



**APPENDIX 7-5**  
**WATER CHEMISTRY DATA**



Appendix 7-5 Water Chemistry Data

Table A5.1 Water Chemistry Data - 13 April 2022 (1)

Parameter	EPA Approved	Roughty River Main Channel				Thureehouma Trib.				Lettercannon Trib.	
		K19 US	K19 DS	K23 US	K29	K3	K4	K5	K27	K23	K25
Sample Date		13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22
Temp °C		10.7	10.9	11.0	11.6	9.3	8.9	9.0	13.3	13.2	12.0
Conductivity @25°C (µS/cm)	Yes	88.9	90.5	89.8	89.9	84.1	82.3	82.9	84.4	98.7	100.0
pH	Yes	6.72	6.72	6.71	6.8	6.56	6.75	6.64	6.74	6.56	6.45
Alkalinity (mg CaCO <sub>3</sub> /l)	Yes	8	--	6.9	6.8	--	--	4.6	4.5	5	3.4
Calcium (mg/l)	Yes	4.42	--	4.43	4.37	--	--	3.37	3.17	4.01	3.44
SRP (mg P/l)	Yes	0.002	--	0.002	0.003	--	--	0.002	0.002	0.002	0.002
Ammonia (mg N/l)	Yes	0.005	--	0.010	0.008	--	--	0.007	0.005	0.007	0.010
TON (mg N/l)	Yes	0.1	--	0.097	0.101	--	--	0.08	0.063	0.14	0.076
Suspended Solids (mg/l)	Yes	0.2	0.6	0.4	1.4	0.2	<0.2	0.2	0.2	1.0	<0.2
BOD (mg O <sub>2</sub> /l)	Yes	0.61	--	0.65	0.68	--	--	0.73	0.55	0.73	0.74
Colour Hazen units)	N/A	27	--	33	34	--	--	24	22	21	29
Sodium (mg/l)	Yes	9.9	--	10.3	10.0	--	--	10.2	10.8	12.2	13.1
Potassium (mg/l)	Yes	0.31	--	0.3	0.32	--	--	0.32	0.32	0.3	0.22
Chloride (mg/l)	Yes	18.2	--	19.0	19.1	--	--	18.4	19.2	22.2	23.5
Total Al (µg/l)	Yes	23.7	--	--	33.9	--	--	--	24.5	35.4	--
Labile Al (µg/l)	N/A	<10	--	--	15	--	--	--	<10	<10	--

Table A5.2 Water Chemistry Data - 13 April 2022 (2)

		Glanlee Tributary								
Parameter	EPA Approved	K9	K12	K13	K14	K16	K17A	K18	K18B	K19
Sample Date		13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22	13-Apr-22
Temp °C		9.3	9.8	10.0	10.7	10.2	10.5	10.8	10.7	11.7
Conductivity @25°C (µS/cm)	Yes	82.1	80.4	84.3	83.2	86.0	96.2	92.9	104.9	94.0
pH	Yes	6.48	6.7	6.7	6.71	6.76	6.36	6.49	6.12	6.67
Alkalinity (mg CaCO <sub>3</sub> /l)	Yes	--	--	5.6	--	5.4	2	4	1.6	--
Calcium (mg/l)	Yes	--	--	4.42	--	4.34	3.32	3.89	3.29	--
SRP (mg P/l)	Yes	--	--	0.004	--	0.004	0.005	0.003	0.003	0.003
Ammonia (mg N/l)	Yes	--	--	0.008	--	0.007	0.007	0.011	0.009	0.017
TON (mg N/l)	Yes	--	--	0.015	--	0.012	0.043	0.03	0.052	0.036
Suspended Solids (mg/l)	Yes	0.2	0.2	0.4	<0.2	0.2	0.8	1.0	0.4	0.4
BOD (mg O <sub>2</sub> /l)	Yes	--	--	0.74	--	0.7	0.83	0.79	0.71	--
Colour Hazen units)	N/A	--	--	83	--	68	84	66	56	--
Sodium (mg/l)	Yes	--	--	9.7	--	10.3	12.1	11.6	13.6	--
Potassium (mg/l)	Yes	--	--	0.17	--	0.17	0.21	0.19	0.22	--
Chloride (mg/l)	Yes	--	--	18.2	--	18.7	22.5	21.5	25.5	--
Total Al (µg/l)	Yes	--	--	--	--	--	65.3	67.7	--	--
Labile Al (µg/l)	N/A	--	--	--	--	--	32.5	12.2	--	--

Table A5.3 Water Chemistry Data - 09 May 2022 (1)

		Roughy River Main Channel				Thurehouma Trib.			Lettercannon Trib.	
Parameter	EPA Approved	K19 US	K23 DS	K23 US	K29	K3	K4	K5	K23	K25
Sample Date		09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22
Temp °C		12.7	13.1	13.1	13.6	11.3	11.5	11.4	13.3	12.2
Conductivity @25°C (µS/cm)	Yes	57.7	79.4	77.4	88.3	96.4	93.8	98.5	100.4	104.1
pH	Yes	7.05	7.16	7.10	7.25	6.71	7.1	6.94	7.19	7.12
Alkalinity (mg CaCO <sub>3</sub> /l)	Yes	7.3	15.7	15.0	18.7	--	--	20.6	18.5	19.7
SRP (mg P/l)	Yes	0.003	0.003	0.003	0.003	--	--	0.002	0.003	0.003
Ammonia (mg N/l)	Yes	0.010	0.005	0.007	0.006	--	--	0.005	0.007	0.007
TON (mg N/l)	Yes	0.092	0.091	0.089	0.091	--	--	0.079	0.117	0.112
Suspended Solids (mg/l)	Yes	6.3	4.5	5.0	9.3	2.0	0.5	1.0	0.3	0.8
BOD (mg O <sub>2</sub> /l)	Yes	2.0	1.2	1.2	1.6	--	--	0.8	0.5	0.5
Colour (Hazen units)	N/A	55	16	17	14	--	--	15	10	12
DOC (mg C/l)	Yes	6.5	2.6	2.7	2.4	--	--	2.8	2.6	3.0
Potassium (mg/l)	Yes	0.39	0.29	0.28	0.33	--	--	0.29	0.30	0.28
Total Iron (µg/l)	Yes	370	79	78	77	--	--	63	21	55
Total Al (µg/l)	Yes	32.6	13.4	20.3	8.9	--	--	9.5	11.5	15.2
Labile Al (µg/l)	N/A	13.7	5.6	6.1	<5.0	--	--	<5.0	<5.0	6.0



Table A5.4 Water Chemistry Data - 09 May 2022 (1)

		Glanlee Tributary							
Parameter	EPA Approved	K9	K13	K14	K16	K17A	K18	K18B	K20A
Sample Date		09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22	09-May-22
Temp °C		10.9	11.6	11.7	12.0	12.3	12.7	12.7	10.8
Conductivity @25°C (µS/cm)	Yes	94.6	87.0	87.1	91.6	85.0	91.4	109.8	108.4
pH	Yes	7.25	7.21	7.26	7.28	7.03	7.29	7.03	7.08
Alkalinity (mg CaCO <sub>3</sub> /l)	Yes	--	19.6	--	21.8	15.0	19.8	22.9	--
SRP (mg P/l)	Yes	--	0.010	--	0.007	0.009	0.006	0.005	--
Ammonia (mg N/l)	Yes	--	0.011	--	0.008	0.008	0.008	0.009	--
TON (mg N/l)	Yes	--	0.043	--	0.044	0.057	0.049	0.042	--
Suspended Solids (mg/l)	Yes	3.8	3.0	0.8	1.0	2.0	1.5	0.3	3.0
BOD (mg O <sub>2</sub> /l)	Yes	--	0.9	--	0.7	0.9	0.5	0.7	--
Colour (Hazen units)	N/A	--	71	--	43	63	35	24	--
DOC (mg C/l)	Yes	--	6.3	--	4.9	6.7	4.7	4.9	--
Potassium (mg/l)	Yes	--	0.18	--	0.18	0.27	0.20	0.18	--
Total Iron (µg/l)	Yes	--	480	--	272	532	250	115	--
Total Al (µg/l)	Yes	--	34.4	--	24.4	46.3	28.3	25.8	--
Labile Al (µg/l)	N/A	--	12.6	--	8.6	16.9	8.3	13.0	--