September 17 2009

Mr. David Blain
BPS Reprographic Services
945 Bryant Street
San Francisco, CA 94103

RE: September 2009 Groundwater Monitoring Report
1700 Jefferson Street, Oakland, California
Fuel Leak Case No. RO 151
ERS Project No. 1015-01.00

Dear Mr. Blain:

Environmental Risk Specialties Corporation (ERS) has enclosed one hard copy of the September 2009 Groundwater Monitoring Report for 1700 Jefferson Street, Oakland, California. ERS will also upload the Report along with monitoring well sampling and analytical data to the Regional Water Quality Control Board's GeoTracker database.

This report includes additional information requested by Alameda County Environmental Health in its September 10, 2009 letter denying regulatory closure.

If you have any questions regarding this report or the findings of the work, please contact me at (925) 938-1600, extension 109 or email me at ddement@erscorp.us.

Sincerely,

David DeMent, PG
Senior Geologist

cc: Ms. Barbara Jakub, Alameda County Health Care Services Agency

Enclosure

SEPTEMBER 2009

GROUNDWATER MONITORING

REPORT

1700 Jefferson Street
Oakland, California

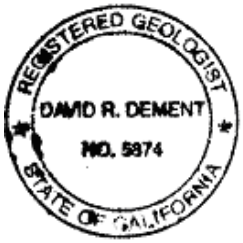
Prepared for:
Mr. David Blain
BPS Reprographic Services
945 Bryant Street
San Francisco, CA 94103

Prepared by:
Environmental Risk Specialties Corporation
Walnut Creek, California

September 17 2009

Reviewed By: _____

David DeMent, PG
Senior Geologist



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1.0 INTRODUCTION

This September 2009 Groundwater Monitoring Report was prepared by Environmental Risk Specialties Corporation (ERS) at the request of BPS Reprographic Services (Client). This Report describes groundwater monitoring work performed at 1700 Jefferson Street, Oakland, California (Site). The project objectives were to purge and sample four existing groundwater monitoring wells, measure the depth to groundwater in all existing wells to calculate groundwater gradient and flow direction, evaluate analytical results, and report the findings.

2.0 BACKGROUND

The Site is located on the northeast corner of the intersection of Jefferson Street and 17th Street in Oakland, California. On June 16, 1987, three gasoline underground storage tanks (USTs) were removed from the Site and a suspect unauthorized release was confirmed. Three groundwater monitoring wells were installed in June 1987 and well MW-1 initially contained 30 inches of free-phase floating product (free product). Well MW-2 was subsequently destroyed when the current building was constructed. In January 1988, groundwater extraction wells MW-1A and MW-4 were installed to specifically remove free product. In August 1988, offsite well MW-5 was installed.

Free product was removed from well MW-1 on a daily basis and an estimated 2,300 gallons of free product were removed from September 1987 to March 1991. Harding Lawson Associates (HLA) constructed a groundwater extraction and treatment system in June 1992 and by July 1999 removed an additional 867 gallons of free product. In April 1996, HLA installed well MW-6, and in March 1998, HLA advanced five Cone Penetrometer Test (CPT) borings south of the Site and north of well MW-5. In April 1998, HLA had free product samples analyzed and determined that free product was comprised of leaded gasoline. Free product has not been observed in the wells since 1999.

In 1999, MACTEC installed oxygen release compound (ORC®) socks in wells MW-1A, MW-3, MW-4, and MW-5. The ORC® socks were removed at the request of ACHCSA in 2002. Quarterly groundwater monitoring has been conducted since January 1994.

Groundwater extraction wells MW-1A and MW-4 were periodically sampled from August 1991 to June 1999. Extraction well water sample analytical results are summarized in Table 1. Monitoring well elevation data is summarized in Table 2, gradient data is summarized in Table 3, and analytical data is summarized in Table 4.

TABLE 1 – EXTRACTION WELL SAMPLE ANALYTICAL RESULTS

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
Extraction Well MW-1A	07/08/87							30
	09/12/88							
	07/12/89							21.6
	08/01/91	350,000	17,000	31,000	3,000	FP	NA	
	07/02/92							18
	09/30/92	FP	FP	FP	FP	FP	NA	10-13
	03/30/93	FP	FP	FP	FP	FP	NA	10.2-14.8
	01/13/94	FP	FP	FP	FP	14,000	NA	
	04/13/94	170,000	17,000	31,000	2,100	22,000	NA	12
	06/29/94	95,000	16,000	21,000	1,500	12,000	NA	4.5+/-
	12/08/94	190,000	13,000	21,000	1,400	11,000	NA	
	04/03/95	67,000	11,000	13,000	910	9,800	NA	0
	06/27/95	53,000	11,000	9,900	500	6,300	NA	
	09/19/95	52,000	8,900	11,000	790	5,300	NA	
	12/13/95	62,000	9,900	9,200	710	6,800	NA	
	03/06/96	200,000	14,000	22,000	2,700	22,000	NA	
	06/11/96	140,000	18,000	28,000	2,800	19,000	NA	
	09/19/96	100,000	16,000	22,000	2,100	14,000	NA	
	12/23/96	FP	FP	FP	FP	FP	NA	
	03/27/97	66,000	12,000	15,000	1,400	100	1,800	
	06/04/97	54,000	11,000	12,000	1,000	7,200	<500	
	09/26/97	73,000	10,000	16,000	1,400	8,500	<500	
	12/23/97	66,000	10,000	16,000	1,400	12,000	1,900	
	03/31/98	51,000	9,100	11,000	1,100	6,800	300	
	06/18/98	50,000	11,000	15,000	870	5,800	<50	
	08/28/98	15,000	1,100	830	31	3,000	<50	
	12/02/98	41,000	8,500	11,000	720	6,700	<50	
	03/10/99	10,000	2,300	1,900	1,600	2,300	<50	
	06/30/99	18,000	6,400	7,800	660	4,100	<25	
Extraction Well MW-4	07/08/87							
	09/12/88							5.9
	07/12/89							25.2
	08/01/91	86,000	1,500	6,200	1,000	FP	NA	18
	09/30/92	FP	FP	FP	FP	FP	NA	
	03/30/93	FP	FP	FP	FP	FP	NA	8.8
	01/13/94	FP	FP	FP	FP	3,200	NA	6.2
	04/13/94	58,000	1,500	2,500	520	7,300	NA	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
Extraction Well MW-4 (cont.)	06/29/94	16,000	1,300	790	51	3,400	NA	
	12/08/94	92,000	1,700	4,100	310	5,400	NA	
	04/03/95	35,000	1,200	3,400	280	5,800	NA	
	06/27/95	13,000	1,300	1,600	77	1,800	NA	
	09/19/95	14,000	630	470	14	1,800	NA	
	12/13/95	11,000	2,200	2,100	110	2,100	NA	
	03/06/96	110,000	2,600	3,600	780	10,000	NA	
	06/11/96	260,000	6,600	19,000	3,700	28,000	NA	
	09/19/96	95,000	9,900	19,000	2,000	13,000	NA	
	12/23/96	FP	FP	FP	FP	FP	NA	
	03/27/97	37,000	2,600	6,900	540	5,500	1,400	
	06/04/97	24,000	2,600	3,200	140	3,500	<300	
	09/26/97	41,000	2,900	5,000	350	4,800	<500	
	12/23/97	48,000	6,000	11,000	580	8,200	270	
	03/31/98	NA	NA	NA	NA	NA	NA	
	06/18/98	25,000	2,000	460	<15	6,400	<50	
	08/28/98	48,000	9,700	11,000	890	5,000	<50	
	12/02/98	10,000	1,700	610	<15	2,300	<50	
	03/10/99	11,000	2,300	2,100	88	1,600	<25	
	06/30/99	88,000	1,800	3,000	150	2,700	<25	

2.1 Subsurface Conditions

Soil boring logs from extraction wells MW-1A and MW-4, included in the February 2, 1990 *Aquifer Testing and Ground-water Treatment Cost Feasibility Study*, indicate that silty sand and clayey sands is present from the surface to an approximately depth of 27.0 to 30.5 feet below ground surface (bgs). Sands were reported in well MW-4 from approximately 27.0 to 30.5 feet bgs. These soils were underlain by stiff to very stiff, saturated silty clays to the maximum explored depth of 33.0 feet bgs. Groundwater was encountered between 25.0 to 25.5 feet bgs.

3.0 GROUNDWATER MONITORING AND SAMPLING

Groundwater monitoring and sampling of the Site was performed on September 3, 2009 by ERS personnel. Work at the Site included measuring depth to water, subjectively evaluating groundwater in the wells, purging and sampling the wells using EPA approved low-flow techniques, and submitting the samples to a state-certified laboratory for analysis of constituents of concern.

3.1 Groundwater Monitoring

Before groundwater purging and sampling, the depth to the water table was measured from the top of each well casing using an electronic water level meter. The water level measurements were recorded to the nearest 0.01 foot with respect to mean sea level (MSL). Worksheets of recently recorded groundwater monitoring data are included as Appendix 1. Information regarding well elevations and groundwater depths for the Site is summarized in Table 2.

TABLE 2 – GROUNDWATER ELEVATIONS

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	03/06/96	32.36	*NS*	---
	06/11/96	32.36	FP	---
	09/19/96	32.36	FP	---
	12/23/96	32.36	FP	---
	03/27/97	32.36	FP	---
	06/04/97	32.36	26.41	5.95
	09/26/97	32.36	26.80	5.56
	12/22/97	32.36	26.00	6.36
	03/31/98	32.36	26.06	6.30
	06/18/98	32.36	25.60	6.76
	08/28/98	32.36	25.45	6.91
	12/02/98	32.36	*24.92*	7.44
	03/10/99	32.36	24.90	7.46
	06/30/99	32.36	25.53	6.83
	09/29/99	32.36	24.23	8.13
	11/22/99	32.36	24.33	8.03
	02/11/00	32.36	24.38	7.98
	05/30/00	32.36	23.57	8.79
	09/15/00	32.36	23.85	8.51
	11/16/00	32.36	24.14	8.22
	04/02/01	32.36	23.40	8.96
	06/28/01	32.36	23.58	8.78
	08/30/01	32.36	24.00	8.36
	12/26/01	32.36	24.18	8.18
	04/23/02	32.36	NA	---
	06/14/02	32.36	23.41	8.95
	08/20/02	32.36	23.85	8.51
	12/27/02	32.36	24.10	8.26
	04/01/03	32.36	23.75	8.61
	07/01/03	32.36	23.50	8.86
	09/24/03	32.36	23.82	8.54

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1 Cont.	12/29/03	32.36	24.07	8.29
	05/18/04	32.36	23.64	8.72
	06/30/04	32.36	23.64	8.72
	09/23/04	32.36	23.98	8.38
	12/28/04	32.36	24.07	8.29
	03/16/05	32.36	23.80	8.56
	06/23/05	32.36	22.90	9.46
	09/09/05	32.36	23.27	9.09
	12/02/05	32.36	23.75	8.61
	03/24/06	32.36	23.05	9.31
	06/29/06	32.36	22.56	9.80
	09/13/06	32.36	23.00	9.36
	12/27/06	32.36	23.47	8.89
	03/30/07	32.36	23.51	8.85
	07/02/07	32.36	23.39	8.97
	10/02/07	32.36	23.87	8.49
	12/13/07	32.36	24.05	8.31
	03/26/08	32.36	23.56	8.80
	06/02/08	32.36	23.70	8.66
	03/03/09	32.36	24.31	8.05
	09/03/09	32.36	24.16	8.20
MW-3	03/06/96	31.77	24.79	6.98
	06/11/96	31.77	25.60	6.17
	09/19/96	31.77	26.09	5.68
	12/23/96	31.77	FP	---
	03/27/97	31.77	FP	---
	06/04/97	31.77	25.11	6.66
	09/26/97	31.77	25.41	6.36
	12/22/97	31.77	24.91	6.86
	03/31/98	31.77	24.05	7.72
	06/18/98	31.77	23.71	8.06
	08/28/98	31.77	23.70	8.07
	12/02/98	31.77	23.60	8.17
	03/10/99	31.77	22.65	9.12
	06/30/99	31.77	23.07	8.70
	09/29/99	31.77	23.03	8.74
	11/22/99	31.77	23.68	8.09
	02/11/00	31.77	23.74	8.03
	05/30/00	31.77	22.97	8.80
	09/15/00	31.77	23.12	8.65
	11/16/00	31.77	23.40	8.37
	04/02/01	31.77	23.40	8.37
	06/28/01	31.77	23.17	8.60

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-3 Cont.	08/30/01	31.77	23.35	7.42
	12/26/01	31.77	23.54	8.23
	04/23/02	31.77	22.89	8.88
	06/14/02	31.77	22.85	8.92
	08/20/02	31.77	23.11	8.66
	12/27/02	31.77	23.34	8.43
	04/01/03	31.77	22.90	8.87
	07/01/03	31.77	22.80	8.97
	09/24/03	31.77	23.15	8.62
	12/29/03	31.77	23.45	8.32
	05/18/04	31.77	22.98	8.79
	06/30/04	31.77	23.04	8.73
	09/23/04	31.77	23.32	8.45
	12/28/04	31.77	28.71	3.06[2]
	03/16/05	31.77	23.70	8.07
	06/23/05	31.77	22.40	9.37
	09/09/05	31.77	22.63	9.14
	12/02/05	31.77	23.06	8.74
	03/24/06	31.77	22.57	9.20
	06/29/06	31.77	23.91	9.84
	09/13/06	31.77	22.35	9.42
	12/27/06	31.77	22.82	8.95
	03/30/07	31.77	22.91	8.86
	07/02/07	31.77	22.88	8.89
	10/02/07	31.77	23.20	8.57
	12/13/07	31.77	23.40	8.37
	03/26/08	31.77	23.00	8.77
	06/02/08	31.77	23.08	8.69
	03/03/09	31.77	23.78	7.99
	09/03/09	31.77	23.55	8.22
MW-5	03/06/96	30.56	23.53	7.03
	06/11/96	30.56	23.78	6.78
	09/19/96	30.56	24.48	6.08
	12/23/96	30.56	24.83	5.73
	03/27/97	30.56	23.82	6.74
	06/04/97	30.56	23.92	6.64
	09/26/97	30.56	24.29	6.27
	12/22/97	30.56	24.02	6.54
	03/31/98	30.56	22.78	7.78
	06/18/98	30.56	22.51	8.05
	08/28/98	30.56	22.74	7.82
	12/02/98	30.56	23.16	7.40
	03/10/99	30.56	22.82	7.74

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-5 Cont.	06/30/99	30.56	22.41	8.15
	09/29/99	30.56	22.81	7.75
	11/22/99	30.56	22.88	7.68
	02/11/00	30.56	22.74	7.82
	05/30/00	30.56	21.73	8.83
	09/15/00	30.56	22.14	8.42
	11/16/00	30.56	22.39	8.17
	04/02/01	30.56	22.07	8.49
	06/28/01	30.56	22.15	8.41
	08/30/01	30.56	22.35	8.21
	12/26/01	30.56	22.49	8.07
	04/23/02	30.56	21.07	9.49
	06/14/02	30.56	21.80	8.76
	08/20/02	30.56	22.14	8.42
	12/27/02	30.56	NA[1]	NA[1]
	04/01/03	30.56	NA[1]	NA[1]
	07/01/03	30.56	NA[1]	NA[1]
	09/24/03	30.56	22.21	8.35
	12/29/03	30.56	22.56	8.00
	05/18/04	30.56	21.85	8.71
	06/30/04	30.56	22.00	8.56
	09/23/04	30.56	22.36	8.20
	12/28/04	30.56	22.42	8.14
	03/16/05	30.56	22.11	8.45
	06/23/05	30.56	21.20	9.36
	09/09/05	30.56	21.68	8.88
	12/02/05	30.56	22.19	8.37
	03/24/06	30.56	21.01	9.55
	06/29/06	30.56	20.78	9.78
	09/13/06	30.56	21.35	9.21
	12/27/06	30.56	21.82	8.74
	03/30/07	30.56	21.70	8.86
	07/02/07	30.56	21.81	8.75
	10/02/07	30.56	22.22	8.34
	12/13/07	30.56	22.31	8.25
	03/26/08	30.56	21.77	8.79
	06/02/08	30.56	22.04	8.52
	03/03/09	30.56	22.51	8.05
	09/03/09	30.56	22.36	8.20
MW-6	03/06/96	31.26	NA	---
	06/11/96	31.26	25.16	6.10
	09/19/96	31.26	25.76	5.50
	12/23/96	31.26	25.88	5.38

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-6 Cont.	03/27/97	31.26	24.78	6.48
	06/04/97	31.26	24.60	6.66
	09/26/97	31.26	24.80	6.46
	12/22/97	31.26	24.71	6.55
	03/31/98	31.26	23.75	7.51
	06/18/98	31.26	23.22	8.04
	08/28/98	31.26	22.23	9.03
	12/02/98	31.26	23.72	7.54
	03/10/99	31.26	23.54	7.72
	06/30/99	31.26	23.04	8.22
	09/29/99	31.26	23.42	7.84
	11/22/99	31.26	23.64	7.62
	02/11/00	31.26	23.67	7.59
	05/30/00	31.26	22.82	8.44
	09/15/00	31.26	23.10	8.16
	11/16/00	31.26	23.41	7.85
	04/02/01	31.26	23.33	7.93
	06/28/01	31.26	23.15	8.11
	08/30/01	31.26	23.35	7.91
	12/26/01	31.26	23.27	7.99
	04/23/02	31.26	22.89	8.37
	06/14/02	31.26	22.81	8.45
	08/20/02	31.26	23.15	8.11
	12/27/02	31.26	23.41	7.85
	04/01/03	31.26	23.16	8.10
	07/01/03	31.26	22.75	8.51
	09/24/03	31.26	23.16	8.10
	12/29/03	31.26	23.47	7.79
	05/18/04	31.26	22.87	8.39
	06/30/04	31.26	22.43	8.83
	09/23/04	31.26	23.30	7.96
	12/28/04	31.26	23.42	7.84
	03/16/05	31.26	23.60	7.66
	06/23/05	31.26	22.27	8.99
	09/09/05	31.26	22.55	8.71
	12/02/05	31.26	23.05	8.21
	03/24/06	31.26	22.50	8.76
	06/29/06	31.26	21.85	9.41
	09/13/06	31.26	22.31	8.95
	12/27/06	31.26	22.85	8.41
	03/30/07	31.26	22.88	8.38
	07/02/07	31.26	22.75	8.51
	10/02/07	31.26	23.17	8.09

Well Number	Date Measured	Well Elevation* (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-6 Cont.	12/13/07	31.26	23.37	7.89
	03/26/08	31.26	22.97	8.29
	06/02/08	31.26	23.07	8.19
	03/03/09	31.26	22.51	7.51
	09/03/09	31.26	23.49	7.77

Notes: All measurements are in feet
**Well elevation measured to top of casing*
NS = Not Sampled
FP = Free Product
NA = Not available
[1] = Data not available due to ORC socks in well
[2] = Data not available due to probable equipment malfunction or operator error

3.2 Groundwater Gradient

Groundwater elevation contours, as determined from monitoring well data obtained on September 3, 2009, are illustrated on Figure 3. Based on the measured groundwater elevations, calculated groundwater flow direction is to the west-northwest at an average gradient of 0.003 foot per foot. Historical groundwater gradients and flow directions are summarized in Table 3. Thirty-four of 42 calculated groundwater flow directions ranged from northwest to southwest and west was the predominant flow direction.

TABLE 3 - GROUNDWATER GRADIENT AND FLOW DIRECTION

Date Monitored	Reported Gradient	Reported Direction	Actual Gradient	Actual Direction
12/23/96			0.002[2]	S[2]
06/11/96	0.003	SW	0.003	SW
12/06/96			0.002	S
03/27/97			0.001[2]	S-SW[2]
06/04/97	0.009	NW	**<0.0001[2]**	**N-NE**
09/26/97			<0.0006[2]	NE[2]
03/31/98	0.002	W	0.002	W
06/18/98			<0.001	W-NW
08/28/98	0.007	E	0.007	E
12/02/98	0.006	NW	0.006	NW
03/10/99	0.011	NW	0.011	NW
09/29/99	0.004	NW	0.004	NW
02/11/00	0.001	NW	**0.004**	W-NW
05/30/00	0.003	W	0.004	W

Date Monitored	Reported Gradient	Reported Direction	Actual Gradient	Actual Direction
11/16/00	0.044	W	**0.005**	W-NW
04/02/01	0.001	SW	**0.010**	W-SW
06/28/01	0.005	SW	0.005	W-SW
08/30/01	0.004	SW	0.004	W-NW
04/23/02	0.006	W-SW	0.006	SW
06/14/02	0.004	W- SW	0.005	**W- NW**
08/20/02	0.005	W- SW	0.005	**W- NW**
12/27/02	0.005	W- SW	0.005	**W- NW**
04/01/03	0.007	W- SW	**0.001**	**W- NW**
07/01/03	0.006	W-NW	0.004	W-NW
09/24/03	0.005	W-NW	0.005	W-NW
12/29/03	0.003	W-NW	0.005	W-NW
05/18/04	0.006	W	0.004	W
06/30/04	0.002	N	0.002	N-NE
09/23/04	0.005	W	0.005	W
12/28/04	0.045[1]	SE[1]	**0.004**	**NW**
03/16/05	0.010	SW	**0.005**	SW
06/23/05	0.005	W	0.004	W
09/09/05	0.005	W	0.004	W-NW
12/02/05	0.006	NW	0.005	W-NW
03/24/06	0.006	NW	0.005	W-SW
09/13/06	0.005	W-NW	0.005	W-NW
12/13/07	0.004	W-NW	0.005	W-NW
03/26/08	0.004	W	0.005	W
06/02/08	0.004	W	0.005	W
03/03/09	---	---	0.004	W
09/03/09	---	---	0.003	W-NW

Notes: [1] *MACTEC reported an error in groundwater measurement*
[2] *Value added or changed 9/17/09*

3.3 Groundwater Sampling

Before groundwater sampling, each well was purged using EPA approved low-flow techniques summarized in the "Low-Flow (Minimal Drawdown) Ground Water Sampling Procedures" (EPA, 1996). Dedicated tubing, attached to a peristaltic pump, was lowered to the mid-point of the reported screen zone. The pump was set to a rate of less than 1 liter per minute and pH, dissolved oxygen (DO), specific conductance (SC), oxidation reduction potential (ORP), depth to water (DTW) and temperature were measured in three to five minute intervals within a flow-through cell. When parameters stabilized to within ±10% in consecutive readings, the pump rate was lowered, the tube was disconnected from the flow-through cell and samples were

collected directly from the dedicated tubing. Groundwater conditions monitored during purging and sampling were recorded on monitoring wells worksheets, included as Appendix 1.

From each monitoring well, four laboratory-supplied 40-milliliter sample vials were filled to overflowing and sealed to eliminate trapped air. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled with self adhesive, preprinted tags. The samples were stored in a pre-chilled, insulated container and returned to ERS's Walnut Creek Office pending courier pickup by AccuTest, a state-certified analytical laboratory, for the requested analyses.

Water purged during the development and sampling of the monitoring wells is being temporarily stored onsite in a 55-gallon drum pending laboratory analysis and proper disposal.

4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples collected from each well were submitted for analysis, following chain of custody protocol. Groundwater samples collected from wells MW-1, MW-3, MW-5, and MW-6 were analyzed for gasoline-range petroleum hydrocarbons (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. Copies of the chain of custody record and laboratory analytical reports are included as Appendix 2. TPHg, BTEX, and MTBE analytical results are summarized in Table 4.

TABLE 4 – GROUNDWATER ANALYTICAL RESULTS

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
MW-1	07/08/87							30
	09/12/88							25
	07/12/89							21.6
	08/01/91							12
	09/30/92							10
	03/30/93							
	01/13/94							14.8
	04/13/94							12
	06/29/94							0
	12/08/94							FP

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
	04/03/95							FP
	06/27/95							FP
MW-1	09/19/95							FP
Cont.	12/13/95							FP
	03/06/96							FP
	06/11/96							FP
	09/19/96							FP
	12/23/96							FP
	03/27/97							FP
	06/04/97	68,000	2,200	4,500	1,500	11,000	<500	
	09/26/97	59,000	6,000	3,000	1,600	8,600	<500	
	12/23/97	41,000	6,800	3,000	1,400	6,600	300	
	03/31/98	44,000	8,300	3,700	1,100	4,300	420	
	06/18/98	32,000	1,100	3,800	550	3,000	<50	
	08/28/98	26,000	8,600	2,300	730	2,100	<50	
	12/02/98	26,000	9,200	4,300	820	2,800	<50	
	03/10/99	26,000	8,200	5,900	870	3,500	<50	
	06/30/99	18,000	7,000	5,800	950	2,500	<25	
	09/29/99	21,000	9,200	10,000	1,200	5,500	<250	
	09/29/99	14,000	6,200	5,900	620	3,500	<250	
	11/22/99	24,000	4,900	5,000	730	3,500	<100	
	02/11/00	19,000	4,100	4,800	530	2,800	6.6	
	05/30/00	19,000	5,700	8,400	730	3,500	<5.0	
	09/15/00	20,000	4,100	5,700	540	2,700	<12	
	11/16/00	18,000	3,500	4,300	640	3,200	<40	
	04/02/01	19,000	4,700	5,200	570	2,600	50	
	06/28/01	39,000	5,200	4,200	660	3,900	8.5	
	08/30/01	31,000	5,600	5,100	560	2,500	<100	
	12/26/01	34,000	5,300	5,200	630	2,400	<120	
	04/24/02	35,000	4,900	6,000	740	3,100	<120	
	06/14/02	35,000	5,400	6,800	870	3,500	<250	
	08/20/02	26,000	4,100	4,700	620	2,700	<120	
	12/27/02	28,000	4,500	5,000	660	3,000	<120	
	04/01/03	16,000	4,500	6,000	680	3,100	<120	
	07/01/03	61,000	7,700	11,000	1,200	6,700	<250	
	09/25/03	59,000	7,600	9,400	1,000	4,800	<1,200	
	12/29/03	46,000	6,600	7,900	960	4,000	<250	
	05/18/04	23,000	4,100	4,700	450	1,500	<50	
	06/30/04	24,000	3,500	3,600	390	1,300	<50	
	09/23/04	24,000	3,800	3,900	470	1,400	<25	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
	12/28/04	22,000	3,400	3,400	380	1,400	<250	
	03/16/05	21,000	4,100	4,200	470	1,300	<50	
MW-1	06/23/05	30,000	5,400	5,500	520	1,900	<1,200	
Cont.	09/09/05	7,100	840	950	120	410	<120	
	12/02/05	19,000	3,600	3,500	410	1,300	<2.5	
	03/24/06	29,000	6,200	6,000	620	2,000	<500	
	06/29/06	23,000	4,800	4,000	330	1,200	<500	
	09/13/06	20,000	4,500	3,900	400	1,400	<250	
	12/27/06	31,000	6,000	5,300	710	2,500	<500	
	03/30/07	30,000	5,000	4,600	520	1,700	<500	
	07/02/07	14,000	2,500	2,000	280	930	<500	
	10/02/07	19,000	3,400	2,700	400	1,200	<500	
	12/13/07	18,000	3,500	2,700	390	1,100	<500	
	03/26/08	28,000	4,900	4,900	530	2,100	<500	
	06/02/08	20,000	3,300	3,300	380	1,700	<500	
	03/03/09	33,100	5,380	5,380	603	2,800	<100	
	09/03/09	35,900	5,570	5,180	620	3,270	<100	
MW-3	07/08/87							0
	09/12/88							
	07/12/89							
	08/01/91	74,000	1,600	4,600	670	4,300		4
	09/30/92							4.1
	03/30/93							1.3
	01/13/94							2.2
	04/13/94							1.8
	06/29/94	39,000	3,200	2,900	580	4,300		0.5
	12/08/94	4,600,000	1,500	4,200	6,000	95,000		
	04/03/95	51,000	1,100	2,300	580	4,800		
	06/27/95	20,000	270	550	190	1,700		
	09/19/95	6,200	70	140	68	500		
	12/13/95	19,000	220	480	140	1,700		
	03/06/96	7,000	120	170	49	440		
	06/11/96	16,000	170	270	68	1,500		
	09/19/96	6,000	45	30	15	300		
	12/23/96							
	03/27/97							
	06/04/97	85,000	8,500	13,000	2,400	16,000	<500	
	09/26/97	47,000	610	6,000	930	5,900	<100	
	12/23/97	32,000	640	5,300	800	5,900	<300	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
	03/31/98	32,000	690	3,800	870	5,200	350	
	06/18/98	16,000	180	1,500	490	3,700	<25	
MW-3	08/28/98	17,000	84	1,100	430	3,800	<50	
Cont.	12/02/98	3,200	39	85	25	360	<50	
	03/10/99	9,600	86	540	250	2,300	<25	
	06/30/99	7,900	31	330	200	1,800	<25	
	09/29/99	5,000	120	340	230	1,300	10	
	09/29/99	4,100	180	340	130	580	14	
	11/22/99	3,100	6.5	33	27	260	<1.0	
	02/11/00	540	8.3	20	2.4	28	31	
	05/30/00	490	11	5.6	0.45	17	<5.0	
	09/15/00	1,500	28	14	2.6	160	<5.0	
	11/16/00	1,300	20	34	25	28	<5.0	
	04/02/01	170	9	6.2	1.4	8.1	77	
	06/28/01	4,900	150	240	38	160	<2	
	08/30/01	3,100	42	48	26	210	<1.2	
	12/26/01	950	8	5.2	1.1	7	<0.5	
	04/24/02	300	11	4.8	0.72	1.4	<0.5	
	06/14/02	4,600	130	470	91	390	<0.5	
	08/20/02	4,900	330	170	40	150	<5.0	
	12/27/02	4,000	110	280	57	260	19	
	04/01/03	5,900	370	150	44	230	<1.0	
	07/01/03	12,000	200	460	130	390	<5.0	
	09/25/03	10,000	150	300	120	280	<2.5	
	12/29/03	7,300	160	250	79	210	<2.5	
	05/18/04	1,500	77	72	19	59	<12	
	06/30/04	2,000	81	37	34	40	<1.0	
	09/23/04	3,400	140	95	36	40	<10	
	12/28/04	3,900	340	37	11	60	<5.0	
	03/16/05	970	1.4	1.8	0.66	2.9	<2.5	
	06/23/05	850	56	7.3	<5	12	<25	
	09/09/05	3,900	470	100	33	96	<62	
	12/02/05	760	14	8	2.4	17	<0.5	
	03/24/06	590	83	41	7.3	33	<12	
	06/29/06	1,100	130	38	16	21	<25	
	09/13/06	1,300	260	71	44	28	<25	
	12/27/06	3,000	250	160	49	140	<25	
	03/30/07	3,100	250	260	46	110	<25	
	07/02/07	2,600	250	250	54	130	<25	
	10/02/07	1,900	170	140	24	48	<25	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
MW-3 Cont.	12/13/07	2,900	250	170	66	120	<25	
	03/26/08	2,300	340	95	26	64	<25	
	06/02/08	2,300	270	250	59	130	<25	
	03/03/09	3,020	37.1	10	3.8[J]	12.3[J]	<10	
	09/03/09	538	58.8	1.2	13.1	1.5	<1.0	
MW-5	07/08/87							
	09/12/88							0.5
	07/12/89							0.4
	08/01/91	120,000	20,000	14,000	1,900	4,900		0
	09/30/92	51,000	13,000	5,900	1,400	2,600		0
	03/30/93	74,000	16,000	5,000	1,800	2,700		0.06
	01/13/94	80,000	19,000	8,200	1,400	2,700		0
	04/13/94	63,000	14,000	3,500	1,500	2,100		0
	06/29/94	64,000	29,000	5,400	2,800	4,500		0
	12/08/94	59,000	13,000	3,800	1,800	2,900		
	04/03/95	51,000	15,000	2,200	2,800	4,500		
	06/27/95	41,000	12,000	2,100	1,400	1,600		
	09/19/95	50,000	1,600	2,700	2,000	2,100		
	12/13/95	45,000	13,000	2,100	16,000	1,900		
	03/06/96	51,000	15,000	2,800	2,000	2,400		
	06/11/96	48,000	12,000	2,900	2,000	2,700		
	09/19/96	48,000	12,000	4,500	2,300	4,000		
	12/23/96	45,000	12,000	2,200	2,700	6,500	600	
	03/27/97	44,000	11,000	1,100	1,900	2,800	300	
	06/04/97	35,000	8,900	560	1,500	1,700	<100	
	09/26/97	36,000	7,900	270	1,500	1,300	<500	
	12/23/97	39,000	13,000	500	1,900	1,700	<1,000	
	03/31/98	48,000	10,000	400	2,000	2,200	350	
	06/18/98	17,000	9,500	310	420	850	<10	
	08/28/98	16,000	5,400	160	1,100	900	<50	
	12/02/98	15,000	8,400	120	1,500	840	<50	
	03/10/99	23,000	14,000	300	1,800	1,100	<50	
	06/30/99	7,700	5,200	270	1,100	690	<25	
	09/29/99	11,000	9,600	710	1,100	1,100	<100	
	09/29/99	10,000	14,000	470	1,100	600	<100	
	11/22/99	30,000	11,000	3,400	1,500	2,500	<100	
	02/11/00	23,000	12,000	4,500	1,200	1,300	6.6	
	05/30/00	19,000	9,900	6,900	1,200	2,600	<200	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
	09/15/00	24,000	3,800	3,000	460	1,200	<10	
	11/16/00	1,800	470	220	39	100	<5	
MW-5	04/02/01	15,000	7,400	3,000	1,000	2,200	<50	
Cont.	06/28/01	3,600	300	11	16	15	4.4	
	08/30/01	34,000	8,300	3,000	1,400	2,600	<50	
	12/26/01	1,900	300	110	55	120	<10	
	04/24/02	9,400	2,300	130	300	270	<50	
	06/14/02	1,700	110	<2.5	7.2	<2.5	<0.50	
	08/20/02	3,200	320	8.6	22	19	<0.50	
	12/27/02	6,200	2,200	140	160	250	<25	
	04/01/03							
	07/01/03							
	09/25/03	43,000	12,000	2,800	1,500	3,000	<1,200	
	12/29/03	26,000	7,700	1,900	910	210	<2.5	
	05/18/04	15,000	5,000	1,300	380	770	<50	
	06/30/04	18,000	5,700	1,600	540	1,200	<50	
	09/23/04	42,000	12,000	3,900	1,200	2,400	<120	
	12/28/04	41,000	10,000	3,800	1,000	2,300	<250	
	03/16/05	37,000	11,000	3,800	1,100	2,400	<120	
	06/23/05	27,000	7,700	1,700	680	1,300	<1,200	
	09/09/05	46,000	10,000	2,700	1,100	2,100	<1,200	
	12/02/05	21,000	5,900	1,500	600	1,200	<500	
	03/24/06	<10,000	2,800	450	190	180	<500	
	06/29/06	1,200	240	11	13	18	<2.5	
	09/13/06	5,800	1,600	210	180	270	<120	
	12/27/06	16,000	4,300	610	460	750	<500	
	03/30/07	31,000	10,000	1,400	1,100	1,600	<500	
	07/02/07	33,000	9,400	1,400	1,000	1,500	<500	
	10/02/07	36,000	11,000	2,100	1,100	1,700	<620	
	12/13/07	34,000	11,000	2,600	1,200	1,900	<1,200	
	03/26/08	28,000	7,700	1,900	860	1,300	<1,200	
	06/02/08	43,000	13,000	3,800	1,400	2,400	<1,200	
	03/03/09	43,400	11,700	3,560	1,290	2,200	<250	
	09/03/09	35,900	8,800	1,240	1,720	2,420	<100	
MW-6	06/11/96	<50	<0.5	<0.5	<0.5	<2		
	09/19/96	<50	<0.5	<0.5	<0.5	<2		
	12/23/96	<50	<0.5	<0.5	<0.5	<2	<5	
	03/27/97	<50	<0.5	<0.5	<0.5	<2	<5	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
MW-6 Cont.	06/04/97	<50	<0.5	<0.5	<0.5	<2	<5	
	09/26/97	<50	<0.5	<0.5	<0.5	<2	<5	
	12/23/97	<50	<0.5	<0.5	<0.5	<2	<5	
	03/31/98	<50	<0.5	<0.5	<0.5	<2	<5	
	06/18/98	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	08/28/98	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	12/02/98	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	03/10/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	06/30/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	09/29/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	09/29/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	11/22/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	02/11/00	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	05/30/00	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	09/15/00	<50	<0.3	<0.3	<0.3	<0.6	<1.0	
	11/16/00	<50	<0.3	<0.3	<0.3	<0.3	<1.0	
	04/02/01	<50	<0.3	<0.3	<0.3	2.7	5	
	06/28/01	<50	<0.5	<0.5	<0.3	<0.5	17	
	08/30/01	<50	<0.5	<0.5	<0.3	8.7	<2.5	
	12/26/01	66	3.6	3.6	3.6	<0.5	<2.5	
	04/24/02	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	06/14/02	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	08/20/02	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	12/27/02	<50	<0.5	<0.05	<0.5	<0.5	<2.5	
	04/01/03	<50	<0.5	<0.05	<0.5	<0.5	<2.5	
	07/01/03	<50	<0.5	<0.05	<0.5	<2.5	<2.5	
	09/25/03	<50	<0.5	<0.05	<0.5	<2.5	<2.5	
	12/29/03	<50	<0.5	<0.05	<0.5	<0.5	<2.5	
	05/18/04	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	06/30/04	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	09/23/04	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	12/28/04	59	<0.5	<0.5	<0.5	1.6	<2.5	
	03/16/05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	06/23/05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	09/09/05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	12/02/05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	03/24/06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	06/29/06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	09/13/06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	12/27/06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	

Well Number	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Free Product (inches)
MW-6 Cont.	03/30/07	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	07/02/07	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	10/02/07	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	12/13/07	<50	<0.5	0.84	<0.5	<0.5	<2.5	
	03/26/08	<50	<0.5	<0.5	<0.5	0.88	<2.5	
	06/02/08	<50	<0.5	<0.5	<0.5	<0.5	<2.5	
	03/03/09	<50	<1.0	0.53[J]	<1.0	<2.0	<1.0	
	09/03/09	<50	<1.0	<1.0	<1.0	<2.0	<1.0	

Notes: µg/L = micrograms per liter (approximately equivalent to ppb)
< = Concentration is below the reporting limit of the lab
J = Estimated value

5.0 DISCUSSION

During this groundwater monitoring and sampling event, the calculated groundwater flow direction was west-northwest at an average gradient of 0.003 foot per foot. During the last 35 groundwater monitoring and sampling events (March 1998 to September 2009), the calculated groundwater flow direction has ranged from northwest to west-southwest (255° to 315°) **31 times**. Specifically, the calculated groundwater flow direction was either west or west-northwest (270° to 292°) **22 times**. The calculated groundwater flow direction was north-northeast **1 time**. Since June 2001, the groundwater gradient has consistently ranged from 0.001 to 0.005 foot per foot.

The concentration of TPHg increased slightly in well MW-1, decreased in well MW-3, and decreased in offsite well MW-5. BTEX concentrations fluctuated in wells MW-1, MW-3, and offsite well MW-5. Consistent with previous sampling results, MTBE was not reported above laboratory reporting limits in any of the wells and is not a constituent of concern. Consistent with previous sampling results, TPHg and BTEX were not reported above laboratory reporting limits in well MW-6.

Several lines of evidence suggest that petroleum hydrocarbon impacts reported in groundwater in well MW-5 originate from an unknown offsite source. Evidence for this offsite source of petroleum hydrocarbon impact includes: 1) despite elevated petroleum hydrocarbons being reported in groundwater in well MW-1 over time, almost no detectable petroleum hydrocarbons have been reported in groundwater in well MW-6, located approximately 100 feet in the confirmed downgradient direction during the same timeframe; 2) decreased concentrations of TPHg and BTEX in onsite well MW-1 and MW-

3 are consistent with remedial activities performed at the Site while reported concentrations of TPHg and BTEX in offsite well MW-5 (located approximately 160 feet north of the former USTs) represent slow decreasing trends associated with natural attenuation processes; 3) from June 1996 to September 2009, the predominant groundwater flow direction is west to west-northwest and fluctuates almost exclusively from northwest to southwest; 4) groundwater plume definition work performed north of well MW-5 in March 1998 reported almost no petroleum hydrocarbon impacts in groundwater, which is consistent with the calculated groundwater flow direction; 5) BTEX ratios in wells MW-1, MW-3, and MW-5 indicate that wells MW-1 and MW-5 are in proximity to a source of petreolum hydrocarbon contamination; and 6) a characteristic concrete repair exists in the sidewalk adjacent to well MW-5 that looks like a UST was removed.

5.1 BTEX Ratios

ERS understands that *Ground-Water Contaminant Plume Differentiation and Source Determination Using BTEX Concentration Ratios* (Yang, Spencer, Mersmann, Gates) published in November 1995, is used by the SWRCB when evaluating commingled plumes and suspect offsite sources. This document states that: 1) computer modeling shows that hydraulic dispersion, retardation, and biodegradation do not significantly modify the BTEX concentration ratios in ground water, particularly those of ethylbenzene and xylenes; 2) BTEX composition in ground water contaminated from different contaminant sources is often distinctive and source-specific; 3) under certain conditions, biodegradation rates for benzene, ethylbenzene, and xylenes are similar at approximately 1% per day; 4) BTEX concentration ratios in ground water, particularly xylenese/ethylbenzene, largely reflect BTEX compositional characteristics of the contaminant source; and 5) concentration ratios of benzene, ethylbenzene, and xylenes are likely to be similar in ground-water contaminant plume[(s)] derived from a single source.
BTEX ratios as a percentage of the reported TPHg for the March and September 2009 well monitoring and sampling events are summarized in Table 5.

TABLE 5 – BTEX RATIOS AS A PERCENTAGE OF TPHg

Well Number	Date Sampled	All BTEX	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1	03/03/09	42.8%	16.2%	16.2%	1.8%	8.4%
	09/03/09	40.8%	15.5%	14.4%	1.7%	9.1%
MW-3	03/03/09	2.1%	1.2%	0.3%	0.1%	0.4%
	09/03/09	13.9%	10.9%	0.2%	2.4%	0.3%
MW-5	03/03/09	43.2%	26.9%	8.2%	3.0%	5.0%
	09/03/09	39.5%	24.5%	3.4%	4.8%	6.7%

Generally, BTEX ratios were consistent between the two respective sampling events in wells MW-1 and MW-5, but varied considerably in well MW-3. Ethylbenzene and xylenes ratios during the two events in wells MW-1, MW-3, and MW-5 demonstrated no distinct correlation. The ratio of combined BTEX to the reported TPHg in wells MW-1 and MW-5 did show good correlation, and appear to indicate proximity to a source of impact.

6.0 CONCLUSIONS

Based on the results of groundwater monitoring performed at 1700 Jefferson Street, ERS has made the following conclusions:

- Calculated groundwater flow direction is to the west-northwest at an average gradient of 0.003 foot per foot and continues to be consistent with historical trends and regional topography;

- Reported TPHg increased slightly in onsite well MW-1 and decreased in onsite well MW-3, and reported TPHg decreased in offsite well MW-5;

- Reported BTEX concentrations generally fluctuated slightly in onsite wells MW-1 and MW-3 and decreased or were generally unchanged in offsite well MW-5;

- Consistent with recent trends, no detectable TPHg and BTEX concentrations were reported in downgradient well MW-6;

- Reported total TPHg / BTEX concentrations in well MW-5, BTEX ratios in well MW-1 and MW-5, and a predominant west to west-northwest groundwater flow direction, suggest an offsite unknown source of petroleum hydrocarbon impact to groundwater in the general vicinity of well MW-5; and

- Natural attenuation processes are continuing to degrade residual petroleum hydrocarbons in groundwater as evidenced by the significantly lower TPHg and BTEX concentrations being reported in wells MW-3 and downgradient well MW-6.

7.0 RECOMMENDATIONS

Based on current groundwater monitoring results and observations made during Site investigations, ERS recommends the following;

- Conduct a subsurface investigation to confirm that an offsite petroleum hydrocarbon source is impacting groundwater in the vicinity of well MW-5; and

- Continue future groundwater sampling in monitoring wells MW1, MW-3, MW-5, and MW-6 on a semi-annual basis as necessary, and sample extraction well MW-4 annually as necessary.

Therefore, the next tentatively scheduled groundwater monitoring event is March 3, 2010.

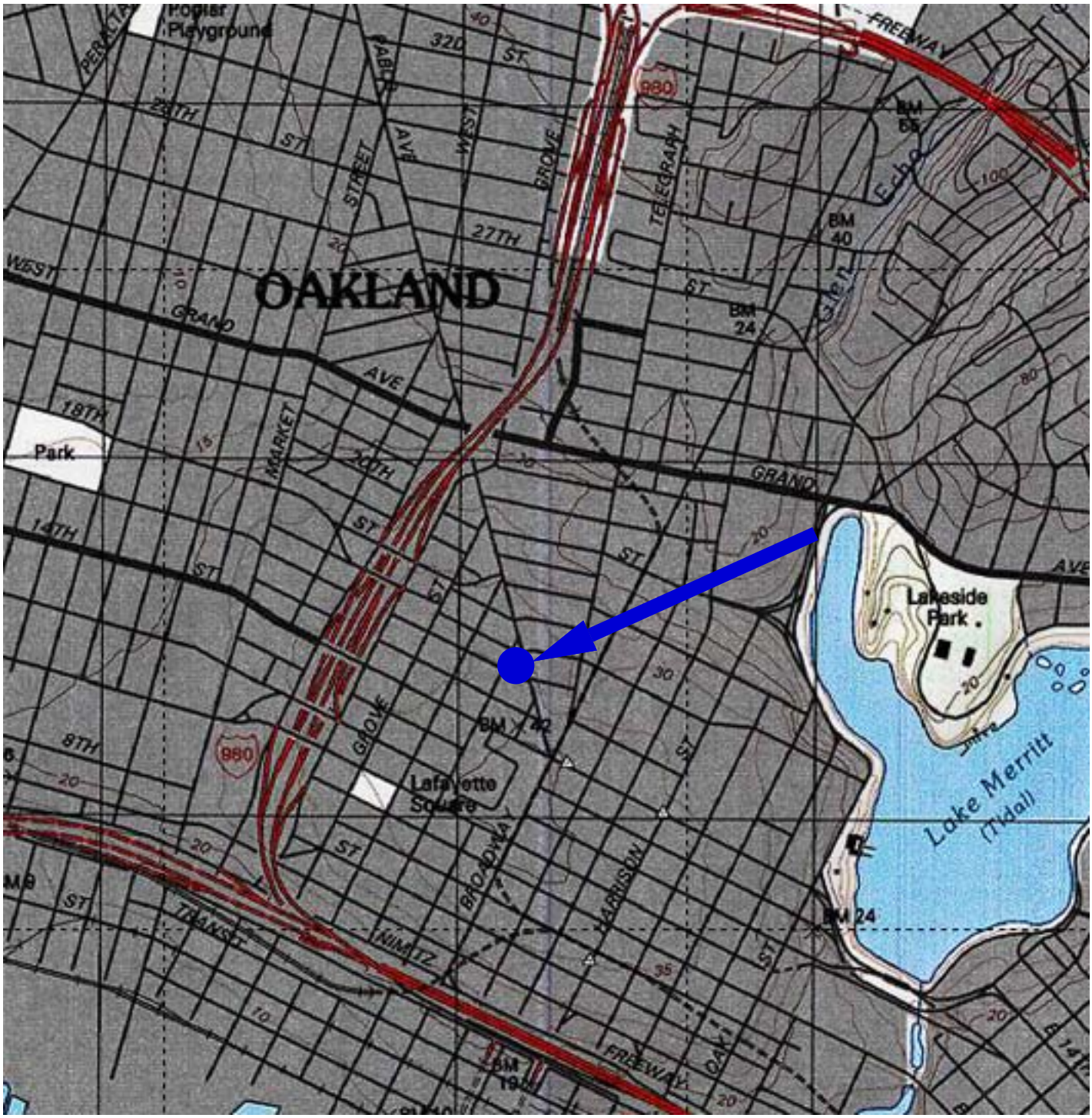
8.0 LIMITATIONS

The service performed by ERS has been conducted in a manner consistent with the levels of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

The conclusions presented in this report are professional opinions based on the indicated data described in this report and applicable regulations and guidelines currently in place. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study.

ERS has included analytical results from a state-certified laboratory, which performs analyses according to procedures suggested by the U.S. Environmental Protection Agency and the State of California. ERS is not responsible for laboratory errors in procedure or result reporting.

FIGURES



N

Location Map
1700 Jefferson Street
Oakland, California
Source: National Geographic TOPO!

Figure
1

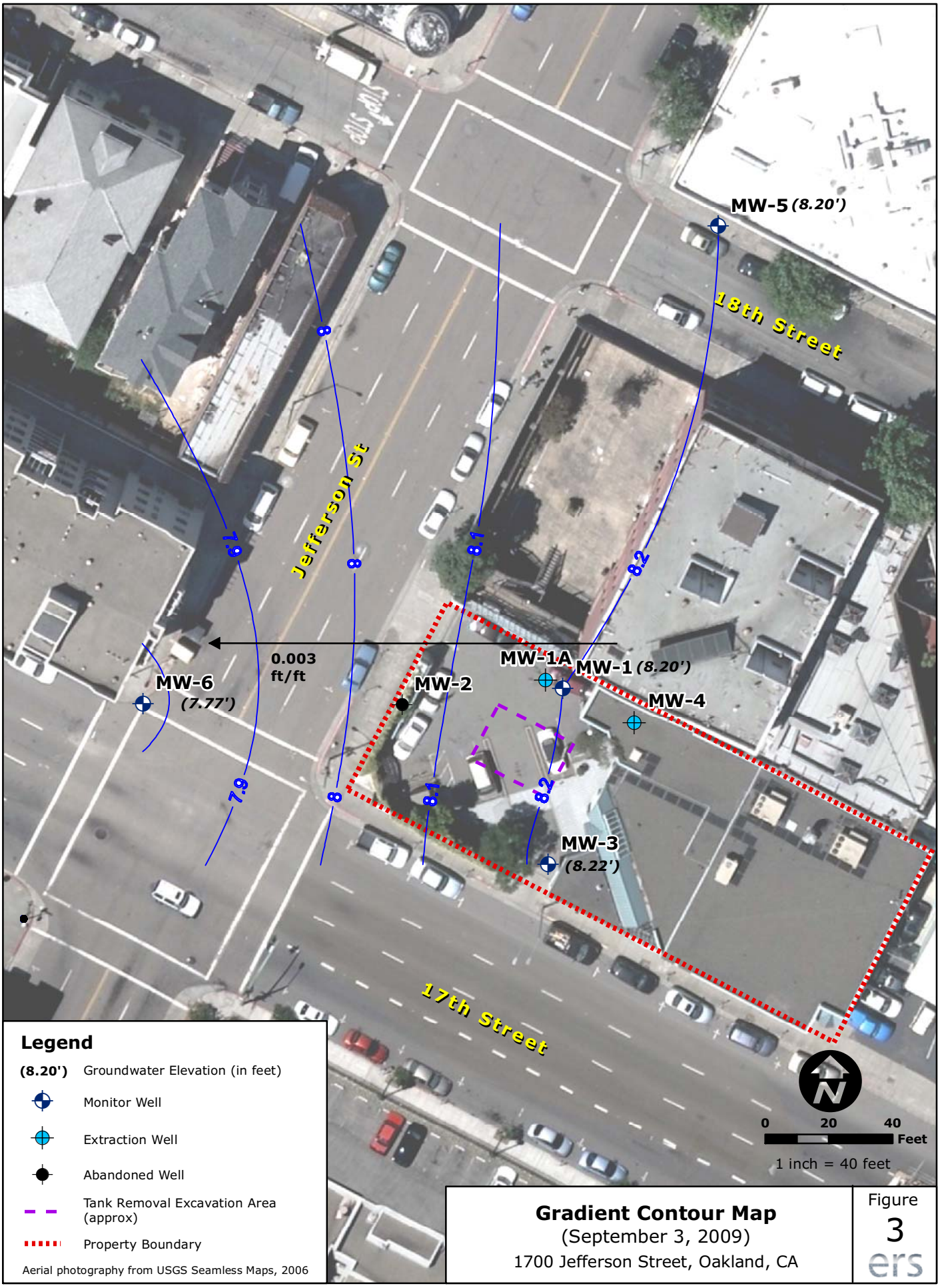
ERS Corporation

Site Plan

1700 Jefferson Street, Oakland, CA

Figure 2

ERS Corporation



Legend

- (8.20') Groundwater Elevation (in feet)
- Monitor Well
- Extraction Well
- Abandoned Well
- Tank Removal Excavation Area (approx)
- Property Boundary

Aerial photography from USGS Seamless Maps, 2006

Gradient Contour Map

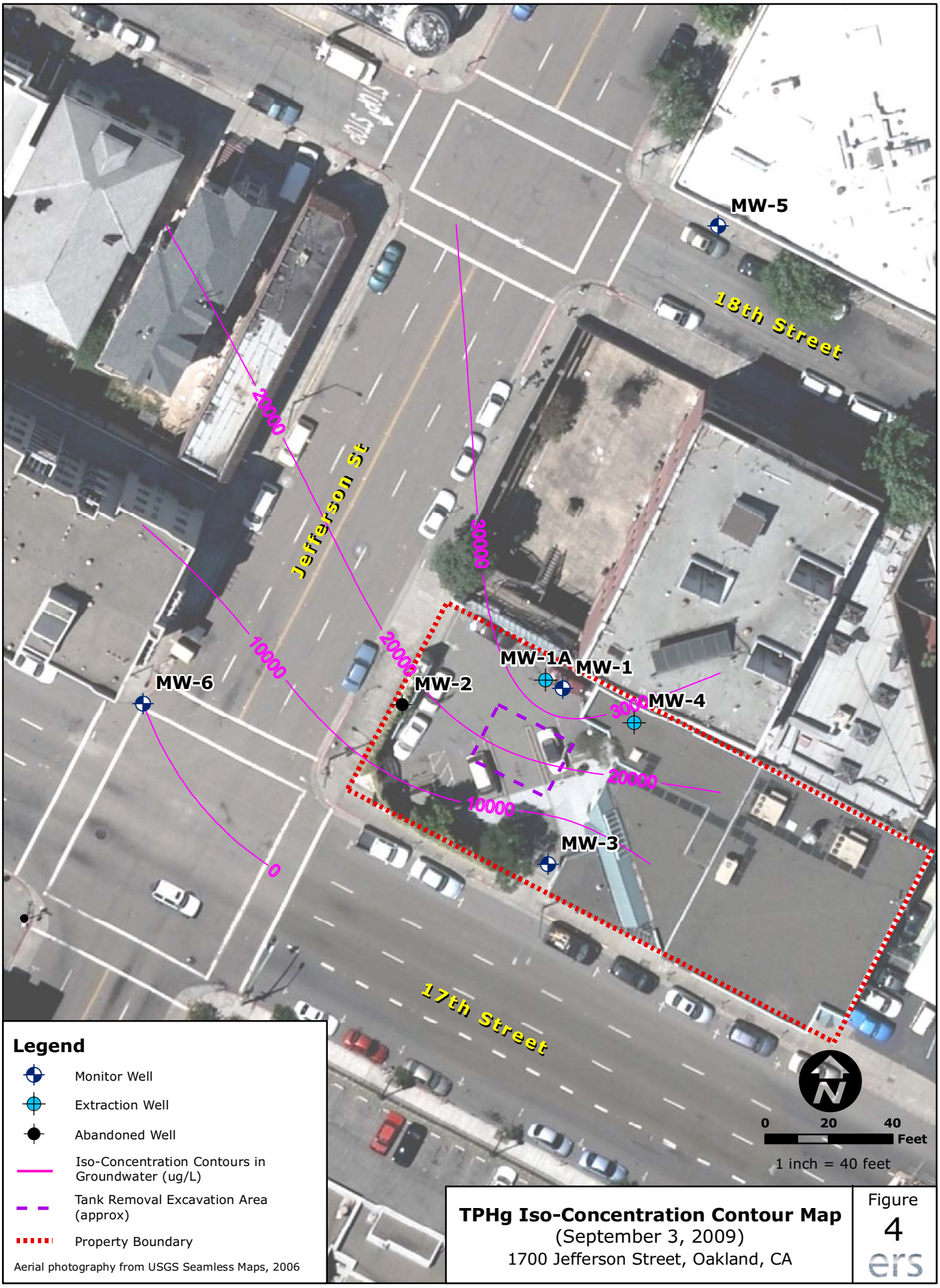
(September 3, 2009)

1700 Jefferson Street, Oakland, CA

Figure 3

ers

ERS Corporation

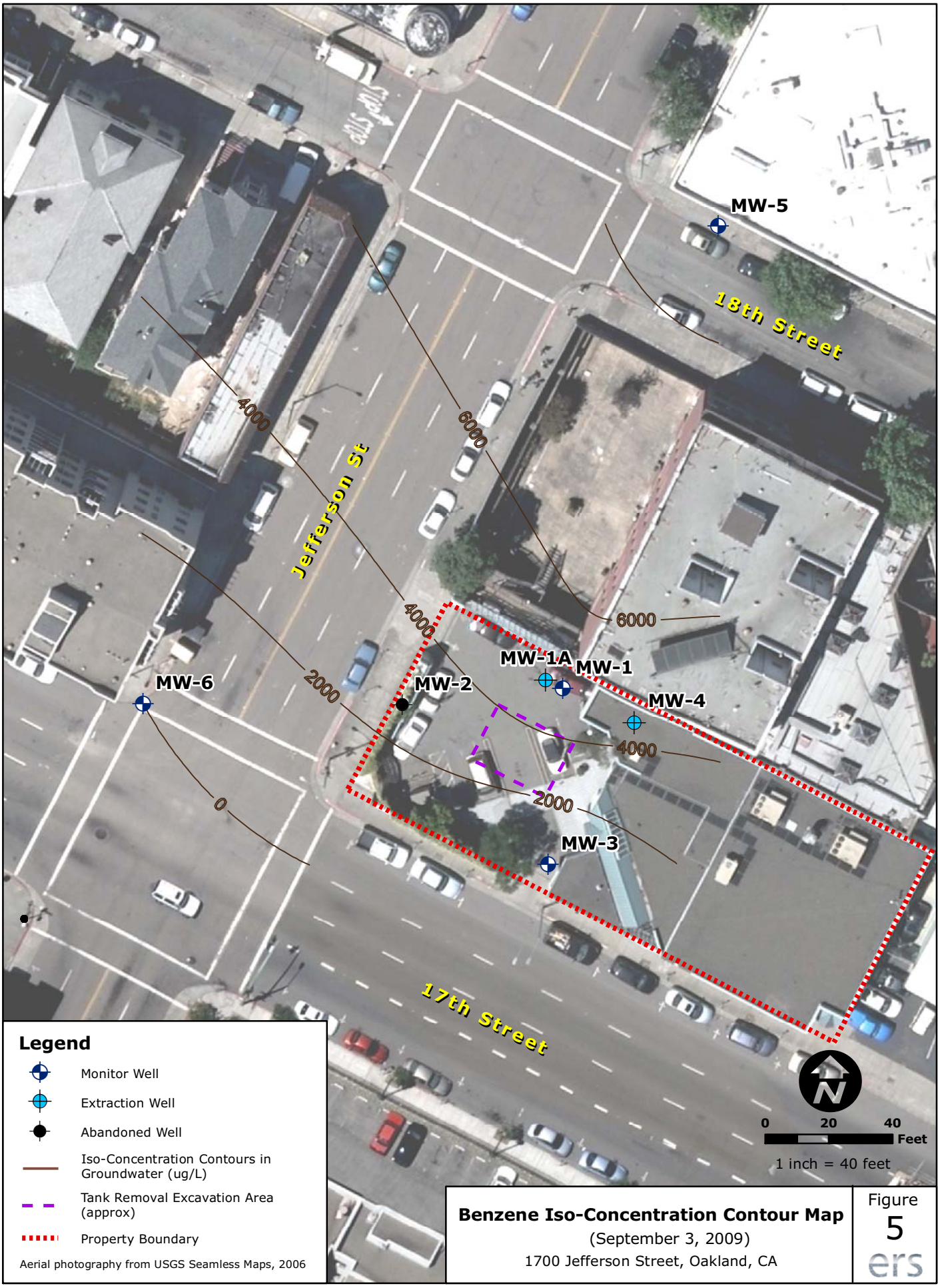


TPHg Iso-Concentration Contour Map
(September 3, 2009)
1700 Jefferson Street, Oakland, CA

Figure 4

ers

ERS Corporation



Legend

- Monitor Well
- Extraction Well
- Abandoned Well
- Iso-Concentration Contours in Groundwater (ug/L)
- Tank Removal Excavation Area (approx)
- Property Boundary

Aerial photography from USGS Seamless Maps, 2006

Benzene Iso-Concentration Contour Map
(September 3, 2009)
1700 Jefferson Street, Oakland, CA

Figure 5

ERS Corporation

APPENDIX 1

Depth to Water Data Sheet

Site Name: 1700 Jefferson | Date: 9/3/09

Location: Oakland, CA | Field Tech: LTL

Client: BPS Reprographics

Well ID	Well Diameter	Time	DTW	Total Depth	Comments
MW-1	4"	1059	24.16		
MW-1A	4"	1056	22.58		
MW-2	—	~~decommissioned~~			— abandoned —
MW-3	4"	1053	23.55		
MW-4	4"	1050	24.02		
MW-5	2"	1044	22.36		
MW-6	2"	1047	23.49		

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-1
Location: Oakland, CA	Initial Depth to Water (DTW): 24.16
Client: BPS	Total Well Depth (TD):
Sampler: LTL	Well Diameter: 4"
Date: 9/3/09	1 Casing Volume: —
Purge Method: Peristaltic Pump	Purge Rate: 0.25 L/min
Sample Method: Low Flow	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1247	6.63	1300	0.01	19.79	24.37	1	-167	
1251	6.59	1300	0.01	19.79	24.33	2	-178	
1255	6.60	1300	0.01	19.74	24.32	3	-180	
1259	6.61	1300	0.01	19.78	24.32	4	-184	

Did Well Dewater?	No	Start Purge Time:	1243	DTW prior to sample:	24.32
Casing volumes Purged:	—	Stop Purge Time:	1259	Start Sample Time:	1259
Length of Tubing (ft):		Total Liters Purged:	4	Total Sample Volume:	160 mL
Well Recharge:	good	Turbidity:	low	Color:	black
Odor:	TPH	Sheen:	none	Product Thinkness (in):	N/A

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-3
Location: Oakland, CA	Initial Depth to Water (DTW): 23.55
Client: BPS	Total Well Depth (TD):
Sampler: LTL	Well Diameter: 4"
Date: 9/3/09	1 Casing Volume: /
Purge Method: Peristaltic Pump	Purge Rate: 0.25 L/min
Sample Method: Low Flow	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1218	6.56	770	0.01	20.96	23.71	1	-128	
1222	6.45	770	0.01	20.90	23.78	2	-130	
1224	6.38	770	0.01	20.83	23.80	3	-132	
1228	6.36	770	0.01	20.75	23.83	4	-136	
1232	6.37	770	0.01	20.80	23.86	5	-140	

Did Well Dewater?	No	Start Purge Time:	1214	DTW prior to sample:	23.86
Casing volumes Purged:	/	Stop Purge Time:	1232	Start Sample Time:	1232
Length of Tubing (ft):		Total Liters Purged:	5	Total Sample Volume:	160mL
Well Recharge:	good	Turbidity:	v. low	Color:	none
Odor:	none	Sheen:	none	Product Thinkness (in):	N/A

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-5
Location: Oakland, CA	Initial Depth to Water (DTW): 22.36
Client: BPS Reprographics	Total Well Depth (TD):
Sampler: LTL	Well Diameter: 2"
Date: 9/3/09	1 Casing Volume: —
Purge Method: Peristaltic Pump	Purge Rate: 0.25 L/min
Sample Method: Low Flow	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°F	feet	liters	mV	
1110	6.66	1000	0.01	20.49	22.50	1	-114	
1114	6.65	900	0.01	20.51	22.56	2	-137	
1118	6.76	900	0.01	20.42	22.57	3	-152	
1122	6.80	890	0.01	20.41	22.58	4	-164	
1126	6.85	890	0.01	20.38	22.58	5	-172	
1130	6.88	900	0.01	20.40	22.58	6	-177	

Did Well Dewater?	No	Start Purge Time:	1106	DTW prior to sample:	22.58
Casing volumes Purged:	—	Stop Purge Time:	1130	Start Sample Time:	1130
Length of Tubing (ft):		Total Liters Purged:	6	Total Sample Volume:	160 mL
Well Recharge:	good	Turbidity:	very low	Color: none	
Odor:	slight TPH	Sheen:	no	Product Thinkness (in):	N/A

Notes:

Monitor Well Data Sheet

Site Name: 1700 Jefferson	Well/Sample ID: MW-6
Location: Oakland, CA	Initial Depth to Water (DTW): 23.49
Client: BPS Reprographics	Total Well Depth (TD):
Sampler: LTL	Well Diameter: 2"
Date: 9/3/09	1 Casing Volume: —
Purge Method: Peristaltic Pump	Purge Rate: 0.25 L/min
Sample Method: Low Flow	Sampling Rate: 0.2 L/min
2" well x 1 foot = 0.6 liters	4" well x 1 foot = 2.4L

Time	pH	SC	DO	Temp	DTW	Cumulative Volume	ORP	Notes
hh:mm	SU	µmhos/cm	mg/l	°C	feet	liters	mV	
1146	6.75	900	0.01	21.85	23.65	1	-29	
1150	6.67	900	0.01	21.79	23.67	2	7	
1154	6.62	900	0.01	21.78	23.69	3	23	
1158	6.58	900	0.01	21.86	23.70	4	38	
1202	6.58	900	0.01	21.85	23.70	5	45	

Did Well Dewater?	No	Start Purge Time:	1142	DTW prior to sample:	23.70
Casing volumes Purged:	—	Stop Purge Time:	1202	Start Sample Time:	1202
Length of Tubing (ft):		Total Liters Purged:	5	Total Sample Volume:	160 mL
Well Recharge:	good	Turbidity:	V. low	Color:	none
Odor:	none	Sheen:	none	Product Thinkness (in):	N/A

Notes:

APPENDIX 2

Technical Report for

ERS Corporation

T0600100196-1700 Jefferson, Oakland, CA

Accutest Job Number: C7382

Sampling Date: 09/03/09

Report to:

ERS Corporation
1600 Riviera Ave Suite 310
Walnut Creek, CA 94596
ddement@erscorp.us; kblume@erscorp.us

ATTN: Kenneth Blume

Total number of pages in report: **20**

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Diane Theesen 408-588-0200

Certifications: CA (08258CA)

Test results relate only to samples analyzed.

Sections: 1 2 3 4

Table of Contents

Sample Summary

ERS Corporation

Job No: C7382

T0600100196-1700 Jefferson, Oakland, CA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C7382-1	09/03/09	12:59	LL	09/04/09	AQ	Ground Water	MW-1
C7382-2	09/03/09	12:32	LL	09/04/09	AQ	Ground Water	MW-3
C7382-3	09/03/09	11:30	LL	09/04/09	AQ	Ground Water	MW-5
C7382-4	09/03/09	12:02	LL	09/04/09	AQ	Ground Water	MW-6

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C7382-1	**Date Sampled:**	09/03/09
Matrix:	AQ - Ground Water	**Date Received:**	09/04/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0600100196-1700 Jefferson, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W8170.D	100	09/10/09	BD	n/a	n/a	VW286
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5570	100	30	ug/l	
108-88-3	Toluene	5180	100	50	ug/l	
100-41-4	Ethylbenzene	620	100	30	ug/l	
1330-20-7	Xylene (total)	3270	200	70	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
	TPH-GRO (C6-C10)	35900	5000	2500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C7382-2	**Date Sampled:**	09/03/09
Matrix:	AQ - Ground Water	**Date Received:**	09/04/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0600100196-1700 Jefferson, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W8181.D	1	09/10/09	BD	n/a	n/a	VW287
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	58.8	1.0	0.30	ug/l	
108-88-3	Toluene	1.2	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	13.1	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	1.5	2.0	0.70	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
	TPH-GRO (C6-C10)	538	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	107%		60-130%
460-00-4	4-Bromofluorobenzene	106%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C7382-3	**Date Sampled:**	09/03/09
Matrix:	AQ - Ground Water	**Date Received:**	09/04/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0600100196-1700 Jefferson, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W8188.D	100	09/10/09	BD	n/a	n/a	VW287
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8800	100	30	ug/l	
108-88-3	Toluene	1240	100	50	ug/l	
100-41-4	Ethylbenzene	1720	100	30	ug/l	
1330-20-7	Xylene (total)	2420	200	70	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
	TPH-GRO (C6-C10)	35900	5000	2500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C7382-4	**Date Sampled:**	09/03/09
Matrix:	AQ - Ground Water	**Date Received:**	09/04/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0600100196-1700 Jefferson, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W8183.D	1	09/10/09	BD	n/a	n/a	VW287
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	106%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

"ERSCCAWC1795" C7382

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: ERS
Address: 1600 Riviera Ave Suite 310
City: Walnut Creek State: CA Zip: 94596
Project Contact: Dave Dement; ddement@erscorp.us E-mail:
Phone #: (925) 938-1600
Samplers's Name: L. Linderman

Project Information

Project Name: 1700 Jefferson
Street: 1700 Jefferson
City: Oakland State: CA
Project #:
Fax #:
Client Purchase Order #:

Requested Analysis

8260 ☐ 624 ☐ 8021 ☐ 602 ☐
BTEX ☐ MTBE ☐ TBA ☐ NAP ☐

8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐
TBA ☐ NAP ☐ +10 ☐ +15 ☐

8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS ☐
ABN ☐ AE ☐ BN ☐ PAH ☐ +TICs ☐

TPHg, BTEX, MTBE (8260)

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # MEOH Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles HCl	NaOH	HNO3	H2SO4	MeOH	NaHSO4	MeOH	ENCORE	LAB USE ONLY
-1	MW-1		9/3/09	1259	LTL	W	4	X			X					
-2	MW-3			1232				X			X					
-3	MW-5			1130				X			X					
-4	MW-6			1202				X			X					

Turnaround Time (Business days)

- [X] Std. 15 Business Days
- [ ] 10 Day ~~RUSH~~
- [ ] 5 Day ~~RUSH~~
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] Other

- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format Geotracker Global ID: T0600100196

Commercial "A" = Results Only

Comments / Remarks

4 Vials 4 Each (w/ HCl)

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/4/09 12:32	1	2	9/4/09 14:18	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4 9/4/09 14:18
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☑	On Ice ☒ Cooler Temp. 5.1°C

C7382: Chain of Custody
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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW286-MB2	W8154.D	1	09/09/09	BD	n/a	n/a	VW286

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	107%	60-130%
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	106%	60-130%

Method Blank Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW287-MB	W8180.D	1	09/10/09	BD	n/a	n/a	VW287

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-2, C7382-3, C7382-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	60-130%
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	107%	60-130%

Method Blank Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW286-MB	W8144.D	1	09/09/09	BD	n/a	n/a	VW286

The QC reported here applies to the following samples: **Method:** SW846 8260B

VW286-BS

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	105%	60-130%

Blank Spike Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW286-BS	W8141.D	1	09/09/09	BD	n/a	n/a	VW286

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.3	92	60-130
100-41-4	Ethylbenzene	20	18.6	93	60-130
1634-04-4	Methyl Tert Butyl Ether	20	18.6	93	60-130
108-88-3	Toluene	20	17.7	89	60-130
1330-20-7	Xylene (total)	60	55.5	93	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	60-130%
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	108%	60-130%

Blank Spike Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW286-BS	W8143.D	1	09/09/09	BD	n/a	n/a	VW286

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	115	92	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	105%	60-130%

Blank Spike Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW287-BS	W8177.D	1	09/10/09	BD	n/a	n/a	VW287

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-2, C7382-3, C7382-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.3	92	60-130
100-41-4	Ethylbenzene	20	18.6	93	60-130
1634-04-4	Methyl Tert Butyl Ether	20	18.7	94	60-130
108-88-3	Toluene	20	17.7	89	60-130
1330-20-7	Xylene (total)	60	55.2	92	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	108%	60-130%

Blank Spike Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW287-BS	W8179.D	1	09/10/09	BD	n/a	n/a	VW287

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-2, C7382-3, C7382-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	112	90	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	107%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7365-8MS	W8172.D	1	09/10/09	BD	n/a	n/a	VW286
C7365-8MSD	W8173.D	1	09/10/09	BD	n/a	n/a	VW286
C7365-8	W8169.D	1	09/10/09	BD	n/a	n/a	VW286

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-1

CAS No.	Compound	C7365-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	18.3	92	17.8	89	3	60-130/25
100-41-4	Ethylbenzene	ND		20	18.3	92	17.7	89	3	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	19.1	96	18.3	92	4	60-130/25
108-88-3	Toluene	ND		20	17.7	89	17.0	85	4	60-130/25
1330-20-7	Xylene (total)	ND		60	53.7	90	51.8	86	4	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C7365-8	Limits
1868-53-7	Dibromofluoromethane	104%	106%	105%	60-130%
2037-26-5	Toluene-D8	105%	105%	105%	60-130%
460-00-4	4-Bromofluorobenzene	107%	109%	107%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7382
Account: ERSCCAWC ERS Corporation
Project: T0600100196-1700 Jefferson, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7343-3MS	W8197.D	1	09/10/09	BD	n/a	n/a	VW287
C7343-3MSD	W8198.D	1	09/10/09	BD	n/a	n/a	VW287
C7343-3	W8184.D	1	09/10/09	BD	n/a	n/a	VW287

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7382-2, C7382-3, C7382-4

CAS No.	Compound	C7343-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	18.8	94	20.8	104	10	60-130/25
100-41-4	Ethylbenzene	ND		20	18.8	94	20.8	104	10	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	20.0	100	22.2	111	10	60-130/25
108-88-3	Toluene	ND		20	18.1	91	19.9	100	9	60-130/25
1330-20-7	Xylene (total)	ND		60	55.9	93	61.6	103	10	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C7343-3	Limits
1868-53-7	Dibromofluoromethane	108%	106%	103%	60-130%
2037-26-5	Toluene-D8	105%	105%	106%	60-130%
460-00-4	4-Bromofluorobenzene	108%	109%	105%	60-130%