

Waikato District Council Wastewater Treatment Monitoring Results
 Site Huntly
 Consent number 951126
 Report Period July 2010 - June 2011

Discharge Transgression	
Discharge Limit Exceeded	
nr = no recorded data	
Values < number shown	

1 Discharge Limits - Monthly Tests from Wetland/Rockfilter Outlet

Parameter	Unit	Consent value	Consent value	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	3-Feb-11	17-Feb-11	23-Feb-11	1-Mar-11	15-Mar-11	Apr 11	May-11	Jun-11
		90 Percentile	Maximum																				
pH between 6 - 9				7.31	6.97	10.27	7.87	12.40	6.89	7.09	7.11	12.1	7.46	12.4	7.43	7.1	7.31	7.33	7.37	7.16	7.52	6.72	7.11
Ammonia NH4-N (median from 10)	g/cum	10	15	3.20	1.26	7.37	3.61	9.60	0.12	1.5	2.3	7.14	9.6	7.53	1.5	2.4	3.2	3.7	3.3	5.8	3.2	1.8	1.1
Nitrate NO3-N (median from 10)	g/cum	5	8	0.07	0.002	4.93	0.69	5.30	5.3	0.9	0.23	0.002	0.04	0.07	0.42	0.002	0.002	0.002	0.002	0.003	0.086	0.86	2.6
DRP	g/cum	5	10	4.00	2.42	4.66	3.65	5.30	2.5	2.4	2.2	2.6	2.9	4.7	5.3	4.5	4	3.8	4.1	4.3	4.1		
cBOD5 (median from 10)	g/cum	20	50	18.00	9.34	35.70	21.21	44	14	35	8.2	5.8	14	36	23	13	15	22	21	44	12		34
SS (median from 10)	g/cum	30	50	47.00	15.40	93.00	53.47	95.00	24	15	30	9	24	16	95	36	74	93	93	74	81	91	47
FC (median from 5)	MPN/100ml	3000		3100	463	5360	4588	30000	2000	960	120	250	2900	5900	30000	3200	3300	4100	3900	3600	3000		1000

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

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	3-Feb-11	17-Feb-11	23-Feb-11	1-Mar-11	15-Mar-11	Apr 11	May-11	Jun-11
Total P	g/cum	4.6	2.9	5.6	4.3	6.3	3.2	3.3	2.5	2.8	3.5	5.6	6.3	5.5	4.8	4.9	4.6	5.1	4.6	4.6	3.1
TKN	g/cum	12.1	5.4	17.1	11.6	19.4	4.3	6.5	4.7	12.8	13.4	19.4	10.6	10.00	11.20	15.40	17.4	16.7	12.1	12.1	7.3
Temp	*C	20.6	13.7	23.5	19.1	24.2	11.1	13.6	13.8	16.6	20.6	20.9	24.2	22.4	22.9	23.9	22.5	22.7	18.4	18.7	14
EC	MPN/100ml	2000	242	4260	2969	17000	1300	350	120	170	2900	4500	17000	2000	2400	1500	3900	3600	2500	1700	600

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

Parameter	Units	1/7/10 @ 12 noon	3/8/10 @ 1.40pm	1/9/10 @ 1pm	6/10/10 @ 1.20pm	2/11/10 @ 1pm	7/12/10 @ 11.30	11/1/11 @ 1.45pm	3/2/11 @ 13.55pm	1/3/11 @ 12.30pm	6/4/11 @ 13.20pm	3/5/11 @ 2pm	15/6/11 @ 1.25pm
DO	grab sample	9.85	14.32	10.70	6.75	15.47	14.5	19.4	10.52	3.64	13.54	12.18	6.77

4 Characterisation Values - Quarterly Tests from Oxidation Ponds Outlet

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	
Zinc	g/cum	0.01	0.01	0.03	0.02	0.04	0.018	0.042	0.0117	0.0133	0.0129			0.0071					
Iron	g/cum	0.82	0.43	1.98	1.08	2.90	0.53	2.9	0.58	1.06				0.33					
PCB's	g/cum	0.01	0.00	0.01	0.01	0.01	0.004	0.007	0.004	0.014	0.005			0.005					
cBOD5	g/cum	17.50	14.00	44.60	28.30	131.00	20	47	15	7.6	17	23	131	15	18	14	18	14	
SS	g/cum	75	38.40	119.40	105.83	480.00	38	114	42	19	46	84	480	58	105	120	99	65	
DRP	g/cum	3.20	1.81	4.34	3.13	4.70	2.3	1.84	1.58	2.7	4.7	4.3	4.2	3.8	3.7				
TP	g/cum	4.30	2.90	5.97	4.38	8.40	3.2	4.4	2.3	2.9	3.7	6.1	8.4	4.8	4.8	4.2	2.9		
Ammonia NH4-N	g/cum	0.09	0.01	11.60	2.92	12.90	0.014	0.043	0.74	12.9	8.9	11.9	0.022	0.134	12.9	0.38	0.03	0.015	0.010
TKN	g/cum	13.40	5.34	19.56	14.31	40.00	4.9	13.3	5.1	14.5	15.6	20	40	10.4	14	13.5	12.9	7.5	
Nitrate NO3-N	g/cum	1.78	0.05	5.08	2.26	7.10	7.1	3.7	2.2	0.017	4	0.34	0.58	1.36	0.002	0.43	2.2	5.2	
pH	units	8.59	7.33	9.16	8.42	9.78	7.21	8.79	8.08	7.61	9.02	8.95	9.78	8.6	9	9.18	8.57	7.3	
Temp	*C	18.40	14.14	23.43	18.88	27.10	11.8	14.1	14.7	20.8	22.6	27.1	23.5	22.8	18.9	17.9			
FC	MPN/100ml	2200	540	4900	2684	6000	3900	760	2500	420	540	6000	4900	4500	2200	2000	1800		
E Coli	MPN/100ml	1200	257	2290	1403	3700	3700	230	1500	160	540	2300	2100	2000	2200	900	500	700	

Zinc, Iron & PCBs tests were not done in May as we were under the impression they were not needed

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

Parameter	Units	Median	3-Feb-11	17-Feb-11	23-Feb-11	1-Mar-11	15-Mar-11
cBOD5	g/cum	21	36	15	22	21	44
SS	g/cum	74	13	74	93	93	74
DRP	g/cum	4.1	4.5	4	3.8	4.1	4.3
TP	g/cum	4.9	5.5	4.8	4.9	4.6	5.1
Ammonia	g/cum	3.3	2.4	3.2	3.7	3.3	5.8
TKN	g/cum	15.4	10	11.20	15.4	17.4	16.7
Nitrate NO3	g/cum	0.002	0.002	0.002	0.002	0.002	0.003
pH	units	7.31	7.1	7.31	7.33	7.37	7.16
Temp	*C	22.7	22.4	22.9	23.9	22.5	22.7
FC	MPN/100ml	3600	3200	3300	4100	3900	3600
EC	MPN/100ml	2400	2000	2400	1500	3900	3600

6 Characterisation Values - Daily Total In Flows

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Minimum Daily Flow		1829	1668	2800	2003	2927	1846	2868	2927	1968	1704	1538	1679	1667	1810	1811	2026	2188
Average Daily Flow		2650	2048	4024	2946	5732	2683	3752	5732	2711	1918	2192	2616	2032	2711	2352	3041	4055
Maximum Daily Flow		5844	3056	9119	6303	10000	5499	6022	8210	5133	2711	3054	10000	3071	5665	8825	9152	8292
Monthly Total		81215	58586	121056	89376	171972	83172	115822	171972	81320	57547	67941	81109	56887	70262	70568	94275	121637

7 Characterisation Values - Daily Total Out Flows

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Consent limit cum/day	6000																	
Minimum Daily Flow		1475	292	2931	1611	3859	2975	3859	1487	1463	993	15	214	1365	1203	1538	1684	2537
Average Daily Flow		2766	1405	4566	2846	4759	4489	4575	3643	2786	1341	774	1987	2746	1984	2033	3033	4759
Maximum Daily Flow		5079	2223	6244	4652	6461	6137	6036	4416	2038	2120	5107	5445	4416	3146	3615	5051	6256
Monthly Total		81626	42300	141078	86509	142776	139144	141293	109293	86366	40223	23987	61610	76886	61495	60994	94038	142776

7 Characterisation Values - Average Nutrient Loading Discharged to Waikato River

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Total Nitrogen	kg/day	31.95	17.97	42.65	30.00	47.12	43.09	33.86	17.96	35.67	18.02	15.07	21.90	30.76	33.13	24.78	38.71	47.1
Total Phosphorous	kg/day	11.32	5.00	14.72	10.78	15.10	14.43	15.10	9.11	7.80	4.69	4.33	12.52	13.18	10.12	9.35	13.95	14.8

9 Characterisation Values - Oxidation Ponds Outlet Comparison 2007-11 Results

Parameter	Units	2007-08	2008-09	2009-10	2010-11 Jul-Sep	2010-11 Oct-Dec	2010-11 Jan-Mar	2010-11 Apr-Jun	2010-11
		Median	Median	Median	Median	Median	Median	Median	Median
cBOD5	g/m3	19	21	17.9	20	17	21	12	12
SS	g/m3	86	89	86	42	46	74	81	74
DRP	g/m3	5.9	4.3	4.9	1.84	2.7	4	4.1	2.7
TP	g/m3	7.5	5.9	6.5	3.2	3.7	4.9	4.6	3.7
Total Ammonia	g/m3	0.05	0.045	0.260	0.043	8.9	3.2	1.8	3.2
TKN	g/m3	14.5	12.0	11.0	5.1	15.6	15.4	12.1	12.1
Nitrate NO3-N	g/m3	1.3	0.87	0.47	3.7	0.34	0.002	0.66	0.7
FC	MPN/100ml	61500	3600	3200	2500	540	3900	1000	2500