

Waikato District Council Wastewater Treatment Monitoring Results
 Site: Meremere WWTP
 Consent number: 105031
 Report Period: Jul 2009 to June 2010

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

1 Discharge Quality limits - Monthly tests post UV																				
Parameter	Unit	Consent value																		
		Median (from 10)	90 Percentile	Median	10 Percentile	90 Percentile	AVG	Maximum	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
TKN	g/cum	12	15	11.5	6.58	15.8	11.1	16	11	12	12	14	16	16	12	10	6.5	10.3	7.3	6.1
Ammonia NH4-N (median from	g/cum	8	10	7.95	1.47	14.8	7.9	16	10	13	12	13	15	16	3.5	5.9	1.4	2.7	0.59	2.1
Total P	g/cum	5	7	3.6	1.63	6.44	4.0	7	1.6	1.5	1.9	2.2	3.3	3.9	5.8	5.6	7.1	6.5	5.9	2.3
cBOD5	g/cum	15	20	8.25	3.82	21.75	11.1	27	6	4.2	7.5	2.9	3.8	4	27	19	9.2	22	19.5	9
SS	g/cum	20	30	37	17.1	106	66.7	320	18	12	17	29	20	37	320	72	50	109	79	37
EC	MPN/100ml	630	3500	570	19.8	20280	5921	38000	16	330	54	6	810	190	3000	4800	250	38000	22000	1600
FC	MPN/100ml	900	5000	570	28.4	21400	7125	38000	16	330	140	6	810	250	16000	4800	250	38000	22000	2900

2 Characterisation Values - Post UV																				
Parameter	Units																			
		Median	10 Percentile	90 Percentile	AVG	Maximum	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10		
Nitrate NO3-N	g/cum	1.3	0.5	2.30	1.48	2.40	1.5	2	2	0.50	0.94	1.10	2.30	0.80	0.48	1.13	2.2	2.30	2.30	
Nitrite NO2-N	g/cum	0.09	0.06	0.23	0.12	0.28	0.08	0	0	0.04	0.07	0.07	0.23	0.094	0.06	0.28	0.124	0.23	0.23	
Total Nitrogen	g/cum	13.38	0.95	15.86	9.45	17.17	12.58	14	14.54	14.54	16.01	17.17	14.53	0.89	0.54	1.41	2.324	4.63	4.63	
DRP	g/cum	3.15	1.24	5.14	3.18	5.90	1.2	1	2	2	2.9	3.4	4.1	4.5	5.9	5.2	4.6	1.67	1.67	
Temp	*C	16.75	11.97	20.90	16.43	21.40	10.9	12	16	15	17.5	20	21.4	21	19.2	17.9	13.7	12.6	12.6	
Dissolved Oxygen		4.37	3	4.97	4.37	9.11	3.13	4	9	3.41	4.28	4.98	2.48	4.83	4.53	3.42	3.02	4.78	4.78	
Alkalinity	g/cum	90	90	90	90	90							90							
pH		7.43	7.26	8	7.50	8.01	7.25	7	8	7.3	7.42	7.42	8	7.49	8.01	7.62	7.44	7.33	7.33	
Conductivity	uS	396	340	445	391	453	420	427	445	410	445	453	453	379	338	356	381	361	280	

3 Characterisation Values - Main Pond Outlet																				
Parameter	Units																			
		Median	10 Percentile	90 Percentile	AVG	Maximum	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10		
EC	MPN/100ml	1600	27050	27050	8104	42000	450	180	240	90	190	600	2600	8500	9500	42000	29000	3900	3900	
FC	MPN/100ml	1315	11750	11750	5900	29000	450	180	560	90	190	630	12000	8500	9500	2000	29000	7700	7700	
SS	g/cum	29	108	108	44	120	11	14	17	3.6	9.4	4.6	120	40	110	87	68	44	44	
Total Ammonia	g/cum	9	19	19	10	22	5.6	8	9	2.8	4.9	4.1	22	14	19	18.7	0.79	10	10	
cBOD5	g/cum	12	16	16	10	16	10	13	14	14	16	16	4.5	6.7	6.7	3	14.8	3.3	3.3	
TKN	g/cum	13	16	16	12	17	10	13	16	14	17	16	12	11	13	12.2	7.9	7.6	7.6	
Nitrate NO3-N	g/cum	0.59	1.34	1.34	0.693	1.91	0.76	1	1	0.15	0.23	0.45	0.74	0.25	0.48	0.77	1.91	1.4	1.4	
Nitrite NO2-N	g/cum	0.16	0.39	0.39	0.210	0.68	0.12	0.13	0.13	0.04	0.08	0.17	0.41	0.14	0.18	0.68	0.18	0.25	0.25	
Total Nitrogen	g/cum	14	17	17	13	17	10.88	13.66	16.77	14.19	17.31	16.62	13.15	11.39	13.66	13.65	9.99	9.25	9.25	
DRP	g/cum	3	6	6	3	6	1.3	1.2	1.8	2.1	3.2	3.4	3.9	4.9	5.8	5.7	4.8	1.53	1.53	
TP	g/cum	4	7	7	4	8	1.5	1.7	2.6	2.2	3.6	3.7	5.5	5.9	7.1	7.5	5.9	2.4	2.4	
Temp	*C	18	22	22	17	23	11.4	12.7	17.5	15.8	19.1	21.6	22.8	21.6	18	18.7	14.1	12.8	12.8	
Dissolved Oxygen		8	12	12	9	14	6.29	9.61	14.31	4.9	7.5	5.93	12.33	7.67	9.5	9.74	6.61	8.1	8.1	
Alkalinity	g/cum	100	100	100	100	100							100							
pH		8	8	8	8	9	7.45	7.68	8.51	7.44	7.75	7.69	9.26	7.87	8.35	8.4	7.6	7.52	7.52	
Conductivity	uS	400	450	450	395	453	423	424	442	412	453	451	368	341	387	383	366	287	287	

4 Discharge Volume Limits																					
Flow	Dry weather	Wet weather																			
			limit	maximum	Median	10 Percentile	90 Percentile	AVG	Maximum	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
Minimum Daily Out Flow			118	62	122	100	122	120	118	61	56	69	119	113	122	122	67	118	118		
Average Daily Out Flow			275	176	485	330	976	497	247	303	375	176	322	187	241	177	147	976	976		
Maximum Daily Out Flow	160	480	475	207	834	712	3643	602	402	494	497	362	494	383	455	164	190	860	3643		
Total Monthly Out Flow			5378	1953	11087	7422	27328	14914	5927	7269	10130	2411	4829	2053	2411	1942	1621	8232	27328		
Pumped Outside Times?								Y		Y	Y		Y					Y	Y		

5 Characterisation Values - Average Nutrient Loading Discharged to Waikato River																				
Parameter	Units																			
		Median	10 Percentile	90 Percentile	Average	Maximum	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10		
Total Nitrogen	kg/day	3.27	1.81	6.18	3.98	8.42	6.25	3.50	4.40	5.46	2.82	5.53	2.71	2.63	1.24	1.72	3.05	8.42	8.42	
Total Phosphorous	kg/day	1.02	0.58	1.82	1.10	2.24	0.80	0.37	0.58	0.83	0.58	1.26	1.08	1.35	1.25	0.96	1.87	2.24	2.24	

6 Characterisation Values - Discharge Outlet Comparison 2008-09 to 2009-2010 Results																					
Parameter	Units	Consent value		2007-08		2008-09		2009-10 Jul-Sep		2009-10 Oct-Dec		2009-10 Jan-Mar		2009-10 Apr-Jun		2007-08		2008-09		2009-10 Jul-Sep	
		Median (from 10)	90 Percentile	Median	Median	Median	Median	Median	Median	90 Percentile	90 Percentile	90 Percentile	90 Percentile	90 Percentile	90 Percentile	Average	Average	Average	Average	Average	Average
TKN	g/cum	12	15	12	9	12	16	10	7.3	15.80	13	12	16	11.6	9.7	12.48	9	12	15	9.5	7.9
Ammonia NH4-N (median from	g/cum	8	10	0.37	2	12	15	3.5	2.1	13.55	5	12.8	15.8	5.42	2.58	3.92	3	12	15	3.6	1.80
Total P	g/cum	5	7	3.80	3.5	1.6	3.3	5.8	5.9	7.33	5.6	1.84	3.78	6.84	6.38	4.42	3.5	2	3.1	6.17	4.9
cBOD5	g/cum	15	20	16	16	5.5	3.8	19	19.5	26	29.7	7.1	3.96	25.4	21.5	19.09	16.7	6	3.6	18.4	16.83
SS	g/cum	20	30	93	61	17	29	79	79	248	129	17.8	35.4	270.4	103	120	66.92	16	28.67	147.33	75
EC	MPN/100ml	630	3500	405	1800	54	190	3000	22000	120600	16000	275	686	4440	34800	49270	6633	133	335	2683	20533
FC	MPN/100ml	900	5000	560	6500	140	250	4800	22000	73500	20500	292	698	13760	34800	48809	8976	162	355	7017	20967