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October 20, 2006

Project No. 328-A

Mr. Keith Woodburne, R.G.
Senior Project Geologist
TRC Solutions, Inc.
1590 Solano Way, Suite A
Concord, CA 94520

Third Quarter 2006
Ozone Injection System O&M Report
76 Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

Dear Mr. Woodburne:

Environ Strategy Consultants, Inc. is pleased to submit this ozone injection system operation and maintenance (O&M) report for 76 Service Station No. 1871, located at 96 MacArthur Boulevard, Oakland, California. An ozone injection system was started on June 23, 2003 to remediate hydrocarbon-impacted groundwater.

Type of Remediation System:	Ozone Injection System
Operation Data During: Reporting Period: Jul. 1, 2006 – Sep. 30, 2006	Operated 94 days during the period Hours of Operation: 998
System Operation Data Since Startup: June 23, 2003	Total Hours of Operation: 10,280

Note:
System down time occurred throughout the third quarter of 2006 due to tripped ozone sensor. System off on July 7, 2006 due to compressor malfunction. Compressor repaired and system restarted on July 28, 2006.

Environ Strategy appreciates the opportunity to be of service. If you have any questions or require additional information regarding this report, please do not hesitate to call us at (949) 581-3222.

Respectfully submitted,

Sonny Nguyen
Project Assistant

Jinghui Niu, P.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
JINGHUI NIU
C 051072
Exp. 9/30/07
CIVIL
STATE OF CALIFORNIA

Attachments: Figure - Site Plan

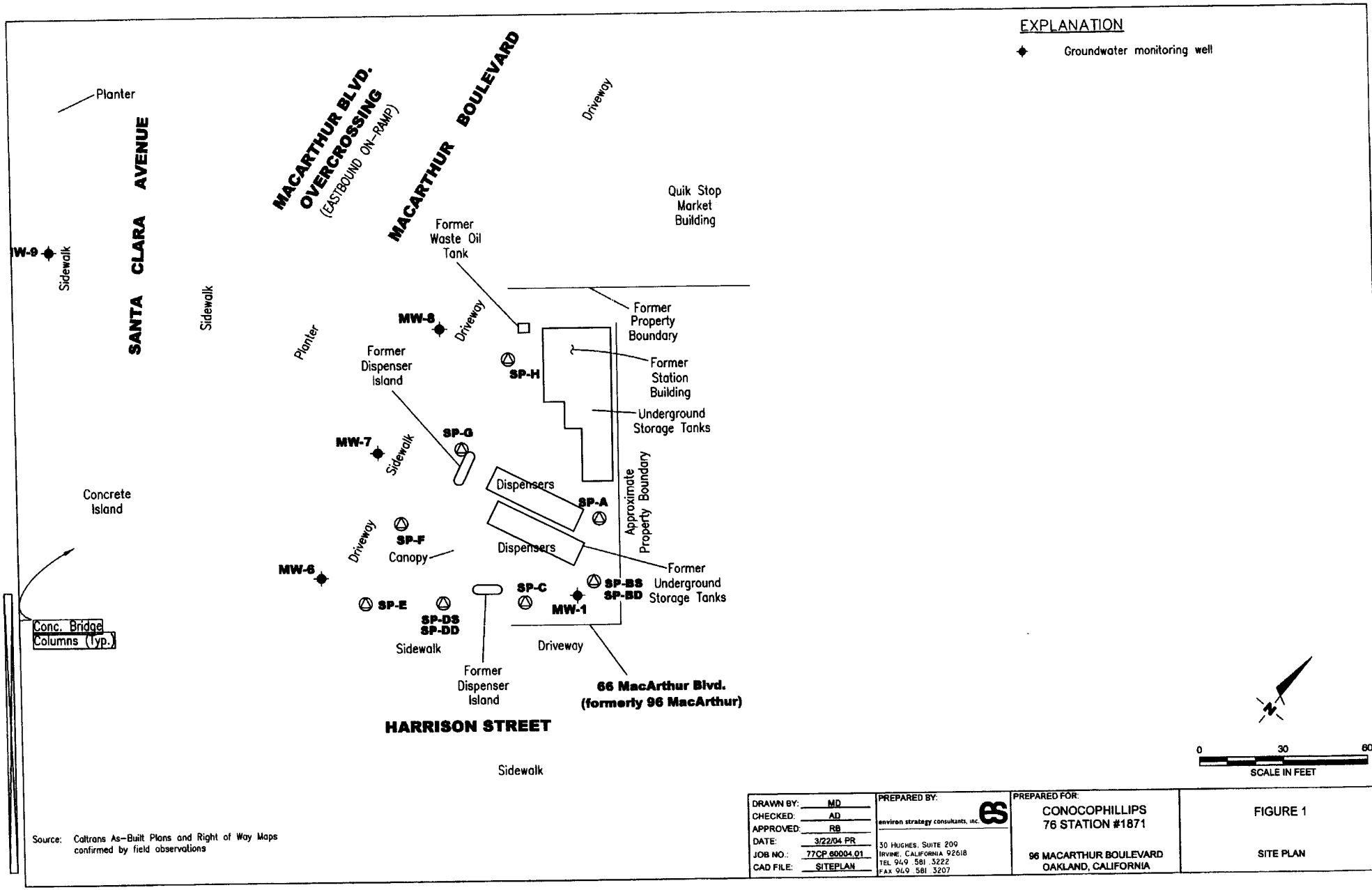
Table 1 - Ozone Injection - System Operation Data
Table 2 - Ozone Injection - Groundwater Monitoring Data

Graph 1 - MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations
Graph 2 - MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations

Appendix A – Field Notes

cc: Shelby Lathrop, ConocoPhillips Company (electronic copy)

Figure



Source: Caltrans As-Built Plans and Right of Way Maps confirmed by field observations

DRAWN BY:	MD
CHECKED:	AD
APPROVED:	RB
DATE:	3/22/04 PR
JOB NO.:	77CP.60004.01
CAD FILE:	SITEPLAN

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PREPARED FOR:
CONOCOPHILLIPS
76 STATION #1871
96 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE 1
SITE PLAN

Table

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871
96 MacArthur Blvd., Oakland, California

		OZONE SPARGE SYSTEM						OZ-1	OZ-2	OZ-3	OZ-4	OZ-5	OZ-6	OZ-7	OZ-8	OZ-9	OZ-10
		System Status (On/Off)		Hourmeter	Period Online	Cumulative	Ozone Injected	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure
Date	Notes	Arrival	Departure	Reading	Factor	Online Factor	(lbs)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
6/23/03		On	On	8807.26	--	0.95	--	20	18	19	20	21	23	20	26	14	26
7/16/03		**Off**	On	8850.46	0.09	0.91	0.39	27	18	31	40	28	29	31	38	24	25
8/30/03		On	On	9180.61	0.35	0.86	2.97	17	15	17	19	19	19	20	26	19	26
9/18/03		On	On	9327.43	0.37	0.84	1.32	13.5	14.7	17.0	16.3	16.0	19.7	16.8	19.8	15.7	20
10/16/03		On	On	--	--	0.84	--	27.0	19.5	40.8	39.0	40.8	38.5	34.2	46.4	24.2	39.8
11/17/03		On	On	9696.55	0.29	0.81	--	11.0	20.0	17.0	18.0	17.5	17.0	16.0	21.0	51.0	22.0
12/5/03		On	On	9804.98	0.29	0.80	0.98	33.0	21.0	44.0	40.0	43.0	39.0	33.5	44.0	26.0	33.0
1/16/04		On	On	10471.28	0.76	0.79	6.00	12.5	11.0	18.5	16.5	17.5	17.0	16.0	20.0	16.0	20.0
2/3/04		On	On	10727.69	0.68	0.79	2.31	12.3	11.5	18.2	16.5	18.2	17.3	16.0	19.0	16.0	18.2
3/24/04		On	On	11424.95	0.66	0.78	6.28	31.0	18.3	37.5	26.0	34.0	33.2	32.3	41.5	23.0	31.0
4/14/04		On	On	11676.10	0.57	0.77	2.26	32.0	19.0	38.7	26.0	37.7	37.1	32.8	41.8	23.8	29.5
4/15/04	a	On	On	11685.29	0.44	0.77	0.08	--	--	--	--	--	--	--	--	--	--
4/16/04	a	On	On	11693.80	0.41	0.77	0.08	--	--	--	--	--	--	--	--	--	--
4/19/04	a	On	On	11742.90	0.78	0.77	0.44	--	--	--	--	--	--	--	--	--	--
4/23/04	a	On	On	11773.10	0.36	0.77	0.27	--	--	--	--	--	--	--	--	--	--
5/4/04		**Off**	On	11837.70	0.28	0.76	0.58	32.2	20.5	39.4	36.2	38.1	32.0	33.5	60.0	25.8	33.1
5/11/04		On	On	11950.51	0.77	0.76	1.02	32.5	20.0	38.5	29.8	38.8	39.5	34.8	60.0	23.5	35.9
6/14/04	b,c	On	On	12464.64	0.72	0.76	4.63	20.0	21.0	38.8	27.2	37.0	38.2	35.2	60.0	24.0	32.1
7/29/04	d	On	On	844.62	0.99	0.77	7.60	22	15	--	26	35	34	35	--	25	33
8/12/04	e	On	On	1075.97	0.98	0.78	2.08	--	--	--	--	--	--	--	--	--	--
9/10/04		On	On	1490.23	0.85	0.78	3.73	32	32	33	33	21	24	30	20	26	30
10/5/04		On	On	1868.83	0.90	0.78	3.41	31	32	33	31	22	23	31	21	26	28
11/5/04		On	On	2360.90	0.93	0.79	4.43	22	26	12	18	12	22	30	32	26	22
12/2/04	f	**Off**	**Off**	2802.02	0.97	0.79	3.97	--	--	--	--	--	--	--	--	--	--
1/13/05		**Off**	On	2802.07	0.00	0.76	0.00	23	27	15	20	15	23	31	34	28	25
2/25/05	g	**Off**	**Off**	2802.42	0.00	0.73	0.00	--	--	--	--	--	--	--	--	--	--
3/8/05	h,i	**Off**	**Off**	2802.42	0.00	0.72	0.00	--	--	--	--	--	--	--	--	--	--
4/5/05	i	**Off**	**Off**	2802.42	0.00	0.70	0.00	--	--	--	--	--	--	--	--	--	--
5/4/05	j	**Off**	On	2802.49	0.00	0.69	0.00	14	11	16	12	20	27	25	29	25	31
6/2/05	k	On	On	3407.97	1.00	0.69	5.45	35	25	**Off**	40	41	36	35	34	27	25
7/7/05	k,l,m	On	On	4067.42	1.29	0.71	5.94	31	23	**Off**	30	**Off**	26	32	28	25	**Off**
8/26/05	n	On	On	4665.98	0.81	0.72	5.39	13	13	**Off**	14	**Off**	13	12	12	13	**Off**
9/23/05	o	On	On	4947.97	0.69	0.71	2.54	16	15	**Off**	**Off**	**Off**	16	16	16	16	**Off**
10/23/05	p	On	On	5264.28	0.72	0.71	2.85	16	16	**Off**	**Off**	**Off**	16	16	16	16	**Off**
11/11/05	q,r	On	**Off**	0.90	--	0.71	--	--	--	--	--	--	--	--	--	--	--
11/15/05	s	**Off**	On	0.90	0.00	0.71	0.00	35	16	16	22	23	18	23	23	23	24
12/6/05	t	**Off**	On	2.49	0.01	0.70	0.01	22	20	19	24	24	22	26	23	24	25
1/4/06	v	**Off**	On	6.00	0.01	0.69	0.03	20	20	18	17	23	20	25	19	22	20
1/18/06	v	**Off**	On	203.00	0.96	0.69	1.77	22	19	19	20	19	18	21	22	22	23
2/1/06	v	**Off**	On	316.00	0.55	0.69	1.02	20	20	18	22	22	18	23	23	22	25
2/15/06	v	**Off**	On	344.00	0.14	0.68	0.25	20	19	18	17	19	20	23	19	22	20
3/1/06	v	**Off**	On	417.00	0.35	0.68	0.66	21	20	19	19	21	17	24	23	21	21
3/16/06	u	**Off**	On	501.00	0.38	0.68	0.76	20	19	18	17	19	20	23	20	22	20
3/29/06	u	**Off**	On	560.00	0.31	0.67	0.53	20	20	19	19	20	21	25	21	22	21
4/16/06	u	**Off**	On	624.00	0.24	0.67	0.58	20	19	18	17	19	20	23	20	23	21
4/25/06	u	**Off**	On	718.00	0.71	0.67	0.85	20	20	19	18	20	22	24	21	22	20
5/9/06	u	**Off**	On	776.00	0.28	0.66	0.52	20	19	19	17	19	21	22	20	22	20
5/23/06	u	**Off**	On	834.00	0.28	0.66	0.52	19	20	18	18	20	20	23	20	23	21
6/6/06	u	**Off**	On	1042.00	1.01	0.66	1.87	20	19	18	17	19	20	23	20	22	20
6/20/06	w	**Off**	On	1206.00	0.80	0.67	1.48	19	20	18	18	19	20	25	21	23	21
7/7/06	x	**Off**	**Off**	1313.00	0.43	0.66	0.96	--	--	--	--	--	--	--	--	--	--
7/28/06	y	**Off**	On	1313.00	0.00	0.65	0.00	19	17	16	19	24	17	22	19	21	23
8/15/06	u	**Off**	On	1616.00	1.15	0.66	2.73	19	17	17	16	19	19	23	19	21	21
8/29/06	u	**Off**	On	1801.00	0.90	0.66	1.67	19	19	17	17	21	18	21	19	22	23
9/12/06	u	**Off**	On	2022.00	1.07	0.66	1.99	23	19	17	16	19	19	25	19	22	21
9/22/06	u	**Off**	On	2204.00	1.24	0.67	1.64	21	21	19	20	23	21	26	23	25	27
				998.00													
							Sparge time per cycle (min)	7	7	7	7	7	7	7	7	7	7

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871
96 MacArthur Blvd., Oakland, California

Reporting Period: Third Quarter 2006 (7/01/06 to 9/30/06)
Total Hours Operational: 10,280
Total Pounds Ozone Injected: 93
Period Hours Operational: 998
Period Percent Operational: 44%
Period Pounds Ozone Injected: 8.98

Definitions:

psi	Pounds per square inch
--	Data not available
NA	Not applicable
lbs	Pounds

Notes:

	System cycles through program 18 times per day, for 53% utilization
a	Troubleshooting time counter
b	Hourmeter replaced
c	Solenoid 8 has high pressure, taken offline
d	Solenoid 3 leaking, taken off line
e	Pressures not properly recorded
f	Ozone generator hose ruptured on effluent side to solenoid manifold. No Readings.
g	System down due to bad GFI
h	New GFI was installed.
i	Fan in compressor broken and tubing from compressor to manifold needs to be replaced. System left off until repairs made.
j	Installed new motor fan and manifold fittings, restarted system.
k	OZ-3 turned off due to high pressure of over 60 psi.
l	OZ-5 too brittle. Left off until lines are replaced.
m	OZ-10 turned off due to leak in secondary containment
n	Hourmeter reading not correct, will check next visit
o	Hourmeter not working properly.
p	Pressure gauge stuck at 16 psi.
q	New hourmeter, panel fan, and GFCI installed
r	Fuse blown in ozone generator, system left off
s	Replaced tubing to all wells and replaced ozone generator circuit board and pressure gauge
t	System down due to tripped GFI; foam on door may have been pressing reset button. Foam removed.
u	Ozone sensor tripped.
v	Meter reset.
w	System down time due to tripped GFI.
x	System off due to bad compressor.
y	Compressor repaired; system restarted.

Table 2
Ozone Injection - Groundwater Monitoring Data
76 Service Station No. 1871
96 MacArthur Blvd., Oakland, California

		Monitoring Well: MW-1								Monitoring Well: MW-7							
Date	Notes	ORP (mV)	DO (mg/l)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (total) (µg/L)	MtBE (µg/L)	ORP (mV)	DO (mg/l)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (total) (µg/L)	MtBE (µg/L)
4/16/2003	a	NM	NM	510	57	0.62	29	61	160	NM	NM	<25,000	<250	<250	<250	<500	37,000
6/23/2003	a	NM	NM	75	<0.50	<0.50	<0.50	5.3	12	NM	NM	20,000	260	<0.50	<0.50	<1.0	20,000
8/29/2003	a	NM	NM	11,000	64	<10	330	1,400	440	NM	NM	<10,000	<100	<100	<100	<200	24,000
9/18/2003		NM	NM	390	2.3	<0.50	3.6	31	30	NM	NM	--	--	--	--	--	--
10/16/2003		NM	NM	2,100	6.0	<0.50	24.0	120	110	NM	NM	--	--	--	--	--	--
11/17/2003		NM	NM	130	0.51	<0.50	2.1	7.9	43	NM	NM	16,000	<130	<130	<130	<250	17,000
12/5/2003		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	36	NM	NM	12,000	<100	<100	<100	<200	19,000
1/16/2004	b	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	NM	NM	17,000	160	270	<130	<250	19,000
2/3/2004		238	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	72	NM	10,000	<25	<25	<25	<50	15,000
3/24/2004	b	169	NM	**55**	<0.50	<0.50	**0.80**	**2.9**	**7.8**	56	NM	**13,000**	<100	<100	<100	<200	**15,000**
4/14/2004	b	0.4	NM	**23,000**	**310**	**10**	**590**	**2400**	**1700**	42	NM	**9,000**	<50	<50	<50	<100	**11,000**
5/11/2004		c	NM	**7,800**	**160**	<10	**170**	**700**	**720**	-3	NM	**8,300**	<50	<50	<50	<100	**11,000**
6/14/2004		20	5.25	**110**	<0.50	<0.50	**1.0**	**6.4**	**3.4**	35	1.45	<5,000	<50	<50	<50	<100	**6,500**
7/26/2004		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	**3.2**	NM	NM	<5,000	<50	<50	<50	<100	**3,100**
8/12/2004		171	0.07	<50	<0.50	<0.50	<0.50	<1.0	**0.80**	117	0.06	**2,100**	<10	<10	<10	<20	**2,700**
9/10/2004		180	0.08	<50	<0.50	<0.50	<0.50	<1.0	**5.7**	122	0.07	**3,100**	<13	<13	<13	<25	**4,400**
10/5/2004		175	0.09	<50	<0.50	<0.50	<0.50	<1.0	<0.50	117	0.08	<50	<0.50	<0.50	<0.50	<1.0	**7.1**
11/5/2004	d	117	0.05	<50	<0.50	<0.50	<0.50	<1.0	**0.89**	210	0.06	**50**	<0.50	<0.50	<0.50	<1.0	**1.1**
12/2/2004		109	0.03	**83**	**0.83**	<0.50	<0.50	**1.2**	**44**	214	0.03	**180**	**1.6**	<0.50	**66**	**4.5**	**51**
1/13/2005		105	0.04	**1,100**	**26**	**1.2**	**2.10**	**70**	**630**	201	0.05	**1,000**	**25**	**1**	**1.9**	**68**	**460**
2/25/2005	c,f	--	2.67	**24,000**	**350**	**10**	**820**	**2,200**	**1,300**	21	2.05	**680**	<2.0	<2.0	**2.3**	**58**	**2,500**
3/8/2005	g	-35	4.43	**23,000**	**410**	<10	**1,100**	**2,300**	**1,300**	NR	NR	--	--	--	--	--	--
4/5/2005		-30	4.56	**34,000**	**300**	<10	**910**	**2,000**	**1,100**	135	6.53	<5,000	<.50	<.50	<.50	<1.00	**19,000**
5/4/2005		-59	2.40	**26,000**	**220**	**7.4**	**790**	**2,100**	**860**	-24	1.13	<2,000	<0.50	<0.50	<0.50	<1.0	**7,100**
6/2/2005		-20	7.34	<50	<0.50	<0.50	<0.50	<1.0	**3.5**	-12	1.01	**3500**	<0.50	<0.50	<0.50	<1.0	**4,000**
7/7/2005	i,j	142	7.42	<50	<0.50	<0.50	<0.50	<1.0	**0.61**	154	1.40	**5000**	<0.50	<0.50	<0.50	<1.0	**8,900**
9/23/2005		16	7.77	<50	<0.50	<0.50	<0.50	<1.0	<0.50	56	1.39	<500	<5.0	<5.0	<5.0	<10	**1,900**
10/23/2005		154	7.13	<50	<0.50	<0.50	<0.50	<1.0	**0.56**	191	1.59	<250	<2.5	<2.5	<2.5	<5	**680**
11/1/2005	k	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Definitions:

TPHg = Total petroleum hydrocarbons as gasoline
MtBE = Methyl tert-butyl ether
µg/L = Micrograms per liter

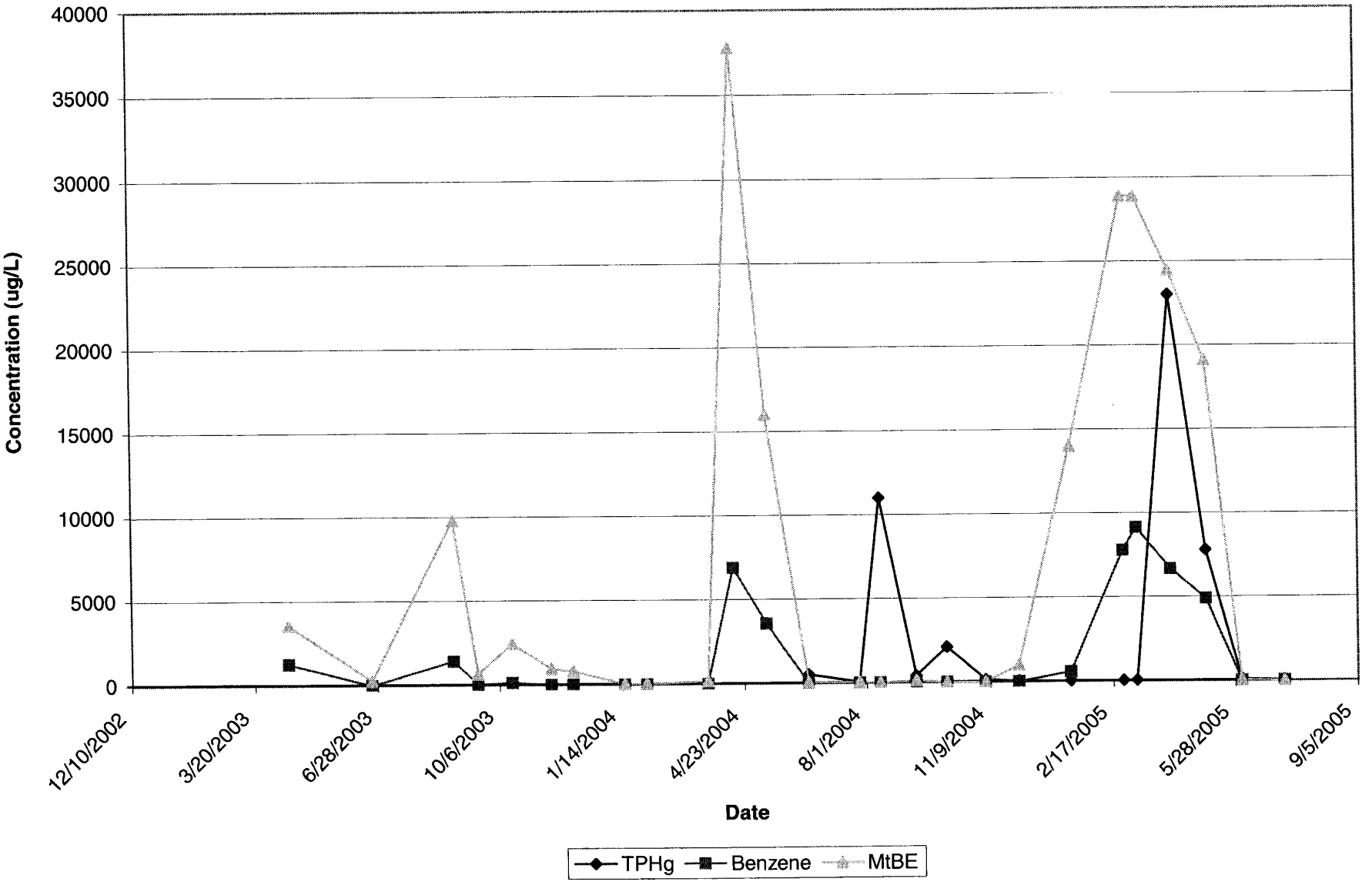
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
mV = Millivolts
mg/l = Milligrams per liter

Notes:

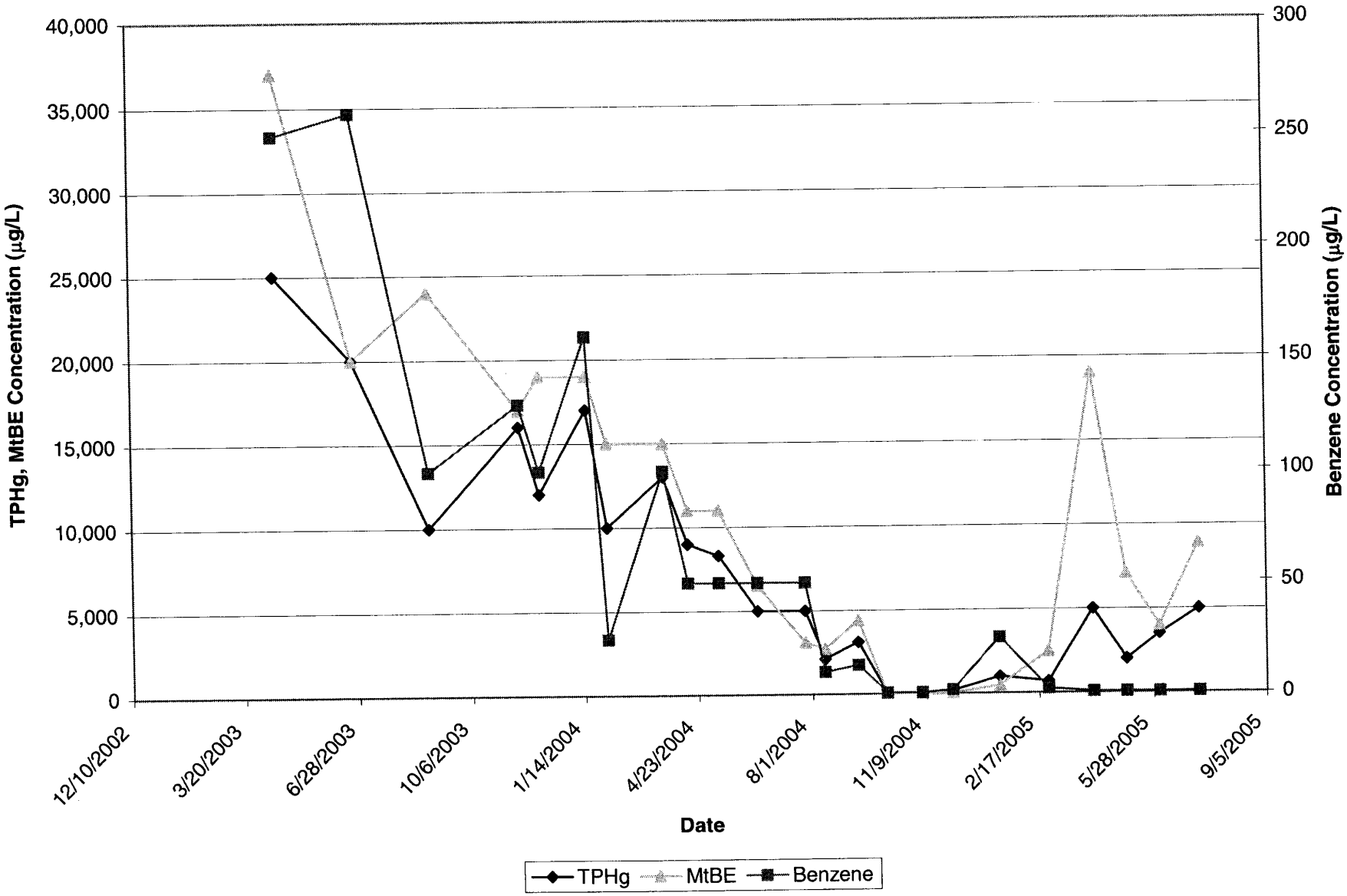
--	Data not available
NM	Not Measured
a	Sampled by Gettler-Ryan, Inc.
b	Hydrocarbon in gasoline range does not match laboratory gasoline standard.
c	ORP reading under the range
d	Quantity of unknown hydrocarbon(s) in sample based on gasoline.
e	Data not available at time of reporting
f	MW-7 Estimated value of MtBE; concentration exceeded the calibration of analysis
g	Car parked on MW-7.
h	Data not available at time of reporting
i	Siloxane peaks were found in the sample which are not believed to be gasoline related. If they were to be quantified as gasoline, the concentration would be 58 ug/L. (MW-1).
j	The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern. (MW-1)
k	Sampling discontinued at the request of ConocoPhillips

Graphs

Graph 1
MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations
76 Service Station No. 1871
96 MacArthur Blvd., Oakland, California



Graph 2
MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations
76 Service Station No. 1871
96 MacArthur Blvd., Oakland, California



Appendix A
Field Notes

ConocoPhillips Ozone Injection System Data Sheet

Station No. T1871

City: OAKLAND

Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Well I.D. 02-1 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-2 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-3 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
7 Jul 06	compressor	off/on	18	1313	—		—		—		—		—		—	
28 Jul 06		off/on	18	1313	19		7		17		7		16		7	
15 Aug 06	A	off/on	18	1611	19		7		17		7		17		7	
29 Aug 06	A	off/on	18	1801	19		7		19		7		17		7	
12 Sep 06	A	off/on	18	2022	23		7		19		7		17		7	
22 Sep 06	A	off/on	18	2201	21		7		21		7		19		7	

Date	Well I.D. 02-4 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-5 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-6 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-7 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
7 Jul 06	—		—		—		—		—		—		—		—	
28 Jul 06	19		7		24		7		17		7		22		7	
15 Aug 06	16		7		19		7		17		7		23		7	
29 Aug 06	17		7		21		7		18		7		21		7	
12 Sep 06	16		7		19		7		19		7		25		7	
22 Sep 06	20		7		23		7		21		7		26		7	

Date	Well I.D. 02-8 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-9 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. 02-10 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
7 Jul 06	—		—		—		—		—		—					
28 Jul 06	19		7		21		7		23		7					
15 Aug 06	19		7		21		7		21		7					
29 Aug 06	19		7		22		7		23		7					
12 Sep 06	19		7		22		7		21		7					
22 Sep 06	23		7		25		7		27		7					

Date	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)

Notes: A = System down-breaker thrown B = Hour meter not working. C = New hour meter installed. D = Programmed runtime increased to 100%

Ozone Injection System Maintenance and Inspection Log

Station No. T1871

City: OAKLAND

Date	Notes - a: Breaker Thrown b: Hour Meter Malfunction c: New Hour Meter d: Rainbird Meter Malfunction	Status Upon Arrival On/Off	Status Upon Departure On/Off	Check Hose Fittings Valves	Measure Blower Running Amperage	Check Electrical Fittings and Controller Operation	Adjust Controller Program	Particle Filter Inspect/ Replace	Check Flow Pressure Assembly	Check Well Head Connect	Test all Safety Override Systems
28 Jul 06		off	on	OK	–	OK	–	OK	OK	OK	OK
29 Aug 06	Δ	off	on	OK	–	OK	–	OK	OK	OK	OK
22 Sep 06	Δ	off	on	OK	–	OK	–	OK	OK	OK	OK

Comments: July 7 – system off due to bad compressor.