

**Table 1 Mackay Source Water Quality Data Summary – Dumbleton Weir**

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	195	30.6	18.8	24.5	24.34	2.69
pH	-	269	9.43	6.5	7.33	7.34	0.35
Turbidity	NTU	554	421	0.1	4.745	15.42	37.53
Conductivity	µS/cm	266	393	68	261	254.22	75.93
DO	% Sat.	255	94.2	12.7	60	60.21	15.43
Colour - True	TCU	334	169	<1	11	26.68	31.78
TOC	mg/L	311	8.884	0.561	2.106	2.92	2.03
Alkalinity	mg/L	267	124	19.98	79.16	77.09	24.31
Hardness	mg/L CaCO <sub>3</sub>	258	141.93	18.8	81.475	79.55	25.65
Fluoride	mg/L	268	0.73	0.03	0.091	0.10	0.05
Chloride	mg/L	267	51.351	4.115	26.634	27.43	10.95
Nitrite	mg/L	330	0.788	<0.004	<0.004	0.06	0.15
Bromide	mg/L	245	0.343	<0.01	0.059	0.07	0.06
Nitrate	mg/L	330	17.375	0.161	0.742	1.56	2.62
Phosphate	mg/L	267	1.26	<0.01	0.076	0.13	0.15
Sulphate	mg/L	267	12.389	1.141	3.186	3.55	1.77
Mg	mg/L	263	16.01	1.74	8.539	8.41	3.08
Ca	mg/L	263	38.22	4.66	18.67	18.19	5.56
Na	mg/L	263	29.72	5.06	18.58	18.58	5.54
K	mg/L	265	5.082	0.165	1.027	1.22	0.71
Al	mg/L	264	2.05	<0.03	<0.07	0.13	0.25
Mn	mg/L	262	2.582	<0.004	<0.004	0.05	0.29
Fe	mg/L	263	3.088	<0.005	0.0258	0.14	0.33
Cu	mg/L	259	0.031	<0.01	<0.01	0.01	0.00
Zn	mg/L	259	0.066	<0.005	<0.005	<0.005	0.01
Pb	mg/L	242	0.006	<0.001	<0.003	<0.003	0.00
B	mg/L	50	0.05	0.0033	0.014	0.02	0.01
Cr	mg/L	50	<0.03	<0.01	<0.01	<0.01	0.00
Mo	mg/L	50	<0.05	<0.01	<0.05	<0.05	0.01
Ni	mg/L	50	<0.04	<0.03	<0.03	<0.03	0.00
Cd	mg/L	50	<0.01	<0.002	<0.002	<0.002	0.00
As	mg/L	20	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	297	57000	<1	<1	265.40	3335.72
<i>E.coli</i>	MPN/100mL	102	41	<1	<1	2.31	6.21
Faecal Coliform	cfu/100mL	12	14200	<1	102	1439.44	4035.42
Total Coliform	cfu/100mL	312	>200500	<1	275.5	6895.43	49749.64
Heterotroph	cfu/100mL	256	17200	4	650	1435.78	2227.72
Enterococci	cfu/100mL	255	23000	<1	1	226.59	1596.51

**Table 2 Mackay Dosed Water Quality Data Summary**

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
pH	-	1525	8.3	6.4	7.4	7.4	0.25
Turbidity	NTU	1752	40	0.2	1.4	2.0	2.52
Colour	TCU	1524	58	0	2	2	3.78
Alkalinity	mg/L	1517	133	3	80	74	27.84
Mn	mg/L	288	0.3	0.002	0.018	0.021	0.02
Fe	mg/L	117	0.5	0	0.03	0.04	0.05

Table 3 Mackay Treated Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	371	32	18	24	23.91	2.79
pH	-	337	8	6.27	7.23	7.23	0.28
Turbidity	NTU	570	3.3	0	0.2	0.24	0.28
Conductivity	µS/cm	338	429	101	272	265.08	72.68
DO	% Sat.	336	99.7	59.6	82.35	82.40	7.01
Colour - True	TCU	338	14	0	1	1.57	1.85
TOC	mg/L	408	4	0.3	1	1.14	0.63
Alkalinity	mg/L	339	120	25	75.14	73.05	21.52
Hardness	mg/L CaCO <sub>3</sub>	337	167.75	21.42	81.1	80.37	24.57
Free Cl <sub>2</sub>	mg/L	338	2.4	0.32	1.12	1.11	0.20
Total Cl <sub>2</sub>	mg/L	335	2.5	0.47	1.27	1.26	0.20
Fluoride	mg/L	457	0.78	0.0033	0.42	0.36	0.24
Chloride	mg/L	435	57.42	10.8	30.14	31.15	10.93
Nitrite	mg/L	436	0.332	0	<0.004	0.02	0.04
Bromide	mg/L	414	0.417	0	<0.01	0.03	0.06
Nitrate	mg/L	436	12.43	0.173	0.8415	1.37	1.88
Phosphate	mg/L	435	1.254	0	0.021	0.07	0.13
Sulphate	mg/L	338	12.71	0.365	3.41	3.89	1.76
Mg	mg/L	338	15.08	1.97	8.147	8.40	3.02
Ca	mg/L	337	29.38	5.33	18.64	18.23	4.94
Na	mg/L	338	30.39	7.03	18.825	19.05	5.17
K	mg/L	341	5.284	<1	1.05	1.23	0.62
Al	mg/L	336	0.6	<0.03	<0.03	0.03	0.05
Mn	mg/L	337	0.24	<0.003	<0.004	0.003	0.01
Fe	mg/L	338	0.276	<0.001	<0.007	0.01	0.02
Cu	mg/L	338	0.356	<0.01	<0.05	0.02	0.03
Zn	mg/L	338	0.424	<0.05	0.018	0.02	0.03
Pb	mg/L	323	0.0097	<0.001	0.003	0.002	0.00
B	mg/L	117	0.038	0.0033	0.015	0.02	0.01
Cr	mg/L	182	0.05	0	0.0033	0.01	0.02
Mo	mg/L	182	0.03	0	<0.05	0.01	0.01
Ni	mg/L	182	0.02	0	0.01	0.01	0.01
Cd	mg/L	182	0.002	0	0.001	0.001	0.00
Hg	mg/L	47	0.002	<0.0006	<0.001	<0.001	0.00
As	mg/L	47	0.0002	0.0001	<0.01	0.00	0.00
<i>E.coli</i>	cfu/100mL	432	<2	0	<1	0.26	0.14
<i>E.coli</i>	MPN/100mL	100	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	110	1	<1	<1	<1	0.06
Total Coliform	cfu/100mL	351	21	<1	<1	0.49	1.41
Heterotroph	cfu/100mL	350	>200	<1	1	17.20	70.70

Table 4 Mackay Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	1848	35	17	26	25.86	3.11
pH	-	2353	8.99	4.54	7.64	7.68	0.38
Turbidity	NTU	2348	71.2	0	0.2	0.40	1.79
Conductivity	µS/cm	2342	434	92	264	265.69	66.59
DO	% Sat.	2347	119.6	46.3	82.4	82.19	8.38
Colour - True	TCU	2341	21	0	1	1.65	1.82
TOC	mg/L	2080	4.2	<0.3	0.9	1.03	0.49
Alkalinity	mg/L	2340	122	28.26	77.98	76.28	20.19
Hardness	mg/L CaCO <sub>3</sub>	2340	139.54	11.79	85.145	84.37	22.60
Free Cl <sub>2</sub>	mg/L	2395	3.6	<0.02	0.67	0.68	0.42
Total Cl <sub>2</sub>	mg/L	2360	3.7	0.0066	0.77	0.78	0.44
Fluoride	mg/L	2368	0.905	0.018	0.509	0.41	0.22
Chloride	mg/L	2340	69.214	9.739	30.6805	31.74	10.56
Nitrite	mg/L	2368	0.42	0	<0.004	0.01	0.04
Bromide	mg/L	2205	0.81	0	<0.01	0.03	0.07
Nitrate	mg/L	2368	40.13	0	0.8045	1.31	1.77
Phosphate	mg/L	2369	9	0	0.017	0.05	0.23
Sulphate	mg/L	2341	20.34	0.31	3.3	3.50	1.19
Mg	mg/L	2341	15.48	1.02	7.87	8.07	2.93
Ca	mg/L	2341	34.65	7.51	20.78	20.49	4.76
Na	mg/L	2341	42.06	6.68	19.04	19.19	4.93
K	mg/L	2373	4.978	0.03	1.072	1.24	0.60
Al	mg/L	2333	13.06	0	<0.07	0.04	0.30
Mn	mg/L	2340	0.325	0	<0.004	0.003	0.01
Fe	mg/L	2339	1.032	<0.001	0.003	0.02	0.04
Cu	mg/L	2339	0.183	0	<0.01	0.01	0.01
Zn	mg/L	2339	3.055	0.001	0.01	0.02	0.08
Pb	mg/L	1772	0.0097	0	<0.003	0.001	0.00
B	mg/L	584	0.073	<0.01	0.015	0.02	0.01
Cr	mg/L	586	0.05	0	<0.01	0.01	0.01
Mo	mg/L	581	0.03	0	<0.05	0.01	0.01
Ni	mg/L	584	0.025	0	<0.04	0.01	0.00
Cd	mg/L	585	0.007	0	0.001	0.002	0.00
Hg	mg/L	106	<0.001	<0.0006	<0.001	<0.001	0.00
As	mg/L	118	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	1158	40	0	<1	0.39	1.43
<i>E.coli</i>	MPN/100mL	1251	16	<1	<1	<1	0.61
Faecal Coliform	cfu/100mL	586	23	0	0.33	0.37	1.12
Total Coliform	cfu/100mL	2191	365	0	0.33	0.88	8.92
Heterotroph	cfu/100mL	2359	6600	0	3	53.09	290.92

# DWQMP Water Quality Data Summary



Table 5 Eton Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	83	30.6	18.6	25.3	24.86	2.99
pH	-	156	8.2	6.79	7.505	7.46	0.29
Turbidity	NTU	156	9.65	0	0.3	0.65	1.32
Conductivity	µS/cm	156	21165	287	1119	1232.41	1610.28
DO	% Sat.	156	100.1	20	74	67.71	21.45
Colour - True	TCU	153	25	0	1	1.85	2.51
TOC	mg/L	136	3.711	0.099	0.523	0.58	0.45
Alkalinity	mg/L	154	332.26	89.84	284	285.55	27.87
Hardness	mg/L CaCO <sub>3</sub>	144	448.78	94.3	384.95	383.25	41.40
Free Cl <sub>2</sub>	mg/L	162	4.2	<0.02	0.575	0.62	0.56
Total Cl <sub>2</sub>	mg/L	158	4.4	0.02	0.67	0.69	0.58
Fluoride	mg/L	154	0.626	0.03	0.127	0.14	0.06
Chloride	mg/L	154	223.332	27.646	178.83	177.86	20.40
Nitrite	mg/L	154	0.592	0	0.00132	0.04	0.11
Bromide	mg/L	144	0.851	0.00335	0.234	0.26	0.14
Nitrate	mg/L	154	14.411	0.044	8.0225	8.04	2.54
Phosphate	mg/L	154	15.016	0.00335	0.2985	0.40	1.19
Sulphate	mg/L	154	13.838	2.01	11.1255	10.95	1.94
Mg	mg/L	154	48.33	9.28	42.465	41.96	4.54
Ca	mg/L	154	115.6	22.23	82.62	84.21	11.71
Na	mg/L	154	111	20.47	88.395	87.33	9.57
K	mg/L	157	1.289	0	0.628	0.62	0.18
Al	mg/L	152	0.07	0	0.0231	0.02	0.01
Mn	mg/L	154	0.057	0	0.00132	0.01	0.01
Fe	mg/L	154	0.151	0.001	0.00231	0.01	0.03
Cu	mg/L	154	0.133	0	0.00335	0.02	0.02
Zn	mg/L	154	0.194	0.001	0.011	0.02	0.02
Pb	mg/L	147	0.0097	0	0.00099	0.002	0.00
B	mg/L	49	0.049	0.0033	0.028	0.03	0.01
Cr	mg/L	49	0.043	0	0.0099	0.01	0.01
Mo	mg/L	41	0.02	0	<0.01	0.01	0.01
Ni	mg/L	43	<0.1	0	0.0099	0.01	0.01
Cd	mg/L	48	0.008	0	<0.01	0.002	0.00
Hg	mg/L	7	<0.001	<0.001	<0.001	<0.001	0.00
As	mg/L	9	0.0012	<0.001	<0.001	0.0004	0.00
<i>E.coli</i>	cfu/100mL	75	50	0	<1	1.10	5.86
<i>E.coli</i>	MPN/100mL	90	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	43	11	0	<1	0.52	1.70
Total Coliform	cfu/100mL	156	79	0	<1	0.91	6.36
Heterotroph	cfu/100mL	164	>2000	<1	4.5	101.17	511.42

Table 6 Marian Raw Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	26	29.2	17.8	23.5	23.5	3.2
pH	-	26	8.38	7.34	7.685	7.69	0.21
Turbidity	NTU	26	12	1.15	2.94	3.34	2.04
Conductivity	µS/cm	26	281	123.3	232.75	213.3	48.4
DO	% Sat.	26	90.5	55.1	73.2	73.9	9.0
Colour - True	TCU	26	20	1	8	8.4	4.3
TOC	mg/L	26	3.758	1.135	2.239	2.398	0.802
Hardness	mg/L	26	89.53	34.04	71.885	66.964	17.838
Alkalinity	mg/L	26	79.84	32.66	64.67	60.969	15.808
Fluoride	mg/L	26	0.104	0.032	0.0655	0.067	0.019
Chloride	mg/L	26	36.858	12.582	28.443	26.974	6.891
Nitrite	mg/L	26	0.031	<0.004	<0.004	0.003	0.006
Bromide	mg/L	26	0.078	0.027	0.0585	0.054	0.016
Nitrate	mg/L	26	0.612	0.031	0.099	0.137	0.135
Phosphate	mg/L	26	0.059	<0.015	0.0275	0.027	0.016
Sulphate	mg/L	26	2.343	1.268	1.908	1.873	0.305
Mg	mg/L	26	9.3558	3.24	7.395	6.830	1.916
Ca	mg/L	26	21.41	8.29	16.615	15.652	3.994
Na	mg/L	26	19.2025	8.99	15.43	14.896	3.078
K	mg/L	26	1.45319	<1	0.6695	0.691	0.369
Al	mg/L	25	<0.07	<0.07	<0.07	<0.07	0.000
Mn	mg/L	26	0.246	<0.004	<0.004	0.012	0.048
Fe	mg/L	26	0.019	<0.007	<0.007	0.005	0.005
Cu	mg/L	26	<0.015	<0.015	<0.015	<0.015	0.000
Zn	mg/L	26	0.011	<0.005	<0.005	0.003	0.003
Pb	mg/L	12	0.001	<0.001	<0.001	0.001	0.000
B	mg/L	6	0.0181	<0.010	0.007717	0.009	0.007
Cr	mg/L	6	<0.01	<0.01	<0.01	<0.01	0
Mo	mg/L	6	<0.05	<0.05	<0.05	<0.05	0
Ni	mg/L	6	<0.03	<0.03	<0.03	<0.03	0
Cd	mg/L	6	<0.002	<0.002	<0.002	<0.002	0
Hg	mg/L	1	<0.001	<0.001	<0.001	<0.001	NA
As	mg/L	1	<0.001	<0.001	<0.001	<0.001	NA
<i>E.coli</i>	MPN/100mL	26	22	<1	3	4.3	4.6
Total Coliform	cfu/100mL	26	7701	143	687	1250.6	1511.4
Heterotroph	cfu/100mL	26	5800	130	750	1326.2	1449.2
Enterococci	cfu/100mL	26	80	<1	12.5	15.2	17.5

Table 7 Marian Treated Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	52	29	18.1	25	24.665	2.978
pH	-	52	7.82	6.95	7.495	7.446	0.234
Turbidity	NTU	52	0.3	<1	0.15	0.155	0.081
Conductivity	µS/cm	52	316	126.9	261	246.246	45.345
DO	% Sat.	52	94.8	56.6	80.9	79.602	7.297
Colour - True	TCU	52	6	<1	<1	0.799	1.016
TOC	mg/L	52	1.934	0.561	0.901	0.974	0.313
Hardness	mg/L	52	91.42	34.27	81.635	76.496	16.061
Alkalinity	mg/L	52	77.38	29.96	71.36	65.089	13.480
Free Cl <sub>2</sub>	mg/L	52	1.87	0.63	1.44	1.368	0.275
Total Cl <sub>2</sub>	mg/L	52	1.99	0.66	1.52	1.488	0.283
Fluoride	mg/L	52	0.723	0.059	0.4775	0.389	0.266
Chloride	mg/L	52	40.182	14.385	35.3055	33.416	6.088
Nitrite	mg/L	52	0.014	<0.004	<0.004	0.002	0.002
Bromide	mg/L	52	0.023	<0.015	<0.015	0.006	0.004
Nitrate	mg/L	52	0.303	0.035	0.1475	0.160	0.063
Phosphate	mg/L	52	2.733	<0.015	0.018	0.080	0.378
Sulphate	mg/L	52	5.734	1.364	2.3375	2.260	0.636
Mg	mg/L	52	9.72	3.12	8.455	7.888	1.825
Ca	mg/L	52	21.2	8.58	19.17	17.627	3.461
Na	mg/L	52	21.99	9.63	18.815	17.798	3.085
K	mg/L	52	1.668057	<1	1.0545	0.902	0.391
Al	mg/L	51	<0.07	<0.07	<0.07	<0.07	0.000
Mn	mg/L	52	0.004	<0.004	<0.004	0.002	0.001
Fe	mg/L	52	0.063	<0.007	<0.007	0.004	0.008
Cu	mg/L	52	<0.015	<0.015	<0.015	<0.015	0.000
Zn	mg/L	52	0.029	<0.005	<0.005	0.004	0.006
Pb	mg/L	38	0.001	<0.001	<0.003	0.001	0.000
B	mg/L	32	0.072	<0.010	0.02	0.021	0.018
Cr	mg/L	32	0.018	<0.01	<0.01	0.004	0.003
Mo	mg/L	32	<0.05	<0.05	<0.05	<0.05	0.000
Ni	mg/L	32	<0.03	<0.03	<0.03	<0.03	0.000
Cd	mg/L	32	<0.002	<0.002	<0.002	<0.002	0.000
Hg	mg/L	1	<0.001	<0.001	<0.001	<0.001	NA
As	mg/L	1	<0.001	<0.001	<0.001	<0.001	NA
<i>E.coli</i>	MPN/100mL	52	<1	<1	<1	<1	0.000
Total Coliform	cfu/100mL	52	<1	<1	<1	<1	0.000
Heterotroph	cfu/100mL	50	451	<1	1	12.6	64.2

**Table 8 Marian Supplied Water Quality Data Summary**

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	252	30.1	15.7	24.7	24.584	2.934
pH	-	353	7.94	5.9	6.8	6.857	0.327
Turbidity	NTU	353	4.33	0.01	0.23	0.318	0.388
Conductivity	µS/cm	353	887	157.1	541	538.390	121.105
DO	% Sat.	352	1128	1	67.15	71.516	58.018
Colour - True	TCU	352	14	0	1	1.391	1.574
TOC	mg/L	237	7.837	0.1	0.5	0.625	0.567
Hardness	mg/L	349	278.07	41.58	171.73	170.599	40.195
Alkalinity	mg/L	352	201.94	37.22	139.85	137.269	28.549
Free Cl <sub>2</sub>	mg/L	355	1.48	0.12	0.85	0.836	0.249
Total Cl <sub>2</sub>	mg/L	354	1.79	0.14	0.91	0.910	0.259
Fluoride	mg/L	352	0.731	0.049	0.109	0.148	0.132
Chloride	mg/L	352	126.36	21.255	65.258	66.589	18.811
Nitrite	mg/L	352	0.19	0	<0.004	0.008	0.020
Bromide	mg/L	323	38.97	<0.015	0.17	0.299	2.161
Nitrate	mg/L	352	41.59	0	31.3365	28.613	10.410
Phosphate	mg/L	352	0.68	<0.015	0.3255	0.302	0.105
Sulphate	mg/L	352	7.474	1.381	5.3755	5.208	1.202
Mg	mg/L	352	27.3	3.59	16.645	16.506	4.046
Ca	mg/L	352	66.9	10.73	41.665	41.130	9.555
Na	mg/L	352	68.55	12.4	44.325	44.052	10.916
K	mg/L	356	1.744	<0.5	<0.5	0.353	0.265
Al	mg/L	351	0.076	0	<0.007	0.021	0.010
Mn	mg/L	351	0.011	0	<0.004	0.002	0.001
Fe	mg/L	352	0.496	0	<0.007	0.013	0.046
Cu	mg/L	320	0.484	0	0.015	0.023	0.034
Zn	mg/L	342	0.274	0.001	0.01	0.014	0.020
Pb	mg/L	335	0.0093	0	<0.003	0.002	0.002
B	mg/L	96	0.031	0.003	0.018	0.018	0.005
Cr	mg/L	90	0.044	0	<0.01	0.009	0.014
Mo	mg/L	90	0.019	0	0.004	0.007	0.008
Ni	mg/L	90	0.02	0	<0.03	0.006	0.005
Cd	mg/L	86	0.001	0	<0.002	0.000	0.000
Hg	mg/L	14	<0.001	<0.001	<0.001	<0.001	0.000
As	mg/L	14	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	151	<1	0	<1	0.205	0.163
<i>E.coli</i>	MPN/100mL	202	18	<1	<1	0.421	1.243
Total Coliform	cfu/100mL	352	15	0	<1	0.357	0.871
Heterotroph	cfu/100mL	345	1600	0	6	30.164	105.389

Table 9 Mirani Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	250	30.8	15.1	25.6	25.45	2.57
pH	-	366	9.35	6	6.7	6.75	0.40
Turbidity	NTU	363	4	0.01	0.25	0.34	0.34
Conductivity	µS/cm	364	795	186.8	379	402.60	100.97
DO	% Sat.	363	376	<1	70.2	71.96	20.71
Colour - True	TCU	363	11	0	1	1.41	1.67
TOC	mg/L	309	5.091	<0.3	0.384	0.44	0.45
Hardness	mg/L	363	250.18	49.43	106.22	118.56	35.68
Alkalinity	mg/L	363	176.32	44.3	90.56	97.87	23.10
Free Cl <sub>2</sub>	mg/L	363	1.96	<0.02	0.92	0.89	0.26
Total Cl <sub>2</sub>	mg/L	363	1.98	0.04	0.99	0.97	0.27
Fluoride	mg/L	363	0.767	0.06	0.114	0.15	0.12
Chloride	mg/L	363	117.67	23.457	48.82	51.79	15.26
Nitrite	mg/L	363	1.769	0	<0.004	0.03	0.12
Bromide	mg/L	335	0.733	<0.01	0.158	0.18	0.12
Nitrate	mg/L	363	39.47	0.131	14.422	17.30	9.14
Phosphate	mg/L	363	2.46	<0.01	0.42	0.39	0.17
Sulphate	mg/L	363	6.761	1.503	3.948	4.10	0.93
Mg	mg/L	363	26.1	4.66	10.46	11.71	3.67
Ca	mg/L	363	57.6	12.11	25.34	28.15	8.31
Na	mg/L	363	64.1	14.5	33.26	34.30	8.19
K	mg/L	368	4	0.165	0.5005	0.47	0.32
Al	mg/L	362	0.09	0	0.0231	0.02	0.01
Mn	mg/L	362	0.024	0	0.00132	0.002	0.00
Fe	mg/L	363	0.186	0	0.00231	0.01	0.01
Cu	mg/L	363	0.332	0	0.01	0.02	0.03
Zn	mg/L	363	4.885	0.00165	0.022	0.07	0.42
Pb	mg/L	349	0.0093	0	<0.003	0.001	0.00
B	mg/L	102	0.072	<0.01	0.017	0.02	0.01
Cr	mg/L	102	0.086	0	<0.01	0.01	0.01
Mo	mg/L	102	0.018	0	<0.01	0.01	0.01
Ni	mg/L	102	0.836	0	<0.03	0.01	0.08
Cd	mg/L	102	<0.03	0	<0.002	<0.002	0.00
As	mg/L	16	<0.001	<0.001	<0.001	<0.001	0.00
Hg	mg/L	17	119.13	<0.001	<0.001	7.01	28.89
<i>E.coli</i>	cfu/100mL	167	<2	0	<1	<1	0.16
<i>E.coli</i>	MPN/100mL	198	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	77	0.33	0	0	0.08	0.14
Total Coliform	cfu/100mL	362	>201	0	<1	2.04	32.00
Heterotroph	cfu/100mL	360	1080	0	5	35.80	107.37



Table 10 Finch Hatton Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	44	30	21.3	25.7	25.72	2.34
pH	-	138	8	6.3	7.1	7.13	0.23
Turbidity	NTU	135	1	<0.1	0.26	0.28	0.15
Conductivity	µS/cm	134	264	148.9	213	210.78	14.13
DO	% Sat.	117	197	<1	82	75.10	28.92
Colour - True	TCU	132	7	0	1	1.10	1.22
TOC	mg/L	122	9.7	<0.3	0.4	0.82	1.66
Alkalinity	mg/L	134	81.04	46.16	73.48	74.29	4.31
Hardness	mg/L CaCO <sub>3</sub>	121	71.74	41.27	61.7	62.40	4.33
Free Cl <sub>2</sub>	mg/L	142	10	0.04	1.01	1.05	1.06
Total Cl <sub>2</sub>	mg/L	139	1.54	0.06	1.07	1.01	0.33
Fluoride	mg/L	135	0.23	0.0033	0.06	0.07	0.03
Chloride	mg/L	134	24.067	12.338	16.836	16.78	2.15
Nitrite	mg/L	135	0.323	0	<0.004	0.01	0.05
Bromide	mg/L	122	1.221	<0.01	0.1785	0.21	0.14
Nitrate	mg/L	135	3.572	1.042	1.622	1.93	0.74
Phosphate	mg/L	135	0.559	0.063	0.164	0.18	0.06
Sulphate	mg/L	135	4.93	2.68	3.379	3.47	0.48
Mg	mg/L	135	9.96	3.25	6.58	6.61	0.57
Ca	mg/L	134	18.7	11.17	14.315	14.44	1.25
Na	mg/L	135	26.5	12.38	17.6	17.71	1.44
K	mg/L	139	3.064	0.33	1.578	1.56	0.32
Al	mg/L	121	0.15	0	<0.07	<0.07	0.02
Mn	mg/L	132	0.025	0	<0.004	<0.004	0.00
Fe	mg/L	125	1.292	<0.007	<0.007	0.05	0.20
Cu	mg/L	122	0.161	<0.01	0.0185	0.03	0.03
Zn	mg/L	135	0.51	<0.005	0.015	0.02	0.06
Pb	mg/L	126	<1	<0.001	<0.001	0.01	0.04
B	mg/L	67	0.045	<0.003	0.0197	0.02	0.01
Cr	mg/L	68	0.039	<0.01	<0.01	<0.01	0.00
Mo	mg/L	63	<0.05	0	<0.05	<0.05	0.01
Ni	mg/L	63	<0.04	0	<0.03	<0.03	0.00
Cd	mg/L	68	0.028	0	<0.003	0.01	0.01
Hg	mg/L	12	0.001	<0.001	<0.001	<0.001	0.00
As	mg/L	12	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	50	<1	0	<1	<1	0.05
<i>E.coli</i>	MPN/100mL	95	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	28	<1	0	<1	<1	0.06
Total Coliform	cfu/100mL	116	3	0	<1	<1	0.30
Heterotroph	cfu/100mL	141	>200	<1	5	30.06	78.73

Table 11 Gargett Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	45	30.8	19.9	26.1	25.65	2.90
pH	-	137	7.47	6	6.6	6.61	0.23
Turbidity	NTU	137	1.87	0.03	0.22	0.31	0.27
Conductivity	µS/cm	137	357	109	181.2	188.61	45.17
DO	% Sat.	125	165	<1	72.5	65.72	26.59
Colour - True	TCU	136	8	0	0.4	1.04	1.13
TOC	mg/L	117	90	<0.3	0.4	1.41	8.41
Hardness	mg/L	125	90.24	27.4	52.31	54.93	14.37
Alkalinity	mg/L	136	88	32.52	57.94	58.02	13.96
Free Cl <sub>2</sub>	mg/L	134	2.26	<0.02	0.88	0.90	0.37
Total Cl <sub>2</sub>	mg/L	134	2.3	0.02	0.975	0.97	0.39
Fluoride	mg/L	136	0.588	<0.01	0.05	0.06	0.05
Chloride	mg/L	136	27.88	11.39	16.268	17.03	3.62
Nitrite	mg/L	136	0.322	0	<0.004	0.02	0.05
Bromide	mg/L	125	0.533	<0.01	0.214	0.22	0.09
Nitrate	mg/L	136	13.797	0.14	3.547	3.93	2.73
Phosphate	mg/L	136	1.019	<0.01	0.074	0.10	0.10
Sulphate	mg/L	136	7.784	1.619	3.134	3.37	0.88
Mg	mg/L	137	6.81	2.09	3.98	4.17	1.07
Ca	mg/L	137	25.4	7.46	14.36	15.17	3.98
Na	mg/L	137	21.58	9.97	14.4	14.82	2.74
K	mg/L	140	2.872	<0.5	0.797	0.83	0.32
Al	mg/L	135	0.204	0	<0.07	0.03	0.02
Mn	mg/L	137	0.079	0	<0.004	0.003	0.01
Fe	mg/L	137	0.295	<0.004	<0.007	0.01	0.03
Cu	mg/L	137	0.385	<0.01	0.053	0.07	0.07
Zn	mg/L	137	3.352	<0.005	0.01	0.06	0.40
Pb	mg/L	122	0.33	<0.001	<0.003	0.01	0.04
B	mg/L	57	0.02	<0.01	0.014	0.01	0.01
Cr	mg/L	58	0.51	<0.01	<0.01	0.02	0.07
Mo	mg/L	51	<0.05	<0.01	<0.05	0.01	0.01
Ni	mg/L	51	<0.04	0	<0.03	0.01	0.00
Cd	mg/L	58	39.1	0	<0.003	0.68	5.13
As	mg/L	12	40.2	<0.001	<0.001	3.35	11.60
Hg	mg/L	14	23	<0.001	<0.001	1.73	6.12
<i>E.coli</i>	cfu/100mL	52	<1	0	<1	0.32	0.05
<i>E.coli</i>	MPN/100mL	92	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	28	23	0	<1	1.94	5.95
Total Coliform	cfu/100mL	116	27	0	<1	0.82	3.49
Heterotroph	cfu/100mL	143	>200	0	2	29.46	91.34

# DWQMP Water Quality Data Summary



Table 12 Sarina Source Water Quality Data Summary – Sarina Bores

Parameter	Unit	Count		Max		Min		Median		Mean		Std. Dev.	
		Bore 1	Bore 2	Bore 1	Bore 2	Bore 1	Bore 2	Bore 1	Bore 2	Bore 1	Bore 2	Bore 1	Bore 2
pH	-	46	46	7.95	8.33	6.9	7.34	7.52	7.63	7.52	7.64	0.19	0.19
Turbidity	NTU	46	46	2.45	13.6	0.12	<0.1	0.37	0.29	0.52	0.71	0.50	1.98
Conductivity	µS/cm	46	46	1059	1050	317	290	963.50	847.50	956.61	805.91	112.35	179.02
DO	% Sat.	45	44	112.5	100	32.3	37.5	66.80	79.25	66.15	78.73	15.79	11.43
Colour - True	TCU	46	46	6	7	<1	<1	0.67	<1	1.12	1.22	1.34	1.42
TOC	mg/L	39	39	2.552	1.988	<0.3	<0.3	<0.3	0.62	0.45	0.63	0.45	0.45
Hardness	mg/L	46	46	339.23	313.35	154.19	81.94	290.51	287.58	288.70	262.51	27.87	59.66
Alkalinity	mg/L	46	46	366.62	358.18	162.16	91.2	350.11	322.20	344.48	298.03	29.70	68.83
Fluoride	mg/L	46	46	0.388	0.485	0.083	0.079	0.14	0.14	0.15	0.17	0.05	0.09
Chloride	mg/L	46	46	128.213	114.198	41.585	30.637	95.71	72.47	94.39	71.77	16.89	19.83
Nitrite	mg/L	46	46	0.049	0.05	<0.004	<0.004	<0.004	<0.004	0.00	0.00	0.01	0.01
Bromide	mg/L	41	41	0.263	0.795	<0.01	<0.01	0.21	0.17	0.20	0.20	0.05	0.15
Nitrate	mg/L	46	46	16.728	18.414	0.358	0.706	12.38	14.38	11.84	12.32	2.46	5.06
Phosphate	mg/L	46	46	0.24	0.137	0.025	0.021	0.07	0.07	0.07	0.06	0.03	0.02
Sulphate	mg/L	46	46	14.979	14.81	4.578	2.581	10.31	12.17	10.39	10.95	1.93	3.26
Mg	mg/L	46	46	46.22	42.07	17.64	9.51	39.18	34.12	38.82	31.88	4.29	7.97
Ca	mg/L	46	46	66.05	63.61	32.66	17.13	51.44	56.84	51.60	52.56	5.21	11.36
Na	mg/L	46	46	122.82	116.3	35.19	27.53	102.55	81.40	101.46	76.72	13.99	21.14
K	mg/L	48	48	1.708	1.789	<0.5	<0.5	1.30	0.43	1.24	0.56	0.38	0.46
Al	mg/L	46	45	<0.07	<0.1	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.00	0.00
Mn	mg/L	46	45	0.006	0.011	<0.004	<0.004	<0.004	<0.004	0.00	<0.004	0.00	0.00
Fe	mg/L	46	45	0.012	<0.007	<0.007	<0.007	<0.007	<0.007	0.00	<0.007	0.00	0.00
Cu	mg/L	46	45	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.00
Zn	mg/L	46	45	0.011	0.01	<0.005	<0.05	<0.005	<0.05	0.00	0.00	0.00	0.00
Pb	mg/L	45	44	0.0076	0.0075	<0.001	<0.001	0.00	<0.003	0.00	0.00	0.00	0.00
B	mg/L	15	14	0.041	0.095	0.017	0.018	0.04	0.02	0.03	0.03	0.01	0.02
Cr	mg/L	15	14	<0.001	<0.01	<0.001	<0.01	<0.001	<0.01	<0.001	<0.01	0.00	0.00
Mo	mg/L	15	14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.00	0.00
Ni	mg/L	15	14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.00	0.00
Cd	mg/L	15	14	<0.003	<0.003	<0.002	<0.002	<0.002	<0.002	0.00	0.00	0.00	0.00
As	mg/L	5	5	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	0.00	0.00	0.00
Hg	mg/L	5	5	<0.001	<0.001	<0.001	<0.001	0.00	<0.001	0.00	<0.001	0.00	0.00

# DWQMP Water Quality Data Summary



Table 13 Sarina Source Water Quality Data Summary – Marwood Bores

Parameter	Unit	Count				Max				Min				Median				Mean				Std. Dev.			
		B1	B2	B3	B4	B1	B2	B3	B4	B1	B2	B3	B4	B1	B2	B3	B4	B1	B2	B3	B4	B1	B2	B3	B4
pH	-	47	47	47	45	7.51	7.5	6.8	7.15	6.56	6.67	6.29	6.46	7	6.94	6.52	6.8	7.04	6.92	6.54	6.80	0.18	0.15	0.13	0.15
Turbidity	NTU	47	47	47	45	11.6	2.38	7.3	16.2	0.14	<0.1	<0.1	<0.1	0.63	0.34	0.28	0.39	1.35	0.50	0.52	1.68	2.09	0.53	1.05	3.20
Conductivity	µS/cm	47	47	47	45	840	870	746	892	247	539	324	717	327	772	547	799	333.17	744.68	539.13	801.24	82.00	94.12	78.96	54.65
DO	% Sat.	45	45	45	43	100.2	98.7	103	98.9	38.5	38.1	39.6	37.3	80.1	72.1	78.1	70.1	78.71	72.06	76.53	69.76	12.83	11.77	10.27	12.96
Colour - True	TCU	47	47	47	45	8	21	8	10	<1	<1	<1	<1	1	<1	1	<1	1.48	1.49	1.40	1.48	1.72	3.23	1.62	1.90
TOC	mg/L	40	40	40	38	1.444	0.903	1	0.8	0.3	<0.3	<0.3	<0.3	0.64215	0.4	0.3	0.1995	0.68	0.41	0.30	0.27	0.23	0.26	0.23	0.21
Hardness	mg/L	47	47	47	45	87.37	192.69	204.26	276.68	44.95	117.93	74.68	166.02	70.94	167.51	148.87	229.98	69.36	163.15	146.90	230.42	11.15	19.82	24.39	22.36
Alkalinity	mg/L	47	47	47	45	111.4	189	102	190.74	77	142.22	53.6	132.34	84.6	166.44	73.44	157.46	88.03	165.49	74.13	161.20	9.52	11.37	9.81	15.97
Fluoride	mg/L	47	47	47	45	0.316	0.245	0.13	0.219	0.116	0.05	0.038	0.072	0.155	0.153	0.06	0.11	0.18	0.15	0.06	0.12	0.05	0.03	0.02	0.03
Chloride	mg/L	47	47	47	45	68.658	156.6	154.6	187.36	15.763	58.648	39.573	128.1	45.466	133.53	105.905	147.396	43.63	128.15	104.77	148.85	13.31	24.65	21.36	11.61
Nitrite	mg/L	47	47	47	45	0.058	0.297	0.191	0.628	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.01	0.01	0.01	0.02	0.01	0.04	0.03	0.10
Bromide	mg/L	42	42	42	40	0.138	0.295	0.323	0.361	0.045	0.122	0.075	0.19	0.096	0.238	0.1935	0.288	0.09	0.22	0.19	0.29	0.02	0.05	0.05	0.04
Nitrate	mg/L	47	47	47	45	0.305	22.141	22.616	9.681	0.059	1.094	3.601	0.2	0.196	4.459	20.45	3.359	0.19	4.72	19.44	3.29	0.07	3.53	3.57	2.34
Phosphate	mg/L	47	47	47	45	0.745	0.29	0.55	0.874	0.185	0.075	0.189	0.154	0.367	0.219	0.299	0.307	0.40	0.21	0.30	0.31	0.10	0.04	0.06	0.10
Sulphate	mg/L	47	47	47	45	3.321	14.54	6.644	3.548	1.019	2.057	2.46	1.444	2.797	4.362	4.304	2.858	2.57	4.24	4.23	2.84	0.61	1.72	0.65	0.37
Mg	mg/L	47	47	47	45	10.95	26.6	22.65	36.69	5.72	16.54	7.9	23.01	8.83	23.37	15.54	30.22	8.69	22.74	15.50	30.41	1.33	2.73	2.77	3.03
Ca	mg/L	47	47	47	45	17.18	33.3	44.45	50.51	8.57	19.95	16.88	28.54	13.81	28.37	34.01	42.1	13.45	27.84	33.26	42.13	2.29	3.49	5.49	4.09
Na	mg/L	47	47	47	45	44.43	105.6	58.85	93.25	35.09	65.55	27.86	59.98	39.23	94.8	45.19	70.11	39.31	91.01	44.68	71.26	2.13	11.96	5.25	6.73
K	mg/L	49	49	49	47	0.512	0.6	1.548	1.14	<0.5	<0.5	<1	<0.5	<0.5	<0.5	1.186	0.656	<0.5	<0.5	1.14	0.62	0.10	0.17	0.22	0.21
Al	mg/L	46	46	46	45	<0.1	<0.1	<0.1	<0.1	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
Mn	mg/L	46	46	46	44	0.174	0.033	0.01	0.063	0.025	<0.004	<0.004	<0.004	0.06	<0.004	<0.004	<0.004	0.06	<0.004	<0.004	0.01	0.02	0.00	0.00	0.01
Fe	mg/L	46	46	46	44	0.093	0.015	0.059	0.092	<0.007	<0.007	<0.007	<0.007	0.015	<0.007	<0.007	<0.007	0.02	<0.007	<0.007	<0.007	0.02	0.00	0.01	0.01
Cu	mg/L	46	46	46	44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.00	0.00
Zn	mg/L	46	46	46	44	0.025	0.007	0.007	0.0743	0.00165	<0.005	<0.005	<0.005	0.00165	<0.005	<0.005	0.013	0.00	<0.005	<0.005	0.01	0.00	0.00	0.00	0.01
Pb	mg/L	45	45	45	43	0.005	0.0081	0.0062	0.0081	<0.001	<0.001	<0.001	<0.001	0.00099	0.00099	0.00099	0.00099	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	mg/L	15	15	15	15	0.039	0.043	0.024	0.042	<0.01	0.025	<0.01	0.02	0.021	0.039	0.02	0.034	0.02	0.04	0.02	0.03	0.01	0.00	0.00	0.01
Cr	mg/L	15	15	15	15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.00	0.00
Mo	mg/L	15	15	15	15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.00	0.00	0.00	0.00
Ni	mg/L	15	15	15	15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.00	0.00	0.00	0.00
Cd	mg/L	15	15	15	15	<0.003	<0.003	<0.003	<0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00	0.00	0.00	0.00
As	mg/L	5	5	5	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00	0.00	0.00	0.00
Hg	mg/L	5	5	5	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00	0.00	0.00	0.00

Table 14 Sarina Source Water Quality Data Summary – Bally Keel Bore

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
pH	-	46	8.41	6.86	7.355	7.37	0.21
Turbidity	NTU	46	14	0.1	0.37	1.15	2.70
Conductivity	µS/cm	46	1136	92.6	969.5	925.04	206.63
DO	% Sat.	44	101	28.9	54.75	56.09	17.53
Colour - True	TCU	46	5	<1	<1	0.95	0.90
TOC	mg/L	39	1.599	<0.3	0.4	0.44	0.34
Hardness	mg/L	46	376.1	68.87	296.075	292.48	54.62
Alkalinity	mg/L	46	423.68	60.06	314.05	311.59	63.16
Fluoride	mg/L	46	0.504	0.104	0.152	0.17	0.07
Chloride	mg/L	46	159.317	24.366	113.7985	110.36	31.52
Nitrite	mg/L	46	0.04	<0.004	<0.004	<0.004	0.01
Bromide	mg/L	41	0.342	<0.01	0.248	0.23	0.09
Nitrate	mg/L	46	17.599	0.247	13.015	11.94	4.04
Phosphate	mg/L	46	0.433	0.02	0.0425	0.05	0.06
Sulphate	mg/L	46	7.41	2.256	6.484	6.16	1.12
Mg	mg/L	46	50.39	5.67	39.92	39.46	7.83
Ca	mg/L	46	67.52	13.43	52.64	52.05	9.10
Na	mg/L	46	116.1	15.7	96.105	94.74	16.29
K	mg/L	48	2.857	<0.5	<0.5	0.25	0.40
Al	mg/L	45	<0.07	<0.07	<0.07	<0.07	0.00
Mn	mg/L	45	0.067	<0.004	<0.004	0.004	0.01
Fe	mg/L	45	0.009	<0.007	<0.007	<0.007	0.00
Cu	mg/L	45	<0.01	<0.01	<0.01	<0.01	0.00
Zn	mg/L	45	0.0255	<0.005	0.005	0.01	0.01
Pb	mg/L	44	0.008	<0.001	<0.003	<0.003	0.00
B	mg/L	14	0.028	<0.01	0.022	0.02	0.01
Cr	mg/L	14	<0.01	<0.01	<0.01	<0.01	0.00
Mo	mg/L	14	0.0165	0.0165	0.0165	0.02	0.00
Ni	mg/L	14	<0.03	<0.03	<0.03	<0.03	0.00
Cd	mg/L	14	<0.003	<0.002	<0.002	<0.002	0.00
As	mg/L	5	<0.001	<0.001	<0.001	<0.001	0.00
Mg	mg/L	5	<0.001	<0.001	<0.001	<0.001	0.00

Table 15 Sarina Source Water Quality Data Summary – Plane Creek Weir

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	38	30	17.8	24.15	23.36	3.59
pH	-	84	8.05	6.88	7.66	7.60	0.27
Turbidity	NTU	84	109.9	0.43	3.12	8.14	15.46
Conductivity	µS/cm	84	1075	160.6	379.5	373.50	114.98
DO	% Sat.	82	107.6	29.7	69.1	67.42	17.93
Colour - True	TCU	84	108	<1	10.5	21.01	25.43
TOC	mg/L	72	9.491	0.7	2.7915	3.17	1.91
Hardness	mg/L	84	171.21	47.41	125.545	123.62	31.69
Alkalinity	mg/L	84	170.7	45.02	132.23	127.74	31.78
Fluoride	mg/L	84	0.168	0.06	0.1105	0.11	0.03
Chloride	mg/L	84	56.974	11.752	34.8255	34.47	9.79
Nitrite	mg/L	84	0.059	<0.004	<0.004	0.01	0.02
Bromide	mg/L	75	0.362	<0.01	0.085	0.08	0.05
Nitrate	mg/L	84	3.466	0.018	0.273	0.37	0.48
Phosphate	mg/L	84	0.564	<0.01	0.0585	0.08	0.08
Sulphate	mg/L	84	47.52	1.525	3.84	4.28	4.91
Mg	mg/L	84	18.21	4.86	13.17	12.91	3.37
Ca	mg/L	84	39.63	10.97	28.955	28.26	7.32
Na	mg/L	84	39.38	13.53	28.2534	27.82	5.92
K	mg/L	87	3.573	<0.5	1.032	1.10	0.58
Al	mg/L	83	1.315	<0.07	<0.07	0.11	0.24
Mn	mg/L	83	0.047	<0.004	<0.004	<0.004	0.01
Fe	mg/L	83	0.682	<0.007	0.012	0.07	0.12
Cu	mg/L	83	0.084	<0.01	<0.01	<0.01	0.01
Zn	mg/L	83	<0.01	<0.005	<0.005	<0.005	0.00
Pb	mg/L	80	0.005	<0.001	<0.003	<0.003	0.00
B	mg/L	28	0.0322	<0.01	0.015	0.02	0.01
Cr	mg/L	28	<0.01	<0.01	<0.01	<0.01	0.00
Mo	mg/L	28	<0.05	<0.05	<0.05	<0.05	0.00
Ni	mg/L	28	<0.03	<0.03	<0.03	<0.03	0.00
Cd	mg/L	28	<0.003	<0.002	<0.002	<0.002	0.00
As	mg/L	10	0.0021	<0.001	<0.001	<0.001	0.00
Hg	mg/L	10	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	7	121	<1	41	44.62	39.28
<i>E.coli</i>	MPN/100mL	32	408	<1	22	47.81	77.59
Total Coliform	cfu/100mL	39	>2420	30	1091	5949.20	16171.11
Heterotroph	cfu/100mL	39	10000	170	1500	2449.70	2496.14
Enterococci	cfu/100mL	35	800	<1	28	94.53	183.46

Table 16 Sarina Treated Water Quality Data Summary – Sarina WTP

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	40	30.6	18.2	24.45	24.03	3.52
pH	-	97	8.17	6.61	7.6	7.56	0.30
Turbidity	NTU	97	2.96	<0.01	0.31	0.39	0.37
Conductivity	µS/cm	97	741	210.1	401	388.99	82.02
DO	% Sat.	82	116.7	32.4	76.4	74.81	16.26
Colour - True	TCU	97	15	<1	1	2.18	2.51
TOC	mg/L	86	5.812	0.4	1.505	1.65	0.83
Hardness	mg/L	97	168.26	58.48	130.32	127.00	26.60
Alkalinity	mg/L	97	202.94	46.1	131.6	126.36	29.45
Free Cl <sub>2</sub>	mg/L	96	2.7	<0.02	1.2	1.11	0.61
Total Cl <sub>2</sub>	mg/L	94	5.5	<0.02	1.375	1.31	0.79
Fluoride	mg/L	97	1.315	0.045	0.132	0.25	0.25
Chloride	mg/L	97	60.259	22.393	41.395	40.34	8.16
Nitrite	mg/L	97	0.066	<0.004	<0.004	0.004	0.01
Bromide	mg/L	88	0.774	<0.01	<0.01	0.04	0.11
Nitrate	mg/L	97	3.39	0.042	0.218	0.38	0.44
Phosphate	mg/L	97	0.969	<0.01	<0.01	0.03	0.10
Sulphate	mg/L	97	42.12	1.727	4.082	4.29	4.02
Mg	mg/L	97	18.26	5.96	14.09	13.41	3.04
Ca	mg/L	97	39.86	13.59	28.45	28.79	5.91
Na	mg/L	97	39.58	16.36	29.49	28.87	5.19
K	mg/L	100	3.646	<1	1.0965	1.14	0.54
Al	mg/L	96	<0.01	<0.07	<0.07	0.02	0.00
Mn	mg/L	97	0.068	<0.004	<0.004	<0.004	0.01
Fe	mg/L	97	<0.007	<0.007	<0.007	<0.007	0.00
Cu	mg/L	97	0.018	<0.01	<0.01	0.00	0.00
Zn	mg/L	97	0.008	<0.005	<0.005	<0.005	0.00
Pb	mg/L	95	0.0043	<0.001	<0.003	<0.003	0.00
B	mg/L	28	0.029	<0.01	0.016	0.02	0.00
Cr	mg/L	28	<0.01	<0.01	<0.01	<0.01	0.00
Mo	mg/L	28	<0.05	<0.05	<0.05	<0.05	0.00
Ni	mg/L	28	<0.03	<0.03	<0.03	<0.03	0.00
Cd	mg/L	28	<0.003	<0.002	<0.002	<0.002	0.00
As	mg/L	11	0.0013	<0.001	<0.001	<0.001	0.00
Hg	mg/L	11	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	15	<1	<1	<1	<1	0.00
<i>E.coli</i>	MPN/100mL	65	<1	<1	<1	<1	0.00
Total Coliform	cfu/100mL	94	>2420	<1	<1	104.48	762.62
Heterotroph	cfu/100mL	93	2970	<1	1	255.96	644.42

Table 17 Sarina Supplied Water Quality Data Summary – Sarina Reservoirs

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
pH	-	52	8.16	7.23	7.9	7.90	0.16
Turbidity	NTU	52	1.29	<0.01	0.3	0.34	0.19
Conductivity	µS/cm	52	790	245	508	534.69	145.57
DO	% Sat.	50	120.3	43.2	93.9	93.04	11.12
Colour - True	TCU	52	3	<1	<1	0.78	0.68
TOC	mg/L	45	2.718	0.4	1.062	1.14	0.49
Hardness	mg/L	52	260.23	78.72	173.655	170.83	45.10
Alkalinity	mg/L	52	275.84	74.3	176.13	179.71	53.68
Free Cl <sub>2</sub>	mg/L	57	6.67	0.21	0.73	0.90	0.87
Total Cl <sub>2</sub>	mg/L	57	2.5	0.23	0.84	0.91	0.40
Fluoride	mg/L	52	0.74	0.085	0.42	0.41	0.12
Chloride	mg/L	52	80.32	26.533	51.6955	52.90	14.54
Nitrite	mg/L	52	0.067	<0.004	<0.004	0.01	0.01
Bromide	mg/L	47	0.436	<0.01	0.076	0.12	0.12
Nitrate	mg/L	52	10.044	0.101	3.9545	4.29	2.96
Phosphate	mg/L	52	0.091	<0.01	0.0285	0.03	0.02
Sulphate	mg/L	52	35.66	2.51	6.132	6.70	4.49
Mg	mg/L	52	33.82	6.94	18.46	19.24	6.30
Ca	mg/L	52	48.44	18.8506	38.275	36.68	8.00
Na	mg/L	52	72.43	17.71	45.79	46.22	15.14
K	mg/L	54	1.817	<1	0.9355	0.95	0.31
Al	mg/L	52	<0.01	<0.01	<0.07	0.02	0.00
Mn	mg/L	52	0.004	<0.003	<0.004	<0.004	0.00
Fe	mg/L	52	0.02	<0.003	<0.007	<0.007	0.00
Cu	mg/L	52	<0.05	<0.01	<0.01	<0.01	0.00
Zn	mg/L	52	0.009	<0.005	<0.005	<0.005	0.00
Pb	mg/L	51	0.0056	<0.001	<0.003	<0.003	0.00
B	mg/L	17	0.034	<0.01	0.018	0.02	0.01
Cr	mg/L	17	<0.04	<0.01	<0.01	<0.01	0.00
Mo	mg/L	17	<0.05	<0.01	<0.05	0.02	0.00
Ni	mg/L	17	0.015	<0.03	<0.03	0.01	0.00
Cd	mg/L	17	<0.03	<0.002	<0.002	<0.002	0.00
As	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.00
Hg	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	11	<1	<1	<1	<1	0.00
<i>E.coli</i>	MPN/100mL	39	<1	<1	<1	<1	0.00
Total Coliform	cfu/100mL	46	<1	0.0429	<1	0.32	0.04
Heterotroph	cfu/100mL	50	220	<0.007	<1	10.90	40.67



Table 18 Sarina Supplied Water Quality Data Summary – Sarina Township

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	439	34.1	18.2	25.7	25.50	3.26
pH	-	488	8.52	6.48	7.51	7.52	0.29
Turbidity	NTU	490	17.8	<0.01	0.29	0.47	0.95
Conductivity	µS/cm	488	938	<1	531	552.56	179.10
DO	% Sat.	487	662	38.1	77.7	78.49	31.40
Colour - True	TCU	484	40	0	1	1.71	2.76
TOC	mg/L	418	3.3	<0.3	0.97775	1.05	0.55
Hardness	mg/L	480	308.91	60.4	174.78	170.96	49.67
Alkalinity	mg/L	484	338.14	54.34	168.32	167.01	56.05
Free Cl <sub>2</sub>	mg/L	491	5.8	0.03	0.85	0.87	0.56
Total Cl <sub>2</sub>	mg/L	492	5.8	0.05	0.95	0.98	0.59
Fluoride	mg/L	481	0.97	0.062	0.4635	0.42	0.18
Chloride	mg/L	481	188.061	23.14	58.0385	68.17	33.70
Nitrite	mg/L	481	0.39	0	<0.004	0.02	0.05
Bromide	mg/L	435	9.022	0	<0.3	0.16	0.44
Nitrate	mg/L	481	37.149	0.074	3.985	4.71	4.10
Phosphate	mg/L	482	1.714	0	0.051	0.11	0.17
Sulphate	mg/L	482	74.953	1.774	4.896	8.60	9.05
Mg	mg/L	481	37.45	4.51	18.56	18.94	6.89
Ca	mg/L	481	63.3	15.23	37.67	37.24	9.29
Na	mg/L	481	97.03	13.66	45.27	51.21	22.51
K	mg/L	489	3.035	<0.5	0.9225	0.97	0.42
Al	mg/L	479	5.138	0.006	<0.07	0.10	0.39
Mn	mg/L	481	0.245	<0.003	<0.004	0.005	0.02
Fe	mg/L	481	1.313	<0.007	<0.007	0.02	0.09
Cu	mg/L	481	0.57	0	<0.01	0.01	0.03
Zn	mg/L	481	1.754	0	0.005	0.01	0.08
Pb	mg/L	456	0.064	0	<0.003	<0.003	0.00
B	mg/L	112	0.04	0.01	0.022	0.02	0.01
Cr	mg/L	112	0.044	0	<0.01	0.01	0.01
Mo	mg/L	112	0.02	0	0	0.01	0.01
Ni	mg/L	112	0.02	0	0.00495	0.01	0.01
Cd	mg/L	112	<0.01	0	<0.002	<0.002	0.00
As	mg/L	19	0.001	<0.001	<0.001	<0.001	0.00
Hg	mg/L	18	0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	178	7	0	<1	0.25	0.57
<i>E.coli</i>	MPN/100mL	311	<1	<1	<1	<1	0.00
Faecal Coliform	cfu/100mL	89	10	0	0	<1	1.10
Total Coliform	cfu/100mL	484	3100	0	<1	8.03	141.46
Heterotroph	cfu/100mL	439	34.1	18.2	25.7	25.50	3.26

Table 19 Sarina Supplied Water Quality Data Summary – Armstrong Beach

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	42	31.7	20.4	26.35	26.062	2.641
pH	-	92	8.17	6.88	7.54	7.551	0.252
Turbidity	NTU	93	2	0.1	0.4	0.527	0.397
Conductivity	µS/cm	90	910	206.1	718.5	677.173	142.509
DO	% Sat.	88	100	34	76.9	76.313	13.853
Colour - True	TCU	90	9	<1	<1	1.206	1.403
TOC	mg/L	77	1.805	<0.3	0.8794	0.904	0.353
Hardness	mg/L	90	320.36	68.37	244.295	227.823	53.463
Alkalinity	mg/L	90	353.56	60.9	279.65	257.493	65.647
Free Cl <sub>2</sub>	mg/L	94	2.2	0.05	0.91	0.899	0.438
Total Cl <sub>2</sub>	mg/L	92	2.28	0.09	1.01	1.017	0.438
Fluoride	mg/L	90	0.552	<0.01	0.295	0.306	0.095
Chloride	mg/L	90	127.462	20.556	58.4255	58.342	13.047
Nitrite	mg/L	90	0.057	<0.004	<0.004	<0.004	0.008
Bromide	mg/L	79	0.738	<0.01	0.191	0.208	0.132
Nitrate	mg/L	90	8.888	0.284	3.8455	4.002	1.566
Phosphate	mg/L	90	0.262	<0.01	0.0435	0.050	0.035
Sulphate	mg/L	90	9.082	1.802	4.961	5.094	1.231
Mg	mg/L	90	38.6	5.69	28.95	26.862	7.128
Ca	mg/L	90	64.64	18	50.255	46.972	9.832
Na	mg/L	90	85.38	14.94	64.32	60.739	14.285
K	mg/L	92	1.71	<0.5	0.5255	0.530	0.378
Al	mg/L	90	0.09	0.015	<0.07	0.024	0.007
Mn	mg/L	91	0.009	<0.003	<0.004	<0.003	0.001
Fe	mg/L	91	0.013	<0.003	<0.007	0.003	0.002
Cu	mg/L	90	0.164	<0.01	<0.01	0.014	0.022
Zn	mg/L	90	0.098	<0.005	0.006	0.008	0.012
Pb	mg/L	86	0.0095	<0.001	<0.003	0.002	0.002
B	mg/L	19	0.034	<0.01	0.021	0.019	0.008
Cr	mg/L	19	<0.04	<0.01	<0.01	<0.01	0.002
Mo	mg/L	19	<0.05	<0.01	<0.05	<0.05	0.003
Ni	mg/L	19	0.022	<0.03	<0.03	<0.03	0.003
Cd	mg/L	19	<0.03	<0.002	<0.002	<0.002	0.002
As	mg/L	7	<0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	7	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	15	<1	<0.004	<1	0.308	0.085
<i>E.coli</i>	MPN/100mL	71	<1	<1	<1	<1	0.000
Total Coliform	cfu/100mL	86	1	0.0429	<1	0.334	0.079
Heterotroph	cfu/100mL	85	>20000	<0.007	1	82.234	656.952

Table 20 Sarina Supplied Water Quality Data Summary – Sarina Northern Beaches

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
pH	-	51	8.43	7.47	7.72	7.79	0.24
Turbidity	NTU	51	9.74	<0.01	0.28	0.65	1.46
Conductivity	µS/cm	51	860	207	690	615.31	169.36
DO	% Sat.	49	124	44.5	99	98.47	11.55
Colour - True	TCU	51	7	<1	<1	1.12	1.23
TOC	mg/L	44	2.079	<0.3	0.5075	0.57	0.42
Hardness	mg/L	51	195.89	65.49	159.58	149.56	31.49
Alkalinity	mg/L	51	149	58.9	139.4	128.23	25.23
Free Cl <sub>2</sub>	mg/L	51	2.87	0.02	1.18	1.12	0.47
Total Cl <sub>2</sub>	mg/L	51	3	0.03	1.24	1.19	0.49
Fluoride	mg/L	51	0.8	<0.01	0.579	0.53	0.17
Chloride	mg/L	51	132.306	24.449	121.714	106.56	35.61
Nitrite	mg/L	51	<18	<0.004	<0.004	0.01	0.05
Bromide	mg/L	46	0.481	<0.01	0.2395	0.23	0.11
Nitrate	mg/L	51	9.209	0.448	7.014	5.77	2.65
Phosphate	mg/L	51	0.358	<0.01	0.258	0.22	0.09
Sulphate	mg/L	51	4.758	1.907	3.987	3.68	0.69
Mg	mg/L	51	22.9	5.01	19.74	17.79	5.02
Ca	mg/L	51	40.39	17.62	31.48	30.32	4.52
Na	mg/L	51	84.2	14.55	76.3	66.61	22.85
K	mg/L	53	1.672	<0.5	0.628	0.65	0.30
Al	mg/L	51	0.074	<0.01	<0.07	0.02	0.01
Mn	mg/L	51	0.004	<0.003	<0.004	<0.003	0.00
Fe	mg/L	51	0.051	<0.003	<0.007	0.01	0.01
Cu	mg/L	51	0.136	<0.01	<0.01	0.01	0.02
Zn	mg/L	51	0.015	<0.005	<0.005	<0.005	0.00
Pb	mg/L	50	0.0073	<0.001	<0.003	0.002	0.00
B	mg/L	17	0.039	<0.01	<0.01	0.03	0.01
Cr	mg/L	17	<0.04	<0.01	<0.01	<0.01	0.00
Mo	mg/L	17	<0.05	<0.01	<0.05	0.02	0.00
Ni	mg/L	17	0.031	<0.03	<0.03	0.01	0.01
Cd	mg/L	17	<0.03	<0.002	<0.002	<0.002	0.00
As	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.00
Hg	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.00
<i>E.coli</i>	cfu/100mL	11	<1	<0.004	<1	<1	0.10
<i>E.coli</i>	MPN/100mL	35	<1	<1	<1	<1	0.00
Total Coliform	cfu/100mL	46	118	0.0429	<1	2.94	17.34
Heterotroph	cfu/100mL	46	130	0.02	1	9.27	25.19

# DWQMP Water Quality Data Summary



Table 21 Koumala Source Water Quality Data Summary

Parameter	Unit	Count		Max		Min		Median		Mean		Std. Dev.	
		B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
Temperature	°C	23	9	26.1	24.9	22	23.8	23.8	24.2	23.852	24.389	1.024	0.431
pH	-	79	67	7.98	8.27	6.89	7.03	7.38	7.45	7.388	7.450	0.231	0.204
Turbidity	NTU	79	67	40.1	28.42	<0.1	<0.1	0.4	0.6	1.767	2.256	5.042	4.842
Conductivity	µS/cm	80	68	1169	1638	11	576	1022	1075.5	1007.663	1072.647	131.990	101.621
DO	% Sat.	73	61	577	98.4	6	6.8	70.1	76	74.561	71.253	62.714	19.478
Colour - True	TCU	79	68	29	13	<1	<1	1	<1	1.872	1.400	3.500	1.969
TOC	mg/L	73	61	1.591	1.67	<0.3	<0.3	0.458	0.5	0.475	0.485	0.321	0.355
Alkalinity	mg/L	80	68	343	329.44	285.2	289.6	299.18	312.07	301.160	311.709	10.067	9.538
Hardness	mg/L CaCO <sub>3</sub>	80	68	560.63	518.14	347.85	396.94	434.21	456.565	431.904	452.181	29.971	23.378
Fluoride	mg/L	79	67	0.315	0.309	0.12	0.121	0.18	0.18	0.184	0.182	0.033	0.030
Chloride	mg/L	79	68	167.165	170	113.268	128.709	145.126	153.6215	141.705	151.915	11.440	9.954
Nitrite	mg/L	79	67	2.029	1.213	<0.004	<0.004	<0.004	<0.004	0.079	0.088	0.275	0.211
Bromide	mg/L	73	63	1.73	4.942	0.03	0.046	0.233	0.255	0.276	0.373	0.204	0.629
Nitrate	mg/L	79	67	22.764	21.555	9.629	8.925	20.37	19.553	19.956	19.030	1.657	2.016
Phosphate	mg/L	80	68	0.407	0.399	<0.01	<0.01	0.054	0.046	0.064	0.054	0.058	0.055
Sulphate	mg/L	79	67	5.523	5.171	3.635	2.663	4.834	4.585	4.782	4.589	0.322	0.350
Mg	mg/L	79	68	51.14	54.88	36.95	41.82	45.76	48.57685	45.319	48.186	3.001	2.745
Ca	mg/L	80	68	114	117	78.37	90	97.525	102.8	97.706	101.651	6.923	5.280
Na	mg/L	79	68	55.88	74.06	36.3	42.64	47.21	49.015	47.214	49.506	3.217	3.993
K	mg/L	82	69	0.695	0.63	<0.5	<0.5	<0.5	<0.5	0.187	0.184	0.080	0.069
Al	mg/L	79	67	0.08	<0.1	<0.03	<0.03	<0.07	<0.07	<0.03	<0.03	0.008	0.005
Mn	mg/L	79	67	0.079	0.128	<0.003	<0.003	<0.004	<0.004	0.005	0.008	0.010	0.019
Fe	mg/L	79	67	0.092	0.26	<0.004	<0.007	<0.007	<0.007	0.009	0.015	0.017	0.038
Cu	mg/L	79	67	0.896	1.263	<0.01	<0.01	<0.01	0.043	0.047	0.090	0.149	0.197
Zn	mg/L	80	68	8.79	3.73	<0.005	<0.005	0.008	0.0125	0.197	0.203	1.100	0.742
Pb	mg/L	76	63	<0.1	0.022	<0.001	<0.001	<0.003	<0.003	0.003	0.003	0.005	0.004
B	mg/L	33	25	0.096	0.051	<0.01	<0.01	0.022	0.022	0.023	0.022	0.015	0.008
Cr	mg/L	33	25	<0.04	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.003	0.003
Mo	mg/L	33	25	<0.05	<0.05	<0.003	<0.003	<0.05	<0.05	0.014	<0.05	0.005	0.006
Ni	mg/L	33	25	0.023	0.05	<0.03	<0.03	<0.03	<0.03	0.011	0.013	0.002	0.008
Cd	mg/L	33	25	<0.03	<0.03	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.002
As	mg/L	12	11	0.0015	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	0.001
Hg	mg/L	11	11	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	0.000
<i>E.coli</i>	cfu/100mL	4	4	1	0.66	<1	<1	0.66	0.495	0.663	0.495	0.274	0.191
<i>E.coli</i>	MPN/100mL	19	5	7	8	<1	<1	<1	<1	<1	1.864	1.557	3.430

# DWQMP Water Quality Data Summary



Parameter	Unit	Count		Max		Min		Median		Mean		Std. Dev.	
		B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
Total Coliform	cfu/100mL	23	9	1414	1553	<1	<1	4	0.66	133.231	173.182	348.271	517.432
Heterotroph	cfu/100mL	23	9	410	900	<1	<1	40	37	78.029	159.037	97.614	287.772
Enterococci	cfu/100mL	11	4	49	<1	<1	<1	<1	<1	4.936	<1	14.623	0.000

Table 22 Koumala Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	39	29.5	19.4	24.1	24.269	2.304
pH	-	98	7.85	6.8	7.5	7.462	0.202
Turbidity	NTU	99	1.5	<0.1	0.3	0.368	0.274
Conductivity	µS/cm	98	1166	100	1061	1038.531	121.110
DO	% Sat.	91	117.2	6.8	76.1	75.738	15.923
Colour - True	TCU	98	13	<1	<1	1.274	1.899
TOC	mg/L	90	2.83	<0.3	0.4	0.427	0.383
Alkalinity	mg/L	98	324.64	252	303	304.157	10.847
Hardness	mg/L CaCO <sub>3</sub>	98	501.75	338.29	446.5	444.234	29.150
Free Cl <sub>2</sub>	mg/L	105	1.62	0.13	0.8	0.775	0.351
Total Cl <sub>2</sub>	mg/L	105	1.83	0.14	0.85	0.848	0.370
Fluoride	mg/L	98	0.34	0.088	0.1835	0.182	0.039
Chloride	mg/L	98	178.251	50.521	151.3745	148.223	16.073
Nitrite	mg/L	98	0.333	<0.004	<0.004	0.016	0.054
Bromide	mg/L	90	0.886	<0.01	0.263	0.313	0.182
Nitrate	mg/L	98	22.627	1.547	20.1845	19.439	2.788
Phosphate	mg/L	98	21	<0.01	0.0475	0.415	2.552
Sulphate	mg/L	98	6.347	1.328	4.7575	4.644	0.568
Mg	mg/L	98	52.96	35.38	47.725	47.135	3.174
Ca	mg/L	98	113.6	77.13	100.25	100.171	6.561
Na	mg/L	98	54.03	36.81	49.655	49.233	2.687
K	mg/L	101	1.642	<0.5	<0.5	0.213	0.183
Al	mg/L	99	0.04	<0.03	<0.07	<0.03	0.005
Mn	mg/L	92	0.006	<0.003	<0.004	<0.003	0.001
Fe	mg/L	98	0.063	<0.007	<0.007	<0.007	0.008
Cu	mg/L	98	0.029	<0.01	<0.01	<0.01	0.005
Zn	mg/L	98	0.03	<0.005	0.00514	0.006	0.006
Pb	mg/L	94	0.0083	<0.001	<0.003	0.002	0.002
B	mg/L	37	0.037	<0.01	0.021	0.021	0.007
Cr	mg/L	37	<0.04	<0.01	<0.01	<0.01	0.003
Mo	mg/L	37	<0.05	<0.003	<0.05	0.015	0.005
Ni	mg/L	37	0.024	<0.03	<0.03	<0.03	0.002
Cd	mg/L	37	<0.03	<0.002	<0.002	<0.002	0.002
As	mg/L	16	0.0015	<0.001	<0.001	<0.001	0.000
Hg	mg/L	16	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	27	<1	<1	<1	<1	0.000
<i>E.coli</i>	MPN/100mL	69	<1	<1	<1	<1	0.000
Faecal Coliform	cfu/100mL	95	120	<1	1	6.977	17.168
Total Coliform	cfu/100mL	5	<1	<1	<1	<1	0.000
Heterotroph	cfu/100mL	95	3	<1	<1	<1	0.385
Enterococci	cfu/100mL	2	<1	<1	<1	<1	0.000

Table 23 Calen Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	70	31.1	19.3	26.45	26.137	2.648
pH	-	100	7.51	6.59	7	7.031	0.181
Turbidity	NTU	100	2	0	0.2	0.257	0.293
Conductivity	µS/cm	100	1062	613	875	871.450	74.657
DO	% Sat.	100	92.4	30	59.1	59.783	10.669
Colour - True	TCU	99	6	0	1	1.531	1.362
TOC	mg/L	83	1.6	<0.3	0.4	0.440	0.314
Alkalinity	mg/L	99	297.32	188	239.4	240.767	21.235
Hardness	mg/L CaCO <sub>3</sub>	87	468.914	0	147.46	147.460	52.725
Free Cl <sub>2</sub>	mg/L	109	3.2	<0.02	1	0.917	0.426
Total Cl <sub>2</sub>	mg/L	109	3.4	<0.02	1.07	0.998	0.453
Fluoride	mg/L	99	0.35	0.112	0.14	0.156	0.047
Chloride	mg/L	98	148.11	61.15	122.962	119.058	17.863
Nitrite	mg/L	99	0.34	0	<0.004	0.025	0.062
Bromide	mg/L	93	0.552	0.019	0.144	0.166	0.107
Nitrate	mg/L	98	37.14	12.915	22.935	23.661	5.182
Phosphate	mg/L	99	32.403	0.216	0.296	0.683	3.235
Sulphate	mg/L	99	21.63	0.29	4.92	5.030	2.576
Mg	mg/L	98	47.82	3.772	22.685	22.520	7.056
Ca	mg/L	98	38.44	10.68	20.755	20.601	5.373
Na	mg/L	98	192.8	14.86	139.05	138.343	21.855
K	mg/L	101	133.5	0	<0.5	1.497	13.267
Al	mg/L	96	0.05	0	<0.07	0.019	0.012
Mn	mg/L	99	0.005	0	<0.004	0.001	0.001
Fe	mg/L	99	0.092	0	<0.007	0.007	0.011
Cu	mg/L	98	<0.5	0	0.029	0.030	0.024
Zn	mg/L	98	0.05	0	0.009	0.010	0.008
Pb	mg/L	96	0.0175	0	<0.003	0.002	0.003
B	mg/L	44	0.031	0	0.016	0.015	0.006
Cr	mg/L	44	0.041	0	<0.01	0.007	0.012
Mo	mg/L	34	0.018	0	<0.01	0.007	0.008
Ni	mg/L	38	0.02	0	<0.03	0.009	0.006
Cd	mg/L	45	<0.01	0	<0.002	0.001	0.001
As	mg/L	4	<0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	4	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	58	3	0	<1	0.239	0.403
<i>E.coli</i>	MPN/100mL	45	<1	<1	<1	<1	0.000
Faecal Coliform	cfu/100mL	38	3	0	0	0.192	0.494
Total Coliform	cfu/100mL	100	136	0	<1	3.164	17.708
Heterotroph	cfu/100mL	98	675	0	3	35.554	99.420

Table 24 Koliyo Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	66	31.1	19.3	24.55	24.606	2.896
pH	-	96	7.6	6.6	7.02	7.045	0.220
Turbidity	NTU	96	1.4	0	0.2	0.245	0.232
Conductivity	µS/cm	96	1110	657	874.5	868.646	73.008
DO	% Sat.	96	91.4	37.4	56.75	59.081	10.918
Colour - True	TCU	94	7	0	1	1.613	1.659
TOC	mg/L	80	1.5	<0.3	0.4	0.414	0.276
Alkalinity	mg/L	94	275.24	194	238.09	236.299	18.083
Hardness	mg/L CaCO <sub>3</sub>	83	428.785	0	149.51	150.743	52.462
Free Cl <sub>2</sub>	mg/L	96	1.9	0.02	0.94	0.931	0.299
Total Cl <sub>2</sub>	mg/L	96	2	0.04	1.005	1.000	0.318
Fluoride	mg/L	94	0.35	0.095	0.14	0.151	0.035
Chloride	mg/L	93	213.943	60.87	122.3	120.396	21.125
Nitrite	mg/L	94	0.34	0	<0.004	0.034	0.079
Bromide	mg/L	88	5	0	0.125	0.200	0.527
Nitrate	mg/L	93	37.178	10.541	23.04	23.299	5.418
Phosphate	mg/L	94	33.041	0.191	0.308	0.706	3.383
Sulphate	mg/L	94	8.759	0.28	4.865	4.735	1.110
Mg	mg/L	93	47.27	3.475	22.52	22.749	7.144
Ca	mg/L	93	54.76	11.72	21.45	21.628	6.171
Na	mg/L	93	173.1	14.91	136.9	134.801	22.648
K	mg/L	96	135	0	<0.5	1.580	13.761
Al	mg/L	91	0.05	0	<0.07	0.018	0.010
Mn	mg/L	94	0.005	0	<0.004	0.002	0.001
Fe	mg/L	94	0.054	0	<0.007	0.010	0.014
Cu	mg/L	93	0.096	0	0.028	0.028	0.021
Zn	mg/L	93	0.061	<0.005	0.017	0.018	0.012
Pb	mg/L	91	0.0087	0	<0.003	0.002	0.002
B	mg/L	42	0.024	0	0.0165	0.014	0.007
Cr	mg/L	42	0.04	0	<0.01	0.005	0.009
Mo	mg/L	33	<0.05	0	<0.01	0.007	0.008
Ni	mg/L	37	<0.04	0	<0.03	0.008	0.005
Cd	mg/L	43	<0.01	0	<0.002	0.001	0.001
As	mg/L	4	<0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	4	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	54	<1	0	<1	<1	0.162
<i>E.coli</i>	MPN/100mL	42	<1	<1	<1	<1	0.000
Faecal Coliform	cfu/100mL	33	<1	0	0	0.120	0.161
Total Coliform	cfu/100mL	93	130	0	<1	2.546	14.151
Heterotroph	cfu/100mL	93	>200	0	2	33.634	83.608



Table 25 Bloomsbury Treated Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	53	31.5	19.6	25.4	25.881	3.197
pH	-	73	7.9	6.1	7	7.031	0.269
Turbidity	NTU	73	2.4	0.1	0.4	0.552	0.440
Conductivity	µS/cm	73	1445	239	721	718.877	219.509
DO	% Sat.	73	98.1	34	70.6	71.837	11.123
Colour - True	TCU	71	14	<1	2	2.422	2.724
TOC	mg/L	60	2.3	0.447	1.1	1.164	0.392
Alkalinity	mg/L	71	237	57.16	142.56	138.646	29.011
Hardness	mg/L CaCO <sub>3</sub>	64	535.3	<0.01	221.31	225.657	80.028
Free Cl <sub>2</sub>	mg/L	73	8.9	0.02	0.85	1.028	1.046
Total Cl <sub>2</sub>	mg/L	73	3.5	0.03	0.99	1.034	0.554
Fluoride	mg/L	71	0.34	0.04	0.088	0.099	0.047
Chloride	mg/L	71	328.1	34.605	130.972	133.142	53.583
Nitrite	mg/L	71	0.309	<0.004	<0.004	0.035	0.083
Bromide	mg/L	66	5.882	0.016	1.47	1.714	1.135
Nitrate	mg/L	71	6.434	<0.01	0.114	0.249	0.771
Phosphate	mg/L	71	1.096	<0.01	0.048	0.109	0.169
Sulphate	mg/L	71	29.18	0.252	3.217	5.019	5.250
Mg	mg/L	71	51.8	6.49	20.76	22.338	8.791
Ca	mg/L	71	128.9	12.52	54.16	55.425	21.197
Na	mg/L	71	74.66	24.05	49.1	49.906	10.715
K	mg/L	72	3.055	<0.5	1.4685	1.446	0.487
Al	mg/L	68	0.06	<0.03	<0.07	0.024	0.009
Mn	mg/L	71	0.12	<0.004	<0.004	0.011	0.021
Fe	mg/L	71	0.822	<0.007	0.011	0.058	0.136
Cu	mg/L	71	0.135	<0.01	<0.01	0.023	0.032
Zn	mg/L	71	0.05	<0.005	0.012	0.015	0.011
Pb	mg/L	70	0.008	<0.001	<0.003	0.001	0.001
B	mg/L	12	0.026	<0.01	0.015	0.014	0.008
Cr	mg/L	12	<0.03	<0.01	0.0066	0.007	0.003
Mo	mg/L	10	<0.05	<0.01	<0.05	0.012	0.006
Ni	mg/L	12	<0.04	<0.03	0.01155	0.012	0.002
Cd	mg/L	12	<0.01	<0.002	0.002145	0.002	0.001
As	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	6	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	31	<1	<1	<1	<1	0.000
<i>E.coli</i>	MPN/100mL	42	<2	<1	<1	<1	0.051
Faecal Coliform	cfu/100mL	8	<1	<1	<1	<1	0.000
Total Coliform	cfu/100mL	73	<2	<1	<1	<1	0.039
Heterotroph	cfu/100mL	73	2200	<1	2	58.662	273.174

Table 26 Bloomsbury Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	64	33	20.3	26.8	26.448	3.015
pH	-	99	7.83	6.4	7	7.037	0.340
Turbidity	NTU	99	27.7	<0.1	0.4	1.050	3.058
Conductivity	µS/cm	99	1448	287	655	671.566	221.648
DO	% Sat.	98	91.1	8	63.9	59.750	19.522
Colour - True	TCU	98	7	<1	1	1.955	1.652
TOC	mg/L	90	2.4	0.518	1.1	1.177	0.449
Alkalinity	mg/L	97	187	75	132.86	130.604	25.094
Hardness	mg/L CaCO <sub>3</sub>	77	508.05	<0.01	207.7	221.121	78.751
Free Cl <sub>2</sub>	mg/L	98	9.3	<0.02	0.515	0.659	1.035
Total Cl <sub>2</sub>	mg/L	98	3.5	<0.02	0.62	0.648	0.600
Fluoride	mg/L	96	0.33	0.04	0.09	0.100	0.049
Chloride	mg/L	96	331.5	38.3	120.514	124.146	54.351
Nitrite	mg/L	96	0.473	<0.004	<0.004	0.037	0.096
Bromide	mg/L	84	5.097	0.021	1.141	1.369	1.096
Nitrate	mg/L	96	2.075	<0.01	0.103	0.174	0.291
Phosphate	mg/L	96	1.745	<0.01	0.032	0.101	0.222
Sulphate	mg/L	96	18.43	0.242	2.9205	4.159	3.929
Mg	mg/L	97	49.7	9.78	19.46	20.735	8.395
Ca	mg/L	97	121.5	23.41	48.29	51.305	20.002
Na	mg/L	97	75.65	22.28	47.63	47.789	12.249
K	mg/L	99	5.1	<0.5	1.41	1.544	0.669
Al	mg/L	94	0.07	<0.03	<0.07	0.022	0.009
Mn	mg/L	97	3.289	<0.004	<0.004	0.151	0.495
Fe	mg/L	98	2.931	<0.007	0.012	0.067	0.299
Cu	mg/L	97	0.143	<0.01	<0.05	0.020	0.025
Zn	mg/L	98	0.07	<0.005	0.02	0.021	0.015
Pb	mg/L	93	0.006	<0.001	<0.003	0.002	0.001
B	mg/L	26	0.025	<0.01	0.015	0.013	0.008
Cr	mg/L	26	<0.03	<0.01	<0.03	<0.01	0.003
Mo	mg/L	14	<0.05	<0.01	0.00825	0.010	0.007
Ni	mg/L	17	<0.04	<0.03	<0.04	<0.03	0.002
Cd	mg/L	27	<0.01	<0.002	<0.01	0.003	0.001
As	mg/L	5	<0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	5	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	47	7	<1	<1	<1	0.973
<i>E.coli</i>	MPN/100mL	53	<1	<1	<1	<1	0.000
Faecal Coliform	cfu/100mL	23	7	<1	<1	<1	1.391
Total Coliform	cfu/100mL	97	32	<1	<1	<1	3.252
Heterotroph	cfu/100mL	98	>200	<1	7	416.973	1331.890

Table 27 Midge Point Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	264	30.9	18.8	25.05	25.555	2.692
pH	-	337	9.06	6.64	8	8.060	0.478
Turbidity	NTU	335	22.4	0	0.35	0.680	1.600
Conductivity	µS/cm	337	464	94	341	343.034	59.489
DO	% Sat.	337	105	22.8	55	55.571	11.028
Colour - True	TCU	331	18	0	1	1.940	2.188
TOC	mg/L	291	2.766	0.6672	1.382	1.367	0.381
Alkalinity	mg/L	331	159	55.68	90	91.768	14.234
Hardness	mg/L CaCO <sub>3</sub>	328	151.66	0	103.64	101.798	20.638
Free Cl <sub>2</sub>	mg/L	339	1.92	<0.02	0.05	0.193	0.318
Total Cl <sub>2</sub>	mg/L	338	2.11	<0.02	0.09	0.243	0.351
Fluoride	mg/L	331	0.438	0.02	0.086	0.094	0.037
Chloride	mg/L	329	83.179	26.79	45.974	47.810	11.870
Nitrite	mg/L	331	0.34	0	<0.004	0.021	0.060
Bromide	mg/L	294	1.269	<0.01	0.062	0.178	0.279
Nitrate	mg/L	331	2.334	0.057	0.269	0.405	0.449
Phosphate	mg/L	331	1.718	<0.01	0.063	0.110	0.206
Sulphate	mg/L	331	9.201	0.583	2.643	2.731	1.377
Mg	mg/L	329	11.11	3.48	6.62	6.692	1.744
Ca	mg/L	329	44.3	12.48	30.61	30.149	5.707
Na	mg/L	329	37.94	18.65	26.53	26.874	3.736
K	mg/L	338	2.978	0.534	2.1	2.123	0.310
Al	mg/L	329	0.17	0	<0.07	0.025	0.015
Mn	mg/L	331	0.1928	<0.003	<0.004	0.004	0.013
Fe	mg/L	331	0.063	<0.004	<0.007	0.007	0.009
Cu	mg/L	329	0.103	0	<0.01	0.006	0.007
Zn	mg/L	331	0.462	0.001	0.003	0.007	0.028
Pb	mg/L	333	0.0061	0	<0.003	0.001	0.001
B	mg/L	62	0.167	<0.01	0.026	0.028	0.019
Cr	mg/L	62	0.043	0	<0.01	0.008	0.011
Mo	mg/L	62	<0.05	0	0.005	0.008	0.007
Ni	mg/L	64	<0.04	0	<0.03	0.008	0.005
Cd	mg/L	64	<0.01	0	<0.002	0.001	0.001
As	mg/L	15	0.001	<0.001	<0.001	<0.001	0.000
Hg	mg/L	15	<0.001	<0.001	<0.001	<0.001	0.000
<i>E.coli</i>	cfu/100mL	132	<1	0	<1	0.257	0.137
<i>E.coli</i>	MPN/100mL	205	2	<1	<1	0.338	0.117
Faecal Coliform	cfu/100mL	65	3	0	<1	0.229	0.386
Total Coliform	cfu/100mL	334	>200	0	<1	6.324	56.941
Heterotroph	cfu/100mL	334	1740	<1	23	91.547	196.897

Table 28 Laguna Quays Supplied Water Quality Data Summary

Parameter	Unit	Count	Max	Min	Median	Mean	Std. Dev.
Temperature	°C	21	31.6	18.4	26.7	27.133	3.565
pH	-	34	8.8	7.14	7.8	7.905	0.505
Turbidity	NTU	34	13.7	0	0.25	0.859	2.361
Conductivity	µS/cm	34	447	189	314.5	318.471	73.423
DO	% Sat.	34	95.4	34.3	46.7	48.576	11.875
Colour - True	TCU	34	9	0	2	2.509	2.439
TOC	mg/L	32	2.3	0.8	1.6	1.491	0.369
Alkalinity	mg/L	34	167	64	88.9	88.604	20.912
Hardness	mg/L CaCO <sub>3</sub>	33	134.64	0	86.47	91.423	28.637
Free Cl <sub>2</sub>	mg/L	34	0.68	<0.02	0.06	0.112	0.153
Total Cl <sub>2</sub>	mg/L	34	0.75	<0.02	0.08	0.143	0.174
Fluoride	mg/L	34	0.38	0.06	0.105	0.120	0.059
Chloride	mg/L	33	66.29	24.85	43.04	42.800	13.744
Nitrite	mg/L	34	0.263	0	<0.004	0.029	0.060
Bromide	mg/L	34	0.751	0.016	0.08	0.125	0.140
Nitrate	mg/L	34	4.259	0.037	0.28	0.508	0.787
Phosphate	mg/L	34	0.38	0.02	0.06	0.114	0.105
Sulphate	mg/L	34	6.364	0.97	2.475	2.649	1.321
Mg	mg/L	33	12.59	3.71	7.03	7.144	1.905
Ca	mg/L	33	42.2	13.66	27.31	26.742	7.923
Na	mg/L	33	32.44	18.48	25.65	25.302	4.886
K	mg/L	34	3	1.6	2.14	2.127	0.315
Al	mg/L	34	0.06	0	0.02	0.021	0.015
Mn	mg/L	34	0.303	<0.003	0.0035	0.018	0.053
Fe	mg/L	34	0.421	<0.004	0.013	0.039	0.079
Cu	mg/L	33	0.04	0	0.01	0.013	0.009
Zn	mg/L	34	0.042	<0.005	0.007	0.008	0.007
Pb	mg/L	32	0.0069	0	<0.003	0.001	0.002
B	mg/L	23	0.034	0.02	0.027	0.027	0.003
Cr	mg/L	23	0.041	0	<0.01	0.010	0.015
Mo	mg/L	23	0.018	0	0	0.004	0.006
Ni	mg/L	24	<0.04	0	0.00995	0.006	0.006
Cd	mg/L	24	<0.01	0	0.001	0.001	0.001
<i>E.coli</i>	cfu/100mL	34	<1	0	0	0.136	0.165
Faecal Coliform	cfu/100mL	25	<1	0	0	0.066	0.135
Total Coliform	cfu/100mL	34	15	0	0.165	0.636	2.551
Heterotroph	cfu/100mL	34	192	0	15	36.000	43.832