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

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

Re: Former 76 Service Station No. 1871 (Union Oil 351644)
96 MacArthur Boulevard
Oakland, California
ACHCS Case No RO0455

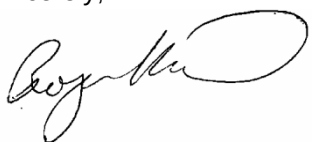
I accept the **First Quarter 2012 Ozone System Injection O&M Report** dated March 21, 2012.

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 2012 Ozone System Injection O&M Report** was prepared by Environ Strategy Consultants, Inc. and 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 2012 Ozone System Injection O&M Report

CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
http://www.craworld.com

March 21, 2012 Reference No. 060727

Mr. Keith Nowell
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: First Quarter 2012 Ozone Injection System O&M Report
76 Service Station No. 1871
Union Oil Company of California Facility ID No. 351644
96 MacArthur Boulevard
Oakland, California
ACEH No. RO0455

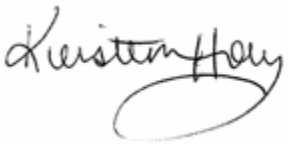
Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), Conestoga-Rovers & Associates (CRA) is submitting this *First Quarter 2012 Ozone Injection System O&M Report* for the site referenced above.

The system monitoring was performed by Environ Strategy Consultants, Inc. (ESC) during December through February 2012, and their March 15, 2012 report is enclosed. Please contact Kiersten Hoey at (510) 420-3347 if you have any questions or require additional information.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES



Kiersten Hoey

KH/aa/1
Encl.

Attachment A ESC's *First Quarter 2012 Ozone Injection System O&M Report* - March 15, 2012

cc: Ms. Roya Kambin, Union Oil *(electronic copy)*
Ms. Barbara Bee Allen, Propery Owner

ATTACHMENT A

ESC'S FIRST QUARTER 2012
OZONE INJECTION SYSTEM O&M REPORT - MARCH 15, 2012

environ strategy consultants, inc.

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

March 15, 2012

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

Project No. 696-A

First Quarter 2012
Ozone Injection System O&M Report
76 Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

Dear Mr. Hoey:

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), 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 (Table2).

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 2012 O&M Report
76 Service Station No. 1871
March 15, 2012

Ozone Injection System

KVA Ozone Injection System

Reporting Period:	December 1, 2011 – February 29, 2012
Days of Operation:	Operated 91 days during the period
Hours of Operation:	2,298

System Operation Data Since Startup on June 23, 2003:

Total Hours of Operation:	50,468

Notes: First Quarter 2012 – Period hours includes dates November 24, 2011 to February 27, 2012.

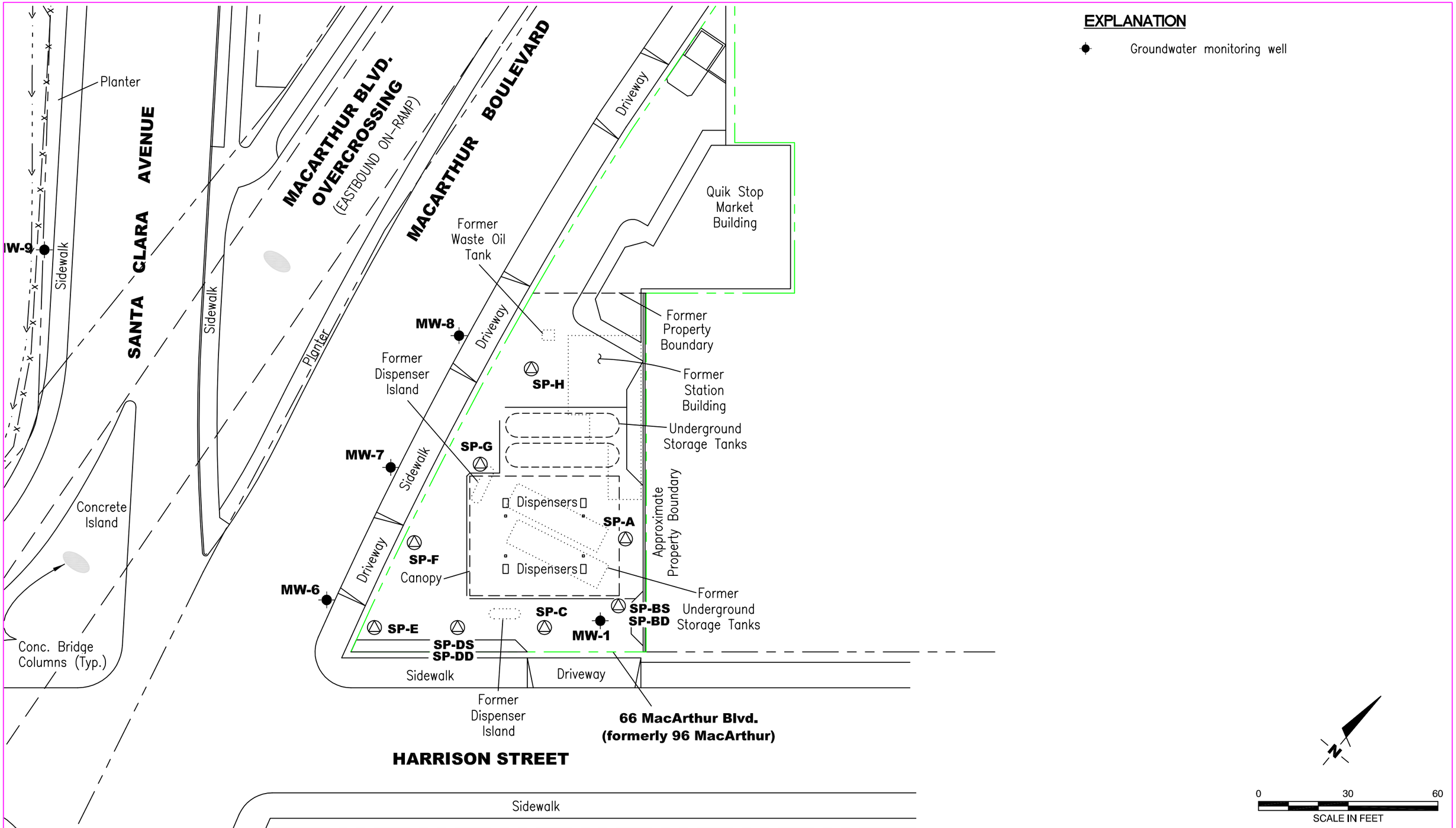
Attachments: Figure - Site Plan

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
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)
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

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871
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)
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
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

Table 1
Ozone Injection - System Operation Data
76 Service Station No. 1871
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)
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
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		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
(6/23/2003-present) Sparge time per cycle (min)								7	7	7	7	7	7	7	7	7	7
Number of Cycles per Day								20	20	20	20	20	20	20	20	20	20

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

Reporting Period: First Quarter 2012 (12/01/2011 to 02/29/2012)
Total Hours Operational: 50,468
Total Pounds Ozone Injected: 454
Period Hours Operational: 2298
Period Percent Operational: 100%
Period Pounds Ozone Injected: 21

Definitions:

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

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
	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; 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.

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)
4/16/03	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**	**5**	<1.00	**100**	**36**	**20**	110	0.97	**60**	<0.50	<0.50	<0.50	<1.0	**2.1**
10/13/10		--	--	**4600**	**3**	<0.50	**180**	**73**	**6**	--	--	<50	<0.50	<0.50	<0.50	<1.0	**3.6**
5/27/11				**1500**	**3**	<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**

Definitions:

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

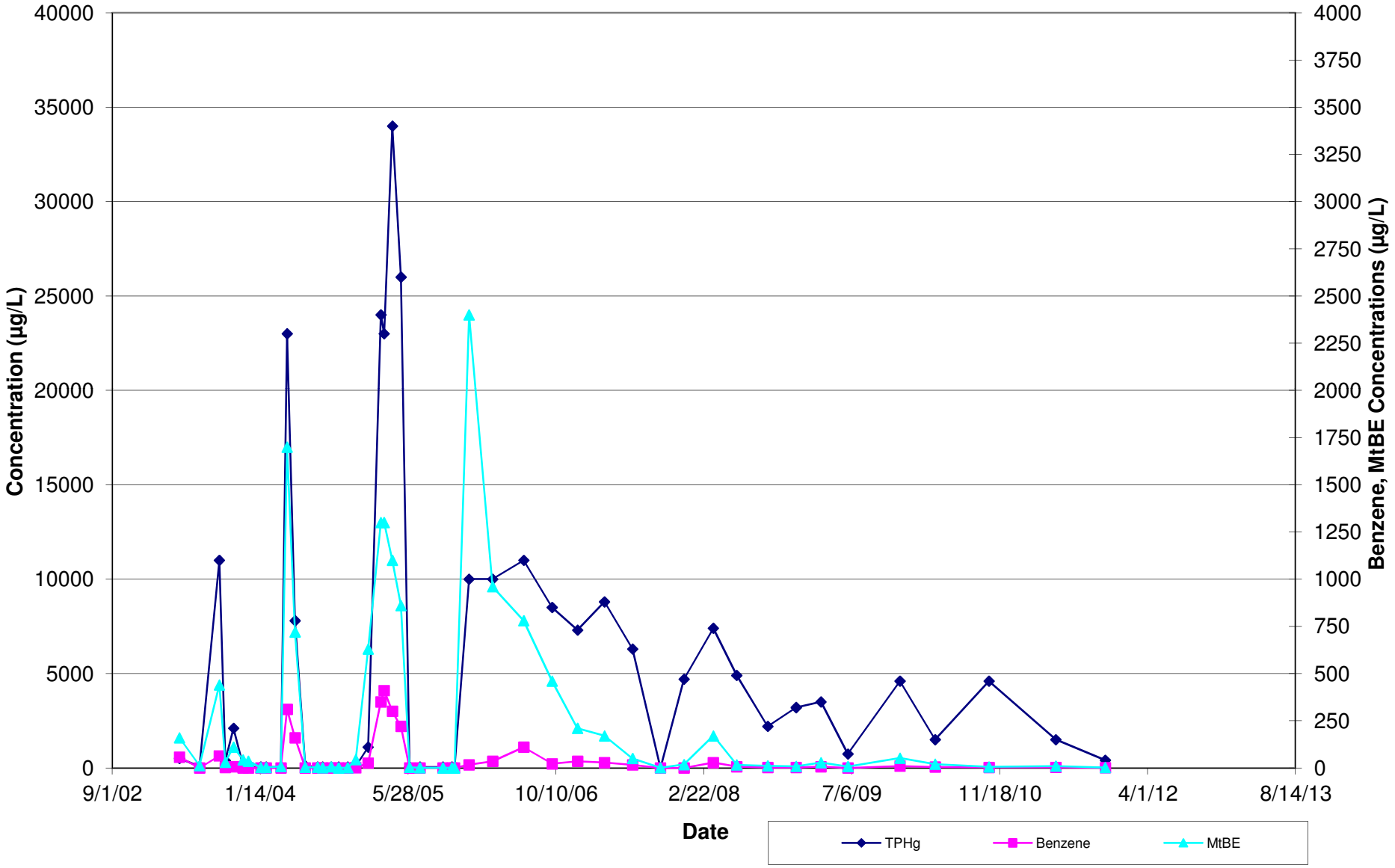
ORP = Oxidation Reduction Potential
DO = Dissolved Oxygen
mV = Millivolts
mg/l = Milligrams per liter

Notes:

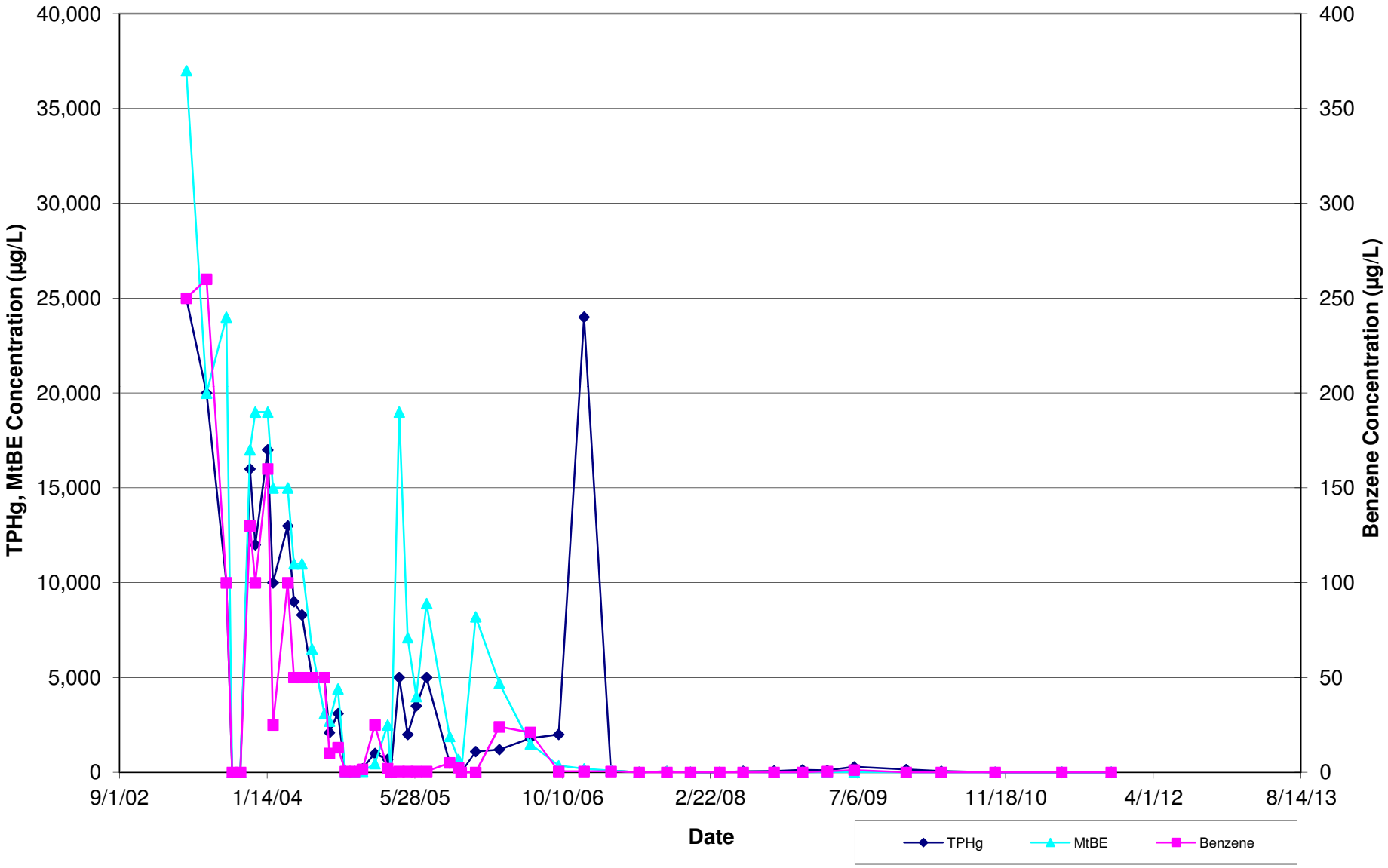
--	Data not available
NM	Not Measured
a	Sampled by Gettler-Ryan, Inc.
b	Hydrocarbon in gasoline range does not match laboratory gasoline standard.
c	ORP reading under the range
d	Quantity of unknown hydrocarbon(s) in sample based on gasoline.
e	Data not available at time of reporting
f	MW-7 Estimated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

Ozone Injection System Data Sheet

Station No.: **1871**

City: **Oakland**

Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Well I.D. SP-A Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-BS Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-BD Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
29Dec11		on/on	20	40931	25		7		22		7		29		7	
24Jan12		on/on	20	41555	21		7		18		7		20		7	
27Feb12		on/on	20	42391	30		7		25		7		33		7	

Date	Well I.D. SP-C Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-DS Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-DD Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-E Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
29Dec11	23		7		20		7		20		7		19		7	
24Jan12	20		7		20		7		16		7		19		7	
27Feb12	44		7		22		7		29		7		23		7	

Date	Well I.D. SP-F Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-G Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. SP-H Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flow Rate (acfm)
29Dec11	18		7		15		7		17		7					
24Jan12	15		7		16		7		21		7					
27Feb12	20		7		24		7		29		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
29Dec11	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	
24Jan12	ok	ok	ok	ok	N/A	ok	N/A	N/A	ok	
27Feb12	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.