

Discharge Transgression	
Discharge Limit Exceeded	
nr = no recorded data	
suspect / estimated value	

1 Discharge Limits - Monthly Tests from Wetland/Rockfilter Outlet

Parameter	Unit	Consent value		Median	10 Percentile	90 Percentile	Average	Maximum	Monthly Data																		
		90 Percentile	Maximum						Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	4 Feb 2009	12 Feb 2009	17 Feb 2009	23 Feb 2009	4 Mar 2009	11 Mar 2009	24 Mar 2009	Apr-09	May-09	Jun-09		
pH between 6 - 9				7.21	7.066	7.316	7.20	7.40	7.21	7.11	7.11	7.05	7.07	7.05	7.16	7.21	7.25	7.4	7.13	7.24	7.23	7.16	7.31	7.29	7.28	7.34	7.28
Ammonia NH4-N (median from 10)	g/cum	10	15	15	6.82	26.2	15.92	33.00	33	20	20	20	19	23	26	27	5.4	6.9	9.6	7	6.5	11	12	12	9.1	15	20
Nitrate NO3 (median from 10)	g/cum	5	8	0.0055	0.001	0.0338	0.01	0.06	0.019	0.01	0.057	0.057	0.002	0.028	0.02	0.027	0.006	0.0023	0.0055	0.009	0.001	0.001	0.0021	0.001	0.001	0.0019	0.002
DRP	g/cum	5	10	5.4	3.5	6.12	5.02	6.50	5.6	3.6	3.1	3.1	3.6	4	4.3	5.7	5.4	6.1	5.5	6.2	5.8	6.5	5.2	6.1	5.9	4.8	4.9
cbOD5 (median from 10)	g/cum	20	50	16.0	12.8	26.0	19.74	60.00	16	12	13	13	16	15	12	26	19	24	22	60	26	13	20	25	13	13	
SS (median from 10)	g/cum	30	50	39	5.34	112	49.05	120.00	10	5.5	4.7	4.7	15	19	23	47	110	120	89	86	38	67	48	59	39	27	
FC (median from 5)	MPN/100ml	3000		9750	4520	45700	22428	104000	23500	5500	4700	31000	52000	24000		23000	104000	43000	37000	9800	9400	4100	6300	9700	6200	8500	2000

2 Characterisation Values - Monthly Tests from Wetland/Rock Filter Outlet

Parameter	Units	Consent value	Median	10 Percentile	90 Percentile	Average	Maximum	Monthly Data																		
								Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	4 Feb 2009	12 Feb 2009	17 Feb 2009	23 Feb 2009	4 Mar 2009	11 Mar 2009	24 Mar 2009	Apr-09	May-09	Jun-09		
Total P	g/cum		6	3.8	7.04	5.69	7.30	6.2	3.9	3.4	3.9	4.8	5.4	6	6	7.2	6.8	7.3	6.9	7	6	6.6	6.6	5.3	5.5	
TKN	g/cum		20	17	31.2	22.3	32.0	32	23	19	19	20	31	32	31	22	25	19	17	20	17	17	18	21	27	
Temp	°C		18.9	11.72	23.88	18.1	28.7	12.2	11.8	11.9	14.6	15.7	15.7	19.6	18.9	28.7	20.4	25.8	23.4	23.2	22	19.5	19.5	18.1	11.4	11.3
E Coli	MPN/100ml		8500	4310	32400	17978	99000	23500	5500	4700	27000	45000	18000		14000	99000	18000	24000	6100	4900	3400	6300	8500	6200	8500	1000

3 Characterisation Values - Weekly Sample from Oxidation Ponds - Grab Sample

Parameter	Units	3/7/08 13.40pm	5/8/08 13.40pm	4/9/08 14.00pm	9/10/08 9.43am	8/11/08 14.35pm	4/12/08 8.50am	8/1/09 13.40pm	4/2/09 9.35am	4/3/08 10.45am	2/4/09 12.30pm	21/5/09 12.45pm	9/6/09 13.30pm
DO		5	4.23	6.65	9.43	10.1	7.23	10.35	4.45	2.9	2.1	6.06	5.11

4 Characterisation Values - Quarterly Tests from Oxidation Ponds Outlet

Parameter	Units	Consent value	Median	10 Percentile	90 Percentile	Average	Maximum	Quarterly Data													
								Jul 2008	Aug 2008	Sep 2008	Oct 2008	Nov 2008	Dec 2008	Jan 2009	Feb 2009	4 Mar 2009	11 Mar 2009	24 Mar 2009	Apr 2009	May 2009	Jun 2009
BOD	g/cum		23	15	35	24	39	20	13	35	22	29	18	35	26	23	15	39	28	22	15
SS	g/cum		82	23	160	89	190	17	8.2	38	40	36	76	100	190	140	160	150	87	40	
DRP	g/cum		4.7	3.5	5.4	4.6	5.4	5.1	3.1	3.3	4	4.3	5.4	4.7	5.4	4.8	4.5	5	5.3	4.5	4.6
TP	g/cum		6.0	4.4	7.0	5.8	7.5	5.8	3.5	4.1	5	5.1	6.5	6.2	7.5	6.4	6.1	7.1	6.9	5.5	5.5
Ammonia NH4-N	g/cum		15.0	0.0	25.7	13.3	35.0	35	19	19	24	26	25	0.042	0.011	0.44	0.02	1.9	5.1	12	18
TKN	g/cum		24.0	17.0	33.1	23.2	34.0	34	20	26	31	34	11	17	25	18	17	25	24	24	
Nitrate NO3	g/cum		0.099	0.010	0.851	0.350	2.500	0.037	0.27	0.002	0.098	0.100	0.098	0.002	0.180	1.100	2.500	0.170	0.030	0.042	
pH	units		7.55	7.42	8.29	7.73	8.75	7.48	7.81	7.48	7.8	7.97	7.86	8.75	7.58	7.44	8.43	7.74	7.41	7.5	7.51
Temp	°C		17.9	11.9	22.3	17.5	26.9	11.9	12.6	15.3	16.3	18.4	21.6	26.9	22.4	22.1	18.9	18.1	17.6	11.9	10.3
FC	MPN/100ml		34000	2860	65400	31550	80000	36000	34000	63000	45000		66000	48000	80000	950	14000	4300	2800	13000	3100
EC	MPN/100ml		31000	1440	45600	22595	50000	36000	34000	50000	31000		32000	48000	31000	740	11000	4000	1600	13000	1400

5 Characterisation Values - Annual Tests from Wetland/Rock Filter Outlet

Parameter	Units	4 Feb - 4 Mar		17 Feb - 24 Mar		4 Feb 2009		12 Feb 2009		17 Feb 2009		23 Feb 2009		4 Mar 2009		11 Mar 2009		24 Mar 2009	
		Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum	Median	Maximum
BOD	g/cum	23	22	19	24	22	60	26	13	20									
SS	g/cum	100	67	110	120	89	86	38	67	48									
DRP	g/cum	6	6	6.1	5.5	6.2	5.8	6.5	5.2	6.1									
TP	g/cum	7	7	7.2	6.8	7.3	6.9	7	6	6.6									
Ammonia NH4-N	g/cum	7	11	6.9	9.6	7	6.5	11	12	12									
TKN	g/cum	21	17	22	25	19	17	20	17	17									
Nitrate NO3	g/cum	0.004	0.001	0.0023	0.0055	0.009	0.001	0.001	0.0021	0.001									
pH	units	7.24	7.24	7.4	7.13	7.24	7.23	7.16	7.31	7.29									
Temp	°C	23.3	22.0	20.4	25.8	23.4	23.2	22	19.5	19.5									
FC	MPN/100ml	23400	9400	43000	37000	9800	9400	4100	6300	9700									
EC	MPN/100ml	12050	6100	18000	24000	6100	4900	3400	6300	8500									

6 Characterisation Values - Daily Total Flows

Parameter	Units	Consent limit cum/day		Daily Data														
		Median	10 Percentile	90 Percentile	Average	Maximum	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Minimum Daily Flow	m3/day	834	135	1852	1005	2603	1769	2603	1225	769	559	unknown	unknown	634	85	899	1365	141
Average Daily Flow	m3/day	1531	1207	2560	1749	3434	2612	3434	1623	1960	1368	1201	950	1439	1258	2094	1705	
Maximum Daily Flow	m3/day	3000	2351	3981	4227	3954	4227	2384	3320	2820	unknown	unknown	2989	3011	2052	2762	3493	
Total Monthly Volume	m3/day	44866	37406	79360	53257	106458	80966	106458	48696	60764	41035	37241	29471	38894	39008	40501	64905	51145

Scada recording problems

7 Characterisation Values - Average Nutrient Loading Discharged to Waikato River

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Total Nitrogen	kg/day	41.4	22.8	60.2	41.5	83.6	83.6	54.8	39.0	60.8	43.8	37.3	12.4	29.9	22.7	24.3	44.0	46.0
Total Phosphorous	kg/day	9.1	7.2	11.0	9.2	16.2	16.2	9.5	7.3	9.4	7.4	7.2	5.7	10.1	8.2	8.9	11.1	9.4

8 Characterisation Values - Oxidation Ponds Outlet Comparison 2007-08 to 2008-2009 Results

Parameter	Units	2007-08			2008-09			2009-10		
		Median	10 Percentile	90 Percentile	Median	10 Percentile	90 Percentile	Median	10 Percentile	90 Percentile
BOD	g/m3	23.00	22.50	42.20	23.00	22.50	42.20	23.00	22.50	42.20
SS	g/m3	64.00	61.50	130.00	64.00	61.50	130.00	64.00	61.50	130.00
DRP	g/m3	7.10	4.65	8.80	7.10	4.65	8.80	7.10	4.65	8.80
TP	g/m3	8.20	5.95	10.90	8.20	5.95	10.90	8.20	5.95	10.90
Total Ammonia	g/m3	25.30	15.00	32.40	25.30	15.00	32.40	25.30	15.00	32.40
TKN	g/m3	32.50	24.00	40.00	32.50	24.00	40.00	32.50	24.00	40.00
Nitrate NO3-N	g/m3	0.006	0.009	0.020	0.006	0.009	0.020	0.006	0.009	0.020
FC	MPN/100ml	74500	34000	1103000	74500	34000	1103000	74500	34000	1103000