

Waikato District Council Wastewater Treatment Monitoring Results
 Site Meremere WWTP
 Consent number 105031
 Report Period July 2010 - June 2011

Discharge Transgression	
Discharge Limit Exceeded	
nr = no recorded data	
suspect data	

1 Discharge Quality limits - Monthly tests post UV

Parameter	Units	Consent value		Median	10 Percentile	90 Percentile	AVG	Maximum	5-Jul-10	4-Aug-10	8-Sep-10	12-Oct-10	10-Nov-10	16-Dec-10	19-Jan-11	9-Feb-11	9-Mar-11	13-Apr-11	17-May-11	29-Jun-11
		Median (from 10)	90 Percentile																	
TKN	g/cum	12	15	8	4.08	13.56	8.8	21	3.9	6.2	3	8.1	10.5	21	13.9	5.7	7.9	8.6	6.4	10.1
Ammonia NH4-N (median from	g/cum	8	10	1.5	0.361	5.19	2.1	8.4	1.6	2.4	0.35	0.181	1.5	5.5	1.5	1.8	0.81	0.92	0.46	8.4
Total P	g/cum	5	7	1.785	0.651	3.69	2.93	5.5	0.52	0.63	0.84	1.24	2.1	1.2	3.8	2.7	1.6	2.5	1.73	1.84
cBOD5	g/cum	15	20	12.6	3.68	20.6	13	28	8	10	10	17	15	28	21	12	2.2	13.2	15	3.2
SS	g/cum	20	30	63	25.7	116.6	83	320	25	32	65	95	119	320	83	61	68	53	60	17
EC	MPN/100ml	630	3500	3000	200	20000	6796	23000	5400	3000.00	200		2100	7000	23000	800	12000	58	20000	1200
FC	MPN/100ml	900	5000	5400	860	34000	12265	43000	5400	7800	860		2700	12000	43000	900	34000	58	27000	1200

2 Characterisation Values - Post UV

Parameter	Units	Median	10 Percentile	90 Percentile	AVG	Maximum	5-Jul-10	4-Aug-10	8-Sep-10	12-Oct-10	10-Nov-10	16-Dec-10	19-Jan-11	9-Feb-11	9-Mar-11	13-Apr-11	17-May-11	29-Jun-11
Nitrite NO2-N	g/cum	0.063	0.027	0.628	0.238	1.490	0.087	0.163	0.063	0.051	0.062	0.025	0.002	0.049	0.14	0.68	1.49	0.05
Total Nitrogen	g/cum	9.41	6.14	13.63	10.04	21.13	6.69	8.56	4.81	9.35	11.17	21.13	13.91	6.08	9.47	9.74	9.27	10.36
DRP	g/cum	1.42	0.19	2.27	1.32	3.40	0.24	0.18	0.18	0.48	1.35	2.3	3.4	2	1.59	1.56	1.08	1.49
Temp	°C	17.3	10.8	22.45	16.58	23.40	11.3	10.70	17.80	12.7	18.6	22	22.5	23.4	18.3	16.8	15.3	9.50
Dissolved Oxygen		5.03	2.69	9.16	5.43	10.11	5.52	5.67	9.43	10.11	2.38	6.08	6.72	3.37	2.81	4.53	6.72	3.85
Alkalinity	g/cum																	
pH		7.55	7.21	7.92	7.57	8.35	6.97	7.19	7.91	8.35	7.4	7.92	7.61	7.45	7.56	7.54	7.36	7.58
Conductivity	uS	338	219	445	336	488	232	218	198	310	350	440	445	376	335	341	303	488.00

3 Characterisation Values - Main Pond Outlet

Parameter	Units	Median	10 Percentile	90 Percentile	AVG	Maximum	5-Jul-10	4-Aug-10	8-Sep-10	12-Oct-10	10-Nov-10	16-Dec-10	19-Jan-11	9-Feb-11	9-Mar-11	13-Apr-11	17-May-11	29-Jun-11
FC	MPN/100ml	8250	2500	53800	19564	58000	17000	2800	52000	12000	2500	54000	58000	4300	25000	170	4500	2500
SS	g/cum	70	52	229	106	270	28	57	74	119	130	114	240	66	63	270	59	51
Total Ammonia	g/cum	14.50	2.56	17.90	13.20	34.00	2.50	3.10	0.74	15	16	18	34	10	17	17	11	14
cBOD5	g/cum	1.60	0.52	8.71	3.87	15.00	7	8.90	15.00	1.5	1.5	1.7	0.5	1.4	1.7	0.65	0.32	6.3
TKN	g/cum	9.25	5.81	14.51	10.87	32.00	5.80	7.50	7.20	10.5	10.8	14.8	32	5.9	9	9.50	5.5	11.9
Nitrate NO3-N	g/cum	0.52	0.05	1.43	0.64	1.47	1.43	1.43	1.06	0.61	0.3	0.051	0.002	0.057	0.43	0.06	1.47	0.84
Nitrite NO2-N	g/cum	0.105	0.038	0.555	0.186	0.730	0.11	0.139	0.099	0.062	0.126	0.085	0.005	0.035	0.146	0.60	0.73	0.1
Total Nitrogen	g/cum	9.87	7.38	14.73	11.70	32.01	7.34	9.07	8.36	11.17	11.226	14.94	32.007	5.992	9.576	10.16	7.70	12.84
DRP	g/cum	1.43	0.21	2.65	1.40	3.10	0.21	0.15	0.24	1.35	1.64	2.7	3.1	2.2	1.7	1.51	0.99	0.95
TP	g/cum	2.25	0.71	4.64	2.45	5.40	0.63	0.67	1.09	2.1	2.6	4.1	5.4	2.6	2.4	4.7	1.6	1.46
Temp	°C	18.20	11.00	22.60	17.51	23.70	11.4	11.00	17.60	18.6	19.5	22.6	23.7	21.7	18.2	17.3	14.2	11
Dissolved Oxygen		7.87	3.59	11.47	7.49	16.05	10.21	11.61	16.05	2.38	5.7	4.78	7.95	3.57	8.1	7.79	3.77	8.01
Alkalinity	g/cum																	
pH		7.89	7.28	8.60	7.98	9.08	7.2	7.77	9.08	7.4	7.94	8.26	8.55	7.84	8.61	8.4	7.27	7.41
Conductivity	uS	339	238	425	331	438	235	220	261	350	349	438	431	370	340	338	306	332

4 Discharge Volume Limits

Flow	Weather		Median	10 Percentile	90 Percentile	AVG	Maximum	5-Jul-10	4-Aug-10	8-Sep-10	12-Oct-10	10-Nov-10	16-Dec-10	19-Jan-11	9-Feb-11	9-Mar-11	13-Apr-11	17-May-11	29-Jun-11
	Dry weather	Wet weather																	
Minimum Daily Out Flow	limit	maximum	74	21	227	101	357	98	357	239	46	90	57	116	29	51	91	20	13
Average Daily Out Flow			355	169	536	361	628	355	537	525	180	168	146	318	396	354	254	473	628
Maximum Daily Out Flow	160	480	743	272	1805	857	1914	545	642	1016	267	315	213	780	1880	705	880	1128	1914
Total Monthly Out Flow			8149	3086	15600	8596	16650	10693	16650	15756	3601	3029	1457	4452	6729	9569	6352	14192	10676
Days Pumped Outside Times?	7 hrs							1		17				4	2	1	14	9	

5 Characterisation Values - Average Nutrient Loading Discharged to Waikato River

Parameter	Units	Median	10 Percentile	90 Percentile	Average	Maximum	5-Jul-10	4-Aug-10	8-Sep-10	12-Oct-10	10-Nov-10	16-Dec-10	19-Jan-11	9-Feb-11	9-Mar-11	13-Apr-11	17-May-11	29-Jun-11
Total Phosphorous	kg/day	0.71	0.23	1.15	0.67	1.21	0.18	0.34	0.44	0.22	0.35	0.80	1.21	1.07	0.78	0.64	0.82	1.16

6 Characterisation Values - Discharge Outlet Comparison 2008-09 to 2009-2010 to 2010-2011 Results

Parameter	Units	Consent value		2007-08 Median	2008-09 Median	2009-10 Median	2010-11 Jul-Sep Median	2010-11 Oct-Dec Median	2010-11 Jan-Mar Median	2010-11 Apr-Jun Median	2010-11 Median
		Median (from 10)	90 Percentile								
TKN	g/cum	12	15	12	9	11.5	3.9	10.5	7.9	8.6	7.9
Ammonia NH4-N (median from	g/cum	8	10	0.37	2	7.95	1.6	1.2	1.5	0.92	1.2
Total P	g/cum	5	7	16.00	16.0	3.6	0.63	17	2.7	1.84	1.84
cBOD5	g/cum	15	20	3.80	3.5	8.25	10	2.1	2.2	13.2	16
SS	g/cum	20	30	93	61	37	32	119	68	53	68
EC	MPN/100ml	630	3500	405	1800	570	3000	3000	12000	1200	3000
FC	MPN/100ml	900	5000	560	6500	570	5400	5400	34000	1200	5400