EAST BAY
MUNICIPAL UTILITY DISTRICT

DAVID R. WILLIAMS
DIRECTOR OF WASTEWATER

January 27, 2011

Brian Bateman
Director of Compliance and Enforcement
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Mr. Bateman:

RE: Semi-Annual Major Facility Review (Title V) Monitoring Report for EBMUD Main Wastewater Treatment Plant (Facility #A0591)

Attached is the semiannual monitoring report for East Bay Municipal Utility District's (EBMUD) Main Wastewater Treatment Plant (Facility #A0591) as required under Section I.F of the facilities Major Facility Review Permit issued July 26, 2005 (the renewal application was submitted by EBMUD on December 30, 2010). The report covers the period from July 1 through December 31, 2011.

As indicated by the attached report, the Main Wastewater Treatment Plant was in compliance with all Title V requirements except for the following:

1) EBMUD measured hydrogen sulfide (H_2S) in the digester gas used to fuel S-38 and the other cogeneration engines at a level exceeding the permit limit (condition #18860) on August 8, 2011. The incident resulted in the issuance of Notice of Violations (NOV) A50766.

I certify to the best of my knowledge that the attached report is true, accurate and complete.

If you have any questions, please call Robert Newman at (510) 287-0509.

Sincerely,

David R. Williams

DAVID R. WILLIAMS

DRW:RDN:kf

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P.O. BOX 24055 . OAKLAND . CA 94623-1055 . (510) 287-1405

Major Facility Review (Title V)
Semi-Annual Monitoring Report

for

East Bay Municipal Utility District's
Main Wastewater Treatment Plant
Facility #A0591

Reporting Period: July 1, 2011 through December 31, 2011

Source	Monitoring Requirement	Limit	Monitoring Results
S-55 Boiler	**Condition # 20651**		
	2. Shall not operate S-55 hot water boiler simultaneously with more than two of the three cogeneration engines.		Boiler was only operated simultaneously with more than two engines a couple of times during short term engine testing (see attachment 2 comments). **See Table 2 attached.**
	3. Boiler Gross Heat input shall not exceed 20.41 MMBtu/hr		Maximum theoretical input is 20 MMBtu/hr with a high calculated value of 10.8.
	19. Annual performance test for these limits:		
	5. Emissions limits	NOx 30 ppm CO 50 ppm	Boiler was source tested on November 22, 2011. Results were in compliance with permit limits and are included with this report.
	16. Weekly fuel gas monitoring for sulfur content	H2S 340 ppm	Daily sampling conducted using Portable Instrument. Exceeded the permit limit on August 8 (444 ppm), **See ATTACHMENT E.**
	18. Recordkeeping		**See Table 2 attached.**
S-37, S-38, S-39 Cogeneration Engines	**Condition # 18860**		
	4. Sulfur content of digester gas Weekly sampling and testing of digester gas for H2S	< 340 ppmv	Daily sampling conducted using Portable Instrument. Exceeded the permit limit on August 8 (444 ppm), **See ATTACHMENT E.**

Source	Monitoring Requirement	Limit	Monitoring Results
	Condition # 20651 18. Maintain daily records of hours of engine operation, diesel and gas consumption to verify compliance with:		Engine operational records are **attached as Table 3.**
	13. Thermal throughput	25 MMBtu/hr	The measured volumes based on an estimated HHV digester gas had a maximum of 25 MMBtu based on revised throughput estimates.
	14. Hours of operation	26,280 hours in 365-day period	Total of 8,653 hours from Jul 1, 2011 to Dec 31, 2011. (17,636 for last 12 months)
	15. Diesel consumption	150,000 gal in 365-day period	Total for Jan – June 2011 was 12,983 gallons. Total for June – Dec 2011 was 39,638 gallons. 2011 Total: 52,621 gallons
	Condition # 20651 17. Sulfur content of diesel fuel Certification statement by vendor	CARB diesel standards	All diesel fuel met CARB standards. Vendor certifications included as **Attachment A.**
	Condition # 20651 19. Annual performance test for these limits: 10. NOx emissions 11. CO emissions	 140 ppmv 2000 ppmv	S-37: BAAQMD source test on 4/27/11. Blue Sky Environmental on 3/8/11. S-39: BAAQMD source test on 3/16/11 and by Blue Sky Environmental on 3/08/11. S-38: Blue Sky Environmental on 3/8/11. All results were within permit limits.

Source	Monitoring Requirement	Limit	Monitoring Results
S-38 Cogeneration Engine	**Condition # 20651** 19. Annual performance test for these limits: 6. NOx emissions 7. CO emissions 8. POC emissions 9. PM emissions	 1.25 g/bhp-hr 3.0 g/bhp-hr 0.6 g/bhp-hr 0.085 g/bhp-hr	
	Condition # 20651 16. Weekly fuel gas monitoring for sulfur content	 340 ppmv	Daily sampling conducted using Portable Instrument. Exceeded the permit limit on August 8 (444 ppm), **See ATTACHMENT E.**
S-48 Gasoline Dispensing Facility	**Condition # 16516** The Static Pressure Performance Test (Leak Test) ST-38 shall be successfully conducted at least once in each twelve consecutive month period.		Source test performed on 9/24/11.
	Condition # 21663 Annual gasoline throughput	 334,000 gal per year	See **Table 8 attached.** Throughput limits were met with 28,003 gallons used over the last 12 months.
S-49 Portable Stand-by Generator	**Condition #19058** 4. Diesel sulfur content 7. Hours of operation logged.	 0.5% 72 hours within 1000 feet of school	All diesel fuel met CARB standards. Vendor certifications included as **Attachment A.** See **Table 4 attached.**
S-50 Stand-by Generator	**Condition #22830** 1. Hours of operation	 30 hours per year reliability-related testing	See **Table 4 attached.** Limits on hours were met.

Source	Monitoring Requirement	Limit	Monitoring Results
S-51 Stand-by Generator	**Condition #22850** 1. Hours of operation	50 hours per year reliability-related testing	See **Table 4 attached.** Limits on hours were met.
S-52 Stationary Stand-by Generator	**Condition #19184** 4. Diesel sulfur content 8. Hours of operation logged.	0.5% 72 hours within 1000 feet of school	All diesel fuel met CARB standards. Vendor certifications included as **Attachment A.** See **Table 4 attached.**
S-53 Stand-by Generator	**Condition #22830** 1. Hours of operation	30 hours per year reliability-related testing	See **Table 4 attached.** Limits on hours were met.
S-54 Stand-by Generator	**Condition #22850** 1. Hours of operation	50 hours per year reliability-related testing	See **Table 4 attached.** Limits on hours were met.
S-56 Turbine (Started Operation on Nov 11, 2011)	**Condition #24050** 2. 389,820 MM Btu yr 3. Annual Testing for NOx 4. Annual Testing for CO 5. Annual Testing for SO2 8. Monthly Monitoring	 23 ppm 100 ppm 100 ppmv	S-56 Source tested by Blue Sky Env on 12/15/11. All results were within permit limits.
S-100 Municipal Wastewater Treatment Plant	**Condition #22850** Total wastewater flow	120 MGD monthly avg. (330 MGD in wet weather)	See Annual Summary from Self-Monitoring Reports submitted to Regional Water Board, **included as Attachment C.** Limits were met with a 69 MGD monthly average.

Source	Monitoring Requirement	Limit	Monitoring Results
S-110 Headworks **A-461 and A-462 Carbon Bed Scrubbers**	**Condition #17335** 3. Inlet and outlet H2S concentrations, as well as any other appropriate operating parameters shall be continuously monitored and reviewed on a daily basis to determine when carbon adsorption bed breakthrough is imminent or has been reached.		**See Table 5 attached.**
S-170 Sludge-handling	**Condition #18006** 1. Monitor and record on a daily basis the activated sewage sludge throughput through S-170.		**See Table 6 attached.**
S-180 Anaerobic Digesters	**Condition #18860** 2. Monthly digester visual inspection		**See Table 7 attached.**
	4. Digester Gas sulfide content	340 ppmv	Daily sampling conducted using Portable Instrument. Exceeded the permit limit on August 8. 2011 (444 ppm), See **ATTACHMENT E.**
	5. Hours of flaring per day		**See Attachment D**

TABLE 1 -- Digester Gas H2S Monitoring

Digester H2S Readings

Date	H2S (ppmv)
7/1/2011	226
7/2/2011	204
7/3/2011	160
7/4/2011	216
7/5/2011	214
7/6/2011	266
7/7/2011	171
7/8/2011	161
7/9/2011	168
7/10/2011	169
7/11/2011	157
7/12/2011	161
7/13/2011	99
7/14/2011	147
7/15/2011	200
7/16/2011	159
7/17/2011	284
7/18/2011	125
7/19/2011	163
7/20/2011	278
7/21/2011	158
7/22/2011	242
7/23/2011	220
7/24/2011	222
7/25/2011	206
7/26/2011	164
7/27/2011	181
7/28/2011	216
7/29/2011	169
7/30/2011	192
7/31/2011	160
8/1/2011	220
8/2/2011	200
8/3/2011	222
8/4/2011	229
8/5/2011	246
8/6/2011	264
8/7/2011	294
8/8/2011	[illegible]
8/9/2011	276
8/10/2011	165
8/11/2011	188
8/12/2011	165
8/13/2011	108
8/14/2011	108

Date	H2S (ppmv)
8/15/2011	95
8/16/2011	106
8/17/2011	99
8/18/2011	100
8/19/2011	108
8/20/2011	112
8/21/2011	110
8/22/2011	115
8/23/2011	62
8/24/2011	74
8/25/2011	54
8/26/2011	76
8/27/2011	88
8/28/2011	88
8/29/2011	112
8/30/2011	129
8/31/2011	124
9/1/2011	131
9/2/2011	
9/3/2011	190
9/4/2011	189
9/5/2011	195
9/6/2011	108
9/7/2011	149
9/8/2011	138
9/9/2011	128
9/10/2011	192
9/11/2011	165
9/12/2011	120
9/13/2011	155
9/14/2011	162
9/15/2011	148
9/16/2011	170
9/17/2011	195
9/18/2011	160
9/19/2011	111
9/20/2011	137
9/21/2011	186
9/22/2011	166
9/23/2011	154
9/24/2011	170
9/25/2011	144
9/26/2011	147
9/27/2011	163
9/28/2011	82

Date	H2S (ppmv)
9/29/2011	152
9/30/2011	164
10/1/2011	170
10/2/2011	146
10/3/2011	154
10/4/2011	161
10/5/2011	152
10/6/2011	141
10/7/2011	114
10/8/2011	177
10/9/2011	137
10/10/2011	191
10/11/2011	155
10/12/2011	139
10/13/2011	191
10/14/2011	266
10/15/2011	200
10/16/2011	
10/17/2011	128
10/18/2011	130
10/19/2011	131
10/20/2011	146
10/21/2011	185
10/22/2011	193
10/23/2011	165
10/24/2011	133
10/25/2011	195
10/26/2011	164
10/27/2011	179
10/28/2011	119
10/29/2011	134
10/30/2011	120
10/31/2011	112
11/1/2011	0
11/2/2011	0
11/3/2011	0
11/4/2011	0
11/5/2011	0
11/6/2011	0
11/7/2011	0
11/8/2011	0
11/9/2011	0
11/10/2011	0
11/11/2011	0
11/12/2011	92

Date	H2S (ppmv)
11/13/2011	0
11/14/2011	0
11/15/2011	0
11/16/2011	0
11/17/2011	0
11/18/2011	0
11/19/2011	0
11/20/2011	0
11/21/2011	0
11/22/2011	0
11/23/2011	0
11/24/2011	0
11/25/2011	0
11/26/2011	0
11/27/2011	0
11/28/2011	0
11/29/2011	0
11/30/2011	0
12/1/2011	0
12/2/2011	0
12/3/2011	0
12/4/2011	0
12/5/2011	0
12/6/2011	0
12/7/2011	0
12/8/2011	0
12/9/2011	0
12/10/2011	0
12/11/2011	0
12/12/2011	0
12/13/2011	0
12/14/2011	0
12/15/2011	0
12/16/2011	0
12/17/2011	0
12/18/2011	0
12/19/2011	0
12/20/2011	0
12/21/2011	0
12/22/2011	0
12/23/2011	0
12/24/2011	0
12/25/2011	0
12/26/2011	0
12/27/2011	0
12/28/2011	0
12/29/2011	0
12/30/2011	0
12/31/2011	0

TABLE 2

ENGINE & BOILER RUN TIMES

EBMUD

Daily Data for Air Permit

Month: July - 2011

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	48,927	48,927	48,927	146,780	899,672	899,672	899,672	0	32	29	41	24	24	24	0	72
2	49,067	49,067	49,067	147,200	917,778	917,778	917,778	0	32	37	37	24	24	24	0	72
3	46,198	28,874	46,198	121,270	744,315	448,656	744,315	91,181	35	27	37	24	14	24	9	72
4	28,350	0	48,600	76,950	542,306	0	996,073	259,306	21	0	37	13	0	24	23	60
5	0	37,996	47,994	85,990	0	731,463	927,207	264,639	5	56	44	0	19	24	24	67
6	19,233	19,233	19,233	57,700	60,658	64,581	60,054	358,081	49	29	36	10	11	10	14	45
7	49,047	49,047	49,047	147,140	904,570	904,570	904,570	0	37	34	49	24	24	24	0	72
8	51,850	51,850	51,850	155,550	916,740	916,740	916,740	0	29	39	50	24	24	24	0	72
9	49,130	49,130	49,130	147,390	1,130,901	1,130,901	1,130,901	0	39	36	40	24	24	24	0	72
10	14,831	44,494	44,494	103,820	281,484	914,980	914,980	207,360	16	36	38	7	24	24	17	72
11	29,670	0	29,670	59,340	726,690	42,627	768,641	230,081	80	12	6	18	1	19	17	55
12	52,913	55,214	55,214	163,340	841,250	830,142	841,250	4,607	40	41	43	24	24	24	0	72
13	49,526	49,526	47,463	146,515	779,709	779,709	747,652	3,729	34	34	13	24	24	23	0	71
14	47,474	49,538	49,538	146,550	773,752	796,131	796,131	0	42	37	50	23	24	24	0	70
15	51,680	51,680	51,680	155,040	939,779	939,779	939,779	0	30	35	49	24	24	24	0	72
16	49,359	49,359	39,076	137,795	756,267	756,267	600,287	72,482	35	29	45	24	24	19	5	72
17	47,725	9,943	9,943	67,610	951,534	215,417	173,787	405,993	36	46	30	24	5	4	19	53
18	43,791	40,142	10,948	94,880	868,769	816,884	239,515	276,232	31	50	36	24	23	7	17	71
19	46,123	46,123	46,123	138,370	937,729	937,729	916,239	5,154	35	68	60	24	24	23	0	72
20	49,018	49,018	49,018	147,055	903,257	903,257	903,257	0	30	49	51	24	24	24	0	72
21	46,232	46,232	46,232	138,695	1,162,133	1,162,133	1,162,133	0	35	37	52	24	24	24	0	72
22	49,020	49,020	49,020	147,060	1,186,315	1,186,315	1,186,315	0	32	34	46	24	24	24	0	72
23	49,013	49,013	49,013	147,040	986,628	986,628	986,628	0	32	31	43	24	24	24	0	72
24	3,959	7,917	47,504	59,380	76,536	202,986	958,361	359,846	2	29	40	2	5	24	21	52
25	14,850	0	44,550	59,400	333,175	0	971,197	383,879	27	2	41	8	0	24	24	56
26	50,573	18,965	50,573	120,110	844,855	305,673	844,855	206,869	28	46	42	24	9	24	15	72
27	49,518	47,455	49,518	146,490	737,500	704,210	735,452	4,838	38	48	60	24	23	24	0	71
28	35,245	46,993	46,993	129,230	518,598	702,522	702,522	80,014	36	31	44	18	24	24	6	71
29	2,096	50,297	50,297	102,690	35,522	930,020	930,020	283,588	24	35	41	1	24	24	23	72
30	0	47,120	47,120	94,240	0	929,276	929,276	299,210	0	35	37	0	24	24	24	72
31	9,361	22,466	44,933	76,760	184,885	440,591	902,491	356,213	21	22	42	5	12	24	24	65
Totals	1,133,778	1,164,638	1,368,964	3,667,380	20,943,304	21,497,638	25,648,077	4,153,302	962	1,077	1,277	561	577	681	283	2,102
			Sum of Engines 3,667,380				Sum of Engines 68,089,019				Sum of Engines 3,316			Sum of Engines 1,819		

EBMUD

Daily Data for Air Permit

Month: August - 2011

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	31,042	0	51,422	82,464	569,134	0	903,586	365,664	71	3	39	15	0	24	24	63
2	37,551	0	38,624	76,175	644,691	0	641,803	361,322	37	0	37	19	0	19	23	60
3	46,694	20,514	49,775	116,983	782,704	379,750	803,078	215,246	46	69	68	23	11	24	13	71
4	43,300	40,985	45,544	129,830	728,150	714,960	737,492	17,232	45	71	63	22	22	22	1	67
5	49,648	47,011	51,444	148,103	833,981	833,981	833,981	0	30	38	50	24	24	24	0	72
6	48,810	46,594	50,501	145,905	821,000	821,000	821,000	0	36	37	52	24	24	24	0	72
7	33,777	301	48,822	82,899	619,888	7,545	835,804	373,658	30	5	49	18	0	24	24	66
8	19,567	25,686	49,423	94,676	386,537	489,302	840,806	248,637	46	50	46	11	14	24	13	62
9	47,316	47,084	48,998	143,398	808,294	808,294	808,294	0	38	30	38	24	24	24	0	72
10	50,596	47,647	52,256	150,499	847,601	847,601	847,601	0	34	38	40	24	24	24	0	72
11	51,023	47,739	52,801	151,562	853,740	853,740	853,740	0	34	38	41	24	24	24	0	72
12	51,179	47,829	52,837	151,845	855,375	855,375	855,375	0	35	35	39	24	24	24	0	72
13	51,193	47,872	25,942	125,007	799,298	799,298	391,323	134,031	30	32	33	24	24	12	9	69
14	48,855	46,052	624	95,531	689,050	680,437	13,877	309,499	39	41	16	24	24	0	24	72
15	47,885	4,153	49,117	101,156	813,738	76,288	813,738	271,761	34	29	53	24	2	24	21	72
16	49,012	37,980	49,163	136,155	818,120	654,837	818,120	6,422	32	46	45	24	19	24	0	68
17	48,399	47,381	47,908	143,688	806,251	806,251	806,251	0	38	33	41	24	24	24	0	71
18	48,557	47,774	48,335	144,666	812,588	812,588	812,588	0	28	40	39	24	24	24	0	72
19	48,588	47,899	48,477	144,964	812,497	812,497	812,497	0	52	37	44	24	24	24	0	72
20	41,851	47,186	47,685	136,721	717,899	808,901	808,901	45,025	31	32	20	21	24	24	3	72
21	0	14,815	46,931	61,747	0	333,712	911,851	440,995	0	59	37	0	9	24	24	57
22	27,285	140	47,789	75,214	487,616	7,674	850,081	394,942	74	23	42	14	0	24	23	61
23	48,554	17,280	47,659	113,493	800,398	306,263	800,398	216,566	32	36	35	24	9	24	15	72
24	47,443	47,873	49,382	144,697	815,944	815,944	815,944	0	39	35	32	24	24	24	0	72
25	47,692	47,353	48,979	144,024	811,810	811,810	811,810	0	32	27	39	24	24	24	0	72
26	47,151	47,739	48,170	143,061	804,718	804,718	804,718	0	38	36	42	24	24	24	0	72
27	46,268	35,463	47,843	129,574	795,441	599,895	795,441	72,736	30	30	43	24	18	24	4	70
28	45,869	0	47,685	93,553	793,020	0	793,020	338,646	38	0	41	24	0	24	23	71
29	47,779	17,626	23,570	88,975	721,756	293,135	361,634	261,804	35	40	54	24	10	12	16	62
30	47,480	47,848	47,505	142,832	809,373	809,373	782,394	0	34	38	63	24	24	23	0	71
31	46,077	46,184	49,575	141,837	800,087	799,520	815,375	0	3	20	43	24	24	24	0	71
Totals	1,346,441	1,020,008	1,414,787	3,781,235	22,660,701	17,644,693	23,602,521	4,074,186	1,122	1,049	1,325	670	521	688	262	2,141
		Sum of Engines	3,781,236			Sum of Engines	63,907,915			Sum of Engines	3,496		Sum of Engines	1,879		

Daily Data for Air Permit

Month: September - 2011

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	48,570	47,776	48,982	145,328	670,643	670,643	657,137	0	410	336	596	24	24	24	0	72
2	48,638	47,842	50,504	146,984	703,789	703,789	703,789	0	167	380	392	24	24	24	0	72
3	48,566	47,828	50,518	146,912	703,807	703,807	703,807	0	323	172	441	24	24	24	0	72
4	32,304	43,424	44,401	120,129	461,497	617,617	614,614	99,561	356	325	476	18	24	24	6	72
5	0	46,719	2,788	49,507	0	589,768	42,185	451,939	0	397	349	0	24	2	24	50
6	0	46,719	30,663	77,383	0	709,355	442,851	305,989	18	453	431	0	24	15	24	63
7	0	47,604	50,450	98,053	0	795,593	795,593	303,315	0	347	389	0	24	24	24	72
8	0	46,969	49,577	96,546	0	733,710	736,784	357,399	0	580	621	0	24	24	24	72
9	0	47,652	50,447	98,099	0	788,344	788,344	383,642	0	296	516	0	24	24	24	72
10	0	47,362	50,074	97,436	0	786,428	786,428	398,701	12	375	386	0	24	24	24	72
11	0	32,470	46,449	78,919	0	529,069	714,020	415,250	0	444	467	0	18	24	22	64
12	0	4,599	49,249	53,847	0	84,360	820,803	483,747	0	175	529	0	2	24	22	48
13	0	42,647	48,062	90,709	0	653,871	697,862	373,771	0	595	713	0	22	23	22	67
14	0	47,577	50,471	98,048	0	787,421	787,421	432,072	0	346	471	0	24	24	24	72
15	0	45,754	49,930	95,684	0	750,138	768,824	390,205	0	464	438	0	23	24	23	70
16	0	47,419	50,273	97,691	0	785,415	785,415	398,364	0	365	441	0	24	24	24	72
17	0	46,240	47,111	93,351	0	670,646	671,594	397,399	0	665	875	0	24	24	24	71
18	0	47,135	48,679	95,814	0	789,583	789,583	360,743	0	226	364	0	24	24	24	72
19	0	43,787	45,035	88,822	0	721,744	721,744	343,665	0	549	104	0	24	24	24	72
20	0	44,940	45,501	90,441	0	673,964	673,964	352,898	24	409	824	0	23	23	24	71
21	0	30,605	36,818	67,423	0	458,880	548,134	398,512	24	431	532	0	16	19	24	58
22	0	28,889	47,040	75,929	0	455,208	729,955	378,621	19	483	476	0	15	24	23	62
23	0	43,507	47,714	91,221	0	695,036	742,472	377,298	0	597	322	0	22	24	24	70
24	0	46,971	47,782	94,753	0	773,881	773,881	365,045	0	257	390	0	24	24	24	72
25	0	44,734	47,309	92,044	0	720,482	746,936	284,848	0	375	451	0	23	24	24	71
26	0	30,967	48,718	79,685	0	520,990	789,711	443,704	0	366	311	0	16	24	24	64
27	0	44,627	47,815	92,442	0	705,438	739,862	331,915	0	498	479	0	23	24	21	68
28	0	46,949	47,883	94,832	0	785,822	785,822	354,682	0	223	313	0	24	24	24	72
29	0	47,046	47,920	94,966	0	789,989	789,989	325,969	0	213	293	0	24	24	24	72
30	0	46,980	47,856	94,836	0	769,310	769,310	280,578	0	216	483	0	24	24	24	72
Totals	178,078	1,283,740	1,376,017	2,837,835	2,539,736	20,220,297	21,118,831	9,789,832	1,354	11,559	13,874	90	659	681	619	2,049
		Sum of Engines	2,837,835			Sum of Engines	43,878,864			Sum of Engines	26,787		Sum of Engines	1,430		

EBMUD

Month: October - 2011

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	0	47,005	47,005	94,010	0	897,504	897,504	268,248	0	32	26	0	24	24	24	72
2	0	53,287	49,188	102,475	0	885,589	885,589	288,683	0	19	21	0	24	24	24	72
3	0	40,903	44,622	85,525	0	845,273	886,581	277,598	0	52	34	0	23	24	24	71
4	0	46,000	48,000	94,000	0	855,999	899,736	292,648	0	21	25	0	23	24	24	71
5	0	47,050	47,050	94,100	0	897,307	897,307	352,700	0	19	21	0	24	24	24	72
6	20,868	45,531	45,531	111,930	351,114	816,808	816,808	235,549	61	33	36	10	24	24	14	72
7	46,170	46,170	46,170	138,510	776,837	776,837	776,837	0	24	21	27	24	24	24	0	72
8	46,173	46,173	46,173	138,520	771,652	771,652	771,652	0	24	18	23	24	24	24	0	72
9	47,940	15,980	47,940	111,860	743,134	257,516	743,134	206,574	35	24	37	24	8	24	16	72
10	46,626	27,198	46,626	120,450	782,033	456,729	782,033	125,175	25	37	30	24	14	24	10	72
11	46,053	46,053	46,053	138,160	781,212	781,212	781,212	0	25	18	25	24	24	24	0	72
12	45,952	45,952	45,952	137,855	775,334	775,334	775,334	0	30	26	33	24	24	24	0	72
13	43,087	41,128	45,045	129,260	679,570	699,267	704,969	57,600	32	179	155	22	22	23	4	71
14	46,067	46,067	46,067	138,200	759,263	759,263	759,263	0	74	89	66	24	24	24	0	72
15	45,568	45,568	37,974	129,110	754,602	754,602	616,782	53,747	28	28	41	24	24	20	4	72
16	47,360	47,360	0	94,720	657,713	657,713	0	272,384	32	27	0	24	24	0	24	72
17	45,443	45,443	20,828	111,715	696,481	696,481	322,326	136,453	28	27	35	24	24	11	13	71
18	46,013	46,013	46,013	138,040	765,151	765,151	765,151	0	27	28	45	24	24	24	0	72
19	46,577	46,577	44,636	137,790	756,186	756,186	703,074	0	33	26	28	24	24	22	0	70
20	45,572	37,976	45,572	129,120	718,003	575,031	718,003	44,010	45	28	23	23	18	23	3	67
21	47,242	43,305	47,242	137,790	795,830	725,642	795,830	28,269	31	35	28	24	22	24	2	72
22	35,257	47,009	47,009	129,275	619,524	811,014	811,014	70,415	22	28	4	18	24	24	6	72
23	0	47,193	47,193	94,385	0	863,649	863,649	283,063	0	29	18	0	24	24	24	72
24	17,857	42,857	42,857	103,570	307,089	804,708	804,708	182,742	22	27	22	9	24	24	15	72
25	46,177	46,177	46,177	138,530	766,304	766,304	766,304	0	24	19	23	24	24	24	0	72
26	46,190	46,190	46,190	138,570	753,005	753,005	753,005	0	38	93	84	24	24	24	0	72
27	48,176	36,132	36,132	120,440	729,984	555,092	556,106	0	35	13	36	24	18	18	0	61
28	44,169	44,169	14,723	103,060	677,489	677,489	230,064	0	28	29	31	24	24	8	0	56
29	30,270	45,405	45,405	121,080	529,668	778,288	778,288	101,137	26	31	40	16	24	24	8	72
30	0	44,057	33,043	77,100	0	784,350	604,363	343,805	0	42	34	0	24	18	24	66
31	15,645	46,935	31,290	93,870	278,324	793,638	508,700	251,768	16	29	38	8	24	15	16	64
Totals	996,452	1,352,864	1,283,704	3,633,020	16,225,501	22,994,631	21,975,324	3,872,568	765	1,130	1,089	515	700	662	302	2,179
		Sum of Engines	3,633,020			Sum of Engines	61,195,456			Sum of Engines	2,984		Sum of Engines	1,877		

EBMUD

Month: November - 2011

Daily Data for Air Permit

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	39,453	37,084	37,227	113,763	685,777	637,969	628,938	112,165	53	17	28	22	20	20	6	68
2	43,329	44,489	45,179	132,998	765,990	765,990	765,990	0	42	42	55	24	24	24	0	72
3	44,290	45,365	46,144	135,799	782,200	782,200	782,200	0	36	40	63	24	24	24	0	72
4	44,677	45,993	46,734	137,404	794,347	794,347	794,347	0	52	40	12	24	24	24	0	72
5	42,618	45,394	46,114	134,126	774,911	774,911	774,911	0	45	39	56	24	24	24	0	72
6	13,861	43,917	44,797	102,576	280,480	815,374	815,374	221,565	18	42	44	8	24	24	15	72
7	20,937	44,227	45,084	110,248	407,392	800,333	800,333	164,818	44	41	42	12	24	24	12	72
8	44,915	45,240	44,865	135,020	775,281	775,281	775,281	0	45	42	45	24	24	24	0	72
9	47,324	46,801	45,603	139,728	798,715	798,715	798,715	0	56	40	52	24	24	24	0	72
10	42,631	43,726	24,761	111,118	719,126	719,126	388,028	0	39	39	47	24	24	13	0	61
11	43,914	30,407	0	74,321	638,496	431,872	0	124,462	51	37	0	24	16	0	7	48
12	44,785	0	0	44,785	560,902	0	0	223,342	52	0	0	23	0	0	13	36
13	43,802	0	0	43,802	549,684	0	0	0	46	0	0	24	0	0	0	24
14	46,427	0	0	46,427	585,014	0	0	0	38	0	0	24	0	0	0	24
15	41,960	38,663	437	81,060	608,369	558,137	25,760	0	33	23	63	24	22	1	0	46
16	47,104	45,605	13,653	106,362	722,670	722,670	231,857	52,753	42	43	8	24	24	8	4	60
17	42,668	42,310	15,108	100,085	695,580	655,487	223,165	127,770	94	50	40	24	23	8	7	61
18	42,079	43,203	0	85,282	634,995	634,995	0	0	44	43	0	24	24	0	0	48
19	40,786	17,291	0	58,077	568,419	239,027	0	8,941	45	20	0	23	10	0	0	33
20	0	12,234	0	12,234	0	200,393	0	165,805	4	52	0	0	7	0	12	20
21	27,009	42,603	0	69,612	424,454	635,512	0	229,622	82	34	0	15	23	0	17	55
22	40,367	12,602	0	52,969	543,301	177,386	0	203,803	52	12	0	20	7	0	12	38
23	46,830	24,717	0	71,547	649,912	364,222	0	0	42	22	0	24	13	0	0	37
24	43,177	7,129	0	50,305	569,605	89,001	0	24,018	68	9	0	24	4	0	2	29
25	41,039	0	0	41,039	516,073	0	0	30,639	38	0	0	24	0	0	1	25
26	49,318	45,252	0	94,570	708,274	691,550	0	345,768	47	31	0	24	23	0	24	71
27	46,572	42,086	0	88,658	673,531	635,844	0	314,351	57	22	0	23	22	0	23	68
28	44,003	42,756	0	86,759	644,600	642,681	0	309,571	61	22	0	22	22	0	23	67
29	45,148	27,355	0	72,503	642,405	397,042	0	186,767	53	7	0	24	15	0	12	51
30	42,492	35,207	0	77,698	618,731	519,906	0	32,324	42	36	0	24	20	0	2	46
Totals	1,203,513	951,655	455,708	2,610,876	18,339,233	15,259,970	7,804,900	2,878,484	1,419	846	554	649	510	241	192	1,592
	Sum of Engines		2,610,876		Sum of Engines		41,404,103		Sum of Engines		2,819	Sum of Engines		1,400		

EBMUD

Daily Data for Air Permit

Month: December - 2011

Elmer E. Ross Power Station

Date	Watt Hours Generated				Biogas Used				Fuel Oil Used			Hours of Operation				
	Gen. 1	Gen 2	Gen 3	Total KWh	Eng. 1	Eng. 2	Eng. 3	Boiler	Eng. 1	Eng. 2	Eng. 3	Eng. 1	Eng. 2	Eng. 3	Boiler	Total Hrs
1	44,733	12,072	0	56,805	609,179	181,485	0	0	20	5	0	24	7	0	0	31
2	42,277	24,769	0	67,046	612,168	368,576	0	0	24	14	0	24	14	0	0	38
3	43,931	16,177	0	60,108	615,122	236,224	0	0	22	9	0	24	9	0	0	33
4	5,658	0	0	5,658	72,220	0	0	345,135	6	0	0	3	0	0	21	24
5	13,857	0	0	13,857	175,495	0	0	252,196	21	0	0	8	0	0	17	24
6	15,409	0	0	15,409	197,637	0	0	336,204	13	0	0	8	0	0	14	21
7	0	0	0	0	0	0	0	579,594	1	0	0	0	0	0	24	24
8	0	0	0	0	0	0	0	363,309	0	0	0	0	0	0	24	24
9	0	24,730	0	24,730	0	435,092	0	287,763	0	12	0	0	13	0	23	36
10	0	46,073	0	46,073	0	813,504	0	0	0	9	0	0	24	0	3	27
11	0	41,499	0	41,499	0	733,557	0	0	0	9	0	0	24	0	0	24
12	0	41,352	0	41,352	0	731,203	0	0	0	8	0	0	24	0	0	24
13	0	18,072	44,775	62,847	0	411,077	907,795	44,268	0	14	36	0	10	23	3	36
14	0	0	14,754	14,754	0	0	329,461	212,987	0	3	10	0	0	7	14	21
15	0	0	0	0	0	0	0	346,254	0	0	0	0	0	0	23	23
16	0	0	0	0	0	0	0	356,569	0	0	0	0	0	0	24	24
17	0	0	0	0	0	0	0	348,414	0	0	0	0	0	0	24	24
18	0	0	0	0	0	0	0	334,013	0	0	0	0	0	0	24	24
19	0	0	0	0	0	0	0	315,713	0	0	0	0	0	0	24	24
20	0	0	0	0	0	0	0	319,120	0	0	0	0	0	0	24	24
21	0	0	0	0	0	0	0	453,071	0	0	0	0	0	0	21	21
22	0	0	0	0	0	0	0	359,148	0	0	0	0	0	0	24	24
23	0	0	0	0	0	0	0	367,314	0	0	0	0	0	0	24	24
24	0	0	0	0	0	0	0	341,731	0	0	0	0	0	0	24	24
25	0	0	0	0	0	0	0	309,229	0	0	0	0	0	0	24	24
26	0	0	0	0	0	0	0	294,462	0	0	0	0	0	0	24	24
27	0	0	0	0	0	0	0	299,075	0	0	0	0	0	0	24	24
28	0	0	0	0	0	0	0	330,893	0	0	0	0	0	0	20	20
29	0	0	0	0	0	0	0	315,677	0	0	0	0	0	0	24	24
30	0	0	0	0	0	0	0	306,951	0	0	0	0	0	0	24	24
31	0	0	0	0	0	0	0	319,829	0	0	0	0	0	0	24	24
Totals	165,864	224,744	59,529	450,136	2,281,821	3,910,718	1,237,256	8,138,919	107	83	46	91	126	30	541	788
		Sum of Engines	450,137			Sum of Engines	7,429,795			Sum of Engines	236		Sum of Engines	248		

EBMUD Main Wastewater Plant

Table 3 - Cogeneration Engine Usage Summary

July 1 - December 31, 2011

Usage			Ref	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Semi-annual Totals
Run Time	Eng #1	hrs	meter	561	670	90	515	649	91	2,575
	Eng #2	hrs	meter	577	521	659	700	511	126	3,095
	Eng #3	hrs	meter	681	688	681	662	242	30	2,984
	Total	hrs	1	1,819	1,879	1,430	1,877	193	248	7,445
Diesel Fuel	Eng #1	gal	2	962	1,122	1,354	765	1,419	223	5,845
	Eng #2	gal	2	1,077	1,049	11,559	1,130	846	174	15,835
	Eng #3	gal	2	1,277	1,325	13,874	1,089	554	97	18,216
	Total	gal	meter	3,316	3,496	26,787	2,984	2,819	494	39,896
	Average	gal/hr	3	1.8	1.9	18.7	1.6	14.6	2.0	x
	Average	gal/day	4	43.8	44.7	449.5	38.2	351.3	47.9	x
Gas Heat Value	Average	btu/cf		676	630	687	639	615	604	x
Digester Gas	Eng #1	cf	5	16,738,616	22,660,701	2,539,736	16,225,501	18,329,442	2,254,960	78,748,956
	Eng #2	cf	5	17,643,582	17,644,693	20,220,297	22,994,631	15,264,865	3,889,834	97,657,902
	Eng #3	cf	5	21,183,930	23,602,521	21,118,831	21,975,324	7,809,795	1,225,302	96,915,703
	Eng #1	cf/hr	6	29,836	33,826	28,240	31,527	28,251	24,784	x
	Eng #2	cf/hr	6	30,588	33,837	30,672	32,848	29,848	30,758	x
	Eng #3	cf/hr	6	31,111	34,323	31,007	33,183	32,265	40,685	x
	Eng #1	mmBTU/hr	7	20.4	21.5	21.5	20.4	17.7	15.3	x
	Eng #2	mmBTU/hr	7	20.9	21.6	23.5	21.2	18.6	18.8	x
	Eng #3	mmBTU/hr	7	21.3	21.9	24.1	21.4	20.2	25.0	x
	Total	cf	meter	55,566,128	63,907,915	43,878,864	61,195,456	41,404,102	7,370,096	273,322,561
Natural Gas	Total	cf	meter							
Power Output	Total	kWh	meter	3,650,053	3,781,236	2,837,835	3,597,886	2,614,657	450,137	16,931,804

(1) Calculated value: Monthly Total Engine Operation (hours) = sum of individual engine run times (hours)

(2) Calculated value: Monthly Engine usage = Sum of total daily fuel consumed x (daily individual engine usage (gal)/ day total of all usage (gal))

(3) Calculated value: Average GPH = Monthly Total fuel consumed (gal) / Monthly Total Engine Operation (hours)

(4) Calculated value: Average GPD = Average GPH x 24 hours/day

(5) Calculated value: Digester gas volume (cf) = (Individual engine daily power produced x engine specific btu-KWh power curve - diesel btu) / (monthly gas btu/cf)

(6) Calculated value: Digester gas thruput (cf/hr) = (Digester gal volume, cf) / (Engine Runtime, hr)

(7) Calculated value: Digester gas thruput (MMBTU/hr) = Digester gas thruput (cf/hr) x monthly gas sample (Btu/cf) / 1,000,000
+ diesel throughput (gal/hr) x 138,690 Btu/gal / 1,000,000

TABLE 4

Hours of Operation for Stand-By Emergency Generators

July 1, 2011 – December, 31, 2011

Source	Location	Hours of Operation during reporting period		Limit on reliability-related hours
		Emergency Use	Maintenance and Testing	
S-49	Portable, S. of Maint.	0	1	NA
S-50	N. of PGS	0	0	30
S-51	Dechlorination	0.7	1.4	50
S-52	N. of Maint.	0	0	20
S-53	W. of Administration	1.8	0	30
S-54	East Bayshore RWF	4	2	50

Item E2.

IPS Odor Scrubbers (ppm)

Table 5 -- IPS scrubber inlet and outlet H2S conc.

Jul. 1, 2011 to Sep. 30, 2011	Coarse Bar Screens Room Scrubber Inlet Average	Coarse Bar Screens Room Scrubber Outlet Average	Fine Bar Screens Room Scrubber Inlet Average	Fine Bar Screens Room Scrubber Outlet Average	Jul. 1, 2011 to Sep. 30, 2011	Coarse Bar Screens Room Scrubber Inlet Max	Coarse Bar Screens Room Scrubber Outlet Max	Fine Bar Screens Room Scrubber Inlet Max	Fine Bar Screens Room Scrubber Outlet Max
3 Month Average	4.5	0.1	0.0	0.0	3 Month Maximum	49.5	4.8	13.5	2.3
01-Jul-11	0.3	0.0	0.0	0.0	01-Jul-11	7.4	0.1	1.6	0.2
02-Jul-11	0.4	0.0	0.0	0.0	02-Jul-11	2.5	0.9	2.5	0.0
03-Jul-11	0.5	0.0	0.0	0.0	03-Jul-11	1.8	1.0	1.1	0.6
04-Jul-11	0.9	0.0	0.1	0.0	04-Jul-11	6.9	0.8	2.4	0.0
05-Jul-11	1.0	0.0	0.0	0.0	05-Jul-11	5.5	0.0	1.9	0.4
06-Jul-11	4.2	0.0	0.0	0.0	06-Jul-11	16.2	0.0	1.1	0.3
07-Jul-11	3.1	0.0	0.0	0.0	07-Jul-11	14.1	0.3	1.4	0.0
08-Jul-11	3.2	0.0	0.0	0.0	08-Jul-11	23.1	0.0	0.6	0.0
09-Jul-11	5.0	0.0	0.0	0.0	09-Jul-11	24.3	0.0	3.5	0.0
10-Jul-11	8.6	0.0	0.0	0.0	10-Jul-11	29.9	0.1	3.0	0.0
11-Jul-11	5.0	0.0	0.1	0.0	11-Jul-11	36.3	0.4	3.4	0.0
12-Jul-11	5.3	0.0	0.1	0.0	12-Jul-11	14.9	0.1	3.7	0.0
13-Jul-11	6.0	0.0	0.0	0.0	13-Jul-11	14.3	0.0	0.8	0.3
14-Jul-11	6.1	0.0	0.0	0.0	14-Jul-11	22.0	0.4	2.2	0.0
15-Jul-11	6.6	0.0	0.0	0.0	15-Jul-11	25.4	0.1	1.3	0.0
16-Jul-11	3.9	0.0	0.0	0.0	16-Jul-11	15.7	0.0	1.3	0.0
17-Jul-11	2.0	0.0	0.0	0.0	17-Jul-11	8.5	0.0	1.2	0.0
18-Jul-11	2.6	0.0	0.0	0.0	18-Jul-11	12.0	0.0	1.4	0.0
19-Jul-11	4.6	0.0	0.0	0.0	19-Jul-11	13.8	0.7	0.4	0.0
20-Jul-11	2.3	0.0	0.0	0.0	20-Jul-11	10.7	0.0	0.0	0.4
21-Jul-11	4.3	0.0	0.0	0.0	21-Jul-11	15.6	0.0	1.0	2.3
22-Jul-11	5.9	0.0	0.0	0.0	22-Jul-11	37.1	0.2	1.5	0.0
23-Jul-11	3.0	0.0	0.0	0.0	23-Jul-11	12.6	0.0	1.5	0.0
24-Jul-11	4.4	0.0	0.0	0.0	24-Jul-11	9.2	0.0	1.5	0.0
25-Jul-11	4.4	0.0	0.0	0.0	25-Jul-11	12.1	0.1	0.3	0.3
26-Jul-11	6.4	0.1	0.0	0.0	26-Jul-11	22.0	0.2	0.0	0.0
27-Jul-11	4.6	0.0	0.0	0.0	27-Jul-11	13.9	0.4	0.8	0.0
28-Jul-11	2.6	0.0	0.0	0.0	28-Jul-11	17.3	0.0	0.7	0.5
29-Jul-11	3.4	0.0	0.0	0.0	29-Jul-11	21.4	0.1	0.8	0.5
30-Jul-11	3.5	0.0	0.0	0.0	30-Jul-11	16.0	0.0	0.3	0.3
31-Jul-11	6.0	0.0	0.0	0.0	31-Jul-11	18.9	0.2	0.0	0.4
01-Aug-11	8.2	0.1	0.0	0.0	01-Aug-11	36.6	0.2	0.0	0.0
02-Aug-11	9.3	0.1	0.0	0.0	02-Aug-11	45.4	1.1	0.0	0.3
03-Aug-11	7.4	0.1	0.0	0.0	03-Aug-11	49.5	1.6	0.0	0.0
04-Aug-11	5.3	0.2	0.0	0.0	04-Aug-11	27.8	1.0	0.9	0.3
05-Aug-11	5.8	0.2	0.0	0.0	05-Aug-11	31.3	0.7	0.9	0.0
06-Aug-11	3.3	0.1	0.0	0.0	06-Aug-11	13.3	0.7	0.0	0.3
07-Aug-11	7.1	0.1	0.0	0.0	07-Aug-11	21.6	0.3	0.0	0.0
08-Aug-11	3.0	0.0	0.0	0.0	08-Aug-11	13.4	0.1	0.0	0.0
09-Aug-11	4.8	0.0	0.0	0.0	09-Aug-11	17.5	0.2	0.3	0.0
10-Aug-11	6.5	0.1	0.0	0.0	10-Aug-11	19.6	0.2	1.9	0.6
11-Aug-11	12.0	0.4	0.0	0.0	11-Aug-11	31.9	1.3	0.0	0.0
12-Aug-11	15.6	1.2	0.0	0.0	12-Aug-11	34.4	4.8	0.8	0.6
13-Aug-11	4.1	0.2	0.0	0.0	13-Aug-11	13.8	0.9	0.5	0.2
14-Aug-11	9.2	0.3	0.0	0.0	14-Aug-11	27.8	1.1	0.0	0.3
15-Aug-11	11.1	0.5	0.0	0.0	15-Aug-11	25.7	1.4	0.0	0.0
16-Aug-11	6.7	0.3	0.0	0.0	16-Aug-11	24.7	1.6	0.0	0.0
17-Aug-11	3.0	0.1	0.0	0.0	17-Aug-11	14.1	0.3	0.0	0.2
18-Aug-11	4.2	0.1	0.0	0.0	18-Aug-11	16.9	0.2	0.0	0.4
19-Aug-11	4.5	0.2	0.0	0.0	19-Aug-11	15.8	0.6	0.3	0.0
20-Aug-11	4.2	0.2	0.0	0.0	20-Aug-11	15.7	0.4	0.9	0.0
21-Aug-11	5.1	0.2	0.0	0.0	21-Aug-11	14.2	0.8	0.5	0.0
22-Aug-11	3.8	0.1	0.0	0.0	22-Aug-11	19.4	0.2	0.0	0.0
23-Aug-11	4.7	0.1	0.0	0.0	23-Aug-11	15.1	0.2	0.9	0.0
24-Aug-11	4.8	0.1	0.0	0.0	24-Aug-11	16.9	0.3	0.9	0.4
25-Aug-11	2.6	0.1	0.0	0.0	25-Aug-11	21.5	0.3	0.0	0.0
26-Aug-11	3.9	0.1	0.0	0.0	26-Aug-11	16.9	0.4	0.3	0.4
27-Aug-11	3.0	0.1	0.0	0.0	27-Aug-11	14.5	0.3	0.6	0.0
28-Aug-11	2.4	0.0	0.0	0.0	28-Aug-11	7.3	0.3	0.4	0.0
29-Aug-11	4.0	0.1	0.0	0.0	29-Aug-11	11.7	0.6	0.6	0.5
30-Aug-11	6.8	0.2	0.0	0.0	30-Aug-11	41.3	1.6	0.3	0.3
31-Aug-11	5.7	0.2	0.0	0.0	31-Aug-11	27.0	0.9	0.6	0.5
01-Sep-11	6.7	0.2	0.0	0.0	01-Sep-11	18.8	0.5	0.0	0.4
02-Sep-11	8.2	0.2	0.0	0.0	02-Sep-11	22.3	0.8	0.0	0.0
03-Sep-11	5.1	0.1	0.0	0.0	03-Sep-11	17.9	0.7	0.5	0.6
04-Sep-11	2.6	0.0	0.0	0.0	04-Sep-11	6.2	0.1	0.0	0.0
05-Sep-11	2.8	0.1	0.0	0.0	05-Sep-11	38.0	0.9	0.0	0.0
06-Sep-11	2.2	0.1	0.0	0.0	06-Sep-11	14.8	0.4	0.3	0.4
07-Sep-11	3.7	0.2	0.0	0.0	07-Sep-11	12.6	0.8	1.2	0.0
08-Sep-11	4.8	0.1	0.0	0.0	08-Sep-11	17.4	0.5	0.6	0.0
09-Sep-11	2.7	0.0	0.0	0.0	09-Sep-11	14.0	0.1	0.0	0.0
10-Sep-11	2.2	0.0	0.0	0.0	10-Sep-11	12.3	0.2	0.8	0.0
11-Sep-11	2.4	0.0	0.0	0.0	11-Sep-11	9.3	0.0	13.5	0.0
12-Sep-11	5.7	0.1	0.0	0.0	12-Sep-11	28.9	1.2	2.0	0.3
13-Sep-11	4.5	0.1	0.0	0.0	13-Sep-11	17.3	0.8	2.9	0.0
14-Sep-11	3.6	0.2	0.0	0.0	14-Sep-11	26.2	1.5	0.0	0.2
15-Sep-11	2.4	0.1	0.0	0.0	15-Sep-11	9.0	0.6	0.0	0.0
16-Sep-11	3.0	0.1	0.0	0.0	16-Sep-11	17.5	0.4	0.5	0.5
17-Sep-11	3.4	0.1	0.0	0.0	17-Sep-11	17.5	0.3	2.1	0.0
18-Sep-11	2.2	0.0	0.0	0.0	18-Sep-11	5.9	0.0	0.0	0.3
19-Sep-11	2.5	0.0	0.0	0.0	19-Sep-11	7.2	0.1	0.3	0.0
20-Sep-11	3.2	0.0	0.0	0.0	20-Sep-11	20.2	0.3	0.0	0.0
21-Sep-11	5.0	0.0	0.0	0.0	21-Sep-11	14.8	0.0	0.0	0.0
22-Sep-11	5.8	0.0	0.0	0.0	22-Sep-11	31.1	0.0	1.1	0.0
23-Sep-11	2.8	0.0	0.0	0.0	23-Sep-11	13.7	0.0	0.3	0.0
24-Sep-11	5.6	0.0	0.0	0.0	24-Sep-11	18.6	0.0	0.6	0.0
25-Sep-11	5.2	0.0	0.0	0.0	25-Sep-11	19.2	0.0	0.8	0.0
26-Sep-11	5.0	0.0	0.0	0.0	26-Sep-11	21.6	0.0	3.8	0.0
27-Sep-11	4.3	0.0	0.0	0.0	27-Sep-11	13.8	0.1	0.3	0.0
28-Sep-11	3.6	0.0	0.0	0.0	28-Sep-11	15.3	0.0	1.7	0.0

Item E2.

IPS Odor Scrubbers (ppm)

29-Sep-11	3.9	0.0	0.0	0.0	29-Sep-11	21.8	0.0	2.0	0.0
30-Sep-11	2.8	0.0	0.0	0.0	30-Sep-11	11.4	0.0	0.0	0.2

Influent Pump Station Odor Scrubber Outage Table

Start	Finish	Duration	Reason

Total Down Time 0:00

Item E2.

IPS Odor Scrubbers (ppm)

Table 5 -- IPS scrubber inlet and outlet H2S conc.

Oct. 1, 2011 to Dec. 31, 2011	Coarse Bar Screens Room Scrubber Inlet Average	Coarse Bar Screens Room Scrubber Outlet Average	Fine Bar Screens Room Scrubber Inlet Average	Fine Bar Screens Room Scrubber Outlet Average	Oct. 1, 2011 to Dec. 31, 2011	Coarse Bar Screens Room Scrubber Inlet Max	Coarse Bar Screens Room Scrubber Outlet Max	Fine Bar Screens Room Scrubber Inlet Max	Fine Bar Screens Room Scrubber Outlet Max
3 Month Average	2.7	0.0	0.0	0.0	3 Month Maximum	41.9	0.6	7.8	0.8
01-Oct-11	2.8	0.0	0.0	0.0	01-Oct-11	11.4	0.0	0.0	0.2
02-Oct-11	3.7	0.0	0.0	0.0	02-Oct-11	15.5	0.0	0.4	0.2
03-Oct-11	1.0	0.0	0.0	0.0	03-Oct-11	4.6	0.0	0.8	0.4
04-Oct-11	1.9	0.0	0.0	0.0	04-Oct-11	10.2	0.0	0.0	0.0
05-Oct-11	4.3	0.0	0.0	0.0	05-Oct-11	11.7	0.3	0.0	0.3
06-Oct-11	1.8	0.0	0.0	0.0	06-Oct-11	10.9	0.0	0.3	0.0
07-Oct-11	1.2	0.0	0.0	0.0	07-Oct-11	3.6	0.0	0.0	0.0
08-Oct-11	0.6	0.0	0.0	0.0	08-Oct-11	3.5	0.0	0.0	0.5
09-Oct-11	1.0	0.0	0.0	0.0	09-Oct-11	4.7	0.0	0.0	0.0
10-Oct-11	1.1	0.0	0.0	0.0	10-Oct-11	3.6	0.0	1.5	0.0
11-Oct-11	1.4	0.0	0.0	0.0	11-Oct-11	12.6	0.0	0.0	0.0
12-Oct-11	0.9	0.0	0.0	0.0	12-Oct-11	2.3	0.0	0.0	0.3
13-Oct-11	3.9	0.0	0.0	0.0	13-Oct-11	41.9	0.0	4.7	0.0
14-Oct-11	1.6	0.0	0.0	0.0	14-Oct-11	6.6	0.0	0.8	0.0
15-Oct-11	1.8	0.0	0.0	0.0	15-Oct-11	11.3	0.4	0.0	0.0
16-Oct-11	0.1	0.0	0.0	0.0	16-Oct-11	1.4	0.0	0.0	0.0
17-Oct-11	0.7	0.0	0.0	0.0	17-Oct-11	2.2	0.0	0.0	0.0
18-Oct-11	2.1	0.0	0.0	0.0	18-Oct-11	14.3	0.5	0.0	0.0
19-Oct-11	1.6	0.0	0.0	0.0	19-Oct-11	9.0	0.6	1.1	0.0
20-Oct-11	4.1	0.0	0.0	0.0	20-Oct-11	13.7	0.2	0.0	0.0
21-Oct-11	5.3	0.0	0.0	0.0	21-Oct-11	24.2	0.3	0.0	0.0
22-Oct-11	4.3	0.0	0.0	0.0	22-Oct-11	14.0	0.0	0.0	0.0
23-Oct-11	2.0	0.0	0.0	0.0	23-Oct-11	8.4	0.0	0.0	0.0
24-Oct-11	1.7	0.0	0.0	0.0	24-Oct-11	7.0	0.0	0.0	0.0
25-Oct-11	2.2	0.0	0.0	0.0	25-Oct-11	6.0	0.0	0.0	0.0
26-Oct-11	2.2	0.0	0.0	0.0	26-Oct-11	20.2	0.0	2.6	0.0
27-Oct-11	3.4	0.0	0.0	0.0	27-Oct-11	11.2	0.0	1.9	0.0
28-Oct-11	1.9	0.0	0.0	0.0	28-Oct-11	10.1	0.0	0.3	0.0
29-Oct-11	2.4	0.0	0.0	0.0	29-Oct-11	10.6	0.3	0.5	0.0
30-Oct-11	2.3	0.0	0.0	0.0	30-Oct-11	11.5	0.0	1.3	0.0
31-Oct-11	3.2	0.0	0.0	0.0	31-Oct-11	7.6	0.0	0.0	0.0
01-Nov-11	3.6	0.0	0.0	0.0	01-Nov-11	8.9	0.0	0.9	0.7
02-Nov-11	3.8	0.0	0.0	0.0	02-Nov-11	9.3	0.0	2.6	0.8
03-Nov-11	6.6	0.0	0.0	0.0	03-Nov-11	13.4	0.0	0.4	0.6
04-Nov-11	6.9	0.0	0.0	0.0	04-Nov-11	19.3	0.0	0.3	0.0
05-Nov-11	4.4	0.0	0.0	0.0	05-Nov-11	16.6	0.0	1.9	0.0
06-Nov-11	6.1	0.0	0.0	0.0	06-Nov-11	16.8	0.0	0.5	0.5
07-Nov-11	0.9	0.0	0.0	0.0	07-Nov-11	3.6	0.0	0.5	0.0
08-Nov-11	1.2	0.0	0.0	0.0	08-Nov-11	6.8	0.0	1.0	0.4
09-Nov-11	1.4	0.0	0.0	0.0	09-Nov-11	8.4	0.0	4.1	0.0
10-Nov-11	2.4	0.0	0.1	0.0	10-Nov-11	10.1	0.0	5.8	0.0
11-Nov-11	3.7	0.0	0.0	0.0	11-Nov-11	18.8	0.0	3.3	0.3
12-Nov-11	4.4	0.0	0.0	0.0	12-Nov-11	12.3	0.2	0.4	0.0
13-Nov-11	3.0	0.0	0.0	0.0	13-Nov-11	10.9	0.0	0.0	0.5
14-Nov-11	1.8	0.0	0.0	0.0	14-Nov-11	8.4	0.6	0.0	0.4
15-Nov-11	2.3	0.0	0.0	0.0	15-Nov-11	8.6	0.4	1.8	0.0
16-Nov-11	5.0	0.0	0.0	0.0	16-Nov-11	34.4	0.1	1.9	0.3
17-Nov-11	3.4	0.0	0.0	0.0	17-Nov-11	17.9	0.0	0.0	0.0
18-Nov-11	6.6	0.0	0.0	0.0	18-Nov-11	11.6	0.0	1.8	0.0
19-Nov-11	7.6	0.0	0.0	0.0	19-Nov-11	12.7	0.0	0.3	0.3
20-Nov-11	6.5	0.0	0.0	0.0	20-Nov-11	12.6	0.0	0.4	0.4
21-Nov-11	2.1	0.0	0.0	0.0	21-Nov-11	8.8	0.0	0.4	0.0
22-Nov-11	2.7	0.0	0.0	0.0	22-Nov-11	27.3	0.0	0.7	0.0
23-Nov-11	3.6	0.0	0.0	0.0	23-Nov-11	17.5	0.0	0.3	0.0
24-Nov-11	4.9	0.0	0.0	0.0	24-Nov-11	7.6	0.0	2.0	0.3
25-Nov-11	7.1	0.0	0.0	0.0	25-Nov-11	15.9	0.0	1.7	0.0
26-Nov-11	3.0	0.0	0.0	0.0	26-Nov-11	8.6	0.0	0.9	0.4
27-Nov-11	1.8	0.0	0.0	0.0	27-Nov-11	5.7	0.0	2.2	0.0
28-Nov-11	3.6	0.0	0.0	0.0	28-Nov-11	6.6	0.0	0.0	0.0
29-Nov-11	4.5	0.0	0.0	0.0	29-Nov-11	14.0	0.0	0.0	0.4
30-Nov-11	6.1	0.0	0.0	0.0	30-Nov-11	13.0	0.0	0.3	0.0
01-Dec-11	3.7	0.0	0.0	0.0	01-Dec-11	6.9	0.0	1.8	0.3
02-Dec-11	4.0	0.0	0.0	0.0	02-Dec-11	21.5	0.0	3.7	0.2
03-Dec-11	3.5	0.0	0.0	0.0	03-Dec-11	8.5	0.0	1.7	0.0
04-Dec-11	4.7	0.0	0.0	0.0	04-Dec-11	16.3	0.2	0.9	0.6
05-Dec-11	2.8	0.0	0.0	0.0	05-Dec-11	8.5	0.0	1.8	0.0
06-Dec-11	3.8	0.0	0.0	0.0	06-Dec-11	7.5	0.0	0.3	0.6
07-Dec-11	4.6	0.0	0.1	0.0	07-Dec-11	12.2	0.2	1.0	0.0
08-Dec-11	4.2	0.0	0.0	0.0	08-Dec-11	8.9	0.0	0.4	0.4
09-Dec-11	1.8	0.0	0.1	0.0	09-Dec-11	4.8	0.0	2.4	0.0
10-Dec-11	4.1	0.0	0.1	0.0	10-Dec-11	24.3	0.0	2.6	0.0
11-Dec-11	1.8	0.0	0.0	0.0	11-Dec-11	2.8	0.0	0.6	0.0
12-Dec-11	1.8	0.0	0.0	0.0	12-Dec-11	6.1	0.0	0.8	0.5
13-Dec-11	2.0	0.0	0.0	0.0	13-Dec-11	3.6	0.0	1.9	0.8
14-Dec-11	1.5	0.0	0.0	0.0	14-Dec-11	4.1	0.0	0.4	0.3
15-Dec-11	2.3	0.0	0.2	0.0	15-Dec-11	20.2	0.0	6.0	0.0
16-Dec-11	1.5	0.0	0.0	0.0	16-Dec-11	3.6	0.0	0.3	0.0
17-Dec-11	0.3	0.0	0.0	0.0	17-Dec-11	0.6	0.0	0.4	0.0
18-Dec-11	0.6	0.0	0.0	0.0	18-Dec-11	0.9	0.0	0.3	0.0
19-Dec-11	0.2	0.0	0.0	0.0	19-Dec-11	0.5	0.0	0.5	0.0
20-Dec-11	0.7	0.0	0.0	0.0	20-Dec-11	14.5	0.0	3.0	0.0
21-Dec-11	0.5	0.0	0.0	0.0	21-Dec-11	1.1	0.0	0.0	0.0
22-Dec-11	1.7	0.0	0.0	0.0	22-Dec-11	13.5	0.0	0.7	0.3
23-Dec-11	1.1	0.0	0.0	0.0	23-Dec-11	1.9	0.0	0.7	0.0
24-Dec-11	1.1	0.0	0.0	0.0	24-Dec-11	2.8	0.0	0.4	0.0
25-Dec-11	0.6	0.0	0.1	0.0	25-Dec-11	1.7	0.0	0.7	0.5
26-Dec-11	1.1	0.0	0.0	0.0	26-Dec-11	2.0	0.0	2.0	0.0
27-Dec-11	1.3	0.0	0.1	0.0	27-Dec-11	6.3	0.0	2.6	0.8
28-Dec-11	0.8	0.0	0.0	0.0	28-Dec-11	1.6	0.0	0.9	0.5
29-Dec-11	2.1	0.0	0.7	0.0	29-Dec-11	16.8	0.0	7.8	0.6

Item E2.

IPS Odor Scrubbers (ppm)

30-Dec-11	0.5	0.0	0.0	0.5	30-Dec-11	1.6	0.0	1.3	0.8
31-Dec-11	1.0	0.0	0.0	0.3	31-Dec-11	1.8	0.0	0.0	0.8

Table 6 -- S-171, 172, 173 Waste Activated Sludge Throughput

2011 July - December Gravity Belt Thickener Summary Flow Table

	January	February	March	April	May	June	Total
	Kgal	Kgal	Kgal	Kgal	Kgal	Kgal	Kgal
GBT 11	29,125	7,841	26,771	26,233	4,389	4,637	98,996
GBT 12	3,325	20,117	10,485	3,471	21,301	19,865	78,564
GBT 13	29,167	28,089	14,089	20,842	25,885	25,324	143,397
Total by Month	61,618	56,047	51,345	50,546	51,575	49,826	320,957

Gravity Belt Thickener Daily Flow Table

	GBT 11	GBT 12	GBT 13		GBT 11	GBT 12	GBT 13		GBT 11	GBT 12	GBT 13
	Kgal	Kgal	Kgal		Kgal	Kgal	Kgal		Kgal	Kgal	Kgal
1-Jul-11	671	615	683	1-Sep-11	880	818	0	1-Nov-11	964	0	898
2-Jul-11	500	481	612	2-Sep-11	881	822	0	2-Nov-11	935	0	883
3-Jul-11	687	636	706	3-Sep-11	883	819	0	3-Nov-11	929	0	860
4-Jul-11	745	698	770	4-Sep-11	848	790	0	4-Nov-11	923	0	900
5-Jul-11	716	676	743	5-Sep-11	861	889	0	5-Nov-11	638	285	854
6-Jul-11	941	220	901	6-Sep-11	883	482	321	6-Nov-11	0	960	907
7-Jul-11	1042	0	968	7-Sep-11	970	0	806	7-Nov-11	0	870	820
8-Jul-11	1049	0	955	8-Sep-11	1005	0	832	8-Nov-11	0	860	876
9-Jul-11	1064	0	957	9-Sep-11	1011	0	954	9-Nov-11	0	883	884
10-Jul-11	1047	0	953	10-Sep-11	1004	0	823	10-Nov-11	0	661	661
11-Jul-11	755	0	1154	11-Sep-11	929	0	800	11-Nov-11	0	749	744
12-Jul-11	1091	0	1040	12-Sep-11	940	0	798	12-Nov-11	0	825	826
13-Jul-11	1085	0	1056	13-Sep-11	881	0	794	13-Nov-11	0	829	825
14-Jul-11	1056	0	1022	14-Sep-11	790	0	708	14-Nov-11	0	775	790
15-Jul-11	1130	0	1086	15-Sep-11	781	0	701	15-Nov-11	0	872	1031
16-Jul-11	860	0	1163	16-Sep-11	858	0	765	16-Nov-11	0	461	463
17-Jul-11	865	0	842	17-Sep-11	894	0	803	17-Nov-11	0	826	1182
18-Jul-11	1078	0	1064	18-Sep-11	765	0	820	18-Nov-11	0	816	818
19-Jul-11	1080	0	1067	19-Sep-11	859	0	780	19-Nov-11	0	1010	1182
20-Jul-11	1083	0	1063	20-Sep-11	887	0	808	20-Nov-11	0	805	805
21-Jul-11	1051	0	1029	21-Sep-11	609	0	739	21-Nov-11	0	960	950
22-Jul-11	796	0	931	22-Sep-11	800	0	740	22-Nov-11	0	668	669
23-Jul-11	1028	0	988	23-Sep-11	797	0	729	23-Nov-11	0	848	854
24-Jul-11	1018	0	989	24-Sep-11	790	372	369	24-Nov-11	0	805	814
25-Jul-11	937	0	1070	25-Sep-11	792	750	0	25-Nov-11	0	821	832
26-Jul-11	787	0	915	26-Sep-11	897	855	0	26-Nov-11	0	823	834
27-Jul-11	417	0	403	27-Sep-11	901	856	0	27-Nov-11	0	765	781
28-Jul-11	1063	0	1013	28-Sep-11	818	789	0	28-Nov-11	0	800	830
29-Jul-11	1174	0	1005	29-Sep-11	784	752	0	29-Nov-11	0	808	607
30-Jul-11	1152	0	998	30-Sep-11	782	747	0	30-Nov-11	0	769	775
31-Jul-11	1156	0	1022	1-Oct-11	792	744	0	1-Dec-11	0	728	731
1-Aug-11	1273	0	1180	2-Oct-11	767	657	0	2-Dec-11	0	777	795
2-Aug-11	607	0	586	3-Oct-11	820	774	0	3-Dec-11	0	789	802
3-Aug-11	1130	0	1122	4-Oct-11	895	860	0	4-Dec-11	0	825	840
4-Aug-11	1035	0	1029	5-Oct-11	864	845	0	5-Dec-11	0	900	910
5-Aug-11	995	0	1069	6-Oct-11	825	335	435	6-Dec-11	0	782	850
6-Aug-11	1077	0	919	7-Oct-11	834	0	742	7-Dec-11	0	934	940
7-Aug-11	1123	0	1114	8-Oct-11	842	0	748	8-Dec-11	0	719	793
8-Aug-11	601	533	1140	9-Oct-11	795	0	700	9-Dec-11	0	778	895
9-Aug-11	0	1055	1093	10-Oct-11	919	0	820	10-Dec-11	0	808	929
10-Aug-11	0	975	1023	11-Oct-11	984	0	881	11-Dec-11	0	900	800
11-Aug-11	0	1026	1073	12-Oct-11	919	0	824	12-Dec-11	0	1128	994
12-Aug-11	0	1053	1050	13-Oct-11	934	0	841	13-Dec-11	0	907	857
13-Aug-11	0	1027	1120	14-Oct-11	928	0	835	14-Dec-11	0	823	801
14-Aug-11	0	1059	1099	15-Oct-11	860	0	839	15-Dec-11	0	839	899
15-Aug-11	0	1090	1078	16-Oct-11	849	0	852	16-Dec-11	0	890	892
16-Aug-11	0	1007	1005	17-Oct-11	862	0	828	17-Dec-11	0	898	889
17-Aug-11	0	785	873	18-Oct-11	960	0	862	18-Dec-11	0	801	820
18-Aug-11	0	945	932	19-Oct-11	858	0	767	19-Dec-11	0	810	830
19-Aug-11	0	817	808	20-Oct-11	912	0	841	20-Dec-11	0	870	900
20-Aug-11	0	869	859	21-Oct-11	1020	0	970	21-Dec-11	130	225	670
21-Aug-11	0	802	790	22-Oct-11	963	0	912	22-Dec-11	575	0	638
22-Aug-11	0	935	920	23-Oct-11	929	0	892	23-Dec-11	890	0	914
23-Aug-11	0	779	762	24-Oct-11	850	0	812	24-Dec-11	884	0	916
24-Aug-11	0	721	719	25-Oct-11	828	0	768	25-Dec-11	830	0	860
25-Aug-11	0	745	742	26-Oct-11	713	0	658	26-Dec-11	890	0	930
26-Aug-11	0	761	761	27-Oct-11	812	0	751	27-Dec-11	438	508	956
27-Aug-11	0	763	757	28-Oct-11	869	0	811	28-Dec-11	0	492	500
28-Aug-11	0	786	775	29-Oct-11	868	0	803	29-Dec-11	0	835	841
29-Aug-11	0	766	771	30-Oct-11	855	0	800	30-Dec-11	0	819	835
30-Aug-11	0	819	922	31-Oct-11	900	0	850	31-Dec-11	0	609	828
31-Aug-11	535	877	424								

Gravity Belt Thickener and Dewatering Centrifuge Odor Scrubber Outage Table

Start	Finish	Duration	Reason
15-Aug-11 08:45	15-Aug-11 11:30	2:45	Replacement of rotometer #2, leak repair rotometer #1
07-Dec-11 14:35	07-Dec-11 15:02	0:27	Connecting C4 to foul air draw ductwork

Total Down Time 3:12

Headworks Odor Scrubber Maintenance Work Orders Jan - Jun 2011

Area	Wonum	Description	Assetnum	Dept	Status	Type	Report Date	Reported By
W-12	2011103624	exhaust fan D/P transmitter locations. Re-routed some tubing and replaced all 1/4" tubing with 3/8" tubing. Replaced sole OLV fittings with new. Placed back into service. Ops notified.	W-12-FAN-S15-00	IN	CLOSE	BD	9/4/2011	HCLOUD
W-12	2011129305	Replaced belt.	W-12-FAN-SF1-01	ME	CLOSE	CM	11/16/2011	DRETONDO
W-12	2011103692	fan has loose, cracked belt WORK COMPLETED: Changed and adjusted belt.	W-12-FAN-SF1-01	ME	CLOSE	CM	9/13/2011	HCLOUD
W-12	2011141516	DIFFERENTIAL GAUGE IS FLUCTUATING EXCESSIVELY CAUSING RED WARNING LIGHT TO COME ON AT FINE SCREEN ROOM ENTRANCES.	W-12-FAN-SF-13	IN	APPR	CM	12/11/2011	HCLOUD
W-12	2011103691	fan has very loose belt WORK COMPLETED: Inspect and adjust belt.	W-12-FAN-SF2-01	ME	CLOSE	CM	9/13/2011	HCLOUD
W-12	2011103693	fan has loose cracked belt WORK COMPLETED: Changed and adjusted belt.	W-12-FAN-SF3-00	ME	CLOSE	CM	9/13/2011	HCLOUD
W-12	2011129306	Replaced belt.	W-12-FAN-SF3-01	ME	CLOSE	CM	11/16/2011	DRETONDO
W-12	2011116678	Fans differential is fluctuating excessively causing red lights on fine screen doors to come on. WORK COMPLETED: Tightened belts.	W-12-FAN-SF3-01	ME	CLOSE	CM	10/10/2011	HCLOUD
W-12	2011103705	the rubber boot downstream of the fan has detached itself from the sheetmetal shroud Maint Note: rubber boot has been sealed up with duct tape. A new boot will be ordered.	W-12-FAN-SF6-00	ME	WMATL	CM	9/14/2011	HCLOUD
W-12	2011111016	Fan EF-9 will not start. Pls fix. (no asset #)	W-12-MISC-000-00	EL	APPR	CM	9/29/2011	MFILLER
W-12	2011129167	FLUSH/ REGENERATION WATER IS RUNNING CONTINUOUSLY	W-12-OCU-002	EL	APPR	CM	11/1/2011	HCLOUD
W-12	2011090820	Odor control unit #2 not progressing through auto-drain cycles. Suspect logic issue. WORK COMPLETED: Corrected as needed.	W-12-OCU-002	IN	COMP	CM	8/29/2011	MFILLER
W-12	2011076434	Fill cycle does not count down and advance - stuck on "FILL MIN REMAIN 20" please repair WORK COMPLETED:	W-12-OCU-002	IN	CLOSE	CM	7/1/2011	ELARSEN

Thickening/Dewatering Odor Scrubber Maintenance Work Orders Jul - Dec 2011

Area	Wonum	Description	Assetnum	Dept	Status	Type	Report Date	Reported By
W-30	2011090652	Scrubber #1 Hypo rotameter leaking at inlet connection. Please repair. WORK COMPLETED: Sealed pipes.	W-30-TKS-301-00	ME	CLOSE	CM	8/11/2011	DRETONDO
W-30	2011090657	Scrubber #2 hypo rotameter leaking internally, corroded. Please repair or replace. WORK COMPLETED: Replaced rotometer.	W-30-TKS-301-00	ME	CLOSE	CM	8/12/2011	DRETONDO
W-30	2011116845	THK calvert odor scrubber discharges excessive moisture Please repair or remove the pH metereing system. The system discharges acidic, moist air. The drainage system does not function properly. Operators manually drain the system at P-Trap when moisture is excessive. The pH metering at the P-Trap has been disabled. Please inspect and determine if the monitoring system is necessary. If so, please repair. If not, please remove. Thank you.	W-30-TKS-301-00	IN	INPRG	CM	10/25/2011	MEULKERS

Table 7 -- Digester Inspection Report

Daily inspections of digesters were performed. No venting was noted, except for the following instances:

Date	Time	Digester	Cause of venting	Duration	Comments

Table 8 – S-48 Gasoline Dispensing Facility Throughput

SD-1 GASOLINE DISPENSING FACILITY
Location 20: Maintenance Center (4,000 Gal)
As of December 31, 2011

MONTH	GALLONS RECEIVED	RECEIVED YR-TO-DATE	GALLONS ISSUED	ISSUED YR-TO-DATE	COMMENTS
JAN 11	0	0	1071	1071	Jan & Feb gallons combined
FEB 11	3109	3109	1701	2772	
MAR 11	3002	6111	3634	6406	
APR 11	1975	8086	1413	7819	
MAY 11	2300	10386	3026	10845	
JUN 11	3349	13735	2837	13682	
JUL 11	*985*	14720	2420	16102	
AUG 11	*3279*	17999	2153	18255	
SEP 11	*2450*	20449	2899	21154	
OCT 11	*3247*	23696	2423	23577	
NOV 11	*1000*	24696	2256	25833	
DEC 11	*2000*	26696	2170	28003	
FY2011		26696		28003	

ATTACHMENT A
Diesel Vendor Certifications

Fuel Invoice

NELLA Oil Company, LLC dba Flyers
2360 Lindbergh Street
Auburn, CA 95602
(530)885-0401

Invoice No: 11-629434
Invoice Date: Wed 07/20/2011
Delivery Date: Wed 07/20/2011
Lift Date/Time: Wed 07/20/2011 08:00 AM
Account ID: 15812

Remit To: NELLA Oil Company
Dept #34516
P.O. Box 39000
San Francisco, CA 94139-0001
(800)995-0401

Original

Bill To:	Ship To:
East Bay Muni Utilities Dist. P.O. Box 24055 MS#402 Attn: Accounts Payable Oakland, CA 94623-1055	ID: 11 Brookside Drive 105 Brookside Drive Richmond, CU 94801

Order No: 11745224 **Reference No.:** **P.O. No:** BRD - 15308 - NNR
Salesperson: Diane Cone

For Billing Inquiries Please Call: Jodi Lewis 800-995-0401 Ext. 2205

Description	From Site	BOL No	Gross Units	Net Units	Basis	Unit Price	Discount	Total
ULSD CARB DYED # 2 DSL	317	213467	190.00	190.00	Net	3.701000		703.19
COMBUSTIBLE LIQUID. THIS PRODUCT IS DYED DIESEL FUEL. NON TAXABLE USE ONLY. PENALTY FOR TAXABLE USE. CALIFORNIA DIESEL FUEL. MAX 15 PPM SULFUR OR LESS. Dyed Motor Vehicle Fuel for use in all nonroad diesel engines. Not for use in highway vehicles or engines except for tax exempt use in accordance with section 4082 of the Internal Revenue Code.								
****Tax and Other Charges Summary****								
Federal LUST				190.00	Net	0.001000		0.19
Federal Oil Spill Tax DSL				190.00	Net	0.001900		0.36
Ca Env Dsl				190.00	Net	0.001190		0.23
Environmental Surcharge - DSL				190.00	Net	0.001703		0.32
CA Sales Tax (Red)			$828.97		Gross	7.2500%		60.10
Alameda County Transit Tax			$828.97 703.97		Gross	1.5000% 8.25%	58.08	12.43
****Freight Summary****								
Service Charge								35.00
Standard Freight Hourly						Misc w/Tax 135.31		90.00

ENTERED
SEP 12 2011
BY: _____

Invoice Total	190.00	190.00	$901.82

****Payment Terms Summary****
Due by Fri 08/19/2011 (Net 30 Days)

897.68 ~~901.82~~

THANK YOU FOR CHOOSING OUR COMPANY AS YOUR FUEL SUPPLIER.

Fuel Invoice

NELLA Oil Company, LLC dba Flyers
2360 Lindbergh Street
Auburn, CA 95602
(530)885-0401

Invoice No: 11-638805
Invoice Date: Tue 08/16/2011
Delivery Date: Tue 08/16/2011
Lift Date/Time: Tue 08/16/2011 07:35 AM
Account ID: 15812

Remit To: NELLA Oil Company
Dept #34516
P.O. Box 39000
San Francisco, CA 94139-0001
(800)995-0401

Original

Bill To:	Ship To:
East Bay Muni Utilities Dist. P.O. Box 24055 MS#402 Attn: Accounts Payable Oakland, CA 94623-1055	ID: 5 East Bay Muni - Wake 2020 Wake Ave. Oakland, CA 94623

Order No: 11756819 Reference No.: P.O. No: BRD-09611-NPG ✓
Salesperson: Diane Cone

For Billing Inquiries Please Call: Jodi Lewis 800-995-0401 Ext. 2205

Description	From Site	BOL No	Gross Units	Net Units	Basis	Unit Price	Discount	Total
ULSD CARB DYED # 2 DSL	Drop	527183	7,467.00	7,467.00	Net	2.980759		22,257.33
Vendor / Terminal:	Conoco Spot Contract / Conoco 76 Richmond							

COMBUSTIBLE LIQUID. THIS PRODUCT IS DYED DIESEL FUEL. NON TAXABLE USE ONLY. PENALTY FOR TAXABLE USE. CALIFORNIA DIESEL FUEL. MAX 15 PPM SULFUR OR LESS. Dyed Motor Vehicle Fuel for use in all nonroad diesel engines. Not for use in highway vehicles or engines except for tax exempt use in accordance with section 4082 of the Internal Revenue Code.

****Tax and Other Charges Summary***

Federal LUST		7,467.00	Net	0.001000		7.47
Federal Oil Spill Tax DSL		7,467.00	Net	0.001900		14.19
Ca Env Dsl		7,467.00	Net	0.001190		8.89
Environmental Surcharge - DSL		7,467.00	Net	0.001703		12.72
CA Sales Tax (Red)	$22,300.60		Gross	7.2500%		1,616.79
Alameda County Transit Tax	$22,287.88		Gross	1.5000%	1951.29	334.32

ENTERED

SEP 12 2011

BY: _____

Invoice Total	7,467.00	7,467.00	$24,251.71

****Payment Terms Summary****
Due by Thu 09/15/2011 (Net 30 Days) 24,251.71

THANK YOU FOR CHOOSING OUR COMPANY AS YOUR FUEL SUPPLIER.

ATTACHMENT B
Source Test Results
S-55 Boiler, S-56 Turbine & GDF

TABLE # 1

EBMUD
DG TURBINE #1 (S-56)
4000 KW

RUN	1	2	3	AVERAGE	LIMITS
Test Date	12/15/11	12/15/11	12/15/11		
Test Time	0806-0839	0852-0922	0931-1001		
Standard Temp., °F	70	70	70	70	
Turbine Kw	4,000	4,000	4,000	4,000	
Fuel Flow Rate, DSCFM	1,120.0	1,120.0	1,120.0	1,120.0	
Fuel Flow Rate, MMBtu/hr	40.2	40.2	40.2	40.2	
Fuel Flow Rate, MMBtu/365 days	352,186	352,186	352,186	**352,186**	**389,820**
Exhaust Flow Rate, DSCFM (Method 19)	29,960	27,512	27,512	28,328	
Oxygen, O_2, %	16.6	16.2	16.2	16.3	
Carbon Dioxide, CO_2, %	3.7	3.7	3.7	3.7	
NOx, ppm	6.2	6.1	6.1	6.1	
NOx, ppm @ 15% O_2	**8.5**	**7.6**	**7.7**	**7.9**	**23**
NOx, lbs/hr	1.33	1.19	1.19	1.24	
NOx, lbs/MMBtu	0.033	0.030	0.030	0.031	
CO, ppm	<5.0	<5.0	<5.0	<5.0	
CO, ppm @ 15% O_2	**<6.9**	**<6.3**	**<6.3**	**<6.5**	**100**
CO, lbs/hr	<0.7	<0.6	<0.6	<0.6	
CO, lbs/MMBtu	<0.016	<0.015	<0.015	<0.015	
SO_2, ppm	<2.0	<2.0	<2.0	<2.0	
SO_2, ppm @ 15% O_2	**<2.7**	**<2.5**	**<2.5**	**<2.6**	**150**
SO_2, lbs/hr	<0.6	<0.5	<0.5	<0.6	
SO_2, lbs/MMBtu	<0.015	<0.014	<0.014	<0.014	
THC, ppm	<2.0	<2.0	<2.0	<2.0	
THC, lbs/hr as CH_4	<0.1	<0.1	<0.1	<0.1	
CH_4, ppm	<2.0	<2.0	<2.0	<2.0	
TNMHC, ppm as CH_4	<2.0	<2.0	<2.0	<2.0	
TNMHC, ppm @ 15% O_2	<2.7	<2.5	<2.5	<2.6	
TNMHC, lbs/hr as CH_4	<0.15	<0.14	<0.14	<0.14	
TNMHC, lbs/MMBtu as CH_4	<0.004	<0.003	<0.003	<0.003	

WHERE,

ppm = Parts Per Million Concentration
Lbs/hr = Pound Per Hour Emission Rate
Tstd. = Standard Temp. (°R = °F+460)
MW = Molecular Weight
DSCFM = Dry Standard Cubic Feet Per Minute
NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
THC = Total Hydrocarbons as Methane (MW = 16)
TNMHC = Total Non-Methane Hydrocarbons as Methane (MW = 16)
SO_2 - Sulfur Dioxide (MW=64.1)

CALCULATIONS,

PPM @ 15% O_2 = ppm * 5.9 / (20.9 - %O_2)
PPM @ 3% O_2 = ppm * 17.9 / (20.9 - %O_2)
Lbs/hr = ppm x 8.223 E-05 x DSCFM x MW / Tstd. °R
Lbs/day = Lbs/hr * 24
Lbs/MMBtu = Lbs-hr / MMBtu-hr
MMBtu/yr = Tested Rate MMBtu/hr * 24hrs * 365 days

TABLE #1

EBMUD
Boiler
Mid Load Setting

TEST	1	2	3	AVERAGE	LIMITS
Test Location	Outlet	Outlet	Outlet		
Test Date	11/22/11	11/22/11	11/22/11		
Test Condition	0840-0909	0918-0947	0959-1030		
Standard Temp., °F	70	70	70		
Boiler Rating, MMBtu/Hr	20.41	20.41	20.41		
Boiler Fire Rate, MMBtu/Hr	17.5	17.4	17.4		
Firing Rate	86%	85%	85%		
Flow Rate, DSCFM (M19)	5,186	5,071	5,082	5,113	
O_2, %	9.9	9.7	9.7	9.8	
NOx, ppm	16.5	16.5	17.6	16.9	
NOx, ppm @ 3% O_2	**27.0**	**26.3**	**28.2**	**27.1**	**30**
NOx, lbs/MMBtu	0.033	0.032	0.034	0.033	
NOx, lbs/hr	0.61	0.60	0.64	0.62	
CO, ppm	<5.0	<5.0	<5.0	<5.0	
CO, ppm @ 3% O_2	**<8.2**	**<8.0**	**<8.0**	**<8.0**	**50**
CO, lbs/MMBtu	<0.006	<0.006	<0.006	<0.006	
CO, lbs/hr	<0.113	<0.110	<0.110	<0.111	

WHERE,

NOx = Oxides of Nitrogen as NO_2 (MW = 46)
CO = Carbon Monoxide (MW = 28)
ppm = Parts Per Million Concentration

CALCULATIONS,

$3\%O_2$ correction = ppm (NOx, CO) * 17.95/(20.95 - $\%O_2$)

GETTLER-RYAN INC.

FORM 1

GR Job # **10-059091.1**

SUMMARY OF SOURCE TEST DATA

SOURCE INFORMATION		FACILITY PARAMETERS
GDF Name and Address **EBMUD** **2020 Wake Ave.** **Oakland, CA**	GDF Representative and Title **Cynthia Adkisson** GDF Phone No. **510-287-1627**	PHASE II SYSTEM TYPE (Check One) Balance ____ Hirt ____ Red Jacket ____ Hasstech ____ Healy ____ Other **x**
Permit Conditions	Source; GDF Vapor Recovery System GDF # ____ A/C # ____	Manifolded? ____ Yes **x** No

Operating Parameters

Number of Nozzles Served by Tank #1: 2 — Number of Nozzles Served by Tank #3: ____

Number of Nozzles Served by Tank #2: ____ — Number of Nozzles Served by Tank #4: ____

Applicable Regulations: | VN Recommended

Source Test Results and Comments

Tank #:	1	2	3	4
1. Product Grade	**87**			
2. Actual Tank Capacity, gallons	**3,000**			
3. Gasoline Volume	**755**			
4. Ullage, gallons (#2-#3)	**2,245**			
5. Initial Pressure, inches H2O	**2.00**			
6. Pressure After 1 Minute, inches H2O	**1.98**			
7. Pressure After 2 Minutes, inches H2O	**1.95**			
8. Pressure After 3 Minutes, inches H2O	**1.94**			
9. Pressure After 4 Minutes, inches H2O	**1.93**			
10. Final Pressure After 5 Minutes, inches H2O	**1.94**			
11. Allowable Final Pressure	**1.42**			

Test Conducted by:	Test Company:	Date of Test:
Brian Gan	**Gettler-Ryan Inc.**	**10/10/2011**

ATTACHMENT C

Wastewater Treatment Plant Flow Summary

East Bay Municipal Utility District
MONTHLY/ANNUAL WASTEWATER SUMMARY 2011

STATION: WWTP EFFLUENT (EFF) E-001 (except designated influent TSS and CBOD values were collected at A-001)

CONVENTIONAL POLLUTANTS & FLOW

	EFFLUENT FLOW (mgd)				CBOD						TSS						Oil and Grease			
	Monthly Avg	Max Daily Avg	Min Daily Avg	3-mo Avg	Inf (A-001) mg/L Month Ave	Eff mg/L Month Ave	Eff mg/L Max Week Ave	# exc/ # of Analyses Week Ave	# exc/ # of Analyses Month Ave	% Removal Month Ave	Inf (A-001) mg/L Month Ave	Eff mg/L Month Ave	Eff mg/L Max Week Ave	# exc/ # of Analyses Week Ave	# exc/ # of Analyses Month Ave	% Removal Month Ave	Eff mg/L Month Ave	Eff mg/L Daily Max	# exc/ # of Analyses Month Ave	# exc/ # of Analyses Daily Max
Limits:						**25**	**40**			**Min 85(a)**		**30**	**45**			**Min 85(a)**	**10**	**20**		
Jan	72	108	60	68	248	9	10	0/4	0/1	96%	288	13	15	0/4	0/1	95%				
Feb	89	181	57	75	279	14	20	0/4	0/1	95%	292	16	19	0/4	0/1	93%	< 7	< 7		
Mar	110	225	69	84	219	10	12	0/5	0/1	94%	230	15	15	0/5	0/1	91%				
Apr	69	82	59	89	314	12	14	0/4	0/1	96%	294	11	12	0/4	0/1	96%				
May	63	77	63	81	321	16	20	0/4	0/1	95%	290	14	17	0/4	0/1	95%	<6.6	<6.6		
Jun	63	108	53	65	287	9	19	0/4	0/1	97%	296	11	13	0/4	0/1	96%	data collected 4 times/year			
Jul	57	66	52	61	296	8	10	0/4	0/1	97%	286	11	13	0/4	0/1	96%				
Aug	57	62	52	59	344	9	9	0/4	0/1	97%	361	15	16	0/4	0/1	96%	<6.8	<6.8		
Sep	55	61	52	57	374	15	25	0/5	0/1	96%	365	18	23	0/5	0/1	95%				
Oct	57	79	39	56	328	11	16	0/4	0/1	97%	346	14	14	0/4	0/1	96%	< 7	< 7		
Nov	59	75	51	57	372	9	13	0/5	0/1	98%	329	11	16	0/5	0/1	97%				
Dec	54	57	48	57	388	11	18	0/4	0/1	97%	454	14	20	0/4	0/1	97%				
Avg	67	98	55	67	314	11	16			96%	319	14	16			95%	<7.0	<7.0		
Max	110	225	69	89	388	16	25			98%	454	18	23			97%	7.0	7.0		
Min	54	57	39	56	219	8	9			94%	230	11	12			91%	7.0	7.0		
Exc/Analyses						0/12	0/52			0/12		0/12	0/52			0/12	0/4	0/4		

V/A = number of exceedances/number of analyses

ATTACHMENT D
Hours of flare use

EBMUD Main Wastewater Plant

Flare and Boiler Operation Summary

July 1 - December 31, 2011

Usage			Ref	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Semi-annual Totals
Run Time	Flare #1	hrs	meter	251	346	577	600	330	393	2,497
	Flare #2	hrs	meter	333	510	532	630	375	578	2,958
	Flare #3	hrs	meter	340	476	572	547	387	544	2,866
	Flare #4	hrs	meter	274	91	372	473	207	430	1,847
	Total	hrs	1	1,198	1,423	2,053	2,250	1,299	1,945	10,168
Heat Value	Average	btu/cf	3	676	630	687	639	615	604	x
Digester Gas	Flare #1	cf	meter	1,708,387	3,464,413	10,765,012	10,795,460	6,599,183	8,201,573	41,534,028
	Flare #2	cf	meter	2,322,118	7,072,278	12,225,005	12,503,461	4,707,320	18,568,617	57,398,799
	Flare #3	cf	meter	2,989,500	4,907,180	8,356,319	7,914,774	4,811,472	12,786,458	41,765,703
	Flare #4	cf	meter	2,112,720	524,665	6,015,638	6,094,462	597,417	8,902,172	24,247,074
	Total	cf	2	9,132,725	15,968,536	37,361,974	37,308,157	16,715,392	48,458,820	164,945,604
	Flare #1	cf/hr	3	6,806	10,013	18,657	17,992	19,998	20,869	x
	Flare #2	cf/hr	3	6,973	13,867	22,979	19,847	12,553	32,126	x
	Flare #3	cf/hr	3	8,793	10,309	14,609	14,469	12,433	23,505	x
	Flare #4	cf/hr	3	7,711	5,766	16,174	12,885	2,886	20,703	x
	Flare #1	mmBTU/hr	4	4.6	6.3	12.8	11.5	12.3	12.6	x
	Flare #2	mmBTU/hr	4	4.7	8.7	15.8	12.7	7.7	19.4	x
	Flare #3	mmBTU/hr	4	5.9	6.5	10.0	9.3	7.6	14.2	x
	Flare #4	mmBTU/hr	4	5.2	3.6	11.1	8.2	1.8	12.5	x
Run Time	Boiler	hrs	meter	283	264	619	302	193	541	2,200
Digester Gas	Boiler	cf	meter	4,153,302	4,074,186	9,789,832	3,872,568	2,892,934	8,138,919	32,921,741
	Boiler	cf/hr	3	14,689	15,435	15,825	12,838	15,022	15,050	x
	Boiler	mmBTU/hr	4	9.9	9.7	10.9	8.2	9.2	9.1	x

(1) Calculated value: Monthly Total Flare Operation (hours) = Sum of individual meter readings (hours)

(2) Calculated value: Monthly Total Flare Usage (cf) = Sum of individual meter readings (cf)

(3) Calculated value: Average cf/hr = Monthly usage (cf) / Monthly Operation (hours)

(4) Calculated value: Digester gas thruput (mmBTU/hr) = digester gas thruput (cf/hr) x monthly gas sample (Btu/cf) / 1,000,000

Daily Data for Air Permit

Month: July - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	214,118	236,427	145,686	176,904	773,135	23	23	23	23	93
2	116,874	179,170	102,645	113,196	511,885	12	20	18	16	66
3	0	7,378	4,698	0	12,076	0	1	1	0	3
4	8,650	44,047	22,992	16,790	92,479	2	8	7	4	21
5	1,320	62,212	74,511	72,804	210,847	0	10	10	5	25
6	179,031	104,630	917,997	847,831	2,049,489	12	13	24	24	72
7	106,100	100,724	199,910	160,458	567,192	15	15	24	24	77
8	119,644	127,064	97,852	58,363	402,923	20	23	21	14	78
9	0	55,375	118,965	84,725	259,065	0	10	15	14	38
10	0	12,036	10,435	0	22,471	0	3	4	0	7
11	136,959	138,059	106,908	74,232	456,158	16	13	8	8	45
12	42,101	40,265	44,441	25,372	152,179	15	10	9	11	46
13	18,222	35,639	62,949	45,511	162,321	4	10	9	9	33
14	126,990	132,836	102,750	64,047	426,623	21	22	21	22	86
15	115,475	136,655	98,503	40,938	391,571	16	19	16	13	63
16	0	0	75,193	50,688	125,881	0	0	7	11	18
17	69,900	74,006	76,801	34,394	255,101	13	13	14	12	52
18	0	39,513	33,447	7,635	80,595	0	5	9	2	16
19	2,518	10,704	5,769	0	18,991	0	2	2	0	4
20	33,520	46,143	25,464	5,491	110,618	7	9	7	2	25
21	0	5,699	2,220	0	7,919	0	1	1	0	2
22	0	46,919	152,391	83,787	283,097	0	5	12	11	29
23	0	0	37,388	18,287	55,675	0	0	5	4	9
24	8,111	110,754	103,450	44,131	266,446	1	15	14	12	41
25	125,891	159,247	128,658	49,413	463,209	16	18	18	15	67
26	45,748	121,914	93,006	21,575	282,243	7	16	14	7	44
27	35,833	39,049	13,459	3,853	92,194	7	7	2	1	17
28	20,692	24,775	2,185	0	47,652	6	6	0	0	12
29	77,512	90,448	51,678	4,848	224,486	14	14	11	4	44
30	85,555	100,414	54,373	5,304	245,646	16	16	11	4	47
31	17,623	40,016	22,776	2,143	82,558	7	6	4	2	19
Totals	1,708,387	2,322,118	2,989,500	2,112,720	9,132,725	251	333	340	274	1,197
			Sum of Flares	9,132,725				Sum of Flares	1,198	

Daily Data for Air Permit

Month: August - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	0	159,182	255,270	68,131	482,583	0	14	19	10	43
2	232,974	436,489	315,796	125,570	1,110,829	15	18	18	13	65
3	182,423	170,919	167,689	40,554	561,585	20	13	14	11	57
4	184,178	219,026	134,913	54,366	592,483	16	15	12	5	49
5	143,157	155,683	91,823	2,579	393,242	19	19	15	2	55
6	72,253	76,690	45,540	0	194,483	13	13	13	1	38
7	69,021	78,513	46,610	1,295	195,439	9	10	9	1	29
8	184,672	212,798	145,557	5,577	548,604	20	20	15	5	60
9	63,804	70,070	35,834	0	169,708	15	12	8	0	35
10	63,534	71,443	25,798	0	160,775	15	13	7	0	34
11	84,370	230,332	163,659	0	478,361	11	22	22	1	56
12	0	202,457	155,913	0	358,370	0	19	19	0	39
13	0	519,161	496,137	103,372	1,118,670	0	21	23	9	53
14	0	73,519	51,948	0	125,467	0	12	10	0	21
15	199,735	400,699	285,318	14,144	899,896	11	18	18	7	54
16	292,523	489,999	302,751	32,572	1,117,845	18	23	21	5	68
17	71,745	333,004	173,452	0	578,201	9	21	21	1	52
18	102,655	339,012	175,445	2,645	619,757	13	20	17	6	57
19	0	457,345	268,539	0	725,884	0	20	20	0	41
20	0	82,085	42,897	0	124,982	0	14	7	0	20
21	37,863	95,887	76,920	0	210,670	5	11	10	0	26
22	204,873	253,503	141,938	0	600,314	22	22	21	0	65
23	193,877	304,718	160,385	0	658,980	18	22	20	0	59
24	101,816	217,509	119,914	0	439,239	12	20	19	0	51
25	117,676	128,196	70,376	0	316,248	17	16	14	0	47
26	80,167	229,214	114,777	2,237	426,395	11	19	17	1	47
27	11,999	13,484	129,525	8,458	163,466	2	3	8	3	15
28	0	0	0	0	0	0	0	0	0	0
29	398,135	487,571	318,597	17,854	1,222,157	19	19	19	5	62
30	218,525	264,390	180,437	1,432	664,784	22	22	22	1	66
31	152,438	299,380	213,422	43,879	709,119	14	20	20	5	60
Totals	3,464,413	7,072,278	4,907,180	524,665	15,968,536	346	510	476	91	1,424
			Sum of Flares	15,968,536				Sum of Flares	1,423	

EBMUD

Daily Data for Air Permit

Month: September - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	85,519	219,532	166,744	1,016	472,811	10	20	18	0	49
2	277,148	335,632	257,156	2,437	872,373	22	23	22	1	68
3	431,082	448,003	300,218	9,716	1,189,019	21	22	20	11	74
4	2,981	3,223	1,566	0	7,770	0	0	0	0	1
5	109,373	122,624	59,698	0	291,695	15	18	18	0	52
6	149,149	197,851	140,340	23,255	510,595	15	18	15	3	50
7	736,105	837,190	533,632	0	2,106,927	24	24	24	0	72
8	604,753	592,800	338,920	22,657	1,559,130	24	21	17	2	65
9	325,750	36,030	275,739	53,484	691,003	20	6	21	12	59
10	334,091	0	260,477	0	594,568	20	0	20	0	40
11	77,634	50,286	62,383	10,779	201,082	9	5	8	1	23
12	312,559	338,538	225,237	59,816	936,150	23	23	20	7	73
13	345,167	399,963	234,642	43,878	1,023,650	22	22	20	5	69
14	592,933	779,359	441,320	3,322	1,816,934	24	24	24	2	74
15	396,529	442,762	273,494	156,835	1,269,620	23	23	23	15	84
16	331,213	309,444	190,137	228,988	1,059,782	24	24	23	24	95
17	188,459	192,536	532,589	101,697	1,015,281	10	10	23	13	56
18	0	0	217,477	0	217,477	0	0	12	0	12
19	221,927	195,450	136,152	181,542	735,071	13	11	12	12	48
20	417,914	391,795	293,236	320,717	1,423,662	24	23	21	24	92
21	327,933	367,949	175,480	216,132	1,087,494	23	24	19	24	90
22	387,269	520,948	246,624	319,203	1,474,044	22	22	20	24	89
23	416,763	652,634	264,437	327,171	1,661,005	24	24	23	24	94
24	402,232	704,178	222,494	315,403	1,644,307	24	24	21	24	93
25	198,958	24,580	70,050	140,223	433,811	21	4	9	24	58
26	353,711	479,965	222,848	295,629	1,352,153	24	24	22	24	94
27	717,378	1,304,251	522,006	1,106,164	3,649,799	24	24	22	24	94
28	869,585	1,018,398	761,195	1,024,508	3,673,686	24	21	24	24	93
29	620,993	708,159	503,826	573,005	2,405,983	24	24	24	24	96
30	529,904	550,925	426,202	478,061	1,985,092	24	24	24	24	96
[redacted]										
Totals	10,765,012	12,225,005	8,356,319	6,015,638	37,361,974	577	532	572	372	2,053
			Sum of Flares	37,361,974				Sum of Flares	2,053	

Daily Data for Air Permit

Month: October - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	422,335	430,473	330,962	388,416	1,572,186	24	24	23	24	95
2	205,535	170,862	18,659	147,416	542,472	23	23	7	24	77
3	258,187	230,924	150,822	253,787	893,720	21	21	13	23	78
4	469,312	557,841	382,397	597,961	2,007,511	24	24	24	24	96
5	783,607	1,183,463	640,620	1,309,843	3,917,533	24	24	24	24	96
6	744,963	1,085,138	658,620	1,042,343	3,531,064	24	24	24	24	96
7	484,357	627,779	460,246	537,406	2,109,788	24	24	23	24	95
8	291,652	324,693	227,313	271,262	1,114,920	22	22	16	24	85
9	138,337	123,499	14,657	111,757	388,250	19	17	4	23	63
10	227,661	220,124	109,903	221,530	779,218	23	22	14	24	84
11	318,000	338,986	207,824	312,860	1,177,670	24	24	20	24	92
12	252,127	260,134	54,902	241,497	808,660	24	24	8	24	80
13	391,179	441,274	261,148	387,602	1,481,203	22	17	15	23	78
14	740,091	374,233	529,633	32,479	1,676,436	24	16	24	11	75
15	186,131	158,320	162,797	22,598	529,846	15	17	17	10	60
16	0	77,059	117,513	1,228	195,800	0	12	14	2	28
17	156,156	153,307	252,983	1,358	563,804	12	15	21	4	53
18	977,750	990,273	511,284	0	2,479,307	24	24	24	2	74
19	669,512	668,289	427,336	0	1,765,137	24	24	24	0	72
20	216,956	183,726	134,259	0	534,941	20	19	16	1	56
21	437,131	386,487	280,808	0	1,104,426	23	23	20	0	65
22	330,689	335,630	182,021	0	848,340	19	20	16	0	54
23	150,335	172,636	103,393	0	426,364	17	16	12	0	45
24	290,034	577,367	186,383	13,850	1,067,634	17	21	16	12	65
25	150,498	678,620	395,095	34,883	1,259,096	12	22	22	23	80
26	242,643	415,318	183,408	33,982	875,351	21	23	21	24	88
27	361,030	489,570	253,891	59,218	1,163,709	20	23	19	23	84
28	361,343	326,631	281,408	30,553	999,935	18	16	18	17	69
29	124,817	127,636	109,968	13,710	376,131	11	16	15	11	53
30	61,769	73,287	60,353	11,408	206,817	8	11	10	10	39
31	351,323	319,882	224,168	15,515	910,888	20	22	20	13	75
Totals	10,795,460	12,503,461	7,914,774	6,094,462	37,308,157	600	630	547	473	2,250
			Sum of Flares	37,308,157				Sum of Flares	2,250	

Daily Data for Air Permit

Month: November - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	437,558	364,085	232,021	21,480	1,055,144	15	13	10	16	55
2	63,858	57,658	39,834	15,951	177,301	8	7	6	15	37
3	456,043	8,682	347,660	87,762	900,147	11	0	10	17	38
4	1,349,947	0	12,815	74,588	1,437,350	24	0	0	20	44
5	822,396	0	6,548	43,806	872,750	18	0	0	13	30
6	346,953	54,000	121,102	56,787	578,842	14	0	3	5	22
7	211,539	25,315	41,130	19,336	297,320	13	2	3	8	25
8	262,584	247,839	199,154	51,284	760,861	13	16	15	18	63
9	178,793	167,709	152,404	21,242	520,148	22	22	18	18	80
10	620,905	744,200	492,449	31,131	1,888,685	24	24	24	9	80
11	150,756	223,624	170,531	0	544,911	11	18	18	1	48
12	12,171	152,609	123,940	0	288,720	1	14	16	0	31
13	0	53,226	47,055	0	100,281	0	10	9	0	19
14	0	212,828	163,032	0	375,860	0	16	19	0	35
15	114,795	220,650	165,968	1,667	503,080	10	17	16	1	44
16	123,608	187,000	202,449	26,340	539,397	9	18	16	12	56
17	259,778	237,778	231,295	9,743	738,594	19	18	18	9	64
18	0	71,188	65,390	1,943	138,521	0	14	14	4	31
19	5,869	74,482	68,378	5,335	154,064	2	13	13	9	37
20	0	77,947	74,251	2,265	154,463	0	13	12	3	28
21	8,102	144,579	134,578	10,343	297,602	1	15	14	7	37
22	135,936	254,711	429,320	109,153	929,120	6	11	19	9	45
23	44,101	78,382	216,784	2,319	341,586	7	9	12	4	31
24	73,034	63,877	76,693	0	213,604	5	5	5	0	15
25	63,106	53,420	69,468	1,185	187,179	4	4	4	5	16
26	289,980	265,524	306,485	2,012	864,001	23	23	23	5	73
27	129,664	127,566	106,084	0	363,314	20	20	20	0	60
28	134,566	130,743	125,989	0	391,298	18	18	18	0	54
29	240,217	235,700	240,104	0	716,021	23	23	22	0	68
30	62,924	171,998	148,561	1,745	385,228	9	12	11	1	33
Totals	6,599,183	4,707,320	4,811,472	597,417	16,715,392	330	375	387	207	1,299
			Sum of Flares	16,715,392				Sum of Flares	1,299	

EBMUD

Daily Data for Air Permit

Month: December - 2011

SD1 Flare Burners

Date	Biogas Used					Hours of Operation				
	Flare 1	Flare 2	Flare 3	Flare 4	Total Flow	Flare 1	Flare 2	Flare 3	Flare 4	Total Hrs
1	0	87,346	84,783	0	172,129	0	11	11	0	22
2	0	31,281	28,636	0	59,917	0	6	5	0	11
3	14,681	61,548	58,808	0	135,037	2	9	9	0	20
4	84,675	80,447	67,448	0	232,570	13	12	11	0	36
5	50,114	44,487	36,238	0	130,839	13	11	14	0	38
6	489,812	690,301	631,292	104,559	1,915,964	23	24	24	10	81
7	657,767	931,610	867,108	15,684	2,472,169	24	23	24	12	83
8	516,329	732,154	303,819	11,454	1,563,756	21	21	10	9	62
9	496,425	584,934	412,486	20,995	1,514,840	18	21	12	10	60
10	332,028	596,790	1,923	0	930,741	14	19	0	0	33
11	0	62,750	0	0	62,750	0	9	0	0	9
12	0	15,873	67,970	0	83,843	0	2	5	0	7
13	0	179,463	436,542	0	616,005	0	7	19	0	27
14	421,274	696,335	526,059	115,267	1,758,935	16	18	21	16	71
15	221,956	936,326	766,032	596,984	2,521,298	13	24	24	24	85
16	0	1,434,533	1,311,593	1,231,704	3,977,830	0	24	24	24	72
17	0	1,009,747	676,082	649,127	2,334,956	0	24	24	24	72
18	0	268,060	213,998	146,126	628,184	0	24	23	18	65
19	1,882	874,262	495,762	89,636	1,461,542	0	23	22	8	53
20	193,769	1,268,012	1,024,170	328,099	2,814,050	10	24	24	24	82
21	737,745	1,072,584	918,574	718,258	3,447,161	24	24	24	24	96
22	389,680	751,472	423,378	434,374	1,998,904	24	24	24	24	96
23	428,433	913,563	437,932	565,718	2,345,646	24	24	24	24	96
24	505,436	1,035,131	461,151	735,653	2,737,371	24	24	24	24	96
25	98,302	92,235	57,238	81,558	329,333	23	18	16	21	80
26	0	77,343	42,126	18,636	138,105	1	13	12	17	43
27	80,722	214,434	139,006	142,559	576,721	9	20	19	22	69
28	631,508	786,508	612,467	692,348	2,722,831	24	24	22	24	93
29	392,312	544,915	355,406	363,214	1,655,847	24	24	24	24	96
30	636,263	1,197,453	565,142	822,534	3,221,392	24	24	24	24	96
31	820,460	1,296,720	763,289	1,017,685	3,898,154	24	24	24	24	96
Totals	8,201,573	18,568,617	12,786,458	8,902,172	48,458,820	393	578	544	430	1,944
			Sum of Flares	48,458,820				Sum of Flares	1,945	

ATTACHMENT E

Response to NOV A75066 for Digester Gas Hydrogen Sulfide Exceedance on August 8, 2011

EAST BAY
MUNICIPAL UTILITY DISTRICT

DAVID R. WILLIAMS
DIRECTOR OF WASTEWATER

August 22, 2011

Brian Bateman
Director of Compliance and Enforcement
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Mr. Bateman:

RE: Response to Notice of Violation (NOV) No. A50766 and Follow-Up Report Regarding Compliance with Permit Condition #20651, Major Facility Review Permit for Facility #A0591 for RCA Reference Numbers 06B13

East Bay Municipal Utility District's (EBMUD) Main Wastewater Treatment Plant (Facility #0591) received a NOV (No. A50765) from Bay Area Air Quality Management District (BAAQMD) inspector Scott Applin on August 16, 2011 for non-compliance with permit condition #18860-3 of the Permit to Operate and Major Facility Review permit for Plant #A0591.

In accordance with Standard Condition I.F of East Bay Municipal Utility District's (EBMUD) Main Wastewater Treatment Plant (Facility #A0591) Major Facility Review Permit, EBMUD submits this report regarding compliance with permit condition #18860, part 3 of which limits total sulfur content of the gaseous feed to Engine S-38 of 340 ppmv. Compliance with this permit condition is to be demonstrated by sampling the digester gas generated in S-180 Anaerobic Digesters for hydrogen sulfide (H_2S). EBMUD controls the level of H_2S in the digester gas by the addition of Ferric Chloride.

On Monday, August 8, 2011 at 1915 hours the H_2S level in the digester gas common manifold was measured at 444 ppmv and returned to compliance on Tuesday August 9, 2011 the digester gas was measured at approximately 276 ppmv. A Reportable Compliance Activity Form was faxed to your office on August 11, 2011 and was assigned Reference #06B13.

The root cause of the exceedance was insufficient addition Ferric Chloride during the transition to a new ferric chloride feed system at the primary sedimentation basins. The transition process involved increasing ferric flow to the new system and steadily decreasing flow to the old system. On Saturday August 6th ferric flow the District transitioned from the old system to supply ferric feed only using the new system. During the afternoon on August 8, 2011 the flow from the new system was not sufficient for the digester gas to meet the H_2S permit limit. Upon discovery of the exceedance, Ferric flow

was re-established using the previous system, in addition to maintaining flow from the new system.

The District will continue to use both ferric systems until testing confirms the new system is meeting the permit limit.

If you need further information on this matter please contact Robert Newman at (510)-287-0509.

Sincerely,

David R. Williams

DAVID R. WILLIAMS
Director of Wastewater

DRW:RDN:kf

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EAST BAY
MUNICIPAL UTILITY DISTRICT

DAVID R. WILLIAMS
DIRECTOR OF WASTEWATER

August 12, 2011

Brian Bateman
Director of Compliance and Enforcement
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Dear Mr. Bateman:

RE: 10-Day and 30-Day Report Regarding Compliance with Permit Condition #20651, Major Facility Review Permit for Facility #A0591 for RCA Reference Numbers 06B13

In accordance with Standard Condition I.F of East Bay Municipal Utility District's (EBMUD) Main Wastewater Treatment Plant (Facility #A0591) Major Facility Review Permit, EBMUD submits this report regarding compliance with permit condition #18860, part 3 of which limits total sulfur content of the gaseous feed to Engine S-38 of 340 ppmv. Compliance with this permit condition is to be demonstrated by sampling the digester gas generated in S-180 Anaerobic Digesters for hydrogen sulfide (H_2S). EBMUD controls the level of H_2S in the digester gas by the addition of Ferric Chloride.

On Monday, August 8, 2011 at 1915 hours the H_2S level in the digester gas common manifold was measured at 444 ppmv and returned to compliance on Tuesday August 9, 2011 the digester gas was measured at approximately 276 ppmv. A Reportable Compliance Activity Form was faxed to your office on August 11, 2011 and was assigned Reference #06B13.

The root cause of the exceedance was insufficient addition Ferric Chloride during the transition to a new ferric chloride feed system at the primary sedimentation basins. The transition process involved increasing ferric flow to the new system and steadily decreasing flow to the old system. On Saturday August 6th ferric flow the District transitioned from the old system to supply ferric feed only using the new system. During the afternoon on August 8, 2011 the flow from the new system was not sufficient for the digester gas to meet the H_2S permit limit. Upon discovery of the exceedance, Ferric flow was reestablished using the previous system, in addition to maintaining flow from the new system.

The District will continue to use both ferric systems until testing confirms the new system is meeting the permit limit.

P.O. BOX 24055 . OAKLAND . CA 94623-1055 . (510) 287-1405

If you need further information on this matter please contact Robert Newman at (510)-287-0509

Sincerely,

DAVID R. WILLIAMS
Director of Wastewater

DRW:RDN:rdn

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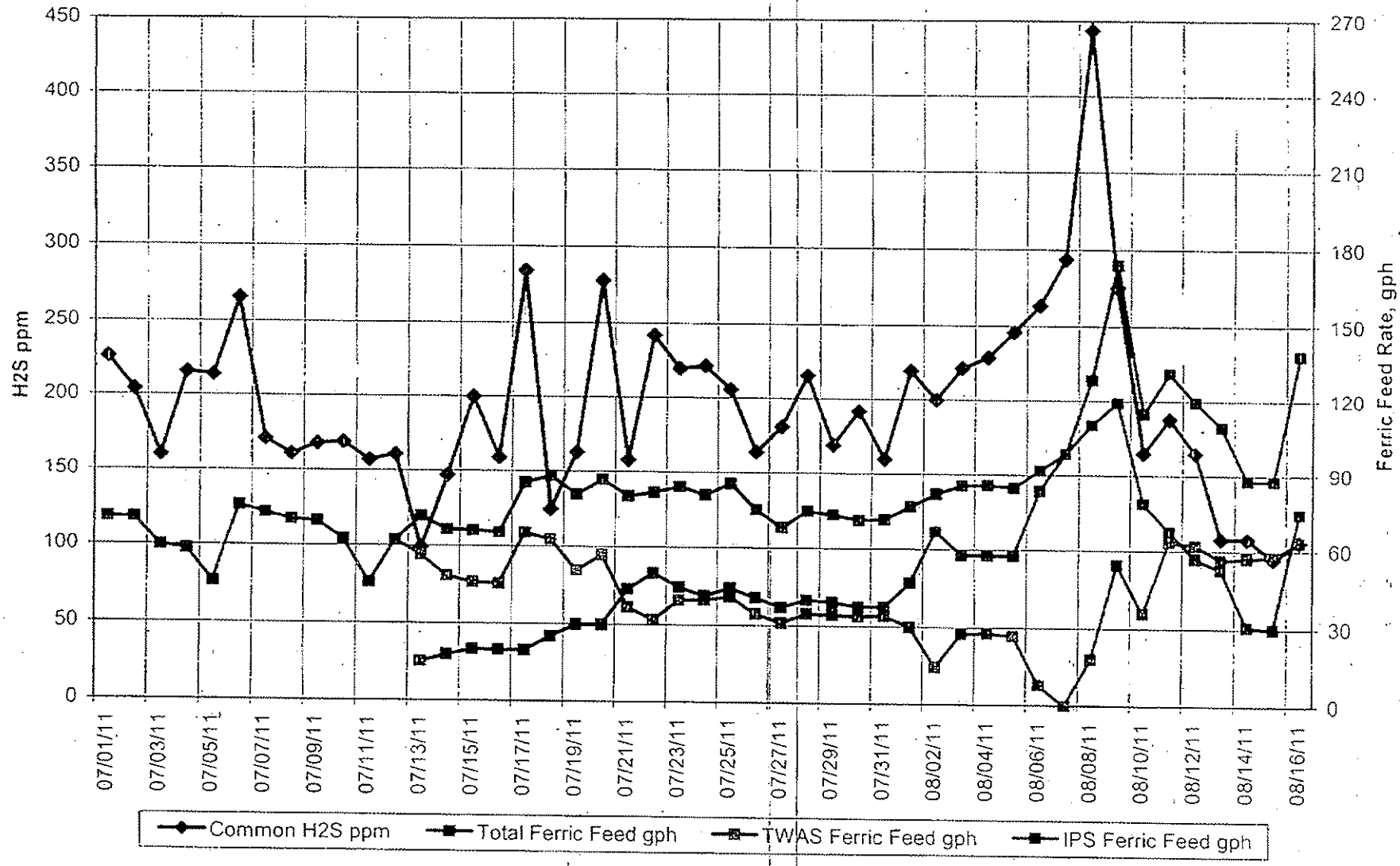
Chart of Ferric Feed and H2S Common Digester Reading During Transition From TWAS Fed Ferric to Primary Fed Ferric



BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET · SAN FRANCISCO, CA 94109
(415) 749-4795

NOTICE OF VIOLATION

No. [illegible]

ISSUED TO: [illegible] ☒P ☐S ☐N# [illegible]

ADDRESS: [illegible]

CITY: [illegible] STATE: [illegible] ZIP: [illegible]

PHONE: ([illegible]

☐ N# Mailing Address on F51

OCCURRENCE

NAME:

ADDRESS: ☒ Same As Above

CITY: ZIP

SOURCE: S# 20 NAME: [illegible]

EMISSION PT: P# NAME:

DATE: [illegible] TIME: [illegible] HRS

☐ REG 2 RULE 1 SEC 301
No Authority to Construct

☐ REG 2 RULE 1 SEC 301
No Permit to Operate

☐ REG 1 SEC 301
H & S CODE - 41700
Public Nuisance

☐ REG 2 RULE 1 SEC 307
Failure to Meet Permit Condition

☐ REG 5 SEC 301
Prohibited Open Burning

☐ REG 6 SEC 301
Excessive Visible Emissions

☒ REG 2 RULE 6 SECTION 307 CODE

☐ REG RULE SECTION CODE

Details: [illegible]

RECIPIENT NAME: Robert Newman

TITLE: Senior Fld & Spec Dist

SIGNING THIS NOTICE IS NOT AN ADMISSION OF GUILT

X [signature]
SIGNATURE

→ WITHIN 10 DAYS, RETURN A COPY OF THIS NOTICE WITH A WRITTEN DESCRIPTION OF THE IMMEDIATE CORRECTIVE ACTION YOU HAVE TAKEN TO PREVENT CONTINUED OR RECURRENT VIOLATION. **THIS VIOLATION IS SUBJECT TO SUBSTANTIAL PENALTY.** YOUR RESPONSE DOES NOT PRECLUDE FURTHER LEGAL ACTION.

ISSUED BY: [signature] INSP # [illegible]

DATE: [illegible] TIME: [illegible] HRS ☐ MAILED

PLEASE PRESS HARD

Continued On Reverse