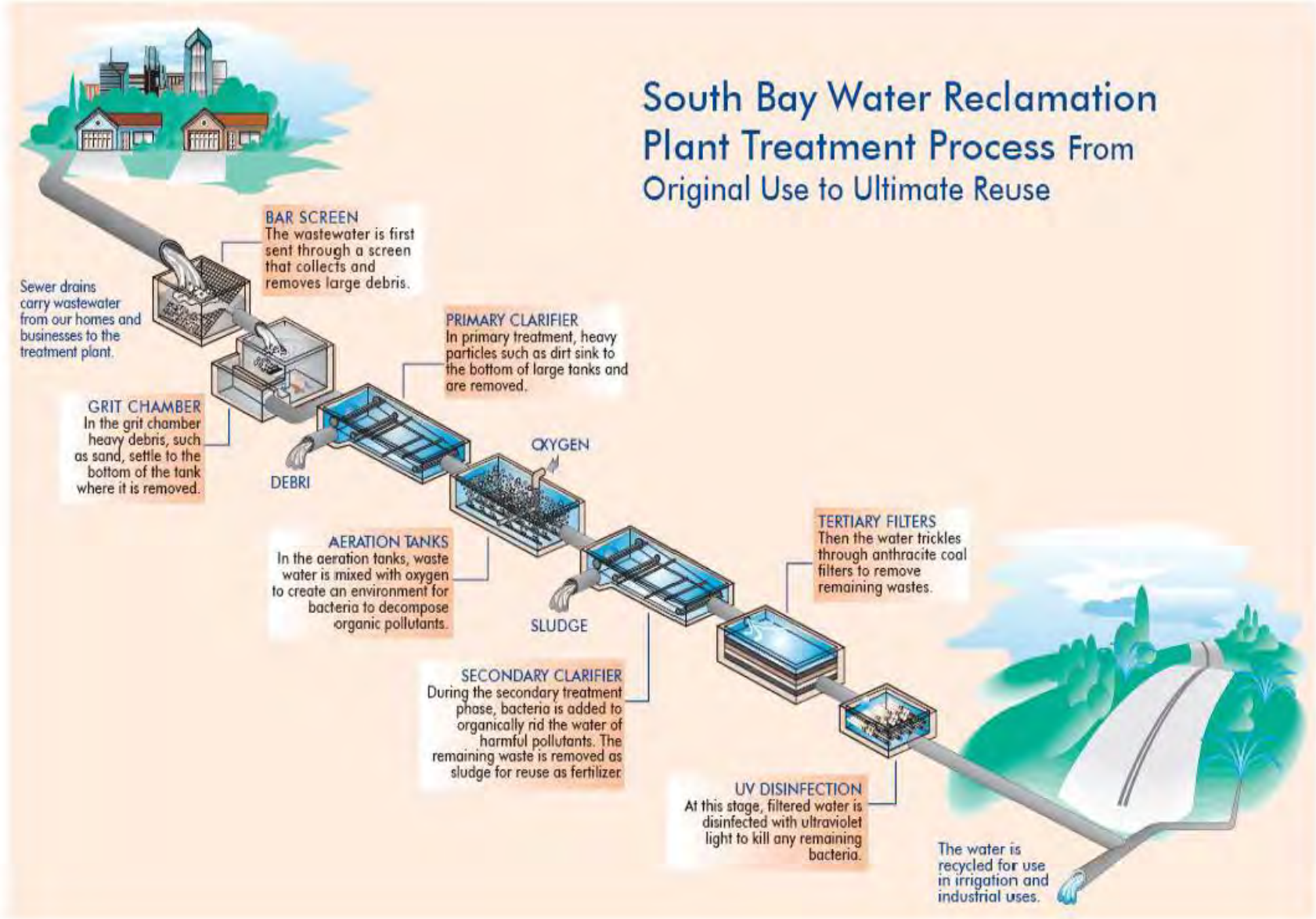
III. Plant Operations Summary

A. Flows
B. Rain Days
C. Chemical Report
D. Facilities Out of Service Report

This page is left blank intentionally


South Bay Water Reclamation Plant Treatment Process From Original Use to Ultimate Reuse
Sewer drains carry wastewater from our homes and businesses to the treatment plant.
BAR SCREEN
The wastewater is first sent through a screen that collects and removes large debris.
GRIT CHAMBER
In the grit chamber heavy debris, such as sand, settle to the bottom of the tank where it is removed.
PRIMARY CLARIFIER
In primary treatment, heavy particles such as dirt sink to the bottom of large tanks and are removed.
DEBRI
OXYGEN
AERATION TANKS
In the aeration tanks, waste water is mixed with oxygen to create an environment for bacteria to decompose organic pollutants.
SLUDGE
SECONDARY CLARIFIER
During the secondary treatment phase, bacteria is added to organically rid the water of harmful pollutants. The remaining waste is removed as sludge for reuse as fertilizer.
TERTIARY FILTERS
Then the water trickles through anthracite coal filters to remove remaining wastes.
UV DISINFECTION
At this stage, filtered water is disinfected with ultraviolet light to kill any remaining bacteria.
The water is recycled for use in irrigation and industrial uses.

Overview of the Wastewater Treatment Process

Please see the treatment process flow diagram on the preceding page.

Debris, large particulates, and sand are removed in the headworks by mechanical bar-screens and aerated grit removal systems. The process then consists of classical primary sedimentation and secondary treatment by activated sludge. While secondary effluent may be discharged directly to the ocean outfall the usual process directs the treated secondary effluent to reclamation and beneficial reuse by tertiary treatment and disinfection. Even if not beneficially reused, most of the flow goes through tertiary treatment. Tertiary treatment consists of filtration through Anthracite Coal Beds followed by disinfection with high intensity UV (ultraviolet) light. At this stage the "reclaimed" water meets State Title 22 full body contact requirements.

Untreated wastewater (Influent) enters the plant's Headworks from the South Bay region. In the Headworks, the wastewater passes through large, rake-like Bar Screens to remove solid debris and floating material (called "Rags") such as cloth, wood, and plastic material. These "rags" are dewatered and trucked to a landfill.

Following the headworks, the screened wastewater then passes through aerated Grit Chambers where heavier solids such as sand, gravel, coffee grounds and eggshells settle out and are removed. The grit is then dewatered and taken to landfills.

Wastewater then flows into the Primary Sedimentation Basins where the sedimentation process starts. Solids sink to the bottom of the tanks and "scum" (grease and cooking oils) float to the surface. "Raw Sludge" which has settled to the bottom of the basins is returned to the sewer system and sent to the Point Loma Wastewater Treatment Plant. Similarly, the scum is skimmed from the surface and returned to the sewer system.

The wastewater then enters Anoxic Zone Chambers that are oxygen depleted. The wastewater mixes with bacteria ("Bugs") that eat soluble organic material. The wastewater then flows into Aeration Basins where diffused air is pumped into the water. Here, the bugs begin to ingest and digest the organic solids while increasing in number and density.

Wastewater flows from the Aeration Basin into the Secondary Clarifiers where the bacteria and digested solids settle to the bottom as "Secondary Sludge." Some of this Sludge and any remaining scum are removed and returned to the sewer system for treatment at the Point Loma Wastewater Treatment Plant. The remaining sludge is returned to the Anoxic Basins and again mixed with the wastewater.

The water, now treated to a Secondary Treatment level, can either be discharged into the ocean though the South Bay Ocean Outfall or moved on to Tertiary Treatment for reclaimed water applications and beneficial reuse[6].

In Tertiary Treatment, the treated wastewater (effluent) flows into Anthracite Coal Beds where it is filtered of remaining solids as it passes through the coal medium. The filtered water then passes through chambers where it is disinfected through exposure to high-intensity UV (ultraviolet) light.

[6] The Recycled Water Users Summary Report as described in Permit No. 2000-203 is submitted separately.

SBWRP Annual Monitoring Report

2010 Flow Report

WASTEWATER MONTHLY AVERAGE FLOWS

(Million Gallons / Day)

Mon	Influent	Outfall	Secondary Effluent	South Metro Interceptor Return	Recycled Production	Distributed Recycled	Dilution Water Added Recycled	Recycled Plant Internal use
01	8.09	5.06	1.10	1.45	6.15	1.44	.00	.75
02	8.37	6.32	2.32	1.48	5.17	.48	.00	.70
03	8.21	5.20	2.06	1.53	5.24	1.41	.00	.68
04	8.43	5.12	.76	1.68	6.79	1.55	.00	.87
05	8.26	2.41	.34	1.63	7.03	4.17	.00	.80
06	8.19	.84	.09	1.67	7.27	5.64	.00	.89
07	8.22	.95	.33	1.78	7.04	5.43	.00	.99
08	8.20	.66	.35	1.63	7.12	5.85	.00	.96
09	8.09	1.07	.01	1.63	7.36	5.32	.00	.98
10	8.09	4.38	.52	1.43	6.96	2.24	.00	.86
11	8.23	3.90	1.36	1.44	6.25	2.80	.00	.90
12	8.35	5.32	1.85	1.43	5.82	1.51	.00	.84
avg	8.23	3.43	.92	1.56	6.52	3.15	.00	.85
sum	98.73	41.22	11.08	18.77	78.19	37.85	.00	10.21

(Million Gallons / Month)

Mon	Influent	Outfall	Secondary Effluent	South Metro Interceptor Return	Recycled Production	Distributed Recycled	Dilution Water Added Recycled	Recycled Plant Internal use
01	250.83	156.74	34.21	44.89	190.52	44.77	.03	23.23
02	234.29	176.83	64.96	41.33	144.71	13.41	.01	19.46
03	254.49	161.29	63.78	47.40	162.41	43.83	.00	21.09
04	252.78	153.57	22.66	50.36	203.67	46.52	.00	26.19
05	256.08	74.56	10.55	50.44	217.89	129.14	.00	24.79
06	245.72	25.05	2.62	50.05	218.13	169.13	.01	26.60
07	254.76	29.56	10.36	55.29	218.24	168.29	.01	30.78
08	254.35	20.40	10.70	50.52	220.69	181.33	.00	29.66
09	242.71	32.02	.16	48.95	220.93	159.72	.00	29.38
10	250.94	135.76	15.99	44.29	215.65	69.29	.00	26.58
11	246.78	117.05	40.71	43.16	187.55	84.14	.00	27.10
12	258.96	165.01	57.50	44.42	180.33	46.90	.00	25.93
avg	250.22	103.99	27.85	47.59	198.39	96.37	.01	25.90
sum	3002.69	1247.84	334.20	571.10	2380.72	1156.47	.06	310.79

A. Flows

Effluent to Ocean FLOW (mgd) 2010

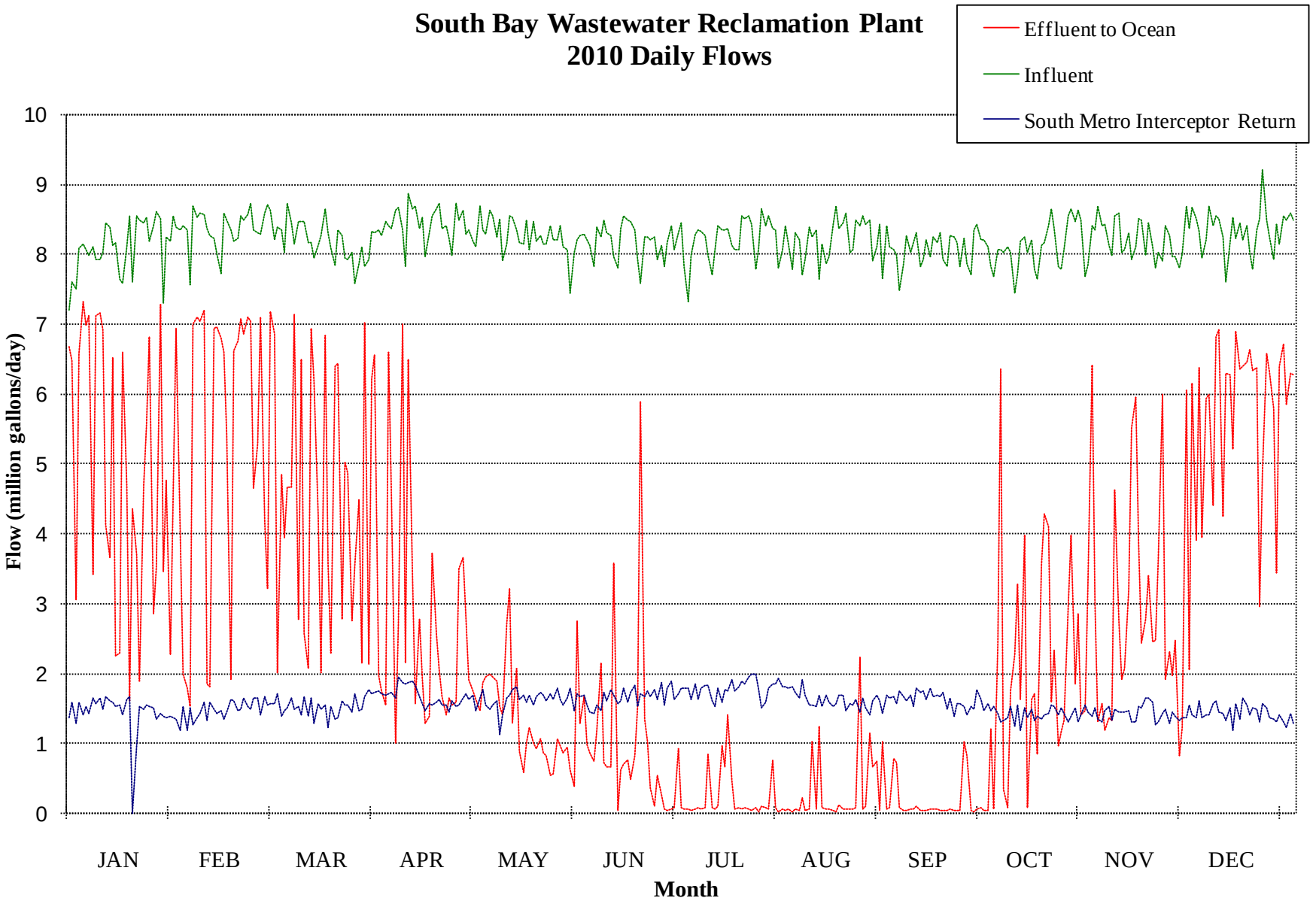
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	6.68	4.60	3.22	6.21	1.75	2.75	0.93	0.06	0.06	0.05	6.41	6.16	
2	6.47	6.93	7.17	6.56	1.62	1.29	0.09	0.04	0.08	1.20	3.02	3.90	
3	3.05	4.00	6.85	1.97	1.46	1.67	0.06	0.07	0.78	0.06	1.31	6.37	
4	6.57	1.99	2.01	1.75	1.88	0.99	0.06	0.03	0.72	2.43	1.57	3.95	
5	7.32	1.79	4.84	1.54	1.95	0.87	0.04	0.07	0.08	6.36	1.19	5.94	
6	6.97	1.52	3.95	6.59	1.99	0.74	0.06	0.04	0.04	0.35	1.37	6.00	
7	7.11	6.99	4.66	4.58	1.95	1.19	0.08	0.22	0.04	0.09	1.33	4.40	
8	3.41	7.10	4.66	1.01	1.90	2.15	0.07	0.04	0.07	1.75	4.63	6.82	
9	7.12	7.04	7.13	2.72	1.53	0.73	0.09	0.07	0.07	2.28	2.75	6.91	
10	7.15	7.19	2.77	6.99	1.40	0.66	0.85	1.03	0.11	3.27	1.92	4.25	
11	6.92	1.85	6.49	2.16	2.72	0.67	0.08	0.06	0.04	1.63	2.08	6.30	
12	4.13	1.81	2.57	6.50	3.22	3.57	0.07	1.25	0.04	3.99	3.20	6.28	
13	3.66	6.94	2.08	3.41	1.28	0.05	0.10	0.09	0.04	0.08	5.52	5.21	
14	6.52	6.96	6.93	1.56	2.08	0.63	0.97	0.07	0.06	1.63	5.96	6.90	
15	2.25	6.79	6.19	2.77	0.88	0.71	0.66	0.06	0.06	1.71	3.89	6.35	
16	2.30	6.60	4.26	1.93	0.59	0.77	1.40	0.04	0.06	0.85	2.44	6.40	
17	7.29	5.79	2.02	1.28	1.01	0.49	0.47	0.02	0.05	3.55	2.78	6.45	
18	4.68	1.92	6.83	1.38	1.22	0.83	0.07	0.12	0.05	4.28	3.40	6.63	
19	1.61	6.61	3.58	3.73	1.00	1.52	0.08	0.06	0.05	4.11	2.45	6.34	
20	4.36	6.75	2.30	2.58	0.92	5.89	0.07	0.06	0.06	1.59	2.48	6.38	
21	3.71	7.08	6.40	2.05	1.07	1.35	0.08	0.07	0.05	2.33	3.64	2.96	
22	1.89	6.86	6.43	1.67	0.86	1.02	0.07	0.07	0.05	0.96	5.99	4.87	
23	4.69	7.09	2.78	1.41	0.83	0.36	0.05	0.08	0.05	1.16	1.92	6.57	
24	5.55	7.03	5.03	1.65	0.54	0.11	0.08	2.23	1.03	1.33	2.31	6.31	
25	6.82	4.65	4.86	1.54	0.57	0.54	0.03	0.07	0.82	2.96	1.98	5.79	
26	2.85	5.28	2.75	1.58	1.07	0.26	0.10	0.10	0.04	3.99	2.48	3.44	
27	3.51	7.10	3.53	3.49	0.96	0.07	0.09	1.15	0.02	1.85	0.82	6.40	
28	7.27	4.19	4.49	3.65	0.87	0.05	0.07	0.66	0.07	2.86	1.22	6.71	
29	3.45		2.15	2.80	0.94	0.07	0.76	0.75	0.08	1.40	6.06	5.85	
30	4.76		7.02	1.91	0.62	0.08	0.08	0.05	0.04	1.46	2.05	6.30	
31	2.28		2.14		0.39		0.02	1.03		3.28		6.27	Annual Summary
Average	4.91	5.37	4.45	2.97	1.32	1.07	0.25	0.31	0.16	2.09	2.94	5.79	2.62
Minimum	1.61	1.52	2.01	1.01	0.39	0.05	0.02	0.02	0.02	0.05	0.82	2.96	0.02
Maximum	7.32	7.19	7.17	6.99	3.22	5.89	1.40	2.23	1.03	6.36	6.41	6.91	7.32
Total	152.35	150.45	138.09	88.97	41.07	32.08	7.73	9.76	4.81	64.84	88.17	179.41	958

INFLUENT FLOW (mgd) 2010

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	7.21	8.54	8.71	8.33	8.19	8.22	8.32	8.06	8.42	8.12	8.40	8.67	
2	7.62	8.39	8.62	8.32	8.12	8.26	8.45	8.40	8.12	7.82	8.36	8.51	
3	7.52	8.36	8.20	8.34	8.69	8.29	7.84	8.17	8.07	7.68	8.69	8.33	
4	8.09	8.40	8.39	8.27	8.36	8.20	7.33	7.79	7.99	8.08	8.42	7.95	
5	8.15	8.35	8.36	8.47	8.29	8.14	7.99	8.30	7.50	8.06	8.43	8.20	
6	8.08	7.58	8.03	8.42	8.62	7.84	8.29	8.22	7.88	8.02	8.14	8.68	
7	7.99	8.69	8.72	8.38	8.54	8.39	8.35	7.71	8.27	8.11	7.99	8.42	
8	8.12	8.53	8.45	8.63	8.24	8.25	8.33	7.94	8.03	8.02	8.55	8.56	
9	7.92	8.58	8.15	8.67	8.51	8.49	8.28	8.39	8.16	7.46	8.58	8.52	
10	7.93	8.57	8.47	8.34	7.91	8.30	8.00	8.24	8.32	7.73	8.02	8.24	
11	8.04	8.37	8.47	7.82	8.15	8.27	7.72	8.35	7.82	8.19	8.08	7.61	
12	8.45	8.26	8.47	8.86	8.54	7.98	8.07	7.66	7.93	8.25	8.30	8.17	
13	8.39	8.23	8.18	8.64	8.53	7.81	8.40	8.15	8.20	8.02	7.92	8.53	
14	8.14	8.01	8.18	8.68	8.35	8.37	8.34	7.87	7.97	8.20	8.12	8.23	
15	8.17	7.74	7.95	8.37	8.18	8.54	8.35	7.98	8.24	7.78	8.52	8.46	
16	7.64	8.60	8.14	8.53	8.15	8.48	8.37	8.43	8.16	7.66	8.50	8.22	
17	7.59	8.48	8.26	7.97	8.49	8.47	8.14	8.68	8.32	8.14	8.00	8.42	
18	8.11	8.34	8.64	8.31	8.08	8.35	8.06	8.38	7.92	8.18	8.44	8.02	
19	8.54	8.19	8.31	8.55	8.47	7.94	8.06	8.44	7.83	8.42	8.12	7.78	
20	7.61	8.23	8.09	8.65	8.19	7.59	8.56	8.60	8.27	8.65	7.81	8.36	
21	8.55	8.56	7.86	8.73	8.27	8.24	8.51	8.03	8.25	8.38	8.03	8.51	
22	8.49	8.48	8.35	8.37	8.15	8.25	8.54	8.07	8.18	7.82	7.91	9.21	
23	8.46	8.57	8.26	8.42	8.15	8.22	8.43	8.49	7.84	7.79	8.40	8.50	
24	8.53	8.72	7.95	8.23	8.41	8.25	7.80	8.42	8.23	8.07	8.26	8.24	
25	8.19	8.34	7.93	7.99	8.21	7.94	8.09	8.55	7.87	8.55	7.96	7.92	
26	8.42	8.31	8.02	8.72	8.21	8.14	8.66	8.43	7.71	8.64	7.96	8.43	
27	8.61	8.29	7.60	8.50	8.40	7.84	8.42	8.49	8.36	8.47	7.81	8.15	
28	8.52	8.58	7.88	8.62	8.11	8.18	8.54	7.91	8.43	8.62	8.01	8.56	
29	7.32	8.71	8.10	8.29	8.08	8.41	8.37	8.12	8.21	8.48	8.68	8.50	
30	8.24		7.83	8.36	7.45	8.07	8.34	8.43	8.21	7.68	8.37	8.58	
31	8.19		7.92		8.04		7.81	7.65		7.85		8.48	Annual Summary
Average	8.09	8.37	8.21	8.43	8.26	8.19	8.22	8.20	8.09	8.09	8.23	8.35	8.23
Minimum	7.21	7.58	7.60	7.82	7.45	7.59	7.33	7.65	7.50	7.46	7.81	7.61	7.21
Maximum	8.61	8.72	8.72	8.86	8.69	8.54	8.66	8.68	8.43	8.65	8.69	9.21	9.21
Total	250.83	243.00	254.49	252.78	256.08	245.72	254.76	254.35	242.71	250.94	246.78	258.96	3,011

Blended Sludge Discharge to South Metro Interceptor (mgd) 2010

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	1.37	1.38	1.56	1.72	1.70	1.72	1.71	1.82	1.70	1.57	1.40	1.41	
2	1.60	1.36	1.57	1.74	1.47	1.67	1.80	1.82	1.66	1.47	1.51	1.37	
3	1.30	1.20	1.58	1.76	1.65	1.69	1.80	1.80	1.68	1.54	1.35	1.61	
4	1.59	1.54	1.72	1.72	1.78	1.55	1.79	1.81	1.57	1.44	1.32	1.38	
5	1.42	1.19	1.40	1.70	1.56	1.45	1.64	1.74	1.75	1.31	1.48	1.41	
6	1.54	1.52	1.47	1.71	1.49	1.44	1.86	1.65	1.67	1.33	1.53	1.41	
7	1.44	1.28	1.52	1.73	1.56	1.55	1.64	1.91	1.62	1.38	1.34	1.58	
8	1.66	1.37	1.65	1.66	1.61	1.48	1.79	1.69	1.70	1.53	1.50	1.61	
9	1.57	1.44	1.49	1.96	1.13	1.74	1.84	1.56	1.53	1.25	1.46	1.45	
10	1.66	1.60	1.54	1.88	1.42	1.62	1.84	1.56	1.79	1.55	1.45	1.44	
11	1.50	1.34	1.42	1.86	1.65	1.78	1.62	1.53	1.73	1.20	1.45	1.34	
12	1.67	1.59	1.67	1.87	1.69	1.69	1.53	1.69	1.76	1.51	1.48	1.51	
13	1.61	1.49	1.40	1.90	1.77	1.58	1.80	1.53	1.64	1.38	1.32	1.20	
14	1.60	1.44	1.66	1.83	1.81	1.62	1.60	1.70	1.80	1.50	1.31	1.57	
15	1.53	1.48	1.29	1.67	1.63	1.80	1.77	1.60	1.67	1.34	1.53	1.35	
16	1.56	1.36	1.57	1.57	1.70	1.59	1.75	1.54	1.70	1.40	1.52	1.66	
17	1.41	1.46	1.50	1.47	1.60	1.73	1.91	1.57	1.68	1.36	1.65	1.56	
18	1.63	1.64	1.55	1.57	1.69	1.83	1.76	1.70	1.74	1.41	1.65	1.41	
19	1.67	1.61	1.24	1.56	1.56	1.54	1.81	1.69	1.50	1.43	1.60	1.51	
20	0.00	1.48	1.54	1.59	1.67	1.72	1.89	1.47	1.65	1.55	1.27	1.50	
21	0.97	1.49	1.35	1.63	1.74	1.67	1.85	1.57	1.40	1.53	1.31	1.31	
22	1.53	1.66	1.38	1.55	1.69	1.75	1.96	1.55	1.58	1.41	1.44	1.58	
23	1.49	1.53	1.61	1.55	1.62	1.67	2.00	1.63	1.57	1.51	1.49	1.51	
24	1.56	1.49	1.56	1.45	1.72	1.77	1.99	1.46	1.54	1.43	1.30	1.38	
25	1.53	1.65	1.55	1.62	1.64	1.64	1.78	1.65	1.42	1.31	1.46	1.36	
26	1.51	1.65	1.46	1.54	1.79	1.87	1.51	1.51	1.53	1.40	1.39	1.31	
27	1.36	1.41	1.72	1.55	1.63	1.56	1.60	1.42	1.49	1.51	1.34	1.42	
28	1.44	1.68	1.48	1.65	1.56	1.80	1.80	1.61	1.77	1.32	1.38	1.31	
29	1.40		1.50	1.71	1.65	1.90	1.86	1.69	1.63	1.42	1.38	1.23	
30	1.37		1.67	1.64	1.79	1.63	1.86	1.62	1.48	1.55	1.55	1.43	
31	1.40		1.78		1.47		1.93	1.43		1.45		1.30	Annual Summary
Average	1.45	1.48	1.53	1.68	1.63	1.67	1.78	1.63	1.63	1.43	1.44	1.43	1.56
Minimum	0.00	1.19	1.24	1.45	1.13	1.44	1.51	1.42	1.40	1.20	1.27	1.20	0.00
Maximum	1.67	1.68	1.78	1.96	1.81	1.90	2.00	1.91	1.80	1.57	1.65	1.66	2.00
Total	44.89	41.33	47.40	50.36	50.44	50.05	55.29	50.52	48.95	44.29	43.16	44.42	571

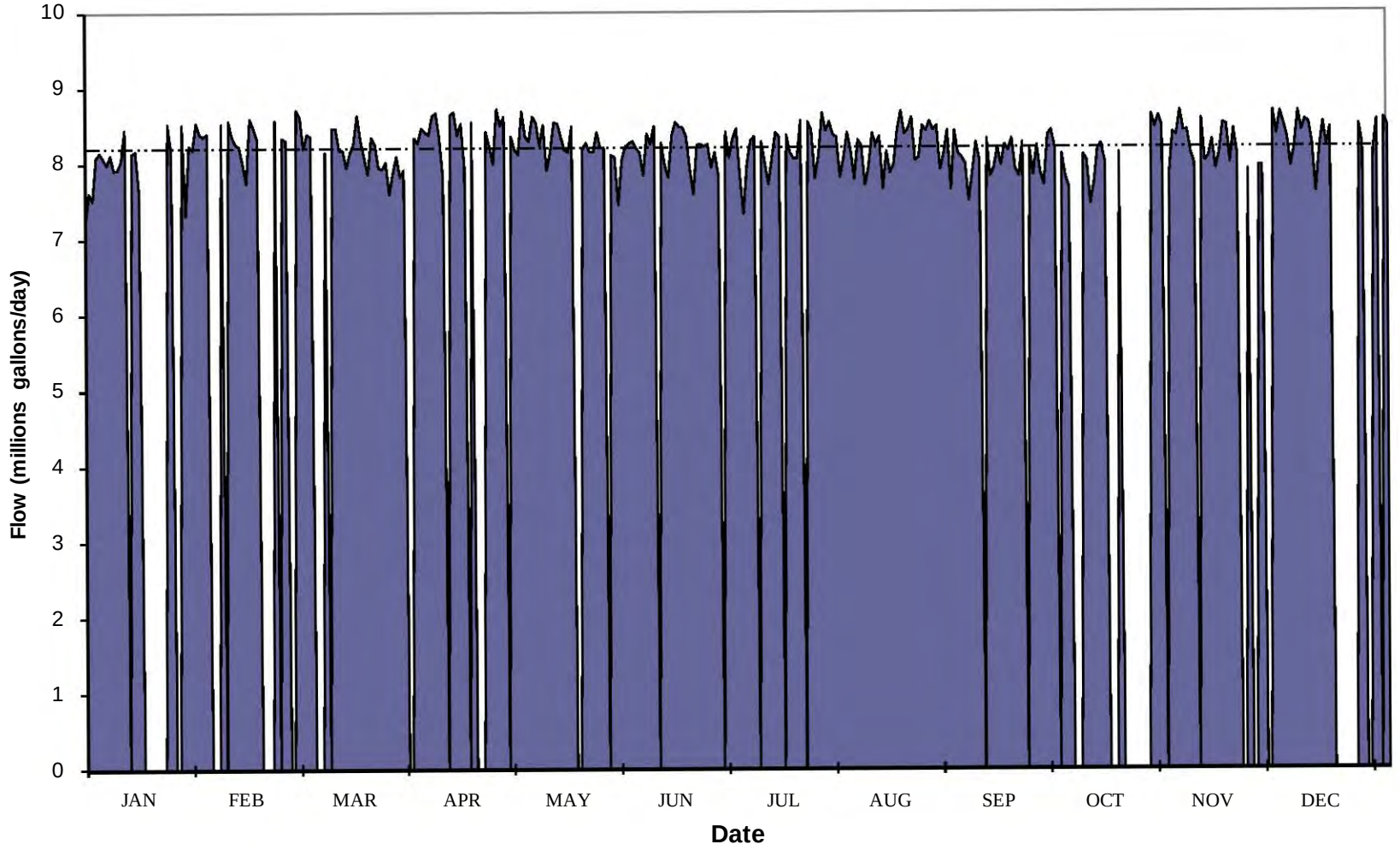

South Bay Wastewater Reclamation Plant
2010 Daily Flows
Effluent to Ocean
Influent
South Metro Interceptor Return
Flow (million gallons/day)
0
1
2
3
4
5
6
7
8
9
10
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Month

Dry Weather Flows 2010

Influent

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	7.21	8.54	8.71		8.19	8.22	8.32	8.06	8.42	8.12	8.40	8.67	
2	7.62	8.39	8.62	8.32	8.12	8.26	8.45	8.40	8.12	7.82	8.36	8.51	
3	7.52	8.36	8.20	8.34	8.69	8.29	7.84	8.17	8.07	7.68	8.69	8.33	
4	8.09	8.40		8.27	8.36	8.20	7.33	7.79	7.99		8.42	7.95	
5	8.15		8.36		8.29	8.14	7.99	8.30	7.50		8.43	8.20	
6	8.08			8.42	8.62	7.84	8.29	8.22	7.88		8.14	8.68	
7	7.99			8.38	8.54	8.39	8.35	7.71	8.27	8.11	7.99	8.42	
8	8.12			8.63	8.24	8.25		7.94	8.03	8.02		8.56	
9	7.92		8.15	8.67	8.51	8.49	8.28	8.39		7.46	8.58	8.52	
10	7.93	8.57		8.34	7.91		8.00	8.24	8.32	7.73	8.02	8.24	
11	8.04	8.37	8.47	7.82	8.15	8.27	7.72	8.35	7.82	8.19	8.08	7.61	
12	8.45	8.26	8.47		8.54	7.98	8.07	7.66	7.93	8.25	8.30	8.17	
13		8.23	8.18	8.64	8.53	7.81	8.40	8.15	8.20	8.02	7.92	8.53	
14	8.14	8.01	8.18	8.68	8.35	8.37	8.34	7.87	7.97		8.12	8.23	
15	8.17	7.74	7.95	8.37	8.18	8.54		7.98	8.24		8.52	8.46	
16	7.64	8.60	8.14	8.53	8.15	8.48	8.37	8.43	8.16		8.50		
17		8.48	8.26	7.97	8.49	8.47	8.14	8.68	8.32	8.14	8.00		
18		8.34	8.64			8.35	8.06	8.38	7.92		8.44		
19			8.31	8.55		7.94	8.06	8.44	7.83		8.12		
20			8.09		8.19	7.59	8.56	8.60	8.27				
21			7.86		8.27	8.24		8.03					
22			8.35		8.15	8.25	8.54	8.07	8.18		7.91		
23		8.57	8.26	8.42	8.15	8.22	8.43	8.49	7.84			8.50	
24	8.53		7.95	8.23	8.41	8.25	7.80	8.42	8.23			8.24	
25	8.19		7.93	7.99	8.21	7.94	8.09	8.55	7.87		7.96		
26		8.31	8.02	8.72	8.21	8.14	8.66	8.43	7.71	8.64	7.96		
27			7.60	8.50		7.84	8.42	8.49	8.36	8.47		8.15	
28	8.52		7.88		8.11		8.54	7.91	8.43	8.62		8.56	
29	7.32		8.10		8.08	8.41	8.37	8.12	8.21	8.48	8.68		
30	8.24		7.83	8.36	7.45	8.07	8.34	8.43			8.37	8.58	
31	8.19		7.92		8.04		7.81	7.65		7.85	8.67	8.48	Annual Summary
Average	8.00	8.34	8.17	8.39	8.25	8.19	8.20	8.20	8.08	8.10	8.27	8.36	8.21
Minimum	7.21	7.74	7.60	7.82	7.45	7.59	7.33	7.65	7.50	7.46	7.91	7.61	7.21
Maximum	8.53	8.60	8.71	8.72	8.69	8.54	8.66	8.68	8.43	8.64	8.69	8.68	8.72
Total	168	125	212	176	231	229	230	254	218	130	199	176	2348

South Bay Wastewater Reclamation Plant
2010 Daily Influent Dry Flows

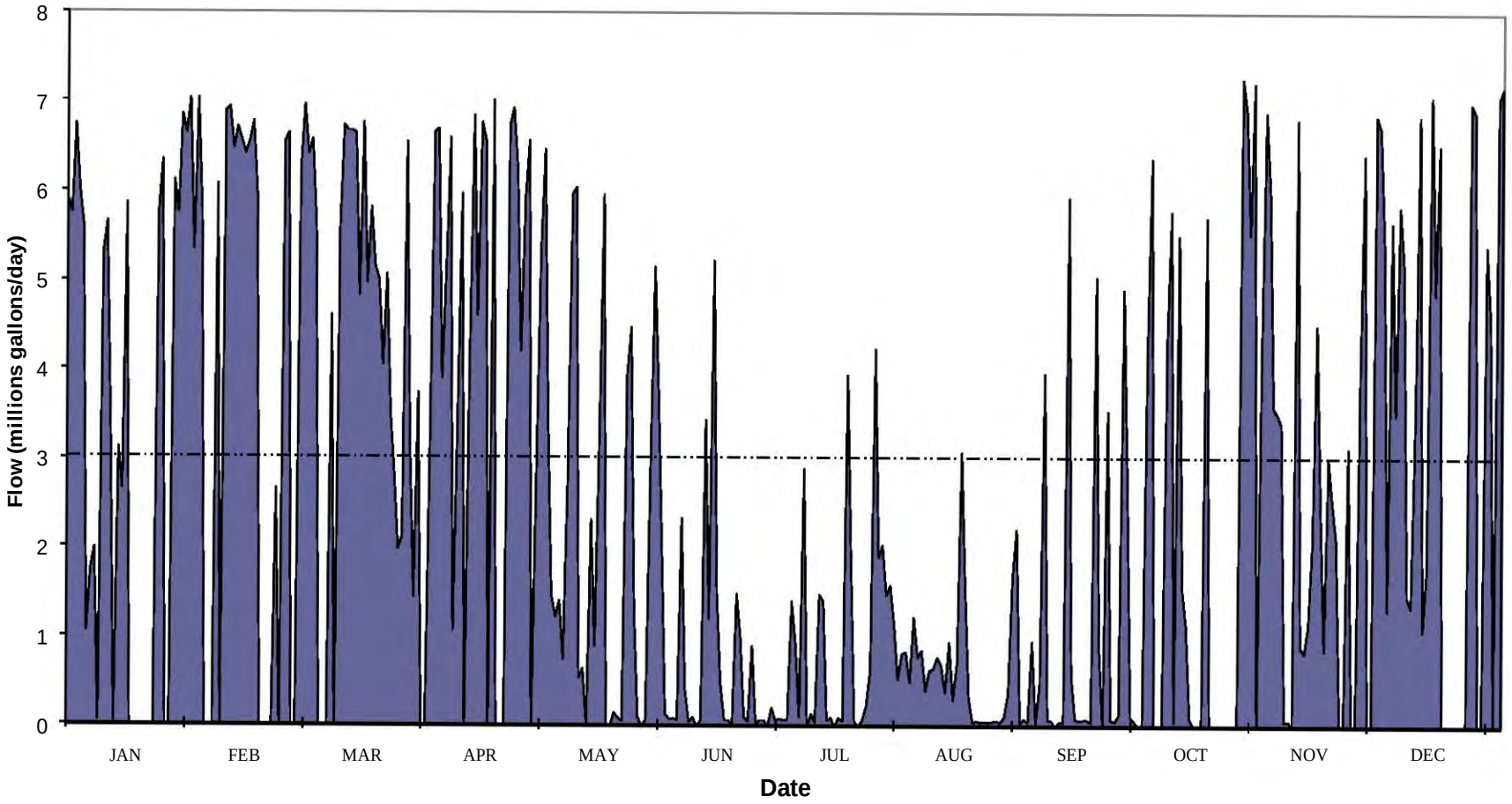


Dry Weather Flows 2010

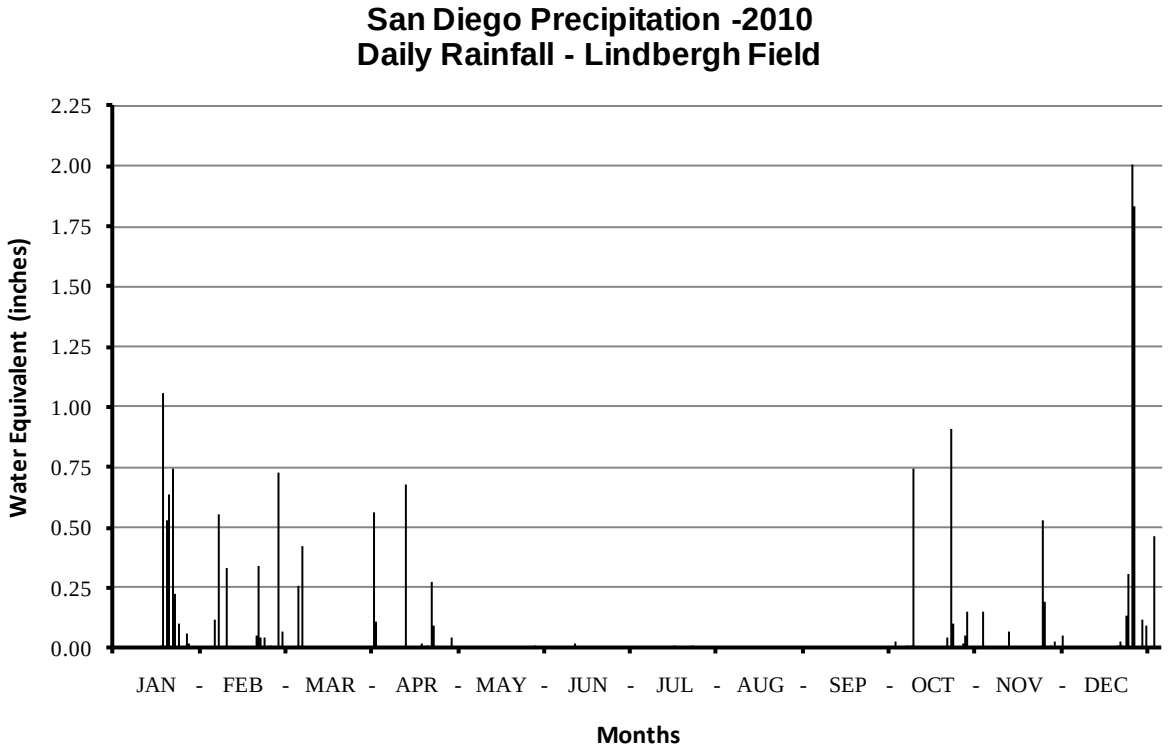
Effluent to Ocean

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	5.91	7.05	6.27		5.32	1.99	0.09	0.82	0.09	0.03	6.90	5.43	
2	5.76	5.35	6.98	6.70	6.48	0.14	0.07	0.84	0.05	4.27	6.01	1.31	
3	6.76	7.05	6.43	3.20	3.38	0.08	0.08	0.50	0.96	6.38	3.59	5.66	
4	6.02	5.79		6.67	1.47	0.09	1.41	1.23	0.04		3.51	3.51	
5	5.61		5.61		1.23	0.07	0.93	0.78	0.47		3.40	5.84	
6	1.06			3.91	1.41	2.34	0.11	0.86	3.97		0.06	5.16	
7	1.75			5.16	0.75	0.42	2.90	0.41	0.08	4.39	0.07	1.46	
8	2.00			6.61	2.75	0.05		0.63	0.07	5.79		1.34	
9	0.06		4.62	1.07	5.98	0.10	0.14	0.65		0.06	6.82	3.45	
10	5.32	6.91		3.47	6.05		0.05	0.78	0.06	5.52	0.90	6.86	
11	5.67	6.95	5.61	5.98	0.54	0.07	1.48	0.69	0.05	1.56	0.83	1.08	
12	3.40	6.49	6.75		0.65	3.44	1.41	0.39	5.94	1.13	1.13	1.76	
13		6.73	6.69	4.16	0.03	1.21	0.07	0.95	0.58	0.10	2.04	7.08	
14	3.13	6.58	6.69	6.86	2.32	5.23	0.10	0.30	0.09		4.51	4.86	
15	2.66	6.43	6.66	4.61	0.90	1.49		0.71	0.07		2.49	6.53	
16	5.87	6.57	4.84	6.78	3.29	0.49	0.10	3.08	0.08		0.86		
17		6.79	6.78	6.57	5.97	0.07	0.06	1.58	0.08	5.72	3.00		
18		5.96	4.98			0.07	3.95	0.33	0.05		2.52		
19			5.83	7.03		0.01	1.85	0.05	5.05		2.10		
20			5.17		0.15	1.49	0.06	0.07	0.88				
21			5.01		0.09	1.01		0.05					
22			4.06		0.06	0.10	0.07	0.06	3.55		3.13		
23		2.67	5.08	6.75	3.95	0.06	0.23	0.05	0.08			7.00	
24	5.78		3.53	6.94	4.48	0.90	0.63	0.06	0.06			6.90	
25	6.36		2.83	6.26	1.30	0.03	4.24	0.07	0.13		4.01		
26		6.66	1.99	4.21	0.11	0.07	1.90	0.05	4.91	7.28	6.42		
27			2.12	5.95		0.07	2.04	0.11	2.78	6.92		5.40	
28	6.13		6.56		0.07		1.48	0.37	0.11	5.53		4.56	
29	5.77		3.10		2.88	0.21	1.59	1.67	0.06	7.23	6.86		
30	6.87		1.45	2.76	5.16	0.07	1.15	2.22			6.72	7.06	
31	6.66		3.75		3.74		0.53	0.04		4.27	5.43	7.18	Annual Summary
Average	4.69	6.27	4.98	5.32	2.52	0.76	1.03	0.66	1.12	4.14	3.47	4.73	2.99
Minimum	0.06	2.67	1.45	1.07	0.03	0.01	0.05	0.04	0.04	0.03	0.06	1.08	0.01
Maximum	6.87	7.05	6.98	7.03	6.48	5.23	4.24	3.08	5.94	7.28	6.90	7.18	7.28
Total	98.6	94.0	129	112	70.5	21.4	28.7	20.4	30.3	66.2	83.3	99.4	854

South Bay Wastewater Reclamation Plant
2010 Daily Effluent to Ocean Dry Flows



B. Rain Days


San Diego Precipitation -2010
Daily Rainfall - Lindbergh Field
Water Equivalent (inches)
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
JAN - FEB - MAR - APR - MAY - JUN - JUL - AUG - SEP - OCT - NOV - DEC
Months

Annual Precipitation
2010 Rainfall

Total Annual precipitation=16.26 **Maximum=2.01** **Trace=0**

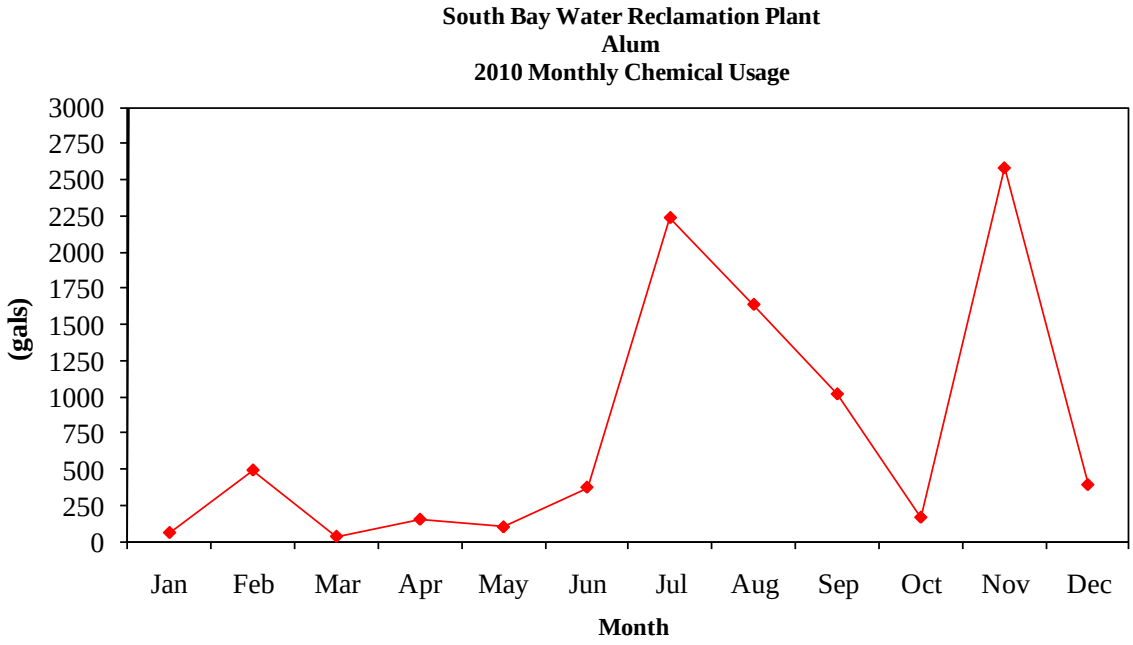
First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Date	Rain	Date	Rain	Date	Rain	Date	Rain
13-Jan-10	T	1-Apr-10	0.56	8-Jul-10	T	4-Oct-10	0.01
17-Jan-10	0.01	5-Apr-10	0.11	15-Jul-10	0.01	5-Oct-10	0.01
18-Jan-10	1.06	12-Apr-10	0.68	21-Jul-10	0.01	6-Oct-10	0.74
19-Jan-10	0.53	18-Apr-10	0.02	9-Sep-10	T	14-Oct-10	T
20-Jan-10	0.64	20-Apr-10	0.01	21-Sep-10	T	15-Oct-10	T
21-Jan-10	0.74	21-Apr-10	0.27	30-Sep-10	0.03	16-Oct-10	T
22-Jan-10	0.22	22-Apr-10	0.09			18-Oct-10	0.04
23-Jan-10	0.1	28-Apr-10	0.04			19-Oct-10	0.91
26-Jan-10	0.06	29-Apr-10	T			20-Oct-10	0.1
27-Jan-10	0.02	18-May-10	T			21-Oct-10	T
5-Feb-10	0.12	19-May-10	T			22-Oct-10	T
6-Feb-10	0.55	27-May-10	0.01			23-Oct-10	0.02
7-Feb-10	T	10-Jun-10	0.02			24-Oct-10	0.05
9-Feb-10	0.33	28-Jun-10	T			25-Oct-10	0.15
19-Feb-10	0.05					30-Oct-10	0.15
20-Feb-10	0.34					8-Nov-10	0.07
21-Feb-10	0.04					20-Nov-10	0.53
22-Feb-10	0.04					21-Nov-10	0.19
24-Feb-10	0.01					23-Nov-10	0.01
25-Feb-10	T					24-Nov-10	0.03
27-Feb-10	0.73					27-Nov-10	0.05
28-Feb-10	0.07					28-Nov-10	T
4-Mar-10	T					16-Dec-10	0.01
6-Mar-10	0.26					17-Dec-10	0.03
7-Mar-10	0.42					18-Dec-10	0.01
8-Mar-10	T					19-Dec-10	0.13
10-Mar-10	T					20-Dec-10	0.31
						21-Dec-10	2.01
						22-Dec-10	1.83
						25-Dec-10	0.12
						26-Dec-10	0.09
						29-Dec-10	0.46
TOTALS	6.34		1.81		0.05		8.06

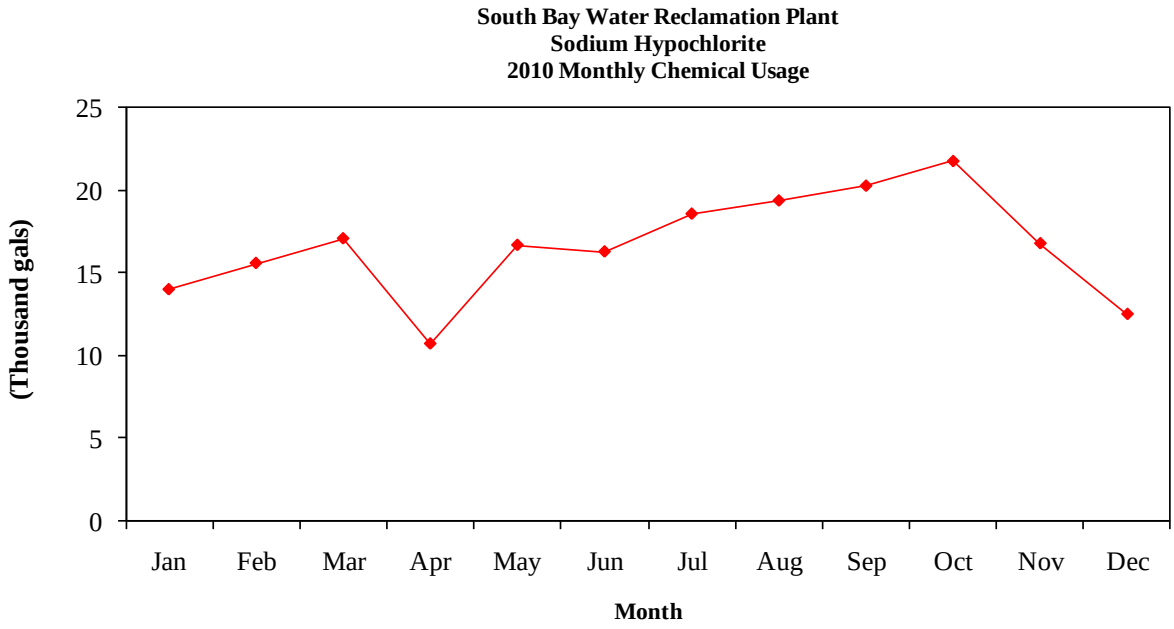
C. Chemical Report

South Bay Water Reclamation Plant - Annual Chemical Usage Report

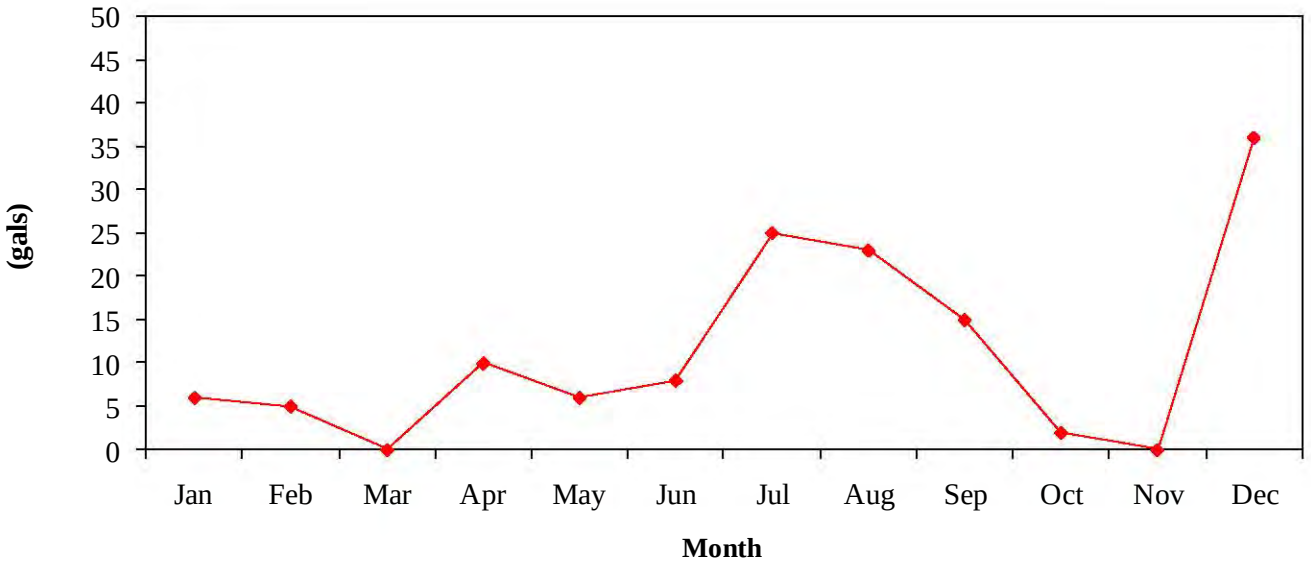
2010

DATE	Polymer Catalytic Gallons	Hypochlorite Gallons	Alum Chloride Gallons	Sodium Hydroxide Gallons
Jan-10	6	13,971	58	1,531
Feb-10	5	15,579	491	1,678
Mar-10	0	17,110	32	2,235
Apr-10	10	10,689	150	892
May-10	6	16,713	97	1,156
Jun-10	8	16,334	372	928
Jul-10	25	18,636	2,239	1,184
Aug-10	23	19,435	1,638	1,042
Sep-10	15	20,309	1,018	4,866
Oct-10	2	21,774	164	1,831
Nov-10	0	16,792	2,583	1,661
Dec-10	36	12,518	390	1,100
AVG	14	16,655	769	1,675
SUM	136	199,860	9,232	20,104

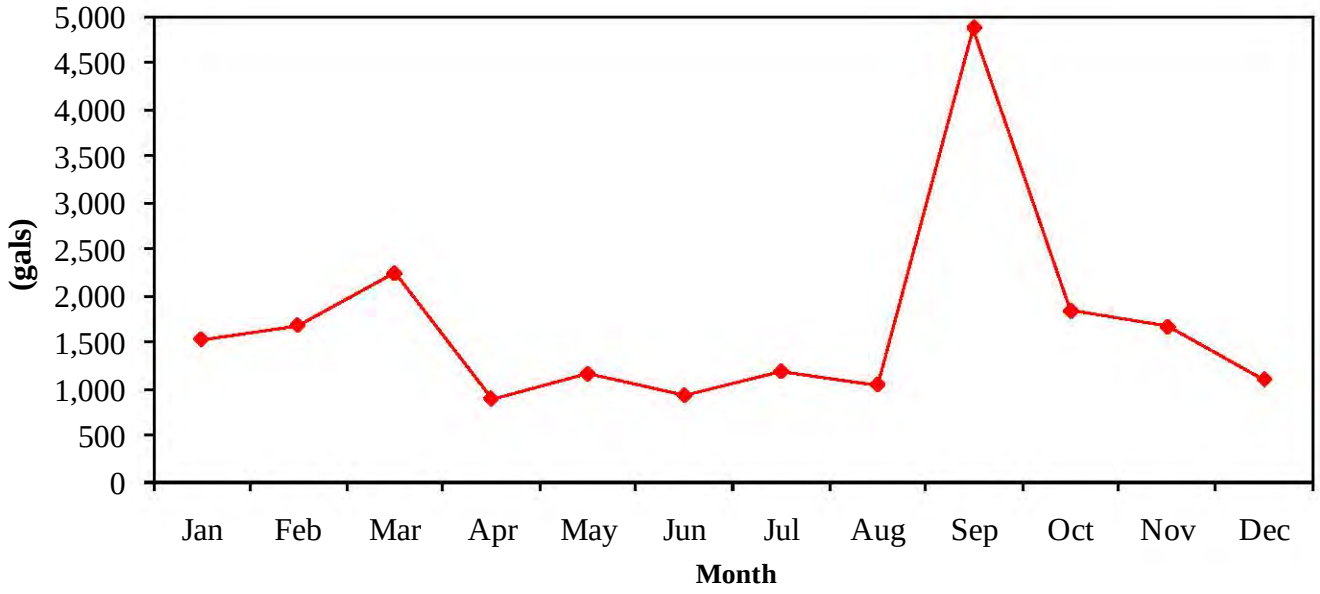

South Bay Water Reclamation Plant
Alum
2010 Monthly Chemical Usage
(gals)
3000
2750
2500
2250
2000
1750
1500
1250
1000
750
500
250
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


South Bay Water Reclamation Plant
Sodium Hypochlorite
2010 Monthly Chemical Usage
(Thousand gals)
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

South Bay Water Reclamation Plant
Polymer Emulsion Catalytic
2010 Monthly Chemical Usage



South Bay Water Reclamation Plant
Caustic
2010 Monthly Chemical Usage



D. Facilities Out of Service Report

2010 SBWRP FACILITIES OUT OF SERVICE REPORT

FACILITIES OOS BY DATE

Bar Screens

	FROM	TO	REASON
Bar Screen 1	7/26/2010	7/26/2010	Large amount of rags in channel at screen, rake tripped.
Bar Screen 2	6/3/2010	6/16/2010	During PM noted motor brake not holding rake in mid travel to facilitate lubrication of sprockets and guide rail bearings. Repair/replace motor brake as necessary to restore proper operation.
Bar Screen 2	6/15/2010	6/16/2010	Assist Pt's in troubleshooting rake/brake failure on bar screen #2

Primary Sedimentation

	FROM	TO	REASON
Pri Sed Tank 1	1/26/2010	2/2/2010	Please lubricate drain valves to all (5) primary sedimentation tanks (SB10ST001-SB10ST005). Valves appear stuck o difficult to open from minimal normal use.
Pri Sed Tank 1	4/13/2010	4/13/2010	Please investigate why the shear pin failed and correct same.
Pri Sed Tank 1	6/11/2010	8/18/2010	Drive has tripped each evening over past several days, please inspect/repair. Trips 1 time between 5 pm and 8 pm and has to be reset locally.
Pri Sed Tank 1	7/27/2010	9/1/2010	Please inspect and repair. Draw-off valve to Primary sed tank #1 fails to close in Auto. Operating within sludge removal strategy while in manual.
Pri Sed Tank 2	1/26/2010	3/15/2010	Please replace/repair scum trough on Primary Sed tank #2. Gearing appears worn failing to dip trough below waterline.
Pri Sed Tank 2	1/27/2010	3/15/2010	Remove and replace flight chain using stock#4350
Pri Sed Tank 2	1/28/2010	1/28/2010	Drain valve not closing, fix so valve can work as designed.
Pri Sed Tank 2	2/2/2010	2/25/2010	Fabricate new shaft from SS
Pri Sed Tank 2	10/20/2010	10/20/2010	Scum trough is frozen in place and will not operate. Make all repairs needed to return scum trough to an operational status.
Pri Sed Tank 4	1/26/2010	1/28/2010	Please inspect and repair. Valve (10-MOV-7053), unable to clear Gen. fail. Valve has been exercised but still won't clear Gen fail. This is the crossover valve between tank 3 and 4.

Pri Sed Tank 4	9/30/2010	10/7/2010	Prefabricate scum trough ring gear. Prefabricate and modify ring gear using existing saddle. New ring provided by South Bay crew.
Pri Sed Tank 4	10/7/2010	10/18/2010	Prep, prime & Paint the ring gear

Aeration Basins

	FROM	TO	REASON
Aer Basin 1	4/12/2010	8/23/2010	Getting Gen Fail alarm on A Basin 1 air valve, basin out of service and power off to valve, please repair.
Aer Basin 1	12/13/2010	12/13/2010	Please inspect, install and calibrate D.O. probes for Aeration Basin #1
Aer Basin 1	12/14/2010	12/14/2010	The flow control valve has failed to operate properly in both DCS and Local. Please troubleshoot and repair SB15FCV310
Aer Basin 2	1/27/2010	1/28/2010	Actuator SB15FCV320 is not finding set point but modulating from 0 to 100 %. Please troubleshoot and repair using laptop and EIM program.
Aer Basin 2	2/25/2010	2/25/2010	Air valve to A Basin 2 goes into GEN FAIL alarm, reset 2 times.
Aer Basin 2	10/8/2010	10/8/2010	Air valve goes to Gen Fail when valve in Auto, Callout for Electrician.
Aer Basin 3	2/10/2010	7/1/2010	Remove old D.O. analyzers and probes from zone 2 and 4 and install new ones. Set up parameters on electronics and calibrate.
Aer Basin 3	8/26/2010	8/26/2010	Troubleshoot and repair flow control valve SB15-FCV-330. The control valve is not controlling the air properly and is in gen fail.
Aer Basin 3	12/2/2010	12/8/2010	Please inspect and repair. Aeration Basin #3 (15-FCV-330) will not operate in manual or auto.
Aer Basin 3	12/27/2010	12/27/2010	Please inspect and repair. Anoxic mixer (15-A-233) in Aeration Basin 3, Zone 3 failed on moisture and Temp Hi
Aer Basin 5	3/3/2010	3/4/2010	Troubleshoot and repair 15FCV350 GEN FAIL AND DEVIATION alarm.
Aer Basin 6	10/25/2010	11/16/2010	Air valve goes to Gen Fail and does not show correct position between DCS and valve, valve running in manual.

Secondary Clarifiers

	FROM	TO	REASON
			All Secondary Clarifiers were in service

Tertiary Filters

	FROM	TO	REASON
Ter. Filter 3	1/8/2010	1/8/2010	Work with Contractor (Valve Automation and Controls) removing and replacing the effluent valve actuator (SB25FCV233) backplane. VAC will repair the faulty backplane in order to eliminate the positioning faults. Work is being performed under warranty.
Ter. Filter 3	2/24/2010	2/24/2010	Assist Valve Automation contractor on modifying filter control valve SB25FCV233
Ter. Filter 3	4/12/2010	4/28/2010	Please inspect and repair. Filter 3 keeps alarming on Hi-Hi level and high differential pressure. Filter #3 (25-FCV-233) FLE not adjusting to keep level and differential pressure out of alarm. FLI valve has a negative torque percentage.
Ter. Filter 4	2/18/2010	2/18/2010	Assist Valve Automation in modification to actuator SB25FCV243.
Ter. Filter 5	3/10/2010	3/23/2010	Please assist Valve Automation tech in modifying actuator SB25FCV253 on filtration #5.
Ter. Filter 5	10/14/2010	10/15/2010	Multiple GEN FAIL alarm in the secondary and tertiary areas associated with 2 breakers. No Power to valves. Please troubleshoot and repair.
Ter. Filter 5	10/20/2010	10/20/2010	Please inspect and repair #5 Filter Drain Valve (25-MOV-254). Valve actuator shows remote control but DCS shows in LOCAL. Maybe related to Work Order 10-027208-000
Ter. Filter 6	2/24/2010	3/23/2010	Assist Valve Automation contractor on modifying filter control valve SB25FCV263
Ter. Filter 6	8/30/2010	9/6/2010	Waste valve 25 MOV 265 not closing fully causing gen fail alarm and trips strategy for filter backwash.
Ter. Filter 7	4/22/2010	4/22/2010	Help contractor modify valve.

FACILITIES OOS BY PROCESS

Bar Screens

	DATES OOS
Bar Screen 1	7/26/2010 - 7/26/2010
Bar Screen 2	6/3/2010 - 6/16/2010; 6/15/2010 - 6/16/2010

Primary Sedimentation

	DATES OOS
Pri Sed Tank 1	1/26/2010 - 2/2/2010; 4/13/2010 - 4/13/2010; 6/11/2010 - 8/18/2010; 7/27/2010 - 9/1/2010
Pri Sed Tank 2	1/26/2010 - 3/15/2010; 1/27/2010 - 3/15/2010; 1/28/2010 - 1/28/2010; 2/2/2010 - 2/25/2010; 10/20/2010 - 10/20/2010
Pri Sed Tank 4	1/26/2010 - 1/28/2010; 9/30/2010 - 10/7/2010;10/7/2010 - 10/18/2010

Aeration Basins

	DATES OOS
Aer Basin 1	4/12/2010 - 8/23/2010; 12/13/2010 - 12/13/2010; 12/14/2010 - 12/14/2010
Aer Basin 2	1/27/2010 - 1/28/2010; 2/25/2010 - 2/25/2010; 10/8/2010 - 10/8/2010
Aer Basin 3	2/10/2010 - 7/1/2010; 8/26/2010 - 8/26/2010; 12/2/2010 - 12/8/2010; 12/27/2010 - 12/27/2010
Aer Basin 5	3/3/2010 - 3/4/2010
Aer Basin 6	10/25/2010 - 11/16/2010

Secondary Clarifiers

	DATES OOS
	All Secondary Clarifiers were in service.

Tertiary Filters

	DATES OOS
Ter. Filter 3	1/8/2010 - 1/8/2010; 2/24/2010 - 2/24/2010; 4/12/2010 - 4/28/2010
Ter. Filter 4	2/18/2010 - 2/18/2010
Ter. Filter 5	3/10/2010 - 3/23/2010; 10/14/2010 - 10/15/2010; 10/20/2010 - 10/20/2010
Ter. Filter 6	2/24/2010 - 3/23/2010; 8/30/2010 - 9/6/2010
Ter. Filter 7	4/22/2010 - 4/22/2010