<5.0
	8/14/02	43.89	16.63	27.26	0.00	2,400	19	<0.5	50	6.5	<0.5
	11/15/02	43.89	17.10	26.79	0.00	4,300	7.5	< 0.5	22	1.1	0.5
*	a (# 10a	40.75		01.45	0.00	16 000	2.700	410	-1	2.400	
MW-4	2/5/92	42.76	21.31	21.45	0.00	16,000	2,700	410	<1 1.400	3,400	
(15'-29')	9/11/92	42.76	20.62	22.14	0.00	43,000	7,600	1,600	1,400	4,100	
	12/22/92	42.76	20.37	22.39	0.00	29,000	8,800	1,200	1,500	3,700	
	3/3/93	42.76	16.78	25.98	0.00	17,000	5,000	1,500	680	1,700	
	6/23/93	42.76	17.45	25.31	0.00	5,700	3,000	120	560	790	-
	9/30/93	42.76	18.64	24.12	0.00	21,000	7,000	2,100	970	2,600	
	2/6/94	42.76	18.59	24.17	0.00	24,000	7,200	1,600	990	3,200	
	5/2/94	42.76	17.81	24.95	0.00	10,000	2,200	440	470	1,200	
	7/1/94	42.76	18.13	24.63	0.00	8,200	2,000	370	350	930	
	9/20/94	42.76	21.13	21.63	0.00	7,200	2,000	360	380	1,000	
	12/6/94	42.76	18.36	24.40	0.00	9,000	2,300	400	440	1,100	
	3/10/95	42.76	15.25	27.51	0.00						

Table 1
Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well	Sampling	тос	DTW	GWE^1	PSH	TPHg	В	T	E	\mathbf{x}	MTBE
No.	Date	(feet)	(feet)	(feet)	(feet)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)
MW-4	3/15/95	42.76	14.89	27.87	0.00	15,000	4,400	600	770	2,660	
(15'-29')	9/23/96	42.76	15.56	27.20	0.00	32,000	7,400	540	1,500	2,800	2,100
(Cont.)	12/4/96	42.76	16.11	26.65	0.00	23,000	7,800	140	1,200	1,200	1,900
	4/8/97 ^{NP}	42.76	13.73	29.03	0.00	16,000	3,900	680	850	2,300	980
	6/30/97	42.76	15.19	27.57	0.00	63,000	7,000	430	1,400	4,400	1,700
	11/25/97	42.76	16.49	26.27	0.00	30,000	4,300	61	810	1,500	880
	6/1/98	42.76	10.42	32.34	0.00	33,000	5,700	710	1,700	2,900	720
	6/14/01	42.76	15.55	27.21	0.00	9,500	690	45	560	600	<50
	11/7/012	42.76	16.81	25.95	0.00	6,000	710	20	630	190	27
	1/30/02	42.76	14.60	28.16	0.00	4,800	830	16	600	61	42
	5/29/02	42.76	15.14	27.62	0.00	5,300	720	57	600	200	35
	8/14/02	42.76	16.07	26.69	0.00	5,000	640	15	550	35	28
	11/15/02	42.76	16.61	26.15	0.00	3,700	330	10	260	200	20
	11/15/02	42.70	10.01	20.15	0.00	3,700	550	10	200	200	20
MW-5	2/5/92	42.10	20.93	21.17	0.00	78,000	7,900	5,000	2,900	1,800	
(15'-29')	9/11/92	42.10	20.27	21.83	0.00	49,000	4,700	400	1,400	4,100	
(15 2)	12/22/92	42.10	19.99	22.11	0.00	34,000	8,600	340	2,200	4,800	
	3/3/93	42.10	16.49	25.61	0.00	22,000	7,500	640	1,300	3,400	
	6/23/93	42.10	17.02	25.08	0.00	15,000	5,800	120	1,100	2,100	
	9/30/93		18.25	23.85	0.00	25,000	7,600	410	1,000	4,400	
		42.10		23.84	0.00		6,000				
	2/6/94	42.10	18.26			23,000		180	2,000	5,900	
	5/2/94	42.10	17.50	24.60	0.00	8,000	1,300	29	440	770	
	7/1/94	42.10	17.79	24.31	0.00	10,000	1,700	97	600	1,400	-
	9/20/94	42.10	20.77	21.33	0.00	8,400	1,600	54	650	1,400	
	12/5/94	42.10	18.02	24.08	0.00	10,000	1,800	<50	620	1,400	
	3/10/95	42.10	14.93	27.17	0.00						
	3/15/95	42.10	14.70	27.40	0.00	5,300	1,100	11	180	320	
	9/23/96	42.10	15.19	26.91	0.00	9,800	1,800	11	470	510	100
	12/4/96	42.10	15.78	26.32	0.00	10,000	2,200	9	550	430	70
	4/8/97 ^{NP}	42.10	13.39	28.71	0.00	11,000	1,300	15	450	720	180
	6/30/97	42.10	14.83	27.27	0.00	3,800	500	<	75	84	<
	11/25/97	42.10	16.14	25.96	0.00	8,200	1,300	14	310	220	<
	6/1/98	42.10	10.10	32.00	0.00	3,600	290	12	52	52	81
	6/14/01	42.10	15.19	26.91	0.00	5,100	44	0.71	110	23	< 5.0
	11/7/01 ²	42.10	16.47	25.63	0.00	7,600	220	<5.0	550	30	<5.0
	1/30/02	42.10	14.27	27.83	0.00	6,200	180	<20	310	130	<20
	5/29/02	42,10	14.73	27.37	0.00	3,900	66	0.8	110	7.4	0.9
	8/14/02	42.10	15.73	26.37	0.00	4,300	80	0.9	150	12	1.1
	11/15/02	42.10	16.27	25.83	0.00	7,000	99	<5.0	250	500	<5.0
MW-6	2/5/92	42.33	21.29	21.04	0.00	51,000	5,400	3,500	3,600	10,000	
(15'-29')	2/3/92 9/11/92	42.33	20.56	21.04	0.00	24,000	2,500	830	1,400	2,300	
(13-29)					0.00			630			
	12/22/92	42.33	20.31	22.02		23,000	5,100		2,000	3,100	-
	3/3/93	42.33	16.83	25.50	0.00	18,000	4,400	820 850	1,400	2,400	
	6/23/93	42.33	17.30	25.03	0.00	18,000	4,600	850	2,700	3,400	
	9/30/93	42.33	19.05	23.28	0.00	20.000	4.600		2 100	2.500	
	2/6/94	42.33	18.55	23.78	0.00	20,000	4,600	690	2,100	2,500	
	5/2/94	42.33	17.74	24.59	0.00	5,300	930	54	610	240	
	7/1/94	42.33	18.09	24.24	0.00	10,000	1,500	160	850	690	
	9/20/94	42.33	21.05	21.28	0.00	11,000	2,000	140	1,200	760	
	12/6/94	42.33	18.33	24.00	0.00	8,600	1,300	87	980	610	
	3/10/95	42.33	15.35	26.98	0.00						
	3/15/95	42.33	14.91	27.42	0.00	9,800	1,600	110	1,000	1,000	
	9/23/96	42.33	15.50	26.83	0.00	12,000	520	55	930	350	51
	12/4/96	42.33	16.06	26.27	0.00	11,000	390	25	680	170	130
	4/8/97 ^{NP}	42.33	10.00	20.27	0.00	11,000	370	23	000	1/0	150

Table 1 Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well	Sampling	TOC	DTW	\mathbf{GWE}^1	PSH	TPHg	В	T	E	X	MTBE
No.	Date	(feet)	(feet)	(feet)	(feet)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)
MW-6	6/30/97	42.33	15.08	27.25	0.00	11,000	270	37	590	450	<
(15'-29')	11/25/97	42.33	16.40	25.93	0.00	9,100	130	26	500	150	310
(Cont.)	6/1/98	42.33	10.31	32.02	0.00	14,000	190	50	680	400	160
(Cont.)	6/14/01	42.33	15.46	26.87	0.00	6,400	29	6.3	200	55	<20
	11/7/01 ²	42.33	16.71	25.62	0.00	7,200	34	8.7	180	31	< 5.0
	1/30/02	42.33	14.60	27.73	0.00	6,600	32	7.2	130	28	<5.0
	5/29/02	42.33	14.99	27.34	0.00	5,200	26	7.0	150	27	<5.0
	8/14/02	42.33	16.03	26.30	0.00	5,300	24	6.6	120	22	<2.0
	11/15/02	42.33	16.53	25.80	0.00	5,000	19	4.7	70	38	< 0.5
	11/13/02	42.55	10.55	23.00	0.00	5,000	**	•••	, •		
MW-7	6/23/93	42.70	17.87	24.83	0.00	29,000	4,200	71	4,400	5,600	
(10'-29')	9/30/93	42.70	18.94	23.76	0.00	30,000	3,200	71	2,800	3,400	
()	2/6/94	42.70	19.11	23.64	0.06						
	5/2/94	42.70	18.11	24.59	0.00	5,700	630	13	660	400	
	7/1/94	42.70	18.72	23.98	0.00	3,100	180	99	160	520	
	9/20/94	42.70	21.41	21.29	0.00	6,100	540	6	750	730	
	12/5/94	42.70	18.66	24.04	0.00	3,700	280	<10	430	350	
	3/10/95	42.70	15.72	26.98	0.00	3,900	310	<10	540	540	
	3/14/95	42.70	15.23	27.47	0.00	1,900	290	4	26	296	
	9/23/96	42.70	15.94	26.76	0.00	6,300	76	<	420	270	15
	12/4/96	42.70	16.43	26.27	0.00	7,800	67	<	600	350	22
	4/8/97 ^{NP}	42.70	14.10	28.60	.0.00	5,600	42	<	240	96	<
	6/30/97	42.70	15.51	27.19	0.00	5,500	<	79	<	44	280
	11/25/97	42.70	16.80	25.90	0.00	2,400	23	5.4	<	54	120
	6/1/98	42.70	10.31	32.39	0.00	14,000	190	50	680	400	160
		42.70	15.46	27.24	0.00	6,400	29	6	200	55	<20
	6/14/01 11/7/01 ²					0,400					
		42.70	14.07	 27.73	0.00	6,200	1.5	<0.5	96	4.6	<0.5
	1/30/02	42.70	14.97			1,600	1.0	<0.5	3.4	1.9	<0.5
	5/29/02	42.70	15.49	27.21	0.00	•		<0.5	74	1.3	<0.5
	8/14/02	42.70	16.44	26.26	0.00	4,100	1.3	<0.5	<0.5	0.6	<0.5
	11/15/02	42.70	16.91	25.79	0.00	1,000	0.6	<0.5	<0.5	0.0	<0.5
MW-8*	6/23/93	97.61	17.64	79.97	0.00	350	43	9	35	67	
(10'-29')	9/30/93	97.61	18.85	78.76	0.00	2,700	190	340	170	720	
(10 25)	2/6/94	97.61	18.91	78.70	0.00	<100	<1	1	1	2	
	5/2/94	97.61	18.11	79.50	0.00	<100	<1	3	<1	7	
	7/1/94	97.61	18.43	79.18	0.00	300	18	48	19	37	
	9/20/94	97.61	21.43	76.18	0.00	<100	<1	<1	<1	<1	
	12/5/94	97.61	18.72	78.89	0.00	<50	<0.5	< 0.5	< 0.5	< 0.5	
	3/10/95	97.61	18.69	78.92	0.00						
	3/14/95	97.61	14.83	82.78	0.00	<50	<0.5	< 0.5	<0.5	1	
	9/23/96	97.61	15.83	81.78	0.00	<	<	<	<	<	<
	9123190	77.01	15.05			vell inaccessib					
MW-9*	6/23/93	95.41	15.94	79.47	0.00	45,000	14,000	1,200	2,800	12,000	
(10'-29')	9/30/93	95.41	17.05	78.36	0.00	86,000	22,000	1,100	3,300	15,000	
(/	2/6/94	95.41	17.07	78.34	0.00	43,000	10,000	460	2,100	7,500	
	5/2/94	95.41	16.24	79.17	0.00	17,000	5,400	270	1,300	4,700	
	7/1/94	95.41	16.59	78.82	0.00	10,000	2,100	120	450	1,300	
	9/20/94	95,41	19.61	75.80	0.00	7,500	2,200	97	400	1,200	
	12/5/94	95.41	16.85	78.56	0.00	10,000	2,700	130	530	1,600	
	3/10/95	95.41					-				
	3/14/95	95.41	14.18	81.23	0.00	18,000	5,900	270	1,200	3,680	
						accessible sind			•	•	
					,						

Table 1
Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well	Sampling	TOC	DTW	GWE^1	PSH	TPHg	В	${f T}$	E	X	MTBE
No.	Date	(feet)	(feet)	(feet)	(feet)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	$(\mu g/L)$	(µg/L)
MW-10*	6/23/93	97.11	17.39	79.72	0.00	35,000	980	640	3,500	12,000	
(10'-29')	9/30/93	97.11	18.58	78.53	0.00	4,000	230	12	100	680	
(10-2)	2/6/94	97.11	18.61	78.50	0.00	2,000	69	12	220	120	
	5/2/94	97.11	17.83	79.28	0.00	710	16	6	85	62	
	7/1/94	97.11	18.17	78.94	0.00	2,000	52	43	120	210	
	9/20/94	97.11	21.15	75.96	0.00	2,800	34	16	270	560	Min
	12/5/94	97.11	18.43	78.68	0.00	2,700	30	13	260	430	
	3/10/95	97.11	15.37	81.74	0.00						
	3/14/95	97.11	15.93	81.18	0.00	1,400	18	6	200	239	
	9/23/96	97.11	15.59	81.52	0.00	3,800	4	2.9	220	170	397
	12/4/96	97.11	16.15	80.96	0.00	4,600	1.6	7.7	260	150	20
				Not San	apled, well in	accessible sind	ce 4th Quarte	r, 1996.			
3.5227 444	0.11.0.10.E	02.60	11 00	80.88	0.00	7,000	140	22	600	1,000	
MW-11*	2/10/95	92.68	11.80		0.00	7,000					
(5'-25')	3/10/95	92.68	11.58	81.10 78.72	0.00	6,000	200	 17	750	1,276	
	3/14/95	92.68	13.96				55	81	300	3,500	40
	9/23/96	92.68	12.29	80.39	0.00	27,000					
	12/4/96	92.68				24.000	280	130	3,000	3,700	<
	4/8/97	92.68	10.51	82.17	0.00	24,000			3,000	3,700	
				Not San	ipled, well in	accessible sinc	e 2nd Quarte	r, 1997.			
MW-12	2/10/95	43.25	16.30	26.95	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	
(10'-30')	3/10/95	43.25	16.37	26.88	0.00						
. ,	3/14/95	43.25	15.69	27.56	0.00	<50	< 0.5	< 0.5	< 0.5	0.9	
	9/23/96	43.25	16.67	26.58	0.00	<	<	1.6	<	<	<
	12/4/96	43.25	17.16	26.09	0.00	<	3.2	<	1.9	3.4	<
	4/8/97 ^{NP}	43.25	14.88	28.37	0.00	<	<	<	<	<	<
	6/30/97	43.25	16.33	26.92	0.00						
	11/25/97	43.25	17.61	25.64	0.00						
	6/1/98	43.25	11.58	31.67	0.00						
	6/14/01	43.25	16.62	26.63	0.00	<50	< 0.50	< 0.50	< 0.50	< 0.50	<5.0
	11/7/01 ²	43.25	17.91	25.34	0.00	<50	< 0.5	<0.5	< 0.5	< 0.5	< 0.5
	1/30/02	43.25	15.60	27.65	0.00	<50	< 0.5	<0.5	<0.5	< 0.5	<0.5
	5/29/02	43.25	16.24	27.01	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	8/14/02	43.25	17.20	26.05	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	11/15/02	43.25	17.62	25.63	0.00	<50	< 0.5	< 0.5	<0.5	< 0.5	<0.5
NATE	2/10/95	40.97	14.45	26.52	0.00	<50	<0.5	<0.5	<0.5	<0.5	
MW-13 (10'-30')	3/10/95	40.97	14.30	26.67	0.00						
(10-30)	3/10/95	40.97	15.81	25.16	0.00	<50	<0.5	< 0.5	< 0.5	1	
	9/23/96	40.97	14.60	26.37	0.00	<	<	0.80	1	<	<
	12/4/96	40.97									
	4/8/97 ^{NP}	40.97	12.75	28.22	0.00	<	<	<	<	<	<
	6/30/97	40.97	14.13	26.84	0.00			***			
	11/25/97	40.97	15.48	25,49	0.00						
	6/1/98	40.97	9.58	31.39	0.00						
	6/14/01	40.97	14.51	26.46	0.00	<50	< 0.50	<0.50	< 0.50	< 0.50	< 5.0
	11/7/01 ²	40.97	15.85	25.12	0.00	<50	< 0.5	<0.5	< 0.5	< 0.5	< 0.5
	1/30/02	40.97	13.65	27.32	0.00	<50	< 0.5	<0.5	<0.5	< 0.5	< 0.5
	5/29/02	40.97	14.10	26.87	0.00	<50	<0.5	<0.5	<0.5	< 0.5	< 0.5
	3/2 3 /02 8/14/02	40.97	15.13	25.84	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/02	40.97									
						.		_		* * * * *	
MW-14	2/10/95	43.19	16.28	26.91	0.00	12,000	42	8	740	2,100	
(10'-30')	3/10/95	43.19	16.33	26.86	0.00				26	200	
	3/14/95	43.19	14.87	28.32	0.00	1,400	6	2	36	298	

Table 1 Groundwater Elevations and Sample Analytical Results

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE ¹ (feet)	PSH (feet)	TPHg (μg/L)	Β (μg/L)	Τ (μg/L)	Ε (μg/L)	Χ (μg/L)	MTBE (μg/L)
MW-14	9/23/96	43.19	16.67	26.52	0.00	6,400	2.8	<	690	96	9.6
(10'-30')	12/4/96	43.19	17.06	26.13	0.00	9,500	6.3	<	1,100	400	30
(Cont.)	4/8/97 ^{NP}	43.19	14.77	28.42	0.00	2,900	<	2.7	220	21	<
(00)	6/30/97	43.19	16.22	26.97	0.00	74	1.3	<	0.51	0.68	<
	11/25/97	43.19	17.52	25.67	0.00	<	<	<	<	<	<
	6/1/98	43.19	11.46	31.73	0.00	<50	< 0.5	< 0.5	<0.5	< 0.5	<5
	6/14/01	43.19	16.53	26.66	0.00	470	< 0.5	< 0.5	2.8	1	<5
	11/7/01 ²	43.19	17.84	25.35	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	1/30/02	43.19	15.55	27.64	0.00	<50	< 0.5	< 0.5	< < 0.5	< 0.5	< 0.5
	5/29/02	43.19	16.14	27.05	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	8/14/02	43.19	17.12	26.07	0.00	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	11/15/02	43.19	17.56	25.63	0.00	<50	<0.5	<0.5	< 0.5	<0.5	<0.5
EX-1	8/14/02		16.58		0.00	250	31	<0.5	<0.5	4.2	1.4
(10'-35')	11/15/02		17.02		0.00	67	4.1	< 0.5	< 0.5	<0.5	0.7

Notes: No known groundwater monitoring or sampling was conducted between June 1, 1998 and June 14, 2001 and June 14, 2001 and November 7, 2001. Wellhead elevations resurveyed on January 30, 2002.

TOC = Top of casing referenced to USGS benchmark [elevation = 48.50 feet above mean sea level].

DTW = Depth to water measured from top of casing.

GWE = Groundwater elevation as referenced to benchmark in feet above mean sea level.

TPHg = Total Petroleum Hydrocarbons as gasoline (EPA Method 8015).

B = Benzene (EPA Method 602 or 8020/1).

T = Toluene (EPA Method 602 or 8020/1).

E = Ethylbenzene (EPA Method 602 or 8020/1).

X = Total Xylenes (EPA Method 602 or 8020/1).

MTBE = Methyl t-Butyl Ether (EPA Method 8020 or 8021).

SHEEN = Discontinuous, non-measurable thickness of PSH.

PSH = Phase Separate Hydrocarbon thickness in feet.

μg/L = Micrograms per liter (~parts per billion).

(15'-29') = Well screen interval (in feet)

< = Sample reported as "not detected," in previous tables, reporting limit not known.

NP = No-purge sample collection method implemented and continued, beginning April 8, 1997...

¹ = If PSH present, corrected GWE = TOC - Measured DTW + Corrected PSH Thickness (PSH Thickness x gas density [0.75 g/cc]).

² = All analysis performed by BPA Method 8260 beginning on November 7, 2001.

* = Wellhead elevation not re-surveyed on January 30, 2002. Previous arbitrary benchmark used as elevation refrence.

-- = Not measured, surveyed, sampled, or analyzed.

Table 2 Groundwater Sample Analytical Results for Fuel Oxygenates Former E-Z Serve Location No. 100877

525 West 'A' Street, Hayward, California

Well	Sampling	TAME	TBA	DIPE	ETBE	MTBE
No.	Date	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)
MW-1	11/7/01	<5.0	<50	<5.0	<5.0	11
(15'-29')	1/30/02	<5.0	<50	<5.0	<5.0	14
(13 25)	5/29/02	<2.0	<20	2.5	<2.0	12
	8/14/02	<10	<100	<10	<10	10
		<10	<100	<10	<10	15
	11/15/02	<10	, ~100	10	10	10
MW-1A	11/7/01	<5.0	<50	<5.0	<5.0	<5.0
(unknown)	1/30/02	<5.0	<50	<5.0	<5.0	<5.0
(412-1111)	5/29/02	<5.0	<50	< 5.0	<5.0	<5.0
	8/14/02	<2.0	<20	<2.0	< 2.0	< 2.0
	11/15/02	<2.0	<20	<2.0	<2.0	< 2.0
MW-2	11/7/01	<5.0	<50	<5.0	<5.0	21
(15'-29')	1/30/02	<5.0	<50	<5.0	<5.0	56
	5/29/02	<5.0	<50	<5.0	<5.0	32
	8/14/02	<20	< 200	<20	<20	29
	11/15/02	<20	<200	<20	<20	39
	11, 10, 02	30				
MW-3	11/7/01	<5.0	<50	<5.0	<5.0	< 5.0
(15'-29')	1/30/02	<5.0	< 50	<5.0	< 5.0	<5.0
	5/29/02	<5.0	<50	<5.0	<5.0	<5.0
	8/14/02	<0.5	<5.0	< 0.5	< 0.5	< 0.5
	11/15/02	<0.5	<5.0	< 0.5	< 0.5	0.5
				.e. 0	45.0	27
MW-4	11/7/01	<5.0	<50	<5.0	<5.0	27
(15'-29')	1/30/02	<5.0	<50	<5.0	<5.0	42
	5/29/02	<20	<200	<20	<20	35
	8/14/02	<2.0	<20	<2.0	<2.0	28
	11/15/02	<2.0	<20	<2.0	<2.0	20
MW-5	11/7/01	<5.0	<50	<5.0	<5.0	<5.0
	1/30/02	<20	<200	<20	<20	<20
(15'-29')	•			2.0	<0.5	0.9
	5/29/02	<0.5	<5.0			
	8/14/02	<0.5	<5.0	<0.5	<0.5	1.1
	11/15/02	<5.0	<50	<5.0	<5.0	<5.0
MW-6	11/7/01	<5.0	<50	<5.0	<5.0	<5.0
(15'-29')	1/30/02	<5.0	<50	<5.0	<5.0	< 5.0
(13-29)		<5.0	<50	<5.0	<5.0	<5.0
	5/29/02		<20	<2.0	<2.0	<2.0
	8/14/02	<2.0		<0.5	<0.5	<0.5
	11/15/02	<0.5	<5.0	~0.3	<0.3	\U.J
MW-7	11/7/01					
(10'-29')	1/30/02	<5.0	<50	<5.0	<5.0	<5.0
(20 20)	5/29/02	<0.5	<5.0	< 0.5	< 0.5	< 0.5
	8/14/02	<0.5	<5.0	<0.5	<0.5	< 0.5
	11/15/02	<0.5	<5.0	<0.5	<0.5	<0.5
	11,10,02	-010		•		
MW-12	11/7/01	< 0.5	<5.0	<0.5	<0.5	<0.5
(10'-30')	1/30/02	< 0.5	<5.0	<0.5	< 0.5	< 0.5
	5/29/02	< 0.5	<5.0	< 0.5	< 0.5	< 0.5
	8/14/02	< 0.5	<5.0	< 0.5	< 0.5	< 0.5
	11/15/02	<0.5	<5.0	< 0.5	< 0.5	<0.5
				- م		
MW-13	11/7/01	<0.5	<5.0	<0.5	<0.5	<0.5
(10'-30')	1/30/02	<0.5	< 5.0	< 0.5	< 0.5	< 0.5

Table 2 Groundwater Sample Analytical Results for Fuel Oxygenates

Former E-Z Serve Location No. 100877 525 West 'A' Street, Hayward, California

Well No.	Sampling Date	ΤΑΜΕ (μg/L)	TBA (μg/L)	DIPE (µg/L)	ETBE (µg/L)	MTBE (µg/L)
MW-13	5/29/02	<0.5	<5.0	<0.5	< 0.5	< 0.5
(10'-30')	8/14/02	< 0.5	<5.0	< 0.5	< 0.5	< 0.5
(Cont.)	11/15/02					
MW-14	11/7/01	<0.5	<5.0	<0.5	<0.5	<0.5
(10'-30')	1/30/02	< 0.5	<5.0	< 0.5	< 0.5	< 0.5
(10 00)	5/29/02	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5
	8/14/02	< 0.5	< 5.0	< 0.5	< 0.5	< 0.5
	11/15/02	<0.5	<5.0	<0.5	<0.5	<0.5
EX-1	8/14/02	<0.5	<5.0	<0.5	< 0.5	1.4
(10'-30')	11/15/02	< 0.5	<5.0	< 0.5	< 0.5	0.7

Notes: Analytical results performed by utilizing EPA Method 8260.

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether
MTBE = Methyl-tert-Butyl Ether (See Table 1 for historic results)

TAME = tert-Amyl Methyl Ether

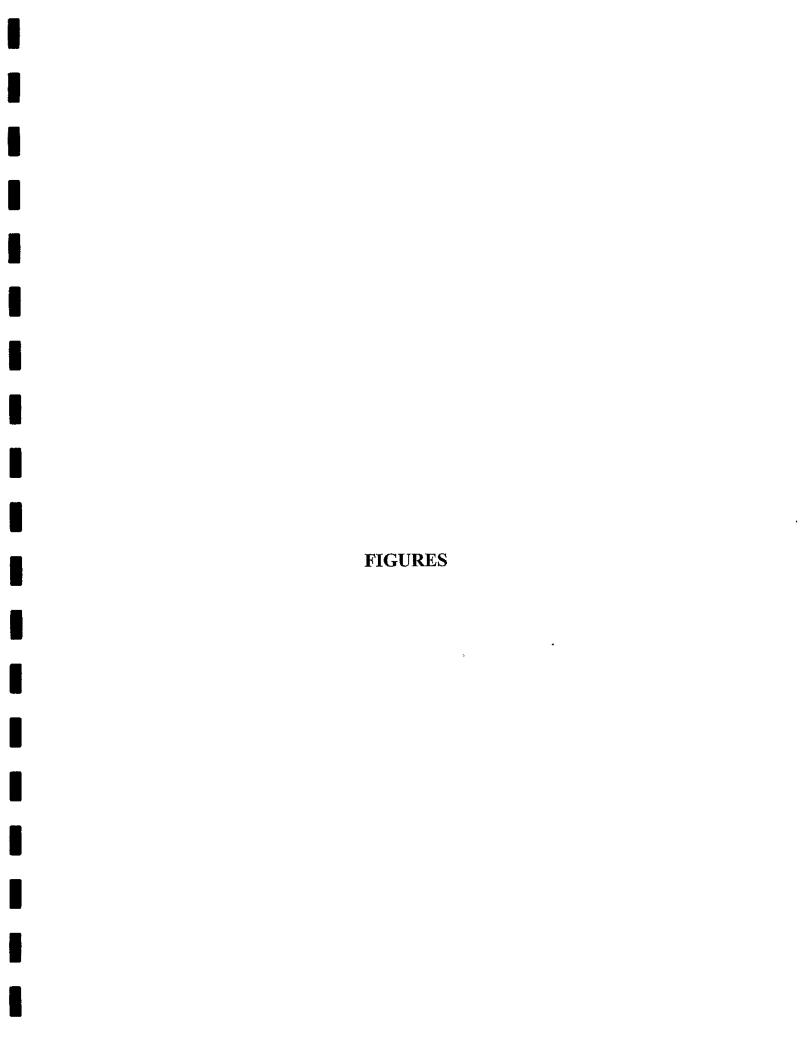
TBA = tert-Butanol

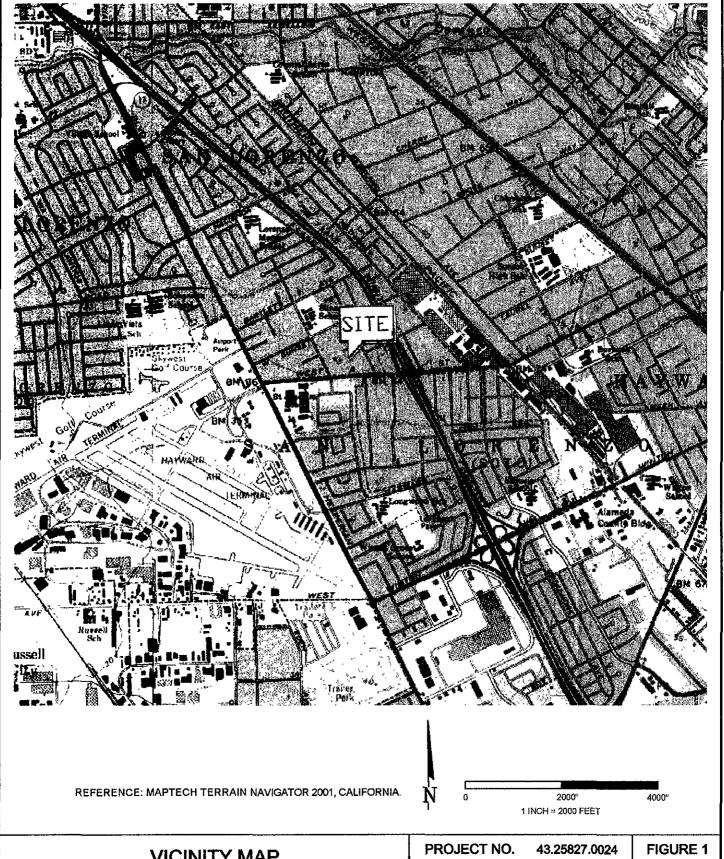
μg/L = micrograms per liter (~parts per billion)

(15'-29') = Well screen interval (in feet)

< = Analytical results below the given PQL.

-- = Not sampled or analyzed.





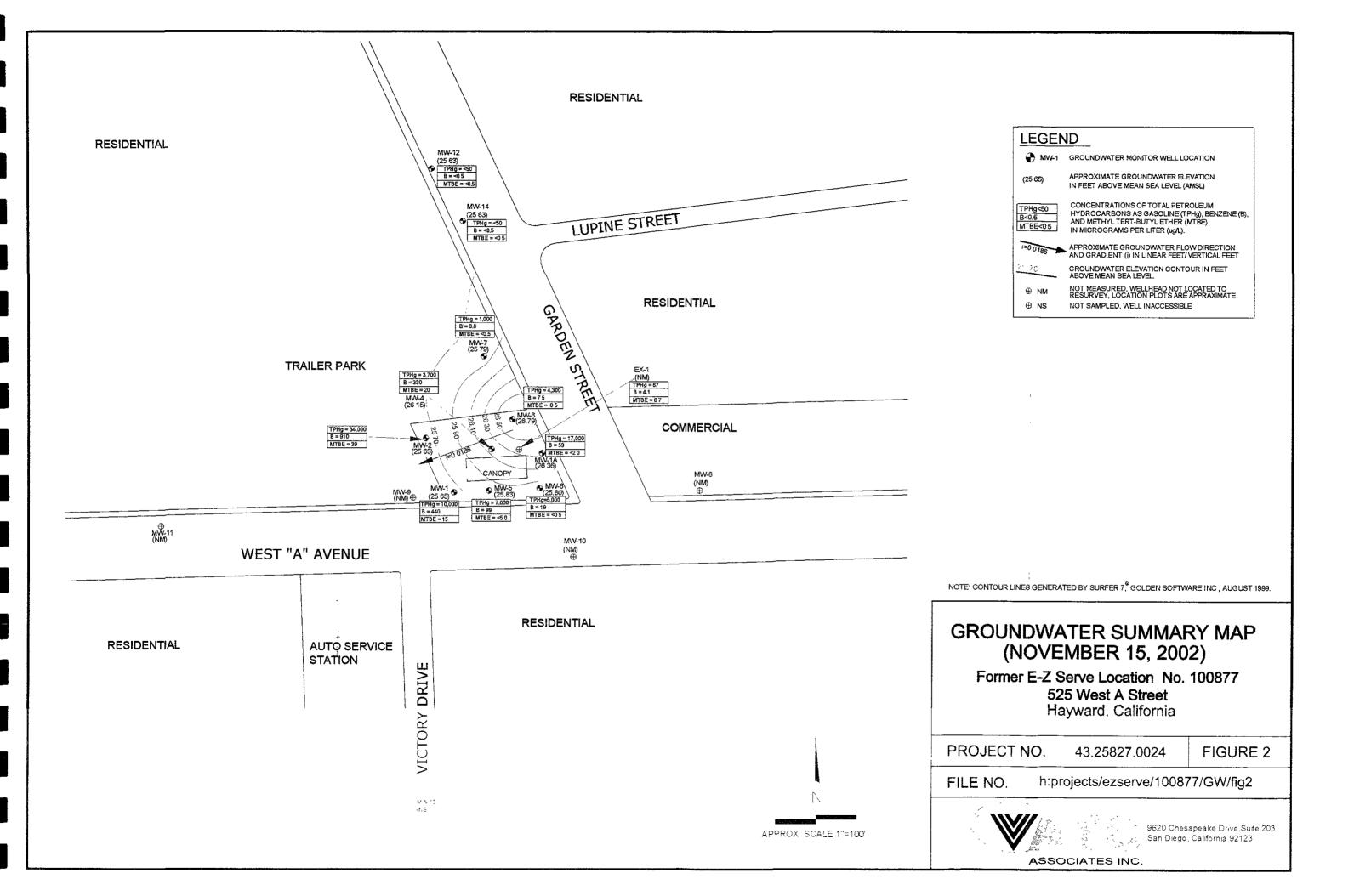
VICINITY MAP

Former E-Z Serve Location No. 100877 525 West A Street Hayward, California

h:projects/ezserve/100877/BID/fig1 FILE NO.



9620 Chesapeake Drive,Suite 203 San Diego, California 92123



APPENDICES

APPENDIX A GROUNDWATER MONITORING AND SAMPLING PROCEDURES, AND FIELD LOGS



GROUNDWATER MONITORING AND SAMPLING PROCEDURES

(Includes No-Purge Sampling)

Groundwater Monitoring and Decontamination Method

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing down-well equipment in a Liquidnox® solution wash (or equivalent degreasing compound), and rinsing in potable water and a final rinse of de-ionized (or distilled) water before and after each well. Any non-dedicated down-well equipment is decontaminated prior to use on site.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic interface probe and/or water level meter. Depth to bottom is typically measured every quarterly event. The water level meter and tape will be decontaminated between each well. If floating phase-separated hydrocarbons (PSH) are suspected or previously confirmed, an electronic interface probe is used to measure the well fluids to the nearest 0.01 feet. PSH may alternatively be measured using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. Any monitoring well containing a measurable thickness of PSH before or during purging is not additionally purged and no sample is collected from that well. Wells containing hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and PSH thickness are recorded in the field.

Well Purging

When well purging is required, each monitoring well to be sampled is purged using, a truck-mounted vacuum pump, a polyvinyl chloride (PVC) bailer or a submersible pump. Physical parameters (pH, temperature, and conductivity) of the purge groundwater are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge groundwater. Parameters are measured during purging; initially, and at volume intervals of one well or borehole volume (dependent on local regulations). Purging continues until the required well or borehole volumes have been removed, until the well completely dewaters, or until measured parameters stabilize as indicated above. When wells dewater or demonstrate a slow recharge, wells may be sampled although fewer than required volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is transported to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

After purging, groundwater samples are collected after at least 80% of its static water level is recovered in the well. If recharge is extremely slow, the well is allowed to recharge until sufficient volume has accumulated for sample collection. No-purge groundwater samples are collected when prior approval by the lead regulatory agency has been permitted. When no-purge samples are collected the same procedures are followed excluding well purging. All groundwater samples are collected using polyethylene disposable bailers attached with new, clean string or rope. Groundwater samples being analyzed for compounds most sensitive to volatilization are collected first. Groundwater samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and preserved on ice in a cooler for transport to a state-certified analytical laboratory. After collection, all samples are stored in a chilled cooler and refrigerated to approximately four (4) degrees Celsius while a laboratory representative transports the samples to their facility. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.



QUALITY ASSURANCE / QUALITY CONTROL (QA/QC) PROCEDURES

Field Procedures

To prevent contamination of the samples and/or cross-contamination of monitoring wells ATC personnel adhere to the following procedures in the field:

- New, clean pair of appropriate disposable gloves is dawned prior to sampling each well.
- Wells are gauged and purged in the expected order of increasing degree of contamination based on historical analytical results.
- All purging equipment will be thoroughly decontaminated between each well using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the groundwater. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Sample Control

Laboratory and field handling procedures may be monitored, if required by the client or local regulatory agency, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory, by laboratory personnel to check handling procedures while in the field, as required by site conditions and local regulations. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgable organic compounds.
- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective, as required by site conditions and local regulations. The sampling equipment used to collect the groundwater samples is rinsed with distilled water that is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.
- Duplicates (split samples) are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event, as required by site conditions and local regulations. The duplicate is assigned an identification number that will not associate it with the source well.

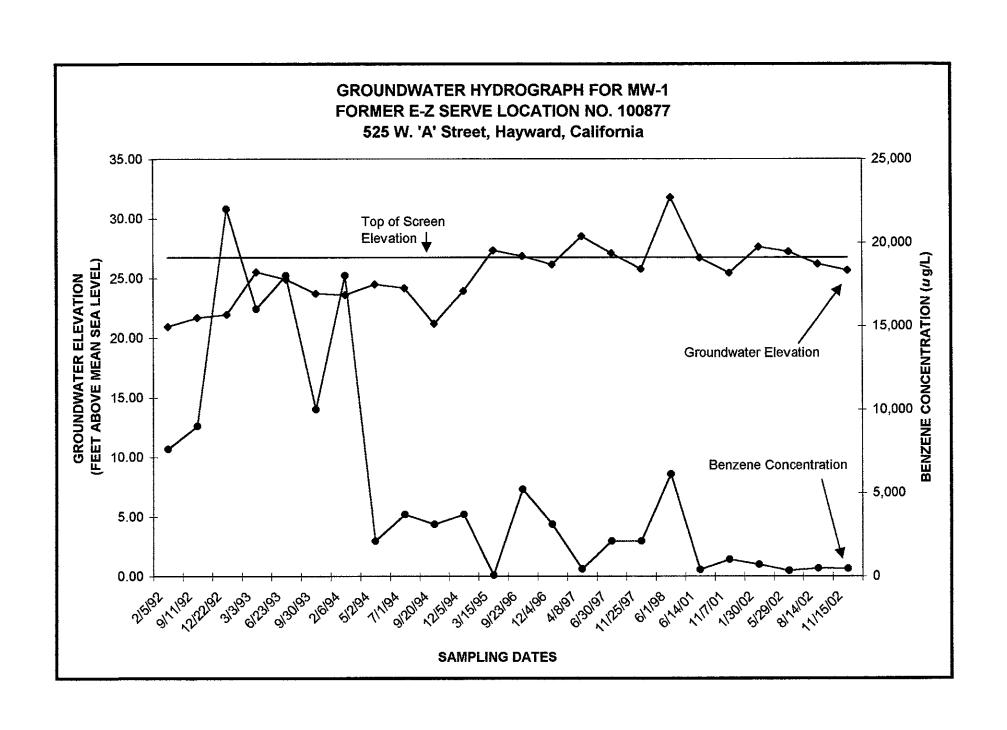
Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by ATC depending on site conditions and regulatory requirements.

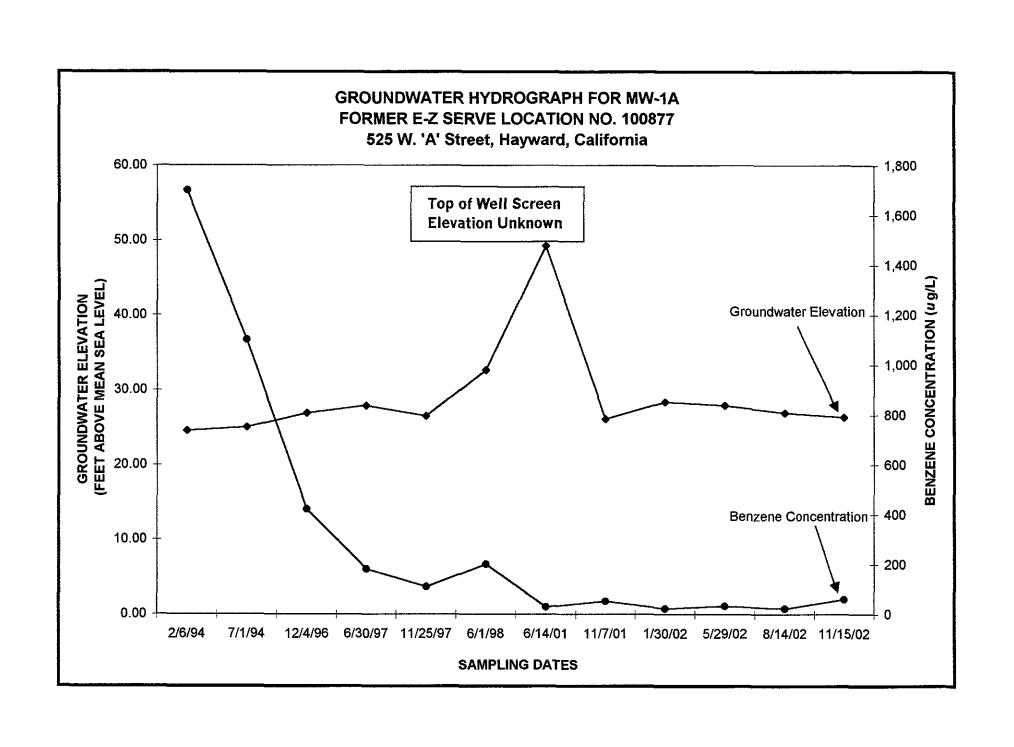


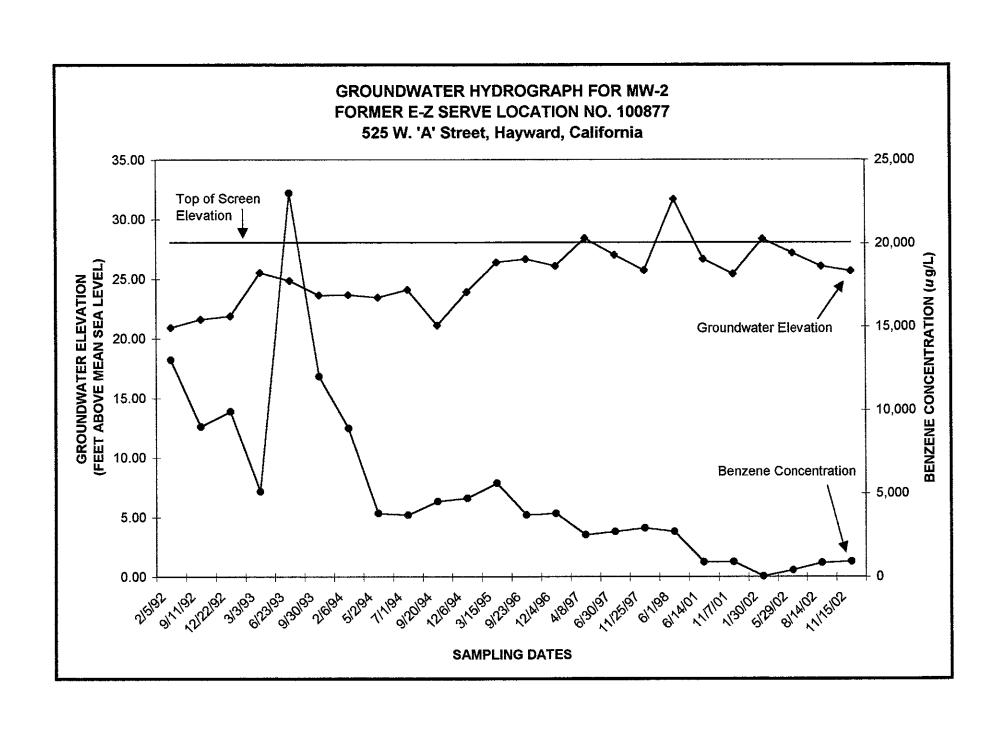
NO-PURGE SAMPLING LOG

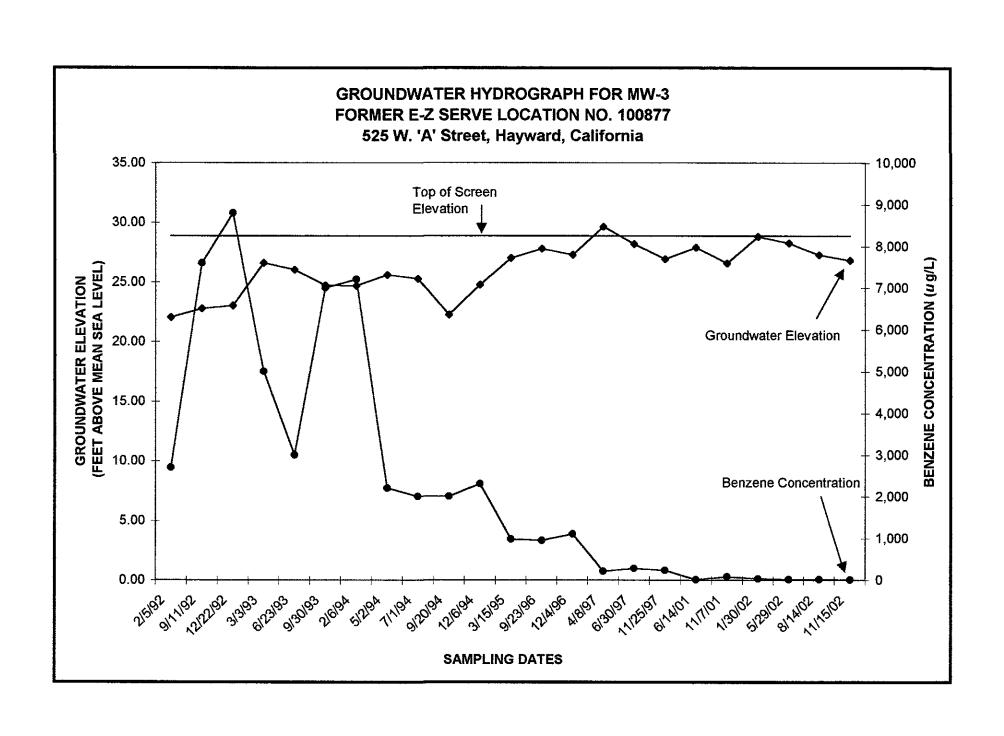
						Date: 11.15.02
Project Name:	Former	E-Z SE	erve			Project No. 43. 25827. 0024
Project Addres	s / City / County:	525 W	IEST A Street	HA	IWAYD;	LA Alameda Co.
		<i>></i>				
Water Level 1	Meter Type/ID:			Interface Probe	:Type/ID:	
	· · · · · · · · · · · · · · · · · · ·			er i 1900 kang		
			Collection Data	indianth keeds	Ordotines i Light 1880	
Well No.	Depth To Water (feet)	Time	Container Type & Volume	Filtered (yes/no)	Sample Preservative	Requested Laboratory Analysis
MW-I	16.10	1113	3X40ml VOA	NO	HCL	TAYA / BTEX / MTBE / DXY'S
MW-IA	l	1122		1		V
MW-2	17.63	1120				
MW-3	17.10	1110				
MW-4	16.61	1115				
MW-5	16.27	1112				
MW-6	16.53	1117				
MW-7	16.91	1050				
MW-12	17.62	1028				V
MW-13	NA					VEHICLE ON WELL
MW-14	17.56	1039				
EX-1	17.02	1240			\\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\	V
		- 1				
ATC Personne	el On-Site: P. A	rroup				
Subcontractor		<i>1.≥-</i>		····		
	D.t.	Lin			Dete	11.15.02

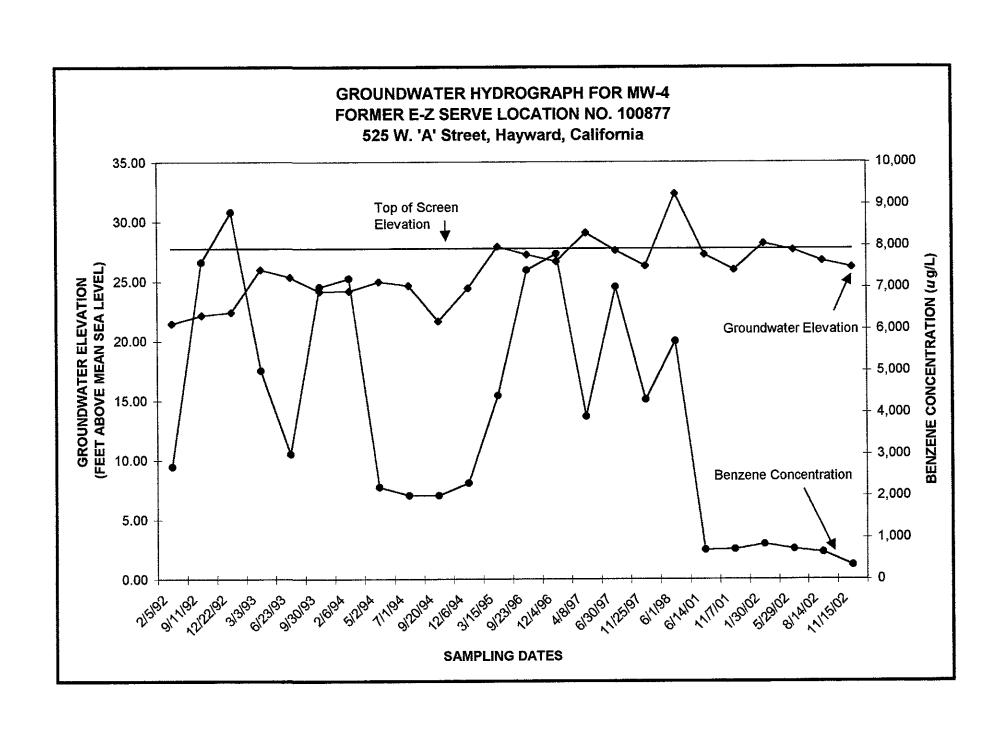
APPENDIX B HYDROGRAPHS

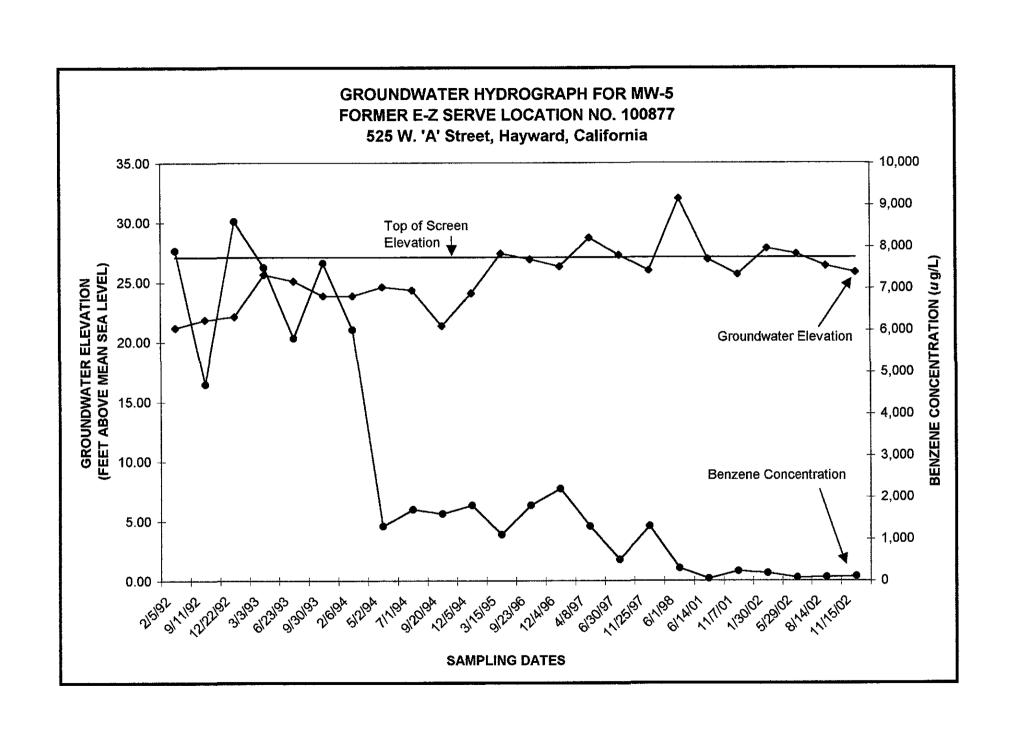


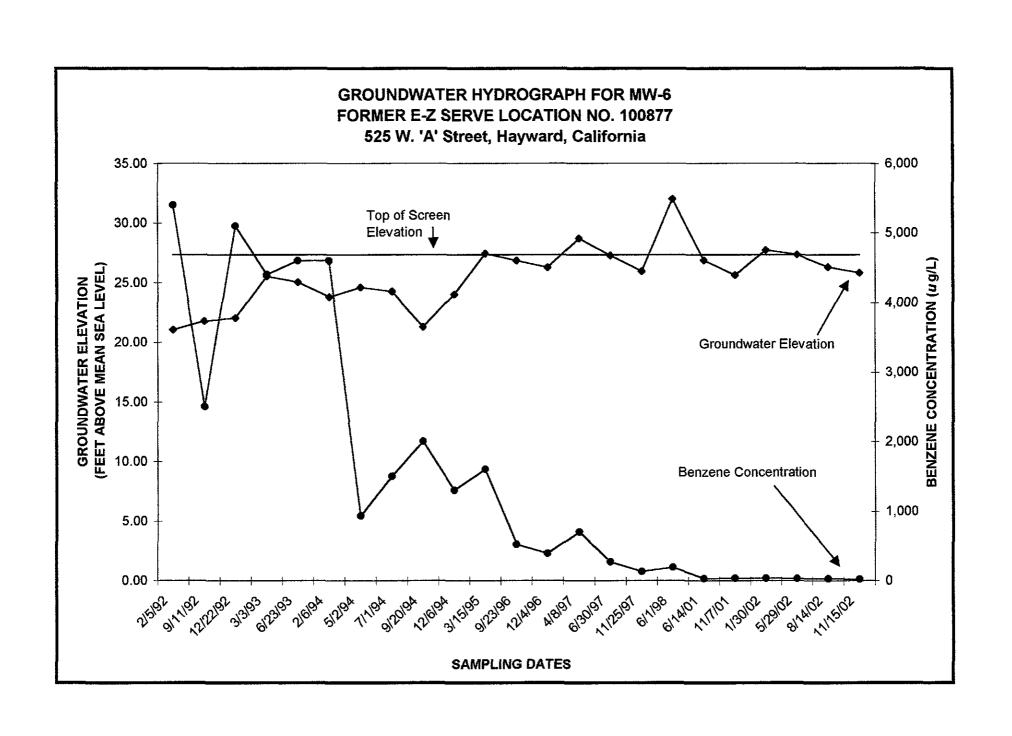


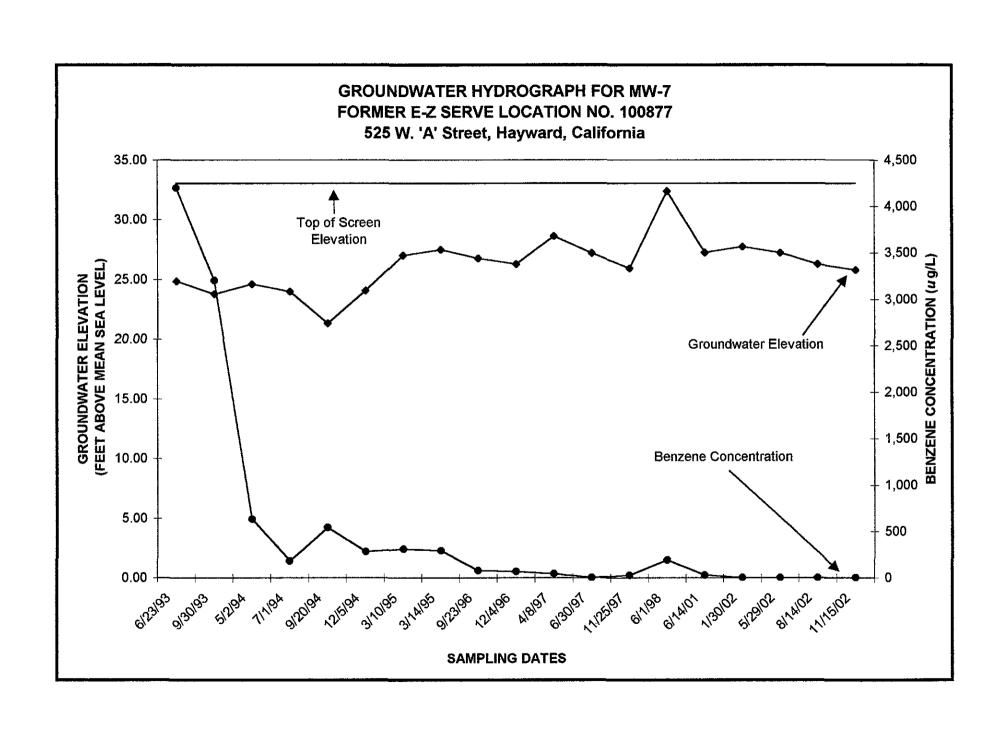


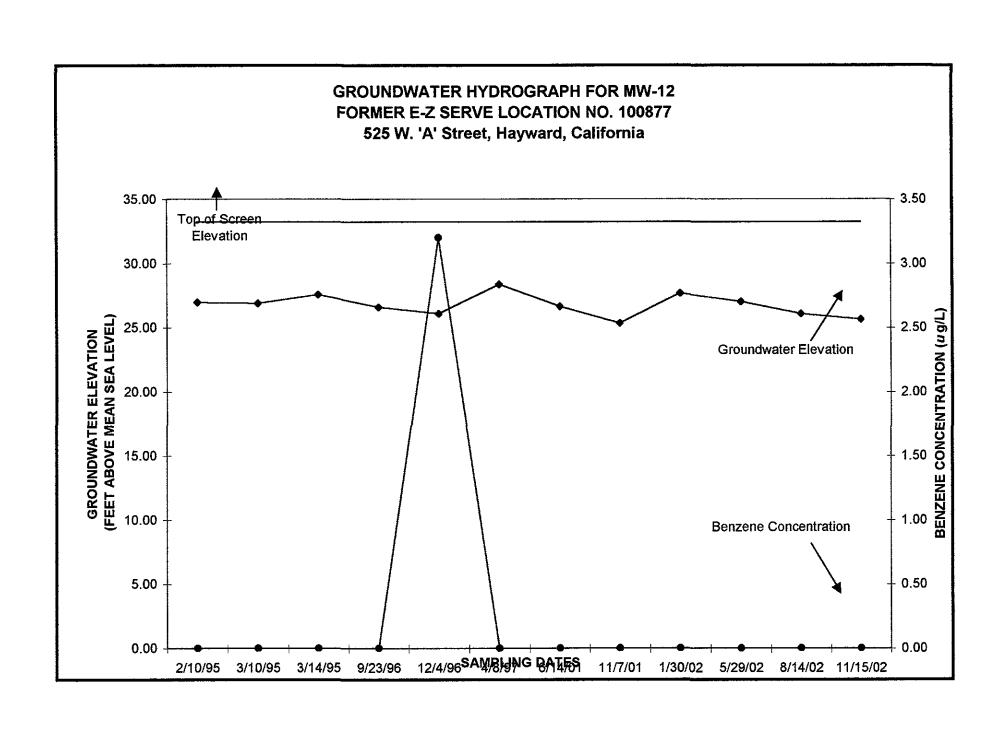


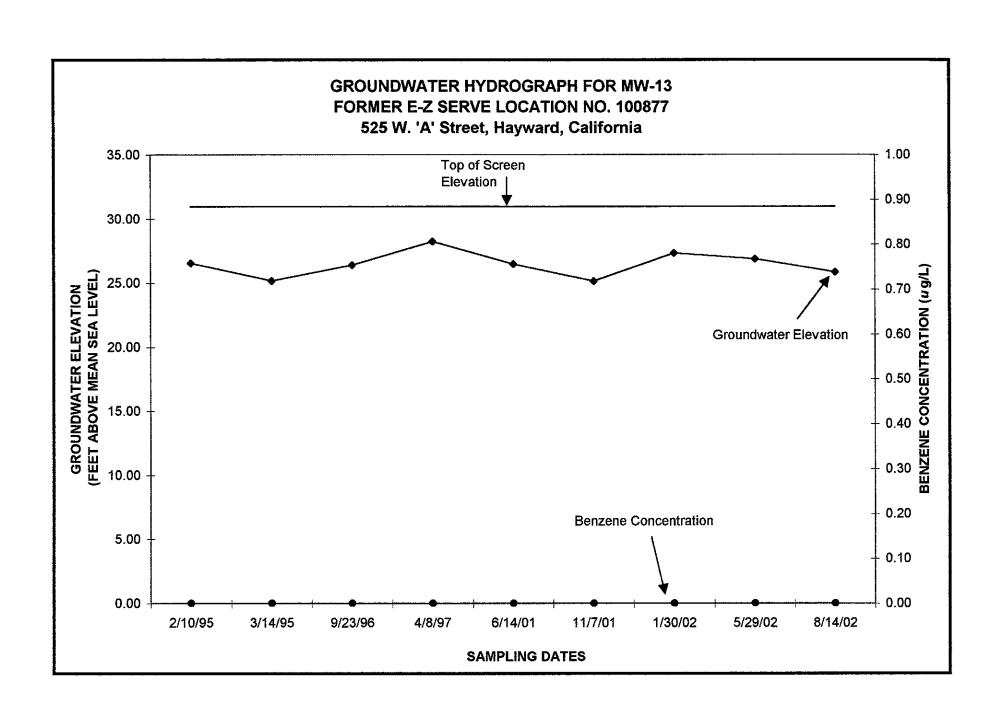


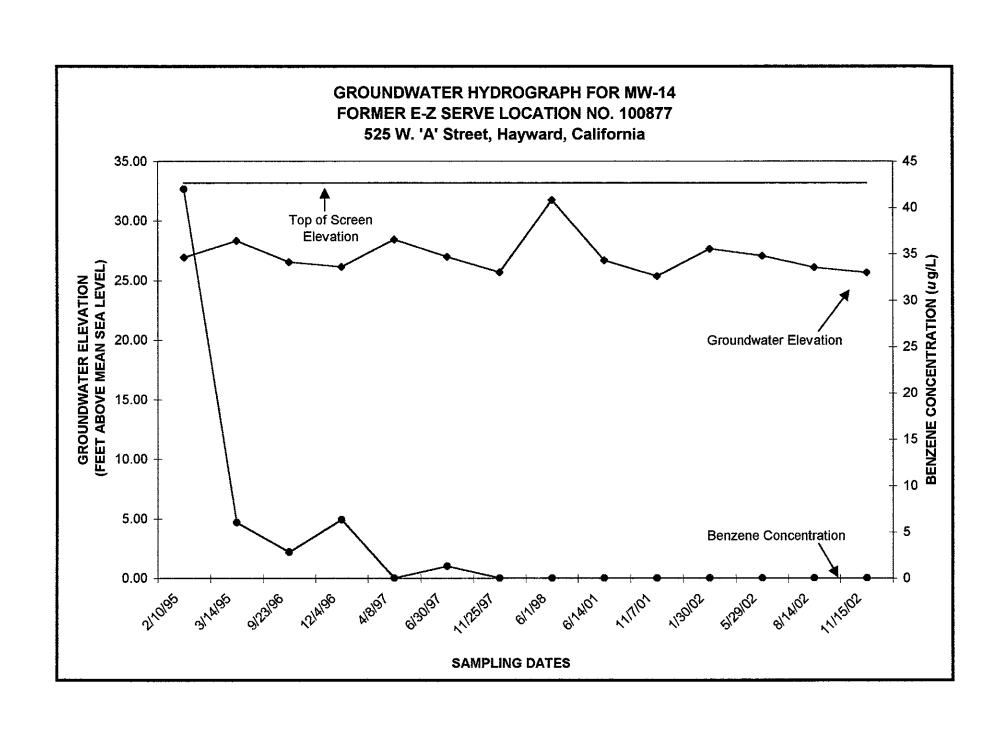












APPENDIX C

LABORATORY REPORT AND CHAIN-OF-CUSTODY RECORD



REPORT OF ANALYTICAL RESULTS

Client: Scott Levin

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number:

29700-1

Collected:

11/15/02

Received:

11/15/02

Matrix:

Aqueous

Sample Description:

MW-1

Analyzed:

11/18/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Benzene	10.	440.
Toluene	10.	16.
Ethylbenzene	10.	310.
Xylenes	10.	150.
t-Amyl Methyl Ether (TAME)	10.	ND
t-Butyl Alcohol (TBA)	100.	ND
Diisopropyl Ether (DIPE)	10.	ND
Ethyl-t-Butyl Ether (ETBE)	10.	ND
Methyl-t-Butyl Ether (MTBE)	10.	15.
Percent Surrogate Recovery		102

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

1000.

10000.

BTX as a Percent of Fuel

6

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA61118 MSD #6

29700-1.xls

DZ/sks/pv/ccc/ses

ASSET,

Dwain Zsadanyi

Project Manager

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





Client: Scott Levin

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number:

29700-2 11/15/02

Collected: Received:

11/15/02

Matrix:

Aqueous

Sample Description:

MW-1A

Analyzed:

11/18/02

Method:

See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	2.0	
Toluene	2.0	2.4
Ethylbenzene	2.0	630.
Xylenes	2.0	250.
t-Amyl Methyl Ether (TAME)	2.0	ND
t-Butyl Alcohol (TBA)	20.	ND
Diisopropyl Ether (DIPE)	2.0	ND
Ethyl-t-Butyl Ether (ETBE)	2.0	ND
Methyl-t-Butyl Ether (MTBE)	2.0	ND
Percent Surrogate Recovery		116

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

200.

17000.

BTX as a Percent of Fuel

2

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA61118 MSD #6 29700-2.xls

DZ/sks/pv/ccc/ses

-

Dwain Zsadanyi

Project Manager

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



REPORT OF ANALYTICAL RESULTS

Aqueous

Client: Scott Levin

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

 Lab Number:
 29700-3

 Collected:
 11/15/02

 Received:
 11/15/02

Sample Description:

MW-2

Analyzed:

11/19/02

Method:

Matrix:

See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene		31.
Toluene	20.	
Ethylbenzene	20.	1000.
Xylenes	20.	1400.
t-Amyl Methyl Ether (TAME)	20.	ND
t-Butyl Alcohol (TBA)	200.	ND
Diisopropyl Ether (DIPE)	20.	ND
Ethyl-t-Butyl Ether (ETBE)	20.	ND
Methyl-t-Butyl Ether (MTBE)	20.	39.
Percent Surrogate Recovery		103

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

2000.

34000.

BTX as a Percent of Fuel

7

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA61118 MSD #6 29700-3.xls DZ/sks/pv/ccc/ses

Dwain Zsadanyi Project Manager

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number:

29700-4

Collected:

11/15/02

Received:

11/15/02

Matrix:

Aqueous

Sample Description:

MW-3

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Benzene	0.5	7.5
Toluene	0.5	ND
Ethylbenzene	0.5	22.
Xylenes	0.5	1.1
t-Amyl Methyl Ether (TAME)	0.5	ND
t-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	0.5
Percent Surrogate Recovery		116
TOTAL PETROLEUM HYDROCARBONS		
Total Petroleum Hydrocarbons	50.	4300.

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

BTX as a Percent of Fuel

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA61118 MSD #6 29700-4.xls

DZ/sks/pv/ccc/ses

-025

Dwain Zsadanyi

Project Manager

<1

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

 Lab Number:
 29700-5

 Collected:
 11/15/02

 Received:
 11/15/02

 Matrix:
 Aqueous

Sample Description:

MW-4

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
		000
Benzene	2.0	330.
Toluene	2.0	10.
Ethylbenzene	2.0	260.
Xylenes	2.0	200.
t-Amyl Methyl Ether (TAME)	2.0	ND
t-Butyl Alcohol (TBA)	20.	ND
Diisopropyl Ether (DIPE)	2.0	ND
Ethyl-t-Butyl Ether (ETBE)	2.0	ND
Methyl-t-Butyl Ether (MTBE)	2.0	20.
Percent Surrogate Recovery		107

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

200.

3700.

BTX as a Percent of Fuel

15

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA61118 MSD #6 29700-5.xls

DZ/sks/pv/ccc/ses

-

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number:

29700-6 11/15/02

Collected:

Received:

11/15/02

Matrix:

Aqueous

Sample Description:

MW-5

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Benzene	5.0	99.
Toluene	5.0	ND
Ethylbenzene	5.0	250.
Xylenes	5.0	500.
t-Amyl Methyl Ether (TAME)	5.0	ND
t-Butyl Alcohol (TBA)	50.	ND
Diisopropyl Ether (DIPE)	5.0	ND
Ethyl-t-Butyl Ether (ETBE)	5.0	ND
Methyl-t-Butyl Ether (MTBE)	5.0	ND
Percent Surrogate Recovery		100

Total Petroleum Hydrocarbons

500.

7000.

BTX as a Percent of Fuel

9

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111119 MSD #11 29700-6.xls

DZ/sks/pv/bm/ra

- Den

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



REPORT OF ANALYTICAL RESULTS

Client: **Scott Levin**

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number: Collected:

29700-7 11/15/02

Received:

11/15/02

Matrix:

Agueous

Sample Description:

MW-6

Analyzed:

11/20/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
	0.5	10
Benzene	0.5	19.
Toluene	0.5	4.7
Ethylbenzene	0.5	70.
Xylenes	0.5	38.
-Amyl Methyl Ether (TAME)	0.5	ND
-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		103

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

50.

5000.

BTX as a Percent of Fuel

1

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111120 MSD #11 29700-7.xls

DZ/sks/pv/mh

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



REPORT OF ANALYTICAL RESULTS

Client: Scott Levin

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

EZ Serve #100877 Project:

Project Number: EZS0024 Collected by:

P. Arroyo

29700-8 Lab Number: Collected: 11/15/02 Received: 11/15/02 Matrix: Aqueous

Sample Description:

MW-7

Analyzed:

11/20/02

low

Method:	See	Bel

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
	0.5	0.6
Benzene		
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	0.6
t-Amyl Methyl Ether (TAME)	0.5	ND
t-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		101
TOTAL PETROLEUM HYDROCARBONS		
Total Petroleum Hydrocarbons	50.	1000.
BTX as a Percent of Fuel		<1

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111120 MSD #11 29700-8.xls DZ/sks/pv/mh

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number: Collected: 29700-9 11/15/02

Received:

11/15/02

Matrix:

Aqueous

Sample Description:

MW-12

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
t-Amyl Methyl Ether (TAME)	0.5	ND
t-Butyl Alcohol (TBA)	5.O	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		100

Total Petroleum Hydrocarbons

50.

ND

BTX as a Percent of Fuel

N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111119 MSD #11 29700-9.xls

DZ/sks/pv/bm/ra

-60

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



REPORT OF ANALYTICAL RESULTS

Client: Scott Levin

ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZS0024

Collected by:

P. Arroyo

Lab Number:

29700-10

Collected:

11/15/02

Received: Matrix:

11/15/02 Aqueous

Sample Description:

MW-14

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
t-Amyl Methyl Ether (TAME)	0.5	ND
t-Butyl Alcohol (TBA)	5.O	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery	,	100
TOTAL PETROLEUM HYDROCARBONS		
Total Petroleum Hydrocarbons	50.	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

BTX as a Percent of Fuel

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111119 MSD #11 29700-10.xls

DZ/sks/pv/bm/ra

Dwain Zsadanyi Project Manager N/A

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





ATC Associates, Inc.

9620 Chesapeake Dr., Ste. 203

San Diego, CA 92123

Project:

EZ Serve #100877

Project Number:

EZ\$0024

Collected by:

P. Arroyo

 Lab Number:
 29700-11

 Collected:
 11/15/02

 Received:
 11/15/02

 Matrix:
 Aqueous

Sample Description:

EX-1

Analyzed:

11/20/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Benzene	0.5	4.1
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
t-Amyl Methyl Ether (TAME)	0.5	ND
t-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND

TOTAL PETROLEUM HYDROCARBONS

Total Petroleum Hydrocarbons

50.

0.5

0.5

67.

ND

0.7

101

BTX as a Percent of Fuel

Ethyl-t-Butyl Ether (ETBE)

Methyl-t-Butyl Ether (MTBE)

Percent Surrogate Recovery

6

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Note: Analytical range is C4-C12.

Note: TPH quantitated against gasoline.

Note: Oxygenates not included in TPH result.

Submitted by,

ZymaX envirotechnology, inc.

VA111120 MSD #11 29700-11.xls DZ/sks/pv/mh

ALZ,

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Lab	Number:	

BLK VA61118

Collected: Received:

Matrix:

Aqueous

Project:

Project Number: Collected by:

Sample Description:

Instrument Blank

Analyzed:

11/18/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**	
	ug/L	ug/L	
Benzene	0.5	ND	
Foluene Foluene	0.5	ND	
Ethylbenzene	0.5	ND	
Kylenes	0.5	ND	
-Amyl Methyl Ether (TAME)	0.5	ND	
-Butyl Alcohol (TBA)	5.0	ND	
Diisopropyl Ether (DIPE)	0.5	ND	
Ethyl-t-Butyl Ether (ETBE)	0.5	ND	
Methyl-t-Butyl Ether (MTBE)	0.5	ND	
Percent Surrogate Recovery		98	
TOTAL PETROLEUM HYDROCARBONS			
Gasoline	50.	ND	
BTX as a Percent of Fuel		N/A	

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by, ZymaX envirotechnology, inc.

Dwain Zsadanyi **Project Manager**

VA61118 MSD #6 VA61118c.xls DZ/ah/pv/mh

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



QUALITY ASSURANCE REPORT BLANK RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by: Lab Number:

BLK VA111119

Collected:

Received:

Matrix:

Aqueous

Sample Description:

Instrument Blank

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
3enzene	0.5	ND
l'oluene	0.5	ND
Ethylbenzene	0.5	ND
Kylenes	0.5	ND
-Amyl Methyl Ether (TAME)	0.5	ND
-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		102
TOTAL PETROLEUM HYDROCARBONS		
Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by, ZymaX envirotechnology, inc.

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Dwain Zsadanyi Project Manager

VA111119 MSD #11 A111119b.xls DZ/sks/pv

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.





Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by:

Lab Number:

BLK VA111120

Collected:

Received:

Matrix:

Aqueous

Sample Description:

Instrument Blank

Analyzed:

11/20/02

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See Below

Method:	See	Belov

CONSTITUENT	PQL*	RESULT**
	ug/L	ug/L
Региона	0.5	ND
Benzene Toluene	0.5	ND
	0.5	ND ND
Ethylbenzene Xylenes	0.5	ND ND
t-Amyl Methyl Ether (TAME)	0.5	ND ND
t-Butyl Alcohol (TBA)	5.0	ND
Diisopropyl Ether (DIPE)	0.5	ND
Ethyl-t-Butyl Ether (ETBE)	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		100
TOTAL PETROLEUM HYDROCARBONS		destrict for the contraction with the form to exclude the set of the contract to the third to the contract to the
Gasoline	50.	ND
BTX as a Percent of Fuel		N/A
DIA as a reflectit of rue		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by, ZymaX envirotechnology, inc.

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Dwain Zsadanyi Project Manager

VA111120 MSD #11 A111120b.xls DZ/sks/pv

^{*}PQL - Practical Quantitation Limit

^{**}Results listed as ND would have been reported if present at or above the listed PQL.



QUALITY ASSURANCE REPORT SPIKE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401 Lab Number:

QS VA61118

Collected: Received:

Matrix: Aqueous

Project:

Project Number: Collected by:

Sample Description:

Quality Assurance Spike

Analyzed:

11/18/02

Method:

See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent
- Marie Mari	ug/L	ug/L	Recovery
Benzene	11.3	12.9	114
Toluene	17.9	20.2	113
Ethylbenzene	12.1	10.8	89
Xylenes	27.9	24.1	86
Methyl t-Butyl Ether (MTBE)	21.1	21.3	101
Percent Surrogate Recovery			103
TOTAL PETROLEUM HYDROCARBONS			
Gasoline	500.	582.	116
BTX as a Percent of Fuel	11	10	

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by, ZymaX envirotechnology, inc.

Dwain Zsadanyi Project Manager

VA61118 MSD #6 VA61118q.xls DZ/ah/pv/ses



QUALITY ASSURANCE REPORT SPIKE DUPLICATE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Lab Number: QSD VA61118
Collected:
Received:
Matrix: Aqueous

Project:

Project Number: Collected by: Sample Description:

Quality Assurance Spike Duplicate

Analyzed:

11/18/02

Method: See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent	Relative Percent
	ug/L	ug/L	Recovery	Difference*
Benzene	11.3	12.9	114	0
Toluene	17.9	21.0	117	4
Ethylbenzene	12.1	11.1	92	3
Xylenes	27.9	24.7	89	2
Methyl t-Butyl Ether (MTBE)	21.1	22.0	104	3
Percent Surrogate Recovery			105	
TOTAL PETROLEUM HYDROCARE	BONS			
Gasoline	500.	591.	118	2
BTX as a Percent of Fuel	11	10		

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

VA61118 MSD #6 VA61118q.xls DZ/ah/pv/ses Submitted by, ZymaX envirotechnology, inc.

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^{*}Relative Percent Difference of the spike and spike duplicate



QUALITY ASSURANCE REPORT SPIKE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by:

Lab Number:

QS VA111119

Collected: Received:

Matrix:

Aqueous

Sample Description:

Quality Assurance Spike

Analyzed:

11/19/02

Method: See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent
	ug/L_	ug/L	Recovery
Benzene	9.6	9.0	94
Toluene	16.7	15.8	95
Ethylbenzene	8.4	9.3	111
Xylenes	42.9	47.8	111
Methyl t-Butyl Ether (MTBE)	21.7	22.2	102
Percent Surrogate Recovery			99
TOTAL PETROLEUM HYDROCARBONS			· —
Gasoline	500.	425.	85
BTX as a Percent of Fuel	14	17	

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

VA111119 MSD #11 A111119q.xis DZ/sks/pv Submitted by, ZymaX envirotechnology, inc.

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QUALITY ASSURANCE REPORT SPIKE DUPLICATE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by: Lab Number:

QSD VA111119

Collected: Received:

Matrix:

Aqueous

Sample Description:

Quality Assurance Spike Duplicate

Analyzed:

11/19/02

Method:

See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent	Relative Percent
	ug/L	ug/L	Recovery	Difference*
Benzene	9.6	9.4	98	4
Toluene	16.7	16.5	99	4
Ethylbenzene	8.4	9.5	113	2
Xylenes	42.9	48.6	113	2
Methyl t-Butyl Ether (MTBE)	21.7	22.7	105	2
Percent Surrogate Recovery			100	
TOTAL PETROLEUM HYDROCARBO	ONS		•	
Gasoline	500.	455.	91	7
BTX as a Percent of Fuel	14	16		

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

VA111119 MSD #11 A111119q.xls DZ/sks/pv Submitted by, ZymaX envirotechnology, inc.

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^{*}Relative Percent Difference of the spike and spike duplicate



QUALITY ASSURANCE REPORT SPIKE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by: Lab Number:

QS VA111120

Collected:

Received: Matrix:

Aqueous

Sample Description:

Quality Assurance Spike

Analyzed:

11/20/02

Method:

See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent
The state of the s	ug/L	ug/ <u>L</u>	Recovery
Benzene	9.6	8.7	91
Toluene	16.7	15.4	92
Ethylbenzene	8.4	8,1	96
Xylenes	42.9	41.4	97
Methyl t-Butyl Ether (MTBE)	21.7	22.7	105
Percent Surrogate Recovery			101
TOTAL PETROLEUM HYDROCARBONS			
Gasoline	500.	489.	98
BTX as a Percent of Fuel	14	13	

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

A111120q.xls DZ/sks/pv/mh

VA111120 MSD #11 Submitted by, ZymaX envirotechnology, inc.

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QUALITY ASSURANCE REPORT SPIKE DUPLICATE RESULTS

Client:

ZymaX envirotechnology, inc. 71 Zaca Lane, Suite 110 San Luis Obispo, CA 93401

Project:

Project Number: Collected by: Lab Number:

QSD VA111120

Collected: Received:

Matrix:

Aqueous

Sample Description:

Quality Assurance Spike Duplicate

Analyzed:

11/20/02

Method: See Below

CONSTITUENT	Amount Spiked	Amount Recovered	Percent	Relative Percent
	ug/L	ug/L	Recovery	Difference*
Benzene	9.6	8.9	93	2
Toluene	16.7	15.7	94	2
Ethylbenzene	8.4	8.6	102	6
Xylenes	42.9	44.1	103 ·	6
Methyl t-Butyl Ether (MTBE)	21.7	23.1	106	2
Percent Surrogate Recovery			101	
TOTAL PETROLEUM HYDROCARBO	NS			
Gasoline	500.	461.	92	6
BTX as a Percent of Fuel	14	15		

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

Note: Analyzed by EPA 8260 and GC/MS Combination.

VA111120 MSD #11 A111120q.xls DZ/sks/pv/mh Submitted by, ZymaX envirotechnology, inc.

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^{*}Relative Percent Difference of the spike and spike duplicate

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company	OFF LEVIN SSOC. ESAPEAKE Dr. Suite 203 D , CA 92123	vox R58)569- proj E-2 SEY proj # 43.258 sampler	10 × 1	IAVIAIA	111	1 / HTRE 104 (8'2'60)	ANALYSIS REQUESTED	ASAP 48 hr 12 hr 72 hr 2
ZymaX use only :	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	TP49 1872		24 hr std X
29700-1 -2 -3 -1 -5 -6 -7 -8 -1	MW-1 MW-1A MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-7 MW-12 MW-13	11.15.02	1200 1140 1155 1135 1205 1150 1145 1050 1030	GW		X X X X X X X X		3 3X40mi Voa
1 * '	EX-I EX-I EX-I EDF FOYMAT 2677 pm 5. Levin-ab upon receipt: intact cold cold cold	Relinquisher Signature Print Company Date Relinquisher Signature Print Company Date	ed by: AT 11.15	Of Oht	Time Time	14:20	Print Company Date Received by ZymaX e Signature Print Company	Time Q:00 Pege of