June 3, 2009

Ms. Barbara Jakub
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Oakland, CA 94502-6577

RE: Request for Regulatory Closure
1700 Jefferson Street, Oakland, California
ACHCSA Case RO# 000151, RWQCB Case 01-0210

Dear Ms. Jakub:

On behalf of BPS Document Solutions (BPS), Environmental Risk Services Corporation has prepared this Request for Regulatory Closure Report for the Site located at 1700 Jefferson Street, Oakland, California. This Report has been prepared at the request of BPS to support a finding of no further action by your agency and regulatory closure concurrence by the San Francisco Regional Water Quality Control Board. ERS will upload this Request for Regulatory Closure to the State Water Resources Control Board's GeoTracker database.

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

Sincerely,

David DeMent, PG
Senior Geologist

cc: Mr. David Blain, BPS Document Solutions

Enclosure

BPS

REPROGRAPHICS

Ms. Barbara Jakub
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Oakland, CA 94502-6577

Re: 1700 Jefferson Street, Oakland, California
ACHCSA Case RO# 000151
RWQCB Case 01-0210

Dear Ms. Jakub:

As the responsible part of the above-referenced site, I have reviewed the document entitled "Request for Regulatory Closure," prepared by Environmental Risk Specialties Corporation (ERS). I declare, under penalty of perjury, that the information and/or recommendations contained in this document or report are true and correct to the best of my knowledge.

Sincerely,

David Blain

Mr. David Blain
President
BPS Reprographics
Date: June 5, 2009

REQUEST FOR REGULATORY CLOSURE

REPORT

1700 Jefferson Street
Oakland, California

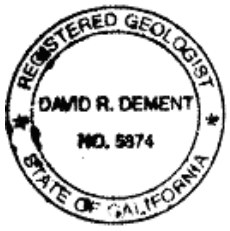
Prepared for:
Ms. Barbara Jakub
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Prepared by:
Environmental Risk Specialties Corporation
Walnut Creek, California

June 3, 2009

Reviewed By: _____

David DeMent, PG
Senior Geologist



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INTRODUCTION

This Request for Regulatory Closure Summary has been prepared by Environmental Risk Specialties Corporation (ERS) on behalf of BPS Document Solutions (BPS), and summarizes site investigation, groundwater monitoring, and remediation activities performed to date at the former City Blue Print Facility located at 1700 Jefferson Street, Oakland, California (Site). This Summary has been prepared for review by the Alameda County Health Care Services Agency (ACHCSA) and the San Francisco Regional Water Quality Control Board (RWQCB). The goal of this Summary is to support a finding of no further action and obtain full commercial site closure in regards to the former underground storage tanks (USTs).

1.0 BACKGROUND

The Site is located on the northeast corner of the intersection of Jefferson Street and 17th Street in Oakland, California. The 165 feet by 65 feet Site is bordered by Jefferson Street to the northeast, buildings to the northeast and southeast, and 17th Street to the south (Figure 2).

1.1 UST Removal

On June 16, 1987, three gasoline underground storage tanks (USTs) were removed from the Site and a suspect unauthorized release was confirmed. Two USTs had a capacity of 1,000 gallons and one UST held 550 gallons of gasoline. Soil was reportedly excavated to 9 feet bgs, aerated onsite to "acceptable" levels, and used as fill material to backfill and compact the former excavation. The former USTs were located in the center of the Site approximately 25 feet from Jefferson Street and this area is currently vehicle parking. The timeframe the former service station operated in unknown, but Blue Print Services, now known as BPS, purchased the property in 1986 and used the USTs for less than one year.

1.2 Subsurface Investigation and Well Installation

Groundwater monitoring wells MW-1 through MW-3 were installed in June 1987 and well MW-1 initially contained 30 inches of free-phase floating product (free product). Soil borings 4 and 5 were advanced along the northeast sidewall of the excavation. Boring 4 reported TPH at 1,700 to 2,100 mg/kg from 20 to 25 feet bgs, and boring 5 reported 900 to 3,300 mg/kg TPH from 20 to 25 feet bgs. In November 1987, well MW-2 was destroyed when the current building was constructed. In January 1988, wells MW-1A and MW-4

were installed to specifically remove free product. In August 1988, offsite well MW-5 was installed. Offsite monitoring well MW-6 was installed in April 1996.

In February 1998, Harding Lawson Associates (HLA) advanced five Cone Penetrometer Test (CPT) borings in locations south and north of the Site, and primarily north of well MW-5. Grab groundwater samples obtained in the borings reported varying concentrations of TPHg ranging from non-detect (less than 50 µg/l) to 200 µg/l in CPT-2 (located approximately 75 feet southeast of well MW-3). CPT-3 and CPT-4, located 140 to 180 feet north of well MW-5, reported 180 and 50 µg/l, respectively.

1.3 Groundwater Monitoring

Groundwater monitoring wells MW-1 or 1A, MW-3, MW-4, and MW-5 have been sampled 12 times between August 1991 and March 1996 and wells MW-1, MW-3, MW-5, and MW-6 have been sampled 51 times between March 1996 and March 2009. The water elevation measurements were recorded to the nearest 0.01-foot with respect to mean sea level. Historical low and high groundwater elevation depths are summarized in Table 1.

TABLE 1 – HISTORICAL GROUNDWATER ELEVATIONS

Well Number	Date Measured	Well Elevation (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	06/29/06	32.36	22.56	High 9.80
	09/26/97		26.80	Low 5.56
MW-3	06/23/05	31.77	22.40	High 9.37
	12/28/04		28.71	Low 3.06
MW-5	06/29/06	30.56	20.78	High 9.78
	09/19/96		24.48	Low 6.08
MW-6	06/29/06	31.26	21.85	High 9.41
	12/23/96		25.88	Low 5.38

Notes: All measurements are in feet

1.3.1 Groundwater Gradient

Historical calculated groundwater gradients and flow directions are summarized in Table 2. Groundwater gradients and flow directions prior to June 1996 are suspect due to the presence of free product, area dewatering, and/or onsite groundwater extraction.

Calculated groundwater flow directions and gradients were checked for accuracy and several incorrect values were noted. Corrected flow direction and gradients are summarized in Table 2 and have been bolded.

TABLE 2 - GROUNDWATER GRADIENT AND FLOW DIRECTION

Date Monitored	Reported Gradient	Reported Direction	Revised Gradient	Revised Direction
06/11/96	0.003	SW	0.003	SW
12/23/96			0.002	S
06/04/97	0.009	NW	**<0.001**	**N-NE**
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
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

Date Monitored	Reported Gradient	Reported Direction	Revised Gradient	Revised Direction
06/02/08	0.004	W	0.005	W
03/03/09	0.004	W	0.004	W

Notes: [1] MACTEC reported an error in groundwater measurement
Bolded values represent a corrected value that varies from previously reported values

1.3.2 Groundwater Monitoring Analytical Results

Historical free product thickness and well sample analytical results are summarized in Table 3.

TABLE 3 – 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							
	04/03/95							
	06/27/95							
	09/19/95							
	12/13/95							
	03/06/96							
	06/11/96							
	09/19/96							
	12/23/96							
	03/27/97							
	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	

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)
	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	
MW-1	02/11/00	19,000	4,100	4,800	530	2,800	6.6	
(cont)	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	
	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	
	06/23/05	30,000	5,400	5,500	520	1,900	<1,200	
	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	

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)
	03/26/08	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	
MW-3	07/08/87							
	09/12/88							
	07/12/89							
MW-3	08/01/91	74,000	1,600	4,600	670	4,300		4
(cont)	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	
	03/31/98	32,000	690	3,800	870	5,200	350	
	06/18/98	16,000	180	1,500	490	3,700	<25	
	08/28/98	17,000	84	1,100	430	3,800	<50	
	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	

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)
	04/02/01	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	300,000	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	
MW-3	12/27/02	4,000	110	280	57	260	19	
(cont)	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	
	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	
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
	01/13/94	80,000	19,000	8,200	1,400	2,700		0

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)
	04/13/94	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		
MW-5	03/06/96	51,000	15,000	2,800	2,000	2,400		
(cont)	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	
	09/15/00	24,000	3,800	3,000	460	1,200	<10	
	11/16/00	1,800	470	220	39	100	<5	
	04/02/01	15,000	7,400	3,000	1,000	2,200	<50	
	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	

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)
	12/29/03	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	
MW-5	09/09/05	46,000	10,000	2,700	1,100	2,100	<1,200	
(cont)	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	
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	
	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	

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)	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	
	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	

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

1.4 Active/Passive Remediation

After free product was initially reported in well MW-1, HLA instituted a bailing program in this well on an approximate daily basis. Between September 1987 and March 1991, BPS or HLA personnel removed an estimated 2,300 gallons of free product from well MW-1 and/or MW-1A.

HLA constructed a groundwater extraction and treatment system and began operation in June 1992. HLA reported that between June 1992 and July 1999, the system extracted approximately 1,384,490 gallons of water and successfully removed an additional 867 gallons of free product. In April 1998, HLA had free product samples analyzed and determined that free product was comprised of leaded gasoline. Measurable free product has not been observed in any monitoring or extraction 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.

1.5 Subsurface Conditions

Soil boring logs from monitoring wells MW-1 through MW-3, and exploratory soil boring logs from borings 1, 3, 4, and 5, show relatively consistent subsurface conditions across the Site. From the surface to approximately 17 to 20 feet bgs, soils are predominantly a medium dense to dense silty sand (SM) to clayey sand (SC) with fluctuating amounts of silt/clay fines. From 17 to 20 feet bgs to 31 to 33 feet bgs, soils are predominantly moist to saturated, fine to very fine-grained sand (SP). The SP sand, interpreted as the first-encountered water-bearing zone, is underlain by a stiff to very stiff silty clay (CH).

Groundwater was generally encountered during drilling between 25.0 and 27.0 feet bgs and appears to be relatively unconfined.

2.0 LOCAL AND REGIONAL HYDROGEOLOGY

The Site is located in an urban, downtown commercial district. The subject property is approximately 32 feet above sea level and the surrounding area gently slopes towards the north and northwest. San Francisco Bay is approximately 2.6 miles west-northwest of the Site, Oakland's Inner Harbor is approximately 4,950 feet southwest, and Lake Merritt is approximately 2,900 feet east.

The predominant groundwater flow direction since 1998 is to the west to west-northwest at a consistent average gradient of 0.005. Based on this groundwater flow direction, wells MW-3 and MW-5 are cross gradient of the former USTs and well MW-6 is downgradient.

A geologic cross-section prepared by MACTEC in 2003 indicates that migration potential is limited in the vertical direction due to a silty clay (CL/ML) aquitard at least 10 feet thick underlying the silty sand (SM/SP) water bearing zone.

3.0 SENSITIVE RECEPTOR SURVEY

A sensitive receptor survey or well survey has not been completed for the Site. The Site is located in a commercial district and there are no apparent sensitive receptors within 300 feet.

4.0 REMEDIATION EFFECTIVENESS

UST and product line removal and overexcavation activities performed in June 1987 removed the original source of petroleum hydrocarbon impact in the subsurface. Free product bailing conducted from September 1987 to March 1991 removed an estimated 2,300 gallons of free product. Following free product bailing, a groundwater extraction system operated between June 1992 and July 1999, and removed an estimated additional 867 gallons of free and dissolved product.

Based on the findings of periodic groundwater monitoring, dissolved concentrations of TPHg, BTEX, and MTBE continue to be reported in groundwater in wells MW-1 and MW-3 located adjacent to the former UST excavation. The trends in groundwater analytical results suggest that TPH impacts are primarily the result of continued leaching from impacted soil that exists from approximately 15 to 25 feet bgs in the immediate vicinity of the former USTs, as reported in soil samples collected in soil borings 4 and 5, and well MW-1 below 20 feet bgs.

Groundwater monitoring has been performed since June 1987 and quarterly groundwater monitoring has been conducted since January 1994. Analytical results demonstrate that natural attenuation is occurring at the Site, but there are ongoing sources of impact to groundwater near the former UST excavation in wells MW-1 and MW-3. TPHg, BTEX, and MTBE have been essentially non-detect in well MW-6, located approximately 100 feet west in the confirmed downgradient direction from the former USTs (source area).

Based on the general lack of reportable petroleum hydrocarbons in well MW-6, significant sources of impact to groundwater have been removed and wells MW-1 and MW-3 appear to be located within a relatively localized plume of impacted groundwater surrounding the original source area. Several lines of evidence indicate that well MW-5 is impacted by an unknown offsite source, and this well does not characterize groundwater impacted by the former onsite USTs.

5.0 CONCLUSIONS

Based on reported field observations, analytical results of soil and groundwater samples collected during UST removal activities and well installation, and groundwater monitoring well sampling results summarized in this Report, ERS concludes that:

- Groundwater flow direction beneath the Site is to the west-northwest at gradients ranging from 0.001 to 0.006 (from 2001 to 2009), and monitoring well MW-6 is correctly located to characterize groundwater in the confirmed downgradient direction from the former USTs;

- TPHg and BTEX trend comparisons indicate that natural attenuation is occurring in all four monitoring wells, decreasing concentration trends have been specifically noted in wells MW-1 and MW-3 following the completion of onsite remedial activities, and concentrations of TPHg and BTEX in offsite well MW-5 have been consistently higher than concentrations in onsite well MW-1 over time;

- Petroleum hydrocarbon impacts in groundwater reported in well MW-5 are due to an unknown offsite source, and are not due to migration from the onsite USTs;

- Source removal activities have successfully removed the sources of petroleum hydrocarbon impact in soil and groundwater adjacent to the former USTs, and remaining impacts to groundwater appear to be due to residual impacts identified in soil from 15 to 25 feet bgs;

- The general lack of petroleum hydrocarbon impacts in groundwater in well MW-6 indicate that offsite migration is minimal and natural attenuation processes active at the Site appear to limit potential petroleum hydrocarbon migration in groundwater;

- Focused soil gas sampling for risk assessment purposes would very likely indicate that residual petroleum hydrocarbon concentrations in subsurface soil and groundwater do

not represent an unacceptable human health risk using commercial criteria, and should be performed to support obtaining a commercial site closure;

- 60+ periodic groundwater monitoring events demonstrate that residual petroleum hydrocarbon impacts in groundwater continue to decline with time and active remediation and continued groundwater monitoring is not warranted; and

- The Site should be approved for commercial regulatory closure.

6.0 REQUEST FOR REGULATORY CLOSURE

On behalf of BPS, ERS requests that the Site be evaluated for commercial site closure in regards to the former USTs, and consistent with SWRCB Resolution 2009-0042. The six criteria for case closure as presented by the RWQCB in its January 5, 1996 Memorandum to local oversight agencies have been satisfied with an adequate degree of confidence and the Site appears to qualify as a "low risk groundwater case." Potential sources of impact to groundwater as free product were removed during reported remedial efforts and ongoing impacts to groundwater likely occur due to residual petroleum hydrocarbons leaching from soil between 15 and 25 feet bgs.

#1 - The source has been removed.

The three USTs and associated piping were removed in 1987 and an unknown quantity of petroleum hydrocarbons was removed when soil adjacent to the former USTs was excavated and aerated. Free product bailing reportedly removed approximately 867 gallons (5,200 pounds) and groundwater extraction removed an additional 300 to 400 pounds of dissolved phase petroleum hydrocarbons, for a total of 5,500 to 5,600 pounds of hydrocarbons.

Groundwater monitoring conducted at the Site demonstrates that natural attenuation is occurring and no significant offsite migration is occurring.

#2 - The site has been adequately characterized.

ERS believes that the Site has been adequately characterized with confidence to evaluate the migration potential and concentration of residual petroleum hydrocarbons in subsurface soil and groundwater. Soil samples collected in soil borings advanced on the Site following UST removal in 1987 reported that TPHg/BTEX impacts exist at depth between 15 to 25 feet bgs. In well MW-1, 4,500 mg/kg TPHg was reported at 24 feet bgs,

in soil boring 4, TPHg was reported at 2,100 mg/kg at 20 feet bgs and 1,700 mg/kg at 25 feet bgs, and in soil boring 5, TPHg was reported at 900 mg/kg at 20 feet bgs and 3,300 mg/kg at 25 feet bgs. Since these TPH concentrations are 22 years old, degradation and attenuation has occurred, but TPH leaching from soil continues to impact groundwater.

Petroleum hydrocarbon concentrations in soil gas have not been evaluated using currently accepted soil gas sampling protocols. However, based on the depth of known residual petroleum hydrocarbons and limited permeability in shallow soils from the surface to 15 feet bgs, TPH impacts in soil gas are estimated to be low to non-detect.

#3 - The dissolved hydrocarbon plume is not migrating.

Based on a west to west-northwest groundwater flow direction from May 1998 to March 2009, and essentially non-detect water sample analytical results in groundwater monitoring well MW-6, the dissolved hydrocarbon plume is apparently contained onsite. Water sample analytical results in groundwater monitoring well MW-3, located within the apparent plume of impacted groundwater, has demonstrated downward trends in the concentration of TPHg and BTEX and indicates that natural attenuation is occurring. Residual sources of petroleum hydrocarbon impact to groundwater in the vicinity of well MW-1 are also decreasing, but at a slower rate. Generally, the plume appears to be stable and confined to the northwest corner of the Site.

ERS believes that issues related to well MW-5 have been erroneously reported for many years. Following the installation of wells MW-1 through MW-3, groundwater flow direction was initially calculated to the north-northeast. At this time, well MW-1 reportedly contained 30 inches of free product and the calculated groundwater elevation was a corrected value. The initial gradient was 0.011, which is abnormally steep, but this was not known at the time. Regional topography contours suggest groundwater flow direction should be north to west and a topographic high exists south of the Site. Groundwater flow direction and gradient should have been confirmed, but free product removal efforts in well MW-1 and subsequent groundwater extraction, likely made this difficult. No information was reviewed to confirm the groundwater flow direction from approximately July 1987 to June 1996. Site plans prepared during this timeframe simply depicted an "Approximate groundwater flow direction" arrow to the north-northeast, and figures were repeatedly prepared at an incorrect scale that implied well MW-5 was considerably closer to the Site.

As summarized in Table 2, groundwater flow direction and gradient from June 1996 to December 1998 varied most likely due to relatively shallow gradients and operation of

groundwater extraction equipment at the Site. During this timeframe, groundwater flow direction was calculated to the north-northeast one out of seven events, and at a gradient approximating 0.001. Once the groundwater extraction system started "winding down", the calculated groundwater flow direction was consistently west to west-northwest. From December 1998 to March 2009, the calculated groundwater flow direction was west or west-northwest 21 out of 31 sampling events, and northwest to southwest 30 out of 31 events.

Data documenting a north to north-northeast groundwater flow direction is scarce and the little data that exists is suspect. About this time, both Consultant and Regulator alike appeared to assume that the groundwater flow direction was northerly, and well MW-5 was located downgradient of the former USTs. This general belief permeated ACHCSA comment letters as late as February 13, 2004, despite a reported southwest to northwest groundwater flow direction during the previous 16 sampling events. To be fair, HLA helped perpetuate this assumption with incorrectly scaled maps depicting MW-5 significantly closer to the former USTs than the actual distance of approximately 160 feet, not drawing attention to the westerly flow direction, and not raising the question that petroleum hydrocarbons reported in well MW-5 may have originated from another unknown source. However, questions exist based on reported groundwater monitoring data that cannot be answered under the assumption that impacts reported in well MW-5 originated from the Site.

1. Why have BTEX concentrations remained almost unchanged, or decreased very little, over the last 16 years in well MW-5 while BTEX concentrations have decreased significantly in wells MW-1 and MW-3 during this timeframe?

2. Why are BTEX concentrations reported in well MW-5 (located approximately 160 feet north) higher than corresponding BTEX concentrations in well MW-1 (located adjacent to the former USTs) if the former USTs are the source?

3. Why were BTEX concentrations so low in grab groundwater samples collected north of well MW-5 (CPT-3 through CPT-6) if the petroleum hydrocarbons reported in well MW-5 supposedly originate from the Site? How could petroleum hydrocarbons migrate 160 feet then apparently "stop"? How could free product migrate 160 feet north and then apparently stop?

4. Why are TPHg and BTEX almost non-detect in well MW-6 located only 70 to 75 feet west of the former USTs, and located directly downgradient of the former USTs during 10 of the last 14 sampling events?

5. Regardless of the groundwater flow direction, how can any significant petroleum hydrocarbon migration occur in groundwater when the gradient approximates 0.001 to 0.005, groundwater infiltration is minimal due to extensive pavement and building foundations in the general area, and HLA's aquifer test data conducted in Site wells estimate a sustained well yield of 0.25 gallons per minute?

Evaluation of historical groundwater monitoring results indicates that TPH impacts reported in well MW-5 did not originate from the Site and offsite migration in groundwater is minor. Lateral migration is limited by the relatively flat gradient, low to moderate permeability in the first-encountered water-bearing zone, and natural attenuation processes.

#4 - No water wells or other sensitive receptors are likely to be impacted.

No surveys were performed for this Site. However, based on several lines of evidence and the general lack of detectable petroleum hydrocarbons in analyzed groundwater samples in well MW-6, no significant offsite groundwater impacts are suspected. Areas downgradient of the Site are primarily commercial for a minimum of 500 feet and high quality drinking water is supplied to the region by municipal water providers.

#5 - The site presents no significant risk to human health.

Site history, UST removal, the age of the original release, and soil and groundwater sampling has demonstrated that no significant petroleum hydrocarbon concentrations exist in shallow soil, impacted soil primarily exists below 10 feet bgs and impacted groundwater is generally deeper than 22 feet bgs. Free product was successfully removed and residual TPHg/BTEX concentrations continue to decrease in groundwater due to natural attenuation processes.

#6 - The site presents no significant risk to the environment.

With the exception of residual impacts in soil from 15 to 25 feet bgs and a relatively localized plume of impacted groundwater, petroleum hydrocarbon sources have been removed from the Site. Groundwater flow direction has consistently been west to west-northwest at a relatively flat gradient approximating 0.004, and no significant offsite migration is suspected. The general lack of detectable petroleum hydrocarbon concentrations in well MW-6 demonstrate that natural attenuation is occurring, and

residual impacts from the former USTs at the Site do not present a significant risk to the environment.

Surface water bodies do not exist within 2,900 feet of the Site and shallow groundwater is not being utilized in the area.

7.0 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.