Roya Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6270
RKambin@Chevron.com

May 10, 2013

RECEIVED
By Alameda County Environmental Health at 4:13 pm, May 14, 2013

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former 76 Service Station No. 351644
66 MacArthur Boulevard
Oakland, California
ACHCS Case NO 0455

I accept the **First Quarter 2013 Ozone Injection System O&M Report**.

I agree with the conclusions and recommendations presented in this document. The information included is accurate to the best of my knowledge, and appears to meet local agency and Regional Board guidelines. This **First Quarter 2013 Ozone Injection System O&M Report** was prepared by Environ Strategy Consultants, Inc on behalf of Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Roya Kambin
Project Manager

Attachment: **First Quarter 2013 Ozone Injection System O&M Report**

environ strategy consultants, inc.

1036 W. Taft Avenue
Orange, Californina 92865
Tel 714-919-6500
Fax 714-919-6501
www.environstrategy.com

March 26, 2013

Nathan Lee
Conestoga-Rovers & Associates (CRA)
5900 Hollis Street, Suite A
Emeryville, CA 94608

Project No. 696-A

First Quarter 2013
Ozone Injection System O&M Report
76 Service Station No. 1871 (351644)
96 MacArthur Boulevard
Oakland, California

Dear Mr. Lee:

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California, Environ Strategy Consultants Inc. (Environ Strategy) 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 (Figure 1). An ozone injection system was started on June 23, 2003 to remediate hydrocarbon-impacted groundwater (Table 1). Wells MW-1 and MW-7 are monitored as indicators of ozone injection system performance (Table 2). The ozone injection system was shut down on March 15, 2013.

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 contact us at (714) 919-6525, or by email at dnygaard@environstrategy.com.

Respectfully submitted,

Dane Nygaard
Project Manager

Jinghui Niu, P.E.
Principal Engineer

First Quarter 2013 O&M Report
76 Service Station No. 1871 (351644)
March 26, 2013

Ozone Injection System

KVA Ozone Injection System

Reporting Period:	December 1, 2012 – March 15, 2013
Days of Operation:	Operated 105 days during the period
Hours of Operation:	2,541

System Operation Data Since Startup on June 23, 2003:

Total Hours of Operation:	59,651

Notes: First Quarter 2013 – Period hours includes dates November 29, 2012 to March 15, 2013.

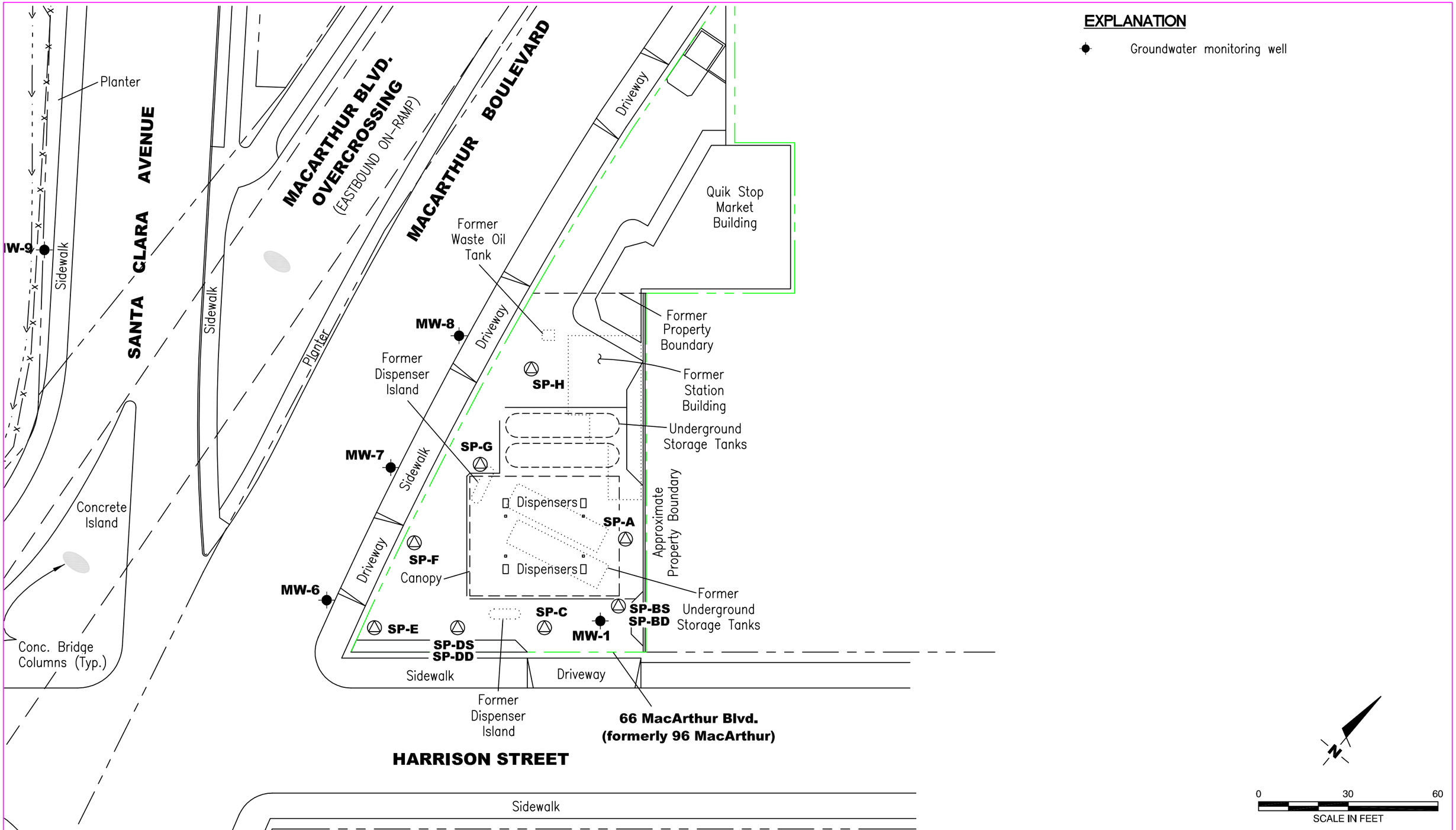
Attachments: Figure - Site Plan

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

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

PREPARED BY:
environ strategy consultants, inc.
1036 W. TAFT AVE, SUITE 200
ORANGE, CA 92865

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

FIGURE 1
SITE PLAN

20111219.1121051 X:\ConocoPhillips O&M\Site Plans\Revised O&M AutoCAD files 8-16-11\1871 SITE PLAN.dwg

Tables

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California

Date	Notes	OZONE SPARGE SYSTEM						SP-A	SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
		System Status (On/Off)		Hourmeter	Period Online	Cumulative	Ozone Injected	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure
		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	0.00	0.70	0.01	22	20	19	24	24	22	26	23	24	25
1/4/06	u	**Off**	On	6	0.01	0.69	0.03	20	20	18	17	23	20	25	19	22	20
1/18/06	u	**Off**	On	203	0.67	0.69	1.77	22	19	19	20	19	18	21	22	22	23
2/1/06	v	**Off**	On	316	0.38	0.68	1.02	20	20	18	22	22	18	23	23	22	25
2/15/06	v	**Off**	On	344	0.10	0.68	0.25	20	19	18	17	19	20	23	19	22	20
3/1/06	v	**Off**	On	417	0.25	0.67	0.66	21	20	19	19	21	17	24	23	21	21
3/16/06	u	**Off**	On	501	0.27	0.67	0.76	20	19	18	17	19	20	23	20	22	20
3/29/06	u	**Off**	On	560	0.22	0.67	0.53	20	20	19	19	20	21	25	21	22	21
4/16/06	u	**Off**	On	624	0.17	0.66	0.58	20	19	18	17	19	20	23	20	23	21
4/25/06	u	**Off**	On	718	0.50	0.66	0.85	20	20	19	18	20	22	24	21	22	20

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California

		OZONE SPARGE SYSTEM						SP-A	SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
		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)
5/9/06	u	**Off**	On	776	0.20	0.65	0.52	20	19	19	17	19	21	22	20	22	20
5/23/06	u	**Off**	On	834	0.20	0.65	0.52	19	20	18	18	20	20	23	20	23	21
6/6/06	u	**Off**	On	1,042	0.71	0.65	1.87	20	19	18	17	19	20	23	20	22	20
6/20/06	w	**Off**	On	1,206	0.56	0.65	1.48	19	20	18	18	19	20	25	21	23	21
7/7/06	x	**Off**	**Off**	1,313	0.30	0.65	0.96	--	--	**--**	**--**	**--**	--	--	--	--	**--**
7/28/06	y	**Off**	On	1,313	0.00	0.64	0.00	19	17	16	19	24	17	22	19	21	23
8/15/06	u	**Off**	On	1,616	0.80	0.64	2.73	19	17	17	16	19	19	23	19	21	21
8/29/06	u	**Off**	On	1,801	0.63	0.64	1.67	19	19	17	17	21	18	21	19	22	23
9/12/06	u	**Off**	On	2,022	0.75	0.64	1.99	23	19	17	16	19	19	25	19	22	21
9/22/06	u	**Off**	On	2,204	0.87	0.64	1.64	21	21	19	20	23	21	26	23	25	27
10/4/06	u	**Off**	On	2,313	0.43	0.64	0.98	18	18	17	18	18	18	25	23	22	21
10/18/06	u	**Off**	On	2,401	0.30	0.64	0.79	20	19	17	16	18	19	20	20	21	27
10/31/06	w	**Off**	On	2,516	0.42	0.63	1.04	22	20	19	20	19	19	23	21	25	23
11/14/06	u	**Off**	On	2,636	0.41	0.63	1.08	18	18	17	17	18	18	22	24	22	24
11/28/06	u	**Off**	On	2,744	0.37	0.63	0.97	20	20	19	20	22	21	25	25	22	23
12/14/06	u	**Off**	On	2,801	0.17	0.63	0.51	19	19	18	18	19	19	22	22	23	22
12/26/06	u	**Off**	On	2,906	0.42	0.62	0.95	20	20	19	20	21	20	25	25	20	24
1/15/07	u	**Off**	On	2,983	0.18	0.62	0.69	19	20	18	18	19	19	22	23	22	22
1/29/07	v	**Off**	On	3,076	0.32	0.62	0.84	20	20	19	20	20	20	24	21	23	24
2/6/07	u	**Off**	On	3,156	0.48	0.62	0.72	19	20	18	17	19	19	21	24	21	23
2/21/07	u	**Off**	On	3,303	0.47	0.62	1.32	20	21	20	20	18	21	23	21	25	23
3/5/07	u	**Off**	On	3,378	0.30	0.61	0.68	19	20	18	18	18	20	21	23	22	22
3/19/07	u	**Off**	On	3,476	0.33	0.61	0.88	20	21	20	19	18	21	23	24	23	24
4/4/07	u	**Off**	On	3,515	0.12	0.61	0.35	19	20	18	17	18	19	21	21	21	22
4/18/07	u	**Off**	On	3,606	0.31	0.60	0.82	21	21	20	20	18	21	24	24	24	23
5/10/07	u	**Off**	On	3,676	0.15	0.60	0.63	19	20	19	17	18	19	20	23	20	21
5/25/07	u	**Off**	On	3,758	0.26	0.60	0.74	22	21	20	19	19	21	22	22	22	23
6/4/07	u	**Off**	On	3,801	0.18	0.59	0.39	18	20	18	18	17	19	19	20	21	20
6/18/07		On	On	4,137	1.00	0.60	3.02	20	20	19	19	19	20	22	22	20	22
7/2/07		On	On	4,373	0.70	0.60	2.12	15	21	19	18	20	19	24	21	21	23
7/16/07		On	On	4,409	0.11	0.59	0.32	18	20	20	19	21	20	26	23	22	25
8/8/07		On	On	4,961	1.00	0.60	4.97	13	20	20	18	20	18	29	22	20	24
8/27/07		On	On	5,411	0.99	0.60	4.05	14	21	19	20	21	19	30	20	21	21
9/13/07		On	On	5,822	1.00	0.61	3.70	22	21	21	23	21	22	30	20	21	21
9/27/07		On	On	6,155	0.99	0.61	3.00	28	25	25	27	25	26	32	21	26	25
10/29/07		On	On	6,917	0.99	0.62	6.86	28	25	24	25	33	32	32	21	30	30
11/26/07		On	On	7,591	1.00	0.62	6.07	26	22	24	25	31	30	32	22	30	30
12/31/07		On	On	8,425	0.99	0.63	7.51	26	20	24	24	30	32	32	30	28	30
1/28/08		On	On	9,103	1.01	0.63	6.10	26	21	22	21	26	30	28	26	27	27
2/25/08		On	On	9,778	1.00	0.64	6.08	23	19	22	20	25	30	30	28	27	28
3/24/08		On	On	10,475	1.00	0.64	6.27	25	20	21	20	24	30	28	27	26	27
4/28/08		On	On	11,317	1.00	0.65	7.58	24	22	20	22	22	30	29	24	26	26
5/26/08		On	On	11,992	1.00	0.65	6.08	23	20	22	22	23	30	30	25	27	28
6/30/08		On	On	12,828	1.00	0.66	7.52	25	22	21	23	22	31	29	26	27	26
7/28/08		On	On	13,498	1.00	0.66	6.03	22	26	24	28	23	30	22	27	29	21
8/25/08		On	On	14,261	1.00	0.66	6.87	18	15	25	14	19	22	23	25	24	20
9/29/08		On	On	15,100	1.00	0.67	7.55	20	14	15	16	18	28	28	20	19	22
10/27/08	z	On	On	15,358	0.38	0.67	2.32	20	16	16	17	20	28	28	18	19	21

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California

		OZONE SPARGE SYSTEM						SP-A	SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
		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)
11/24/08		On	On	16,028	1.00	0.67	6.03	20	15	15	15	18	25	25	18	16	20
12/29/08		On	On	16,869	1.00	0.67	7.57	20	15	17	16	20	24	22	19	14	20
1/26/09		On	On	17,542	1.00	0.68	6.06	22	17	16	16	21	25	20	18	15	22
2/23/09		On	On	18,214	1.00	0.68	6.05	21	18	19	18	20	23	21	19	16	20
3/30/09		On	On	19,005	0.94	0.69	7.12	20	19	17	17	22	22	21	18	16	21
4/27/09		On	On	19,727	1.00	0.69	6.50	21	21	18	18	21	22	20	19	18	20
5/25/09		On	On	20,400	1.00	0.69	6.06	22	20	17	16	20	21	21	20	19	19
6/22/09		On	On	21,072	1.00	0.70	6.05	20	20	17	18	17	20	21	19	20	20
7/27/09		On	On	21,912	1.00	0.70	7.56	22	21	18	19	16	22	22	21	19	18
8/3/09	aa	On	Off	22,080	1.00	0.70	1.51	21	20	20	21	18	21	20	20	21	19
11/4/09		Off	On	22,080	0.00	0.68	0.00	20	19	19	20	17	20	19	18	19	17
12/30/09		On	On	23,424	1.00	0.68	12.10	23	21	21	23	20	22	23	21	22	21
1/27/10		On	On	24,096	1.00	0.69	6.05	21	20	20	22	21	24	23	20	24	23
2/24/10		On	On	24,767	1.00	0.69	6.04	22	24	22	21	22	25	24	21	26	24
3/30/10		On	On	25,607	1.00	0.69	7.56	20	21	22	23	19	23	22	22	25	23
4/27/10		On	On	26,280	1.00	0.70	6.06	21	22	21	22	20	21	20	20	24	21
5/25/10		On	On	26,953	1.00	0.70	6.06	22	24	23	21	21	22	21	22	23	22
6/29/10		On	On	27,795	1.00	0.70	7.58	24	21	22	24	22	20	21	22	24	23
7/27/10		On	On	28,467	1.00	0.71	6.05	21	18	20	22	20	17	19	18	21	20
8/31/10		On	On	29,308	1.00	0.71	7.57	12	18	24	15	13	14	16	10	17	8
9/28/10		On	On	29,980	1.00	0.71	6.05	11	18	15	19	20	17	23	16	15	20
10/26/10		On	On	30,652	1.00	0.71	6.05	9	18	18	20	21	17	21	10	19	17
11/30/10		On	On	31,492	1.00	0.72	7.56	13	22	19	18	28	20	19	15	17	19
12/28/10		On	On	32,163	1.00	0.72	6.04	14	19	18	18	26	21	20	18	18	18
1/25/11		On	On	32,834	1.00	0.72	6.04	18	17	15	21	24	17	19	21	20	15
2/22/11		On	On	33,506	1.00	0.72	6.05	20	21	18	25	21	23	28	25	22	20
3/29/11		On	On	34,342	1.00	0.73	7.52	19	20	18	22	23	22	25	24	23	20
4/26/11		On	On	35,012	1.00	0.73	6.03	22	21	19	20	21	21	23	24	23	22
5/31/11		On	On	35,851	1.00	0.73	7.55	20	20	20	21	20	20	21	22	21	21
6/28/11		On	On	36,523	1.00	0.73	6.05	21	22	21	19	20	22	19	20	23	20
7/26/11		On	On	37,196	1.00	0.74	6.06	19	20	20	21	18	20	16	22	21	22
8/30/11		On	On	38,034	1.00	0.74	7.54	25	31	26	-	30	34	27	28	22	24
9/27/11		On	On	38,705	1.00	0.74	6.04	21	30	27	20	29	31	22	26	20	23
10/27/11		On	On	39,417	0.99	0.74	6.41	18	22	17	26	19	24	18	19	15	19
11/24/11		On	On	40,093	1.00	0.75	6.08	21	20	17	24	16	21	19	17	16	18
12/29/11		On	On	40,931	1.00	0.75	7.54	25	22	29	23	20	20	19	18	15	17
1/24/12		On	On	41,555	1.00	0.75	5.62	21	18	25	20	20	18	19	15	16	21
2/27/12		On	On	42,391	1.00	0.75	7.52	30	25	33	44	22	29	23	20	24	29
3/26/12		On	On	43,064	1.00	0.75	6.06	26	22	29	35	20	25	21	18	23	33
4/23/12		On	On	43,739	1.00	0.76	6.08	23	17	25	34	26	22	25	18	23	29
5/28/12		On	On	44,583	1.00	0.76	7.60	20	19	22	30	21	24	20	16	20	24
6/28/12		On	On	45,329	1.00	0.76	6.71	22	21	20	32	20	24	21	17	18	23
7/26/12		On	On	45,999	1.00	0.76	6.03	23	18	21	29	21	20	20	17	20	20
8/30/12		On	On	46,843	1.00	0.76	7.60	20	15	19	25	16	18	19	16	18	16
9/27/12		On	On	47,514	1.00	0.77	6.04	18	14	19	22	18	15	16	17	16	17
10/25/12		On	On	48,190	1.00	0.77	6.08	26	19	24	26	22	25	20	23	24	20

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California

Date	Notes	OZONE SPARGE SYSTEM						SP-A	SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
		System Status (On/Off)		Hourmeter	Period Online	Cumulative	Ozone Injected	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure
		Arrival	Departure	Reading	Factor	Online Factor	(lbs)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
11/29/12		On	On	49,033	1.00	0.77	7.59	22	17	25	30	20	24	20	21	27	23
12/27/12		On	On	49,703	1.00	0.77	6.03	25	20	22	30	21	23	18	23	30	21
1/31/13		On	On	50,547	1.00	0.77	7.60	21	17	20	29	22	21	18	20	28	18
2/28/13		On	On	51,217	1.00	0.78	6.03	19	15	19	22	17	16	16	13	20	14
3/15/13	aa	On	Off	51,574	0.99	0.78	3.21	32	30	25	28	43	29	22	27	30	25
(6/23/2003-present) Sparge time per cycle (min)								7	7	7	7	7	7	7	7	7	7
(6/23/2003-03/24/2008)Number of Cycles per Day								18	18	18	18	18	18	18	18	18	18
(03/24/2008-present)Number of Cycles per Day								20	20	20	20	20	20	20	20	20	20

Reporting Period: First Quarter 2013 (12/01/2012 to 03/15/2013)
Total Hours Operational: 59,651
Total Pounds Ozone Injected: 537
Period Hours Operational: 2,541
Period Percent Operational: 100%
Period Pounds Ozone Injected: 23

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California

Definitions:

psi	Pounds per square inch
--	Data not available
NA	Not applicable
lbs	Pounds
	Ozone Injection Calculation: ozone concentration(0.009) x hours online = total pounds O_3

Notes:

	Hour Meter Formula adjusted 12/19/07
	June 4, 2007 - Control Panel retrofit installed.
	August 3, 2009 - Ozone down by request of COP PM
	November 4, 2009 - System restarted
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; system restarted.
v	Rainbird meter malfunction.
w	System down time due to tripped GFI; system restarted.
x	System off due to bad compressor.
y	Compressor repaired; system restarted.
z	September 10-27,2008 - System down for well repair.
aa	System was shut down by request of project manager.

Table 2
Ozone Injection - Groundwater Monitoring Data
76 Service Station No. 1871 (351644)
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)
4/16/03	a	NM	NM	**510**	**57**	**0.62**	**29**	**61**	**160**	NM	NM	<25,000	<250	<250	<250	<500	**37,000**
6/23/03	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**
8/29/03	a	NM	NM	**11,000**	**64**	<10	**330**	**1,400**	**440**	NM	NM	<10,000	<100	<100	<100	<200	**24,000**
9/18/03		NM	NM	**390**	**2.3**	<0.50	**3.6**	**31**	**30**	NM	NM	--	--	--	--	--	**--**
10/16/03		NM	NM	**2,100**	**6.0**	<0.50	**24.0**	**120**	**110**	NM	NM	--	--	--	--	--	**--**
11/17/03		NM	NM	**130**	**0.51**	<0.50	**2.1**	**7.9**	**43**	NM	NM	16,000	<130	<130	<130	<250	**17,000**
12/5/03		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	**36**	NM	NM	12,000	<100	<100	<100	<200	**19,000**
1/16/04	b	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	NM	NM	17,000	160	270	<130	<250	**19,000**
2/3/04		238	NM	<50	<0.50	<0.50	<0.50	<1.0	<2.0	72	NM	10,000	<25	<25	<25	<50	**15,000**
3/24/04	b	169	NM	**55**	<0.50	<0.50	**0.80**	**2.9**	**7.8**	56	NM	**13,000**	<100	<100	<100	<200	**15,000**
4/14/04	b	0.4	NM	**23,000**	**310**	**10**	**590**	**2400**	**1700**	42	NM	**9,000**	<50	<50	<50	<100	**11,000**
5/11/04		c	NM	**7,800**	**160**	<10	**170**	**700**	**720**	-3	NM	**8,300**	<50	<50	<50	<100	**11,000**
6/14/04		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**
7/26/04		NM	NM	<50	<0.50	<0.50	<0.50	<1.0	**3.2**	NM	NM	<5,000	<50	<50	<50	<100	**3,100**
8/12/04		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**
9/10/04		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**
10/5/04		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**
11/5/04	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**
12/2/04		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**
1/13/05		105	0.04	**1,100**	**26**	**1.2**	**2.10**	**70**	**630**	201	0.05	**1,000**	**25**	**1**	**1.9**	**68**	**460**
2/25/05	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**
3/8/05	g	-35	4.43	**23,000**	**410**	<10	**1,100**	**2,300**	**1,300**	NR	NR	--	--	--	--	--	--
4/5/05		-30	4.56	**34,000**	**300**	<10	**910**	**2,000**	**1,100**	135	6.53	<5,000	<.50	<.50	<.50	<1.00	**19,000**
5/4/05		-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**
6/2/05		-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**
7/7/05	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**
9/23/05		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**
10/23/05		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**
11/1/05	k	--	--	--	--	--	--	--	**--**	--	--	--	--	--	--	--	**--**
12/20/05		--	--	**10000**	**17**	**29**	**180**	**840**	**2400**	--	--	**1100**	**0.90**	<0.50	**24**	**37**	**8200**
3/10/06		--	--	**10000**	**35**	<0.50	**470**	**1300**	**960**	--	--	**1200**	**24**	<0.50	**3.6**	<1.0	**4700**
6/23/06		--	--	**11000**	**110**	<0.50	**610**	**1600**	**780**	--	--	**1800**	**21**	<0.50	<0.50	<1.0	**1500**
9/27/06		--	--	**8500**	**22**	<0.50	**270**	**740**	**460**	--	--	<2,000	<0.50	<0.50	<0.50	<1.0	**350**
12/22/06		--	--	**7300**	**35**	<0.50	**370**	**850**	**210**	--	--	**24000**	<0.50	<0.50	<0.50	<1.0	**190**
3/23/07		--	--	**8800**	**28**	<0.50	**440**	**910**	**170**	--	--	**85**	<0.50	<0.50	<0.50	<1.0	**92**
6/26/07		--	--	**6300**	**16**	<0.50	**300**	**650**	**50**	--	--	--	--	--	--	--	**--**
9/28/07		--	--	<50	<0.50	<0.50	<0.50	<1.0	**1.2**	--	--	50	<0.50	<0.50	<0.50	<1.0	**37**
12/17/07		--	--	**4700**	<0.50	<0.50	**71**	**160**	**18**	--	--	--	--	--	--	--	**--**
3/25/08		--	--	**7400**	**28**	<0.50	**430**	**540**	**170**	--	--	<50	<0.50	<0.50	<0.50	<1.0	**7.3**
6/12/08		--	--	**4900**	**6.4**	<0.50	**170**	**280**	**16**	--	--	**52**	<0.50	<0.50	<0.50	<1.0	**9.4**
9/25/08		--	--	**2200**	**2.1**	<0.50	**72**	**110**	**11**	--	--	**65**	<0.50	<0.50	<0.50	<1.0	**5.6**
12/30/08		--	--	**3200**	**2.5**	<0.50	**100**	**150**	**8.3**	--	--	**130**	<0.50	<0.50	<0.50	**1.1**	**5.7**
3/24/09		--	--	**3500**	**6.8**	<0.50	**140**	**140**	**28**	--	--	**98**	**0.50**	<0.50	<0.50	<1.0	**9.2**
6/23/09		--	--	**740**	<0.50	<0.50	**17**	**12**	**8**	--	--	**290**	**1.2**	<0.50	<0.50	<1.0	**6.7**
12/16/09		--	--	**4600**	**10**	<0.50	**270**	**140**	**52**	--	--	**150**	<0.50	<0.50	<0.50	<1.0	**3.7**
4/14/10		54	1.88	**1500**	**4.8**	<1.00	**100**	**36**	**20**	110	0.97	**60**	<0.50	<0.50	<0.50	<1.0	**2.1**
10/13/10		--	--	**4600**	**3.0**	<0.50	**180**	**73**	**6**	--	--	<50	<0.50	<0.50	<0.50	<1.0	**3.6**
5/27/11				**1500**	**3.2**	<2.50	**86**	**14**	**10**			<50	<0.50	<0.50	<0.50	<1.0	**5.2**
11/10/11		177	0.81	**410**	**0.72**	<0.50	**7.1**	**1.4**	**2.4**	169	2.74	<50	<0.50	<0.50	<0.50	<1.0	**2.9**
4/12/12		237	5.30	**2700**	**4.7**	<0.50	**130**	**7.5**	**14.0**	210	1.61	<50	<0.50	<0.50	<0.50	<1.0	**4.7**
10/16/12		73	0.84	**290**	<1.0	<1.0	**7.5**	<2.0	<1.0	55	1.04	<50	<0.50	<0.50	<0.50	<1.0	**2.6**

Definitions:

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

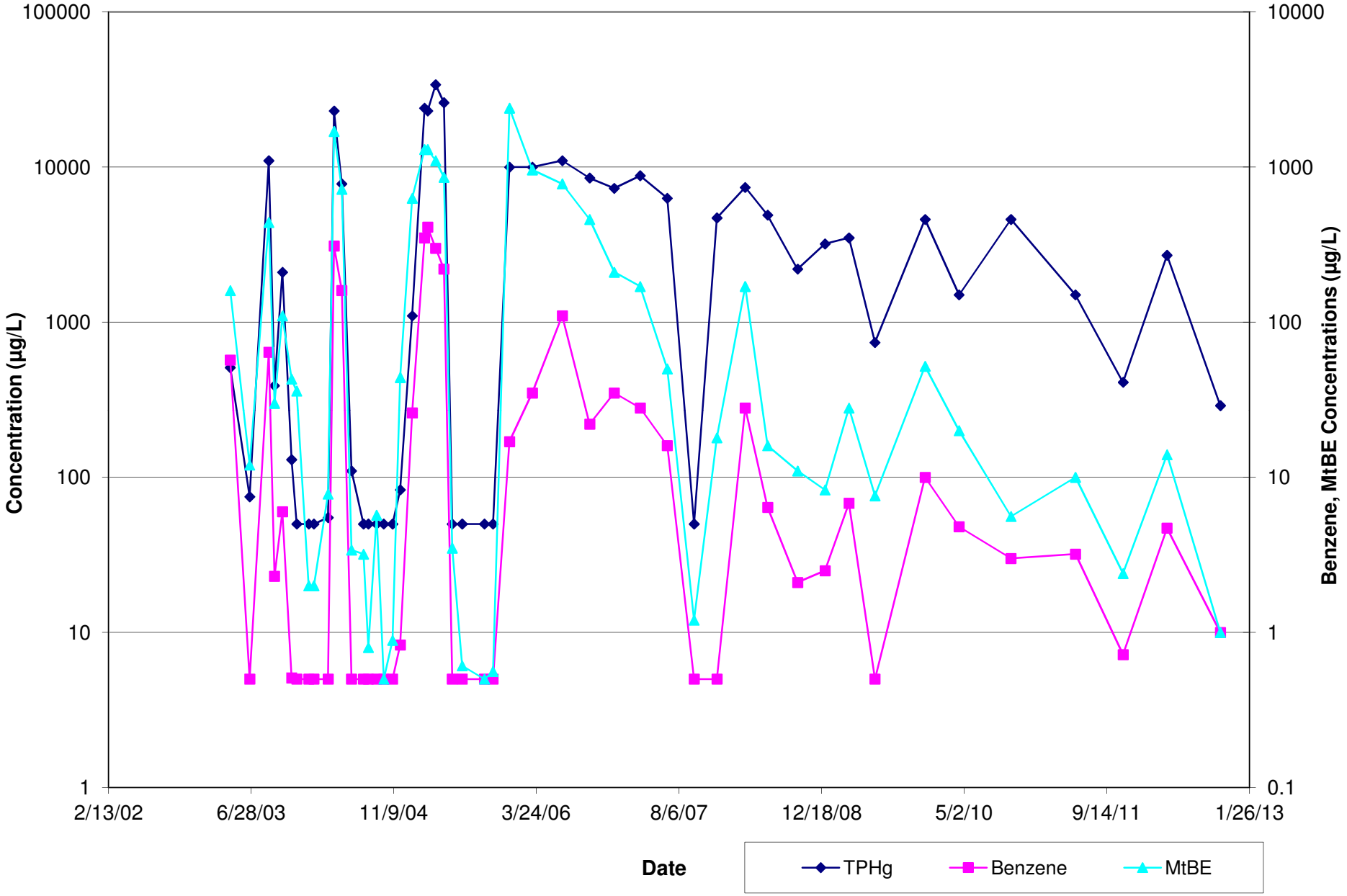
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
mV = Millivolts
mg/l = Milligrams per liter

Notes:

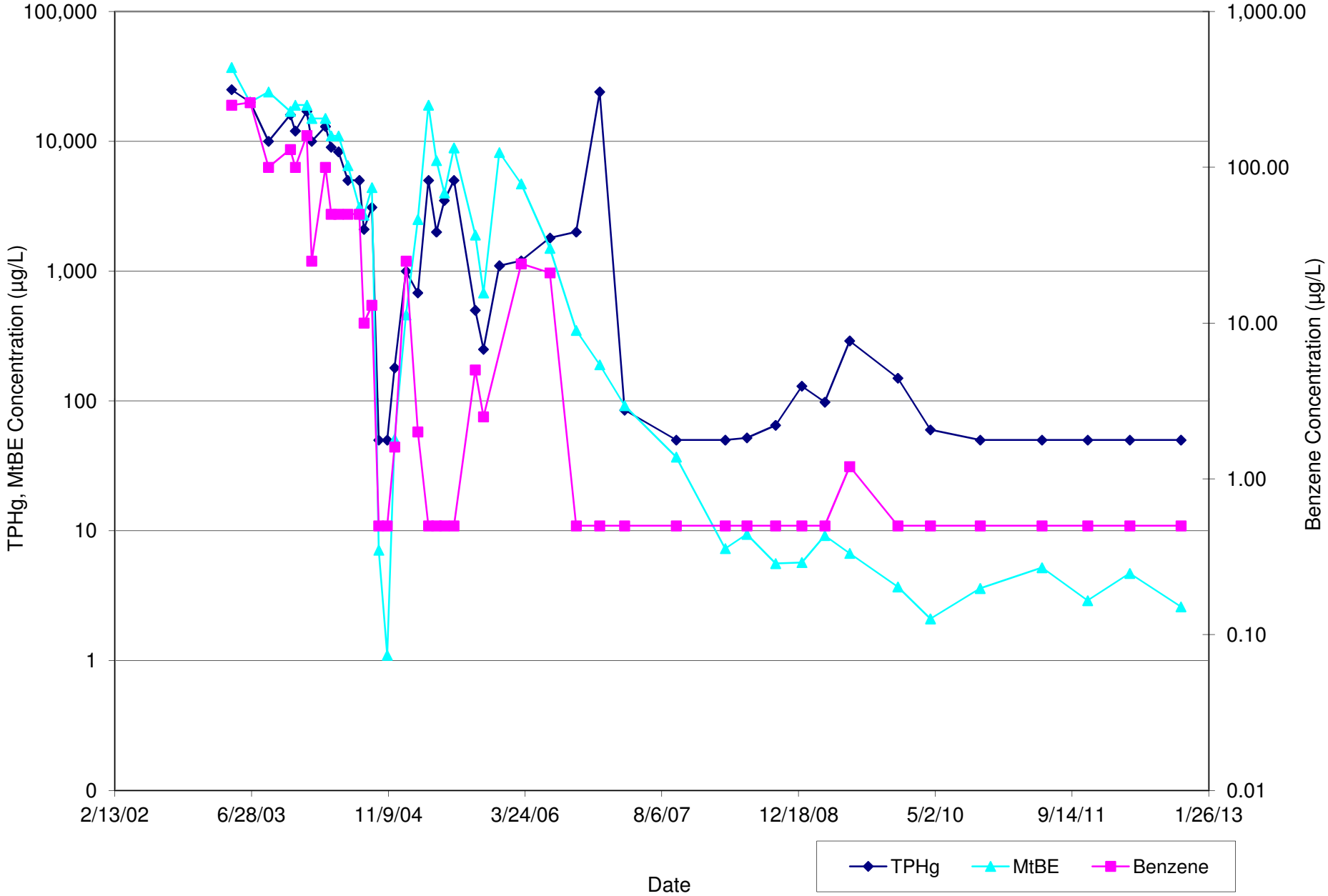
--	Data not available
NM	Not Measured
a	Sampled by Gettler-Ryan, Inc.
b	Hydrocarbon in gasoline range does not match laboratory gasoline standard.
c	ORP reading under the range
d	Quantity of unknown hydrocarbon(s) in sample based on gasoline.
e	Data not available at time of reporting
f	MW-7 Estimated 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	Monthly sampling discontinued at the request of ConocoPhillips

Graphs

Graph 1
MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California



Graph 2
MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations
76 Service Station No. 1871 (351644)
96 MacArthur Blvd., Oakland, California



Appendix A
Field Notes

Ozone Injection System Data Sheet

Station No.: **1871 (UOC 351644)**

City: **Oakland**

CRA-Tuesday-JWD

Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Well I.D. SP-A				Well I.D. SP-BS				Well I.D. SP-BD			
					Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
27Dec12		on/on	20	49703	25		7		20		7		22		7	
31Jan13		on/on	20	50547	21		7		17		7		20		7	
28Feb13		on/on	20	51217	19		7		15		7		19		7	
15Mar13		on/off	20	51574	32		7		30		7		25		7	

Date	Well I.D. SP-C				Well I.D. SP-DS				Well I.D. SP-DD				Well I.D. SP-E			
	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
27Dec12	30		7		21		7		23		7		18		7	
31Jan13	29		7		22		7		21		7		18		7	
28Feb13	22		7		17		7		16		7		16		7	
15Mar13	28		7		43		7		29		7		22		7	

Date	Well I.D. SP-F				Well I.D. SP-G				Well I.D. SP-H				Well I.D.			
	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
27Dec12	23		7		30		7		21		7					
31Jan13	20		7		26		7		18		7					
28Feb13	13		7		20		7		14		7					
15Mar13	27		7		30		7		25		7					

Ozone System Maintenance and Inspection Log

Date	Check/ Repair Leaks	Check Hoses Fittings & Pipes	Check Air Filter (Document Date Replaced)	Check & Test Safety Interlock	Check Sparge Blower V-Belt Tension & Conditions	Check Controller Program	Change Blower Oil	Sparge Blower Grease Bearings	Sparge Blower Repair/Replace	Comments
27Dec12	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	15Mar13 - SYS shut
31Jan13	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	down by Request of
28Feb13	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	CRA staff
15Mar13	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	

Notes: A = System down-breaker thrown B = Compressor Overload. C = Ozone sensor Tripped. D = Temp. sensor tripped.