APPENDIX 3C
SURFACE WATER MONITORING DATA

Summary of 2022 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	1870	3370	2917	7.6	8.0	7.8	551	1320	971	1.1	12.8	4.2
CC2	1170	4130	2465	7.7	8.2	8.0	319	1450	766	0.3	3.2	1.7
CC3	411	2060	1426	7.6	8.4	8.0	69	626	392	0.9	13.2	3.7
WIL (U)*	221	1510	667	6.9	7.6	7.2	5	448	138	7.3	24.9	14.8
WIL (U2)	210	1440	694	6.7	7.6	7.1	7	412	139	6.9	24.0	13.4
WIL (PC)*	432	1410	657	6.9	7.8	7.3	9	282	81	25.8	74.0	40.7
WIL (NC)*	396	3530	1208	7.0	8.0	7.3	34	1380	391	0.4	5.0	1.7
WIL (D)	497	3260	1418	7.5	8.3	7.9	47	1160	402	3.6	43.8	14.3
WIL (D2)*	527	2790	1410	7.6	8.0	7.9	67	917	387	2.6	12.4	7.6
WOL1	824.0	2760.0	1258.0	7.7	8.1	8.0	101.0	915.0	302.6	2.3	14.5	7.0
WOL2	609.0	1210.0	806.2	6.9	8.2	7.6	54.0	144.0	93.3	2.2	69.1	18.0

Notes: mg/L = micrograms per litre. mS/cm= micro-Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2021 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	179.0	4880.0	2802.8	7.0	7.9	7.6	14.0	1740.0	884.9	2.1	366.0	80.4
CC2	3080.0	7870.0	5356.4	7.8	8.2	8.0	811.0	3000.0	1938.3	0.5	2.8	1.0
CC3	2090.0	3310.0	2508.6	8.3	8.7	8.4	593.0	1130.0	756.6	0.8	18.3	7.0
WIL (U)*	258.0	511.0	391.8	6.9	7.2	7.0	6.0	52.0	24.2	7.5	19.3	12.7
WIL (U2)	321.0	582.0	425.6	6.8	7.2	7.0	10.0	28.0	19.9	8.2	18.6	12.7
WIL (PC)*	304.0	633.0	490.6	6.8	7.2	7.0	7.0	32.0	19.4	10.1	1700.0	173.5
WIL (NC)*	343.0	609.0	477.8	6.8	7.7	7.3	51.0	89.0	66.5	1.1	164.0	35.1
WIL (D)	374.0	1330.0	606.9	7.2	7.7	7.5	34.0	317.0	102.3	1.6	13.3	5.1
WIL (D2)*	400.0	1340.0	600.3	7.3	8.0	7.7	40.0	319.0	107.4	1.6	8.8	3.6
WOL1	571.0	1670.0	1003.5	7.9	8.4	8.1	63.0	293.0	153.8	1.0	12.4	3.3
WOL2	469.0	2910.0	1526.8	7.5	8.0	7.9	51.0	471.0	241.9	0.8	11.6	3.2

Notes: mg/L = micrograms per litre. mS/cm= micro-Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2020 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	262.0	1380.0	990.7	6.9	7.6	7.4	39.0	399.0	277.3	58.1	523.0	234.7
CC2	5850.0	8500.0	6786.7	7.8	8.2	8.0	2290.0	3080.0	2516.7	0.7	325.0	38.0
CC3	4330.0	4720.0	4592.5	8.5	8.6	8.5	1710.0	1960.0	1845.0	0.6	10.0	3.2
WIL (U)*												
WIL (U2)	388.0	4070.0	975.3	4.3	7.1	6.3	30.0	421.0	108.5	7.5	270.0	52.0
WIL (PC)*												
WIL (NC)*												
WIL (D)	311.0	2650.0	799.1	3.4	7.3	6.0	38.0	1150.0	250.9	5.9	30.5	20.4
WIL (D2)*												
WOL1	537.0	2420.0	1396.2	6.3	8.4	7.8	130.0	600.0	332.6	1.2	13.9	6.2
WOL2	1920.0	6740.0	2911.7	7.0	8.2	7.7	383.0	802.0	516.8	1.6	33.5	7.0

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2019 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	432.0	697.0	564.5	7.3	9.1	8.2	56.0	102.0	79.0	663.0	2310.0	1486.5
CC2	3240.0	9910.0	7207.1	7.7	8.0	7.9	884.0	3760.0	2716.3	2.0	16.0	5.1
CC3	5850.0	5850.0	5850.0	7.9	7.9	7.9	2670.0	2670.0	2670.0	4.4	4.4	4.4
WIL (U)*	-	-	-	-	-	-	-	-	-	-	-	-
WIL (U2)	3840.0	5850.0	4428.3	3.6	6.3	4.2	287.0	578.0	400.3	0.9	45.0	11.2
WIL (PC)*	-	-	-	-	-	-	-	-	-	-	-	-
WIL (NC)*	-	-	-	-	-	-	-	-	-	-	-	-
WIL (D)	1440.0	6420.0	4192.9	4.0	7.4	6.7	521.0	1960.0	1273.3	9.7	95.2	44.4
WIL (D2)*	-	-	-	-	-	-	-	-	-	-	-	-
WOL1	1180.0	4780.0	2877.5	7.9	8.5	8.1	240.0	1510.0	752.5	0.8	5.2	3.3
WOL2	1690.0	5610.0	3545.8	7.0	8.2	7.5	311.0	808.0	641.4	1.7	43.7	16.1

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2018 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	228.0	1280.0	491.7	6.70	7.60	7.23	19.0	384.0	84.2	20.0	5520.0	1321.9
CC2	364.0	7570.0	6262.4	7.60	8.10	7.92	67.0	3000.0	2379.7	1.4	499.0	57.1
CC3	40.0	40.0	40.0	7.80	7.80	7.80	4.0	4.0	4.0	141.0	141.0	141.0
WIL (U)	-	-	-	-	-	-	-	-	-	-	-	-
WIL (U2)	1790.0	4380.0	3441.8	3.50	7.40	6.03	80.0	446.0	58.5	5.1	159.0	58.5
WIL (PC)	-	-	-	-	-	-	-	-	-	-	-	-
WIL (NC)	239.0	383.0	319.1	6.70	7.50	7.28	41.0	100.0	66.3	0.4	2.8	1.4
WIL (D)	278.0	2020.0	669.7	5.20	8.00	6.92	20.0	553.0	134.7	1.3	288.0	44.3
WIL (D2)	236.0	569.0	386.3	4.20	7.80	6.84	33.0	204.0	80.9	1.6	396.0	104.3
WOL1	425.0	2150.0	1260.1	7.20	8.40	8.01	41.0	494.0	294.1	1.0	19.6	6.8
WOL2	1730.0	2850.0	2404.5	7.00	7.90	7.51	209.0	740.0	447.7	1.0	36.2	6.1

Summary of 2017 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	279.0	5380.0	2392.3	7.00	8.30	7.58	45.0	1790.0	787.0	4.4	1970.0	600.9
CC2	5470.0	8230.0	6306.0	7.70	8.30	7.99	1700.0	3170.0	2145.0	0.6	15.8	4.1
CC3	4100.0	4990.0	4520.0	8.30	8.50	8.40	1490.0	1920.0	1688.0	0.6	1.8	1.2
WIL (U)*	-	-	-	-	-	-	-	-	-	-	-	-
WIL (U2)	1360.0	3890.0	2851.7	5.40	8.00	6.58	13.0	121.0	20.9	2.4	70.8	20.9
WIL (PC)*	-	-	-	-	-	-	-	-	-	-	-	-
WIL (NC)	230.0	411.0	313.2	6.80	8.30	7.27	10.0	85.0	48.1	0.2	15.2	3.7
WIL (D)	248.0	1480.0	493.5	7.30	7.80	7.55	7.0	87.0	46.4	2.2	5.6	3.8
WIL (D2)	256.0	650.0	386.8	7.30	7.90	7.53	2.0	83.0	47.7	1.7	31.9	10.3
WOL1	336.0	1490.0	872.4	8.10	8.60	8.25	19.0	184.0	97.2	0.9	6.1	2.9
WOL2	1800.0	2950.0	2133.6	7.40	8.00	7.82	184.0	440.0	304.2	0.4	21.1	3.2

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2016 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO_4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	170.0	4470.0	2802.9	7.10	7.90	7.41	28.0	1710.0	978.9	4.6	6270.0	936.0
CC2	3020.0	7540.0	5036.3	7.50	8.00	7.84	920.0	2940.0	1738.8	0.5	26.4	5.0
CC3	80.0	4860.0	2771.7	7.40	8.40	8.18	8.0	1920.0	972.5	0.7	126.0	25.1
WIL (U)	520.0	950.0	632.0	6.20	7.40	6.94	13.0	83.0	36.8	5.8	43.5	21.2
WIL (U2)	440.0	4420.0	2140.0	6.50	7.60	7.04	14.0	102.0	34.8	3.3	153.0	34.8
WIL (PC)	260.0	1340.0	682.0	6.90	7.40	7.16	7.0	48.0	28.6	9.7	64.6	38.3
WIL (NC)	240.0	1650.0	560.8	7.10	7.80	7.39	8.0	265.0	64.5	8.6	201.0	54.2
WIL (D)	580.0	3030.0	1189.2	6.80	8.00	7.46	12.0	603.0	165.5	1.2	39.4	10.0
WIL (D2)	390.0	1840.0	796.1	6.90	8.10	7.50	9.0	466.0	159.1	3.9	323.0	43.8
WOL1	780.0	2220.0	1226.3	7.80	8.30	8.11	104.0	475.0	205.8	1.3	11.2	5.0
WOL2	740.0	3160.0	1693.3	7.20	8.00	7.56	97.0	650.0	303.1	0.9	70.7	15.3
SGC_1*	0	0	0	0	0	0	0	0	0	0	0	0

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units. *Dry

Summary of 2015 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO_4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	120.0	4380.0	2316.3	6.60	7.80	7.31	13.0	1660.0	237.7	3.3	13000.0	3415.4
CC2	350.0	5970.0	3591.4	7.30	7.90	7.67	1400.0	2290.0	1977.8	0.4	20.8	4.7
CC3	150.0	5130.0	2220.0	7.00	8.40	7.93	17.0	2100.0	946.0	1.2	359.0	93.7
WIL (U)	1650.0	7550.0	4306.7	4.80	6.80	5.93	38.0	146.0	99.0	7.4	263.0	77.0
WIL (U2)	790.0	5580.0	3353.8	5.60	7.40	6.71	22.0	118.0	41.9	1.5	158.0	41.9
WIL (PC)*	1170.0	6100.0	3256.3	6.80	7.90	7.23	3.0	42.0	16.0	1.8	222.0	90.4
WIL (NC)	410.0	3960.0	1987.1	6.60	7.80	7.31	4.0	106.0	43.0	1.2	1440.0	284.5
WIL (D)	340.0	5880.0	2713.0	7.10	8.10	7.67	29.0	607.0	253.2	2.6	363.0	63.1
WIL (D2)	500.0	6520.0	2457.5	7.50	8.20	7.73	16.0	693.0	148.4	7.5	557.0	113.2
WOL1	160.0	5540.0	2223.0	7.50	8.20	7.96	208.0	956.0	445.8	1.1	61.8	13.3
WOL2	400.0	5550.0	1830.0	7.30	7.80	7.54	262.0	822.0	532.8	0.6	486.0	53.9

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units.

Summary of 2014 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO_4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	610.0	5430.0	2055.7	7.10	9.20	8.00	120.0	1880.0	785.0	2.3	352.0	91.3
CC2	160.0	6590.0	4944.0	6.90	7.80	7.44	85.0	2520.0	1733.5	0.2	151.0	16.4
CC3	400.0	5260.0	3522.5	7.60	8.00	7.80	23.0	2100.0	1380.8	1.1	346.0	96.0
WIL (U)	980.0	1540.0	1260.0	6.00	7.10	6.55	70.0	174.0	122.0	3.2	30.0	16.6
WIL (U2)	1340.0	5970.0	2886.0	6.30	7.40	6.78	10.0	110.0	50.1	4.5	290.0	50.1
WIL (PC)	-	-	-	-	-	-	-	-	-	-	-	-
WIL (NC)	310.0	790.0	445.0	7.00	7.40	7.25	6.0	96.0	27.0	1.8	2410.0	664.4
WIL (D)	1520.0	6010.0	3728.3	6.90	8.40	7.68	205.0	1680.0	634.8	1.0	26.8	6.6
WIL (D2)	780.0	7550.0	3756.0	7.00	8.70	8.02	120.0	1670.0	932.4	0.8	42.7	11.7
WOL1	1870.0	3680.0	2582.5	7.00	8.90	8.13	434.0	1120.0	635.6	1.2	18.6	3.8
WOL2	1670.0	4060.0	2779.2	7.20	7.80	7.46	452.0	842.0	589.9	0.6	69.7	16.1

Notes: mg/L = micrograms per litre. mS/cm= micro Siemens per centimetre. NTU = nephelometric turbidity units. * Indicates no sample available during the schedule monitoring programme.

Summary of 2013 Surface Water Monitoring Results

SW Monitoring Point	EC (µS/cm)			pH			SO_4 (mg/L)			Turbidity (NTU)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
CC1	3150.0	5710.0	4568.5	6.9	8.2	7.9	828.0	3160.0	1647.0	0.4	1770	169.6
CC2	4380.0	6070.0	5040.0	7.4	8.1	7.7	1610.0	3110.0	2040.0	0.2	2.6	0.9
CC3	225.0	4890.0	3130.6	7.8	8.2	8.0	94.0	2270.0	1454.1	0.8	360.0	59.4
WIL (U)	448.0	1390.0	1065.0	6.5	7.0	6.8	7.0	63.0	38.1	1.5	74.5	26.5
WIL (U2)	413.0	4620.0	2165.5	6.3	7.6	6.7	4.0	89.0	47.4	6.1	473.0	62.8
WIL (PC)	395.0	1730.0	1158.0	6.7	7.1	6.9	31.0	186.0	93.8	5.2	148.0	47.6
WIL (NC)	340.0	930.0	510.0	7.4	7.9	7.7	5.0	140.0	59.6	2.2	4000	941.5
WIL (D)	1656.0	4200.0	2942.6	7.8	8.8	8.1	216.0	822.0	475.2	1.4	59.1	9.3
WIL (D2)	1500.0	4950.0	3051.6	7.8	8.1	7.9	217.0	1360.0	646.7	1.2	21.8	7.0
WOL1	1180.0	2710.0	1982.3	8.1	8.7	8.4	326.0	675.0	464.8	0.6	8.9	3.0
WOL2	1460.0	3150.0	2153.9	7.3	8.3	7.9	286.0	793.0	487.7	0.6	14.9	6.0

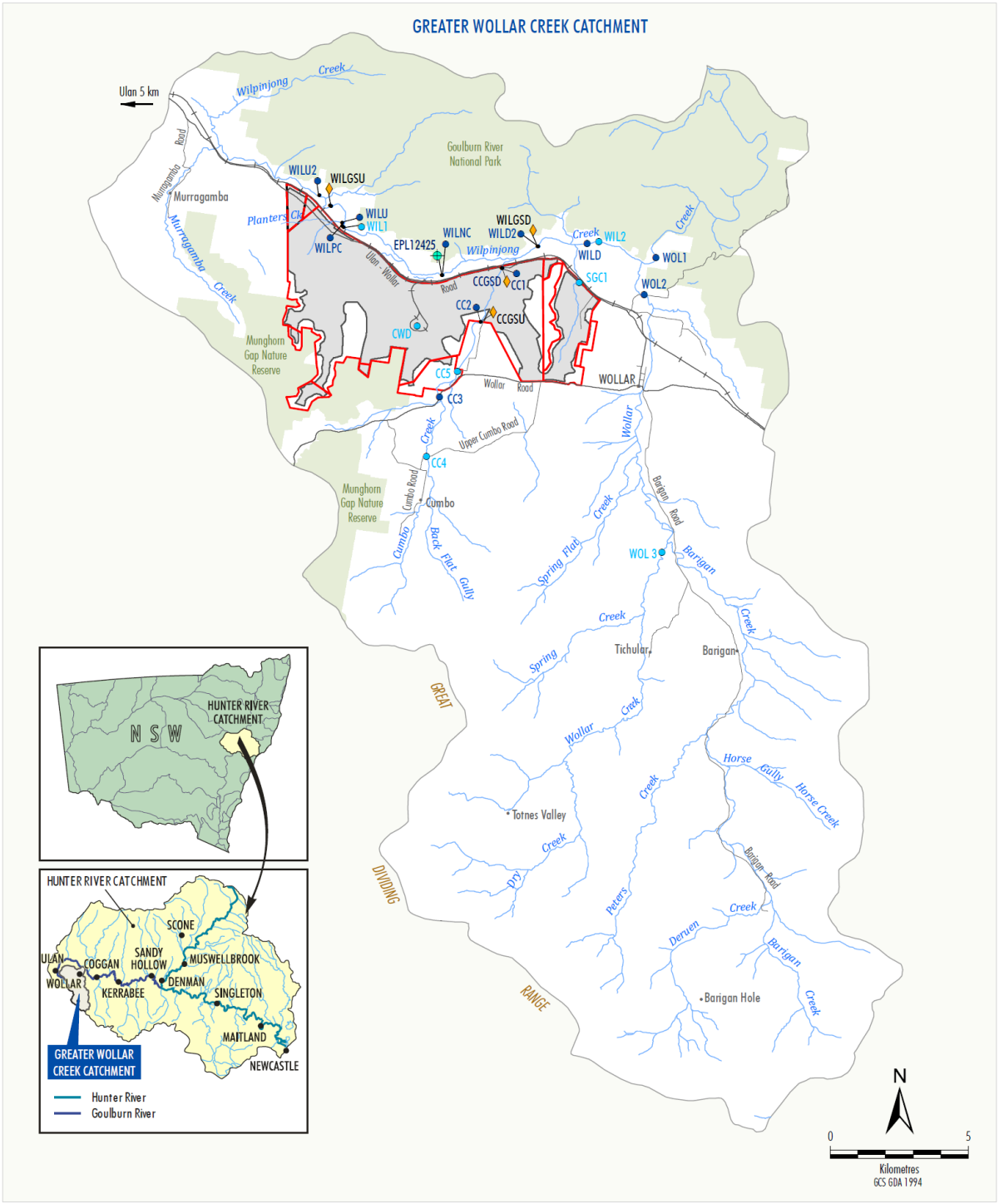
2022 Results for Surface Water Monitoring

Sample Number	Sample Location	Sampling Date	Sampling Time	Acidity as CaCO3 mg/L	Aluminium mg/L	Arsenic mg/L	Barium mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Conductivity @ 25oC µS/cm	Copper mg/L	Flow Rate	Hydroxide Alkalinity as CaCO3 mg/L	Iron mg/L	Lead mg/L	Manganese mg/L	Molybdenum mg/L	Nickel mg/L	pH pH Unit	Selenium mg/L	Strontium mg/L	Sulfate as SO4 -	Temperature °C	Total Alkalinity as CaCO3 mg/L	Turbidity NTU
ME2200119001	CC_1	20-Jan-2022	1125	3	0.04	<0.001	0.027	300	<1	3260	<0.001	1	<1	0.12	<0.001	0.027	0.002	0.006	7.9	<0.01	1.4	1020	20	300	2.5
ME2200119002	CC_2	20-Jan-2022	1355	3	<0.01	<0.001	0.016	278	<1	2820	<0.001	1	<1	<0.05	<0.001	0.01	0.002	0.003	8.2	<0.01	1.18	841	23.5	278	0.3
ME2200119003	CC_3	20-Jan-2022	1331	<1	0.02	<0.001	0.017	216	10	1720	<0.001	1	<1	<0.05	<0.001	0.01	<0.001	0.004	8.4	<0.01	0.644	448	24.5	226	0.9
ME2200119004	WIL_U	20-Jan-2022	1044	<1	0.05	<0.001	0.015	48	<1	254	<0.001	1	<1	2.49	<0.001	0.207	<0.001	0.008	7.1	<0.01	0.063	5	20	48	12.2
ME2200119005	WIL_U2	20-Jan-2022	1011	7	0.04	<0.001	0.025	72	<1	375	<0.001	1	<1	3.71	<0.001	0.92	<0.001	0.007	6.8	<0.01	0.098	7	20	72	16.6
ME2200119006	WIL_NC	20-Jan-2022	1102																						
ME2200119007	WIL_PC	20-Jan-2022	1032	7	0.12	0.002	0.044	83	<1	462	<0.001	0	<1	6.09	<0.001	1.22	<0.001	0.01	7	<0.01	0.13	9	20.5	83	35.8
ME2200119008	WIL_D	20-Jan-2022	1217	9	0.08	<0.001	0.03	145	<1	1220	<0.001	1	<1	1.27	<0.001	0.188	<0.001	0.006	7.7	<0.01	0.436	285	20.5	145	8.6
ME2200119009	WIL_D2	20-Jan-2022	1148	7	0.08	<0.001	0.02	158	<1	1510	<0.001	1	<1	0.98	<0.001	0.139	<0.001	0.005	7.8	<0.01	0.583	355	20.5	158	6.7
ME2200119010	WOL_1	20-Jan-2022	1316																						
ME2200119011	WOL_2	20-Jan-2022	1305	5	0.06	<0.001	0.028	161	<1	690	<0.001	1	<1	0.33	<0.001	0.027	<0.001	0.004	6.9	<0.01	0.359	54	22	161	3.1
ME2200119012	30M_U_CC1	20-Jan-2022	1114	6	0.03	<0.001	0.035	354	<1	3330	<0.001	1	<1	0.11	<0.001	0.045	0.002	0.004	7.9	<0.01	1.42	1020	21	354	3.4
ME2200119013	SGC_1	20-Jan-2022	1258									0													
ME2200304001	CC_1	18-Feb-2022	1103	10	0.11	0.001	0.045	330	<1	3370	<0.001	1	<1	0.34	<0.001	0.516	0.002	0.004	7.6	<0.01	1.54	1190	24.5	330	12.8
ME2200304002	CC_2	18-Feb-2022	1513	2	0.02	0.001	0.028	371	<1	4130	<0.001	1	<1	<0.05	<0.001	0.367	0.001	0.003	8.1	<0.01	1.74	1450	27	371	1.8
ME2200304003	CC_3	18-Feb-2022	1355	<1	0.04	0.001	0.026	268	22	2060	0.004	1	<1	0.06	<0.001	0.038	<0.001	0.002	8.3	<0.01	0.783	626	30	289	2.8
ME2200304004	WIL_U	18-Feb-2022	1028	3	0.03	<0.001	0.026	62	<1	441	<0.001	1	<1	3.3	<0.001	0.925	<0.001	0.005	6.9	<0.01	0.11	10	22	62	21.7
ME2200304005	WIL_U2	18-Feb-2022	1008	3	0.03	<0.001	0.024	59	<1	431	<0.001	1	<1	2.34	<0.001	0.706	<0.001	0.004	7	<0.01	0.101	10	21.5	59	13.5
ME2200304006	WIL_NC	18-Feb-2022	1045																						
ME2200304007	WIL_PC	18-Feb-2022	1022									0													
ME2200304008	WIL_D	18-Feb-2022	1224	2	0.08	<0.001	0.016	111	<1	497	<0.001	1	<1	1.72	<0.001	0.176	<0.001	0.002	7.5	<0.01	0.123	47	24	111	14.5
ME2200304009	WIL_D2	18-Feb-2022	1126	2	0.12	<0.001	0.01	98	<1	527	<0.001	1	<1	1.6	<0.001	0.061	<0.001	0.005	7.7	<0.01	0.121	67	22.5	98	12.4
ME2200304010	WOL_1	18-Feb-2022	1315	1	0.09	<0.001	0.028	223	<1	898	<0.001	1	<1	0.69	<0.001	0.08	<0.001	0.002	8.1	<0.01	0.393	101	26.5	223	7
ME2200304011	WOL_2	18-Feb-2022	1247	2	0.04	<0.001	0.034	294	<1	1210	0.001	1	<1	0.12	<0.001	0.07	0.002	0.002	7.7	<0.01	0.652	144	22.5	294	2.2
ME2200304012	30M_U_CC1	18-Feb-2022	1056	9	1.54	0.003	0.057	355	<1	3440	0.003	1	<1	2.3	0.003	0.746	0.001	0.008	7.6	<0.01	1.55	1210	24.5	355	294
ME2200304013	SGC_1	18-Feb-2022	1240									0													
ME2200830001	CC_1	23-May-2022	1526	6	0.05	<0.001	0.033	250	<1	3220	0.005	1	<1	0.16	<0.001	0.037	0.001	0.004	7.9	<0.01	1.33	962	12	250	3.5
ME2200830002	CC_2	23-May-2022	1723	<1	0.02	<0.001	0.032	243	<1	2880	<0.001	1	<1	<0.05	<0.001	0.016	<0.001	0.002	7.9	<0.01	1.19	851	14	243	1.1
ME2200830003	CC_3	23-May-2022	1715	<1	0.07	<0.001	0.028	189	<1	1860	<0.001	1	<1	0.06	<0.001	0.012	<0.001	0.002	8	<0.01	0.702	534	13.5	189	2.6

Sample Number	Sample Location	Sampling Date	Sampling Time	Acidity as CaCO3 mg/L	Aluminium mg/L	Arsenic mg/L	Barium mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Conductivity @ 25oC µS/cm	Copper mg/L	Flow Rate	Hydroxide Alkalinity as CaCO3 mg/L	Iron mg/L	Lead mg/L	Manganese mg/L	Molybdenum mg/L	Nickel mg/L	pH pH Unit	Selenium mg/L	Strontium mg/L	Sulfate as SO4 -	Temperature °C	Total Alkalinity as CaCO3 mg/L	Turbidity NTU
ME2200830004	WIL_U	23-May-2022	1438	1	0.11	<0.001	0.02	42	<1	355	<0.001	1	<1	1.66	<0.001	0.188	<0.001	0.005	7	<0.01	0.073	13	13.5	42	11.5
ME2200830005	WIL_U2	23-May-2022	1312	1	0.1	<0.001	0.019	40	<1	355	<0.001	1	<1	1.16	<0.001	0.198	<0.001	0.005	6.7	<0.01	0.072	14	13	40	6.9
ME2200830006	WIL_NC	23-May-2022	1509	<1	<0.01	<0.001	<0.001	85	<1	396	0.004	1	<1	<0.05	<0.001	0.013	<0.001	0.002	7	<0.01	0.025	34	18	85	0.7
ME2200830007	WIL_PC	23-May-2022	1448	1	0.48	<0.001	0.026	64	<1	432	0.002	0	<1	2.33	<0.001	0.336	<0.001	0.005	7.2	<0.01	0.108	12	17.5	64	25.8
ME2200830008	WIL_D	23-May-2022	1006	1	0.09	<0.001	0.026	146	<1	1400	0.002	1	<1	0.7	<0.001	0.093	<0.001	0.003	7.8	<0.01	0.461	370	13	146	8.1
ME2200830009	WIL_D2	23-May-2022	1543	1	0.07	<0.001	0.018	144	<1	1380	<0.001	1	<1	0.66	<0.001	0.056	<0.001	0.002	8	<0.01	0.464	368	13	144	5.2
ME2200830010	WOL_1	23-May-2022	1645	5	0.03	<0.001	0.027	156	<1	852	<0.001	1	<1	0.22	<0.001	0.029	<0.001	0.002	7.9	<0.01	0.408	107	12.5	156	2.3
ME2200830011	WOL_2	23-May-2022	1700	<1	0.02	<0.001	0.027	155	<1	854	<0.001	1	<1	0.21	<0.001	0.028	<0.001	0.002	7.8	<0.01	0.415	106	12.5	155	2.5
ME2200830012	30M_U_CC1	23-May-2022	1520	<1	0.06	<0.001	0.033	263	<1	3180	0.002	1	<1	0.18	<0.001	0.038	0.001	0.004	7.9	<0.01	1.29	969	12	263	3.2
ME2200830013	SGC_1	23-May-2022	1624									0													
ME2201384001	CC_1	24-Aug-2022	1144	<1	0.03	<0.001	0.034	167	<1	1870	<0.001	1	<1	0.11	<0.001	0.049	<0.001	0.002	8	<0.01	0.747	551	10.5	167	1.1
ME2201384002	CC_2	24-Aug-2022	1415	<1	0.02	<0.001	0.036	163	<1	1850	<0.001	1	<1	0.05	<0.001	0.07	<0.001	0.002	8.1	<0.01	0.728	536	14.5	163	0.8
ME2201384003	CC_3	24-Aug-2022	1444	<1	0.14	<0.001	0.039	133	<1	1350	<0.001	1	<1	0.13	<0.001	0.04	<0.001	0.002	8.2	<0.01	0.494	379	14	133	3.8
ME2201384004	WIL_U	24-Aug-2022	1049	2	1.11	<0.001	0.016	23	<1	221	0.001	1	<1	2.52	<0.001	0.119	<0.001	0.008	6.9	<0.01	0.04	8	10.5	23	24.9
ME2201384005	WIL_U2	24-Aug-2022	1032	2	1.15	<0.001	0.016	20	<1	210	0.001	1	<1	2.4	<0.001	0.123	<0.001	0.008	6.8	<0.01	0.039	7	11.5	20	24
ME2201384006	WIL_NC	24-Aug-2022	1120	<1	<0.01	<0.001	0.002	78	<1	467	<0.001	1	<1	0.17	<0.001	0.061	0.002	0.007	7.1	<0.01	0.076	76	14	78	0.6
ME2201384007	WIL_PC	24-Aug-2022	1100	2	1.19	<0.001	0.022	56	<1	446	0.001	0	<1	3.2	<0.001	0.339	<0.001	0.009	6.9	<0.01	0.1	26	11	56	30.1
ME2201384008	WIL_D	24-Aug-2022	1250	<1	0.35	<0.001	0.026	113	<1	1170	<0.001	1	<1	0.85	<0.001	0.066	<0.001	0.003	8.1	<0.01	0.425	297	13.5	113	7.2
ME2201384009	WIL_D2	24-Aug-2022	1213	<1	0.38	<0.001	0.024	118	<1	1220	<0.001	1	<1	0.81	<0.001	0.047	<0.001	0.003	8	<0.01	0.444	326	11.5	118	7.6
ME2201384010	WOL_1	24-Aug-2022	1331	<1	0.52	<0.001	0.036	108	<1	824	<0.001	1	<1	1.24	<0.001	0.054	<0.001	0.003	8.1	<0.01	0.318	139	13	108	14.5
ME2201384011	WOL_2	24-Aug-2022	1309	<1	0.63	<0.001	0.042	109	<1	646	<0.001	1	<1	1.45	<0.001	0.052	<0.001	0.002	8.2	<0.01	0.284	72	13	109	18
ME2201384012	30M_U_CC1	24-Aug-2022	1136	<1	0.02	<0.001	0.034	170	<1	1880	<0.001	1	<1	0.26	<0.001	0.05	0.001	0.003	7.9	<0.01	0.747	548	11	170	1.3
ME2201384013	SGC_1	24-Aug-2022	1305									0													
ME2202025001	CC_1	23-Nov-2022	1322	12	0.06	<0.001	0.025	314	<1	3260	0.001	1	<1	0.17	<0.001	0.352	<0.001	0.037	7.8	<0.01	1.26	1320	23	314	1.9
ME2202025002	CC_2	23-Nov-2022	1636	<1	0.07	<0.001	0.028	156	<1	1170	<0.001	1	<1	0.1	<0.001	0.098	<0.001	0.002	8.2	<0.01	0.415	319	24.5	156	3
ME2202025003	CC_3	23-Nov-2022	958	2	0.05	0.001	0.027	161	<1	1100	<0.001	1	<1	0.1	<0.001	0.118	<0.001	0.002	8	<0.01	0.397	293	17.5	161	1.5
ME2202025004	WIL_U	23-Nov-2022	1527	3	0.12	<0.001	0.07	104	<1	1220	<0.001	1	<1	0.99	<0.001	0.387	0.002	0.01	7.4	<0.01	0.308	343	24	104	7.3
ME2202025005	WIL_U2	23-Nov-2022	1428	4	0.16	<0.001	0.074	112	<1	1350	<0.001	1	<1	1.16	<0.001	0.273	0.003	0.012	7.5	<0.01	0.35	386	24.5	112	10.3
ME2202025006	WIL_NC	23-Nov-2022	1404	5	0.05	0.001	0.034	367	<1	3530	<0.001	1	<1	0.07	<0.001	0.902	0.02	0.12	8	<0.01	1.34	1380	23.5	367	5
ME2202025007	WIL_PC	23-Nov-2022	1508	12	0.88	0.004	0.051	101	<1	533	0.002	1	<1	6.29	0.002	1.07	0.001	0.009	7.8	<0.01	0.152	78	27.5	101	74

Sample Number	Sample Location	Sampling Date	Sampling Time	Acidity as CaCO3 mg/L	Aluminium mg/L	Arsenic mg/L	Barium mg/L	Bicarbonate Alkalinity as CaCO3 mg/L	Carbonate Alkalinity as CaCO3 mg/L	Conductivity @ 25oC µS/cm	Copper mg/L	Flow Rate	Hydroxide Alkalinity as CaCO3 mg/L	Iron mg/L	Lead mg/L	Manganese mg/L	Molybdenum mg/L	Nickel mg/L	pH pH Unit	Selenium mg/L	Strontium mg/L	Sulfate as SO4 -	Temperature °C	Total Alkalinity as CaCO3 mg/L	Turbidity NTU
ME2202025008	WIL_D	23-Nov-2022	1609	<1	0.03	<0.001	0.047	318	10	3260	<0.001	1	<1	0.22	<0.001	0.346	0.006	0.027	8.3	<0.01	1.28	1160	25.5	328	3.6
ME2202025009	WIL_D2	23-Nov-2022	1306	2	0.02	<0.001	0.037	282	<1	2790	<0.001	1	<1	0.25	<0.001	0.288	0.006	0.031	8	<0.01	0.999	917	23.5	282	2.6
ME2202025010	WOL_1	23-Nov-2022	1104	1	0.04	<0.001	0.041	278	<1	2760	<0.001	1	<1	0.33	<0.001	0.31	0.005	0.026	8.1	<0.01	1.02	915	20.5	278	3.9
ME2202025011	WOL_2	23-Nov-2022	1021	2	1.84	0.002	0.075	132	<1	609	0.002	1	<1	3.11	0.002	0.182	0.001	0.004	7.7	<0.01	0.307	73	18.5	132	69.1
ME2202025012	30M_U_CC1	23-Nov-2022	1500																						
ME2202025013	SGC_1	23-Nov-2022	1112																						
ME2202182001	CC_1	12-Dec-2022	1230	6	0.12	0.001	0.045	268	<1	2520	0.001	1	<1	0.28	<0.001	0.242	0.001	0.007	7.7	<0.01	1.05	782	22	268	3.4
ME2202182002	CC_2	12-Dec-2022	1018	2	0.05	<0.001	0.034	217	<1	1940	0.004	1	<1	0.06	<0.001	0.137	<0.001	0.003	7.7	<0.01	0.761	597	23	217	3.2
ME2202182003	CC_3	12-Dec-2022	955	1	0.04	0.001	0.031	209	<1	1480	<0.001	1	<1	0.06	<0.001	0.04	<0.001	0.002	7.8	<0.01	0.544	392	22	209	1.2
ME2202182004	WIL_U	12-Dec-2022	1336	1	0.23	<0.001	0.064	112	<1	1510	<0.001	1	<1	1.24	<0.001	0.231	0.002	0.013	7.6	<0.01	0.382	448	21	112	11.4
ME2202182005	WIL_U2	12-Dec-2022	1420	1	0.21	<0.001	0.058	106	<1	1440	<0.001	1	<1	1.23	<0.001	0.186	0.002	0.013	7.6	<0.01	0.355	412	22	106	9.1
ME2202182006	WIL_NC	12-Dec-2022	1248	1	0.01	<0.001	0.003	62	<1	438	<0.001	1	<1	<0.05	<0.001	0.049	0.001	0.014	7	<0.01	0.091	75	23	62	0.4
ME2202182007	WIL_PC	12-Dec-2022	1325	1	0.89	0.004	0.089	183	<1	1410	0.001	1	<1	4.2	0.001	1.67	0.002	0.012	7.6	<0.01	0.38	282	22.5	183	37.6
ME2202182008	WIL_D	12-Dec-2022	1156	2	1.24	0.002	0.056	93	<1	963	0.002	1	<1	1.32	0.002	0.123	<0.001	0.011	7.7	<0.01	0.297	255	22	93	43.8
ME2202182009	WIL_D2	12-Dec-2022	1216	2	0.26	<0.001	0.037	99	<1	1030	<0.001	1	<1	0.58	<0.001	0.056	<0.001	0.008	7.6	<0.01	0.311	288	22	99	10.9
ME2202182010	WOL_1	12-Dec-2022	1130	1	0.19	<0.001	0.036	96	<1	956	0.026	1	<1	0.7	<0.001	0.091	<0.001	0.008	7.7	<0.01	0.277	251	21.5	96	7.2
ME2202182011	WOL_2	12-Dec-2022	1057	1	0.34	<0.001	0.071	156	<1	828	<0.001	1	<1	1.08	<0.001	0.204	<0.001	0.002	7.4	<0.01	0.43	111	23	156	13
ME2202182012	SGC_1	12-Dec-2022	1500																						

Surface Water Monitoring Locations



LEGEND
- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area #

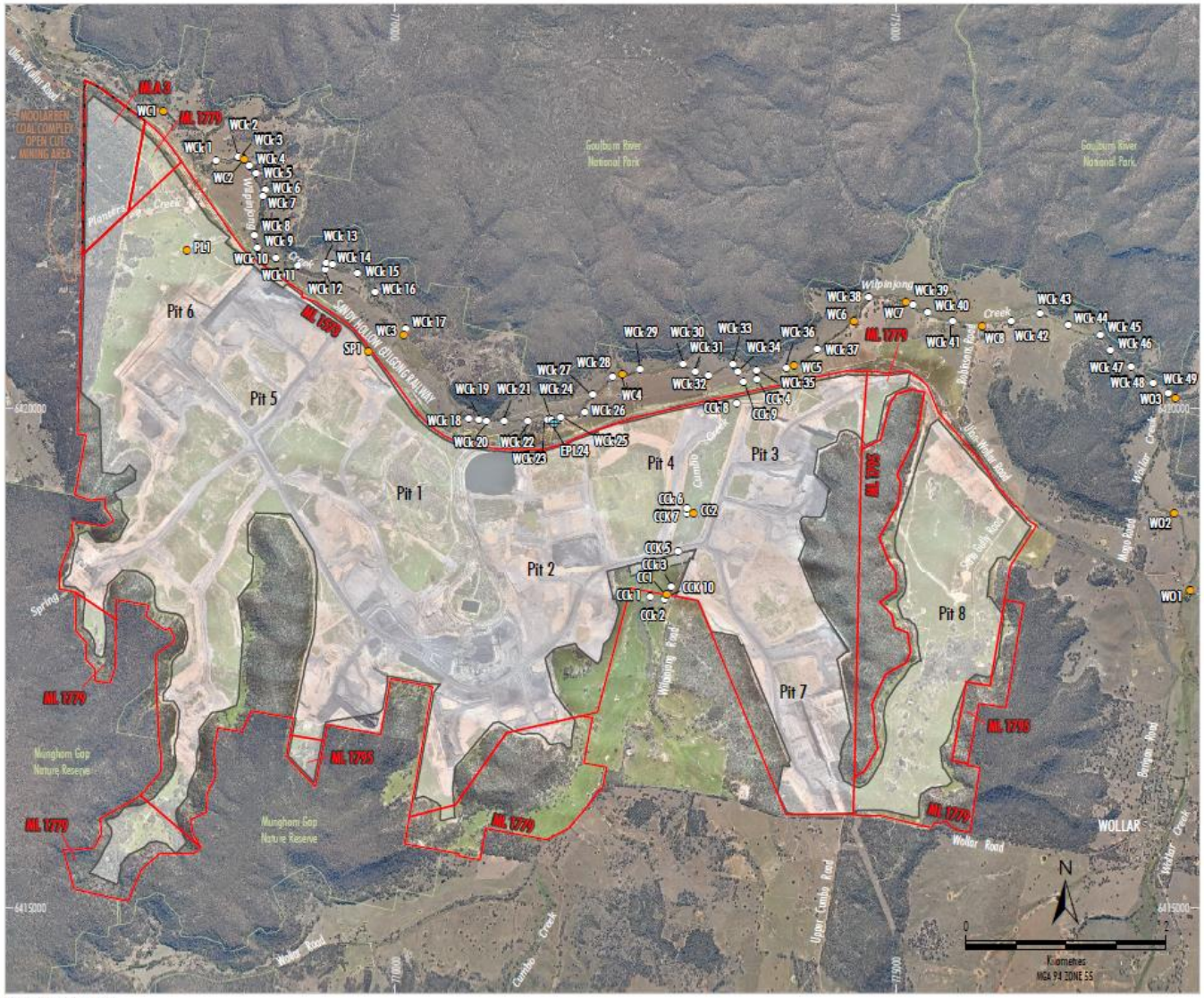
WCPL Monitoring
- WCPL Gauging Station
- EPL 12425 Licensed and Monitoring Point
- Active Surface Water Monitoring Site
- Historical Surface Water Monitoring Site

Inclusive of the agreed minor change to the area confirmed by DPIE on 23rd August 2019.

Source: WCPL (2020); After DIPNR (2003); DPI Water (2015); NSW Spatial Services (2020)

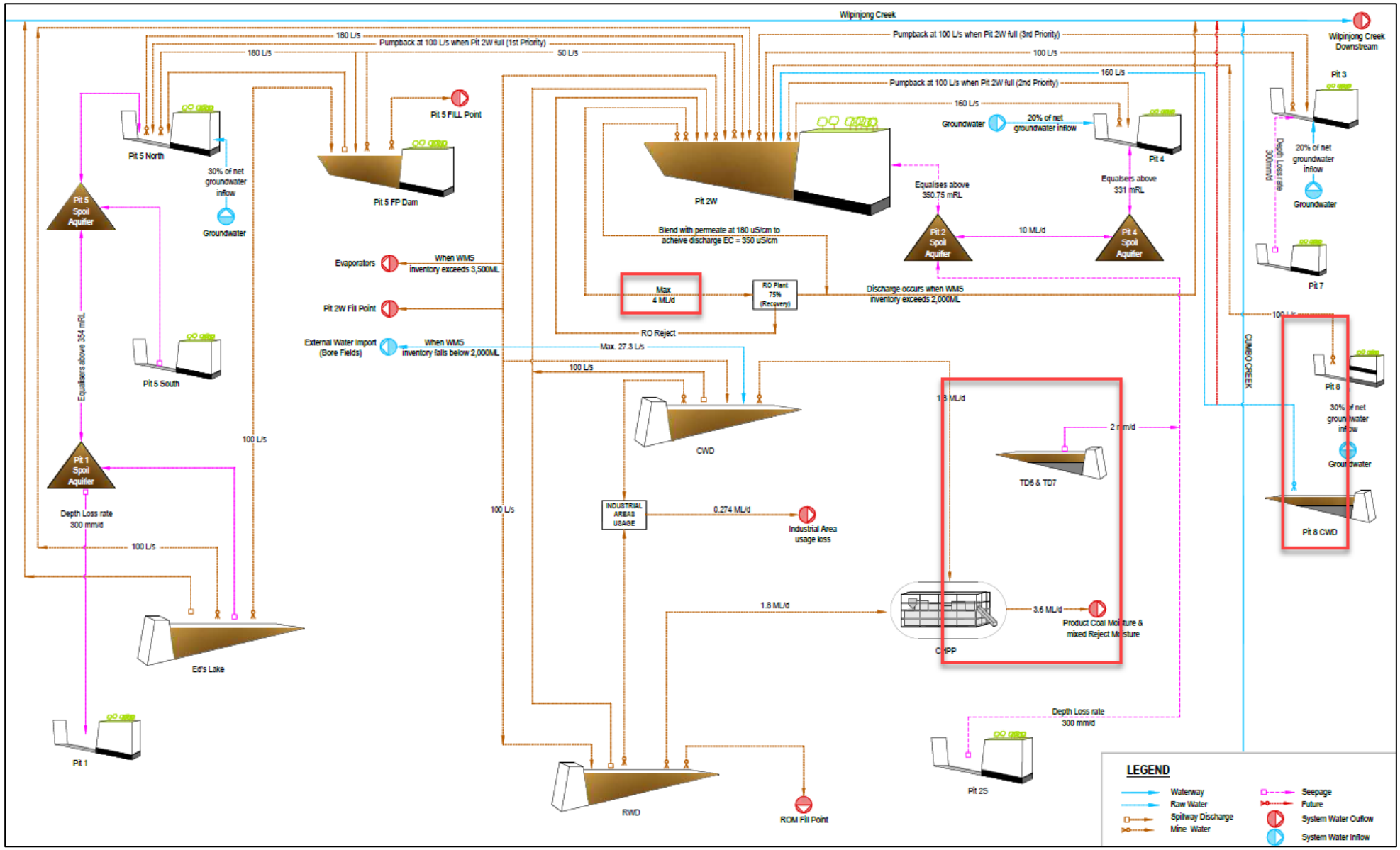
Peabody
WILPINJONG COAL MINE
Wilpinjong Coal Mine
Surface Water Monitoring Network

Channel Stability & Stream Health Monitoring Locations



WIL-12-11_SWMP 2020_202A

Water Balance Model Schematic (2022)



Water Management Performance Measures

A summary of the water management performance measures was undertaken by WCPL as they related to the Development Consent SSD-6764 (1 January 2021 to 31 December 2022)

Assessment of Water Management Performance Measures for 2022

Feature	Performance Measure	Complied with Performance Measure (Yes/No)	Comments/Actions
General	Maintain separation between clean, dirty and mine water management systems. Minimise the use of clean water on site. Design, install, operation and maintain water management systems in a proper and efficient manager.	Yes	Refer to Site Water Balance (Section 7.7) Refer to Estimate Groundwater Take (Section 7.2) Refer to Surface Water Results (Section 7.6)
Clean water diversion and storage infrastructure	Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site.	Yes	Refer to Erosion and Sediment Control (Section 7.5)
Sediment dams	Design, install and/or maintain sediment dams to ensure no discharges to surface waters, except in accordance with an EPL or in accordance with Section 120 of the POEO Act.	Yes	Refer to Erosion and Sediment Control (Section 7.5) Refer to Water Treatment Facility (Section 7.8)
Mine water storages	Design, install and/or maintain mine water storage infrastructure to ensure no discharge of untreated mine water off-site. Discharge treated mine water in accordance with an EPL or in accordance with Section 120 of the POEO Act.	Yes	Refer to Site Water Balance (Section 7.7) Refer to Surface Water Results (Section 7.6) Refer to Water Treatment Facility (Section 7.8)
Wilpinjong, Cumbo and Wollar Creeks	No greater impact than predicted for the development for water flow and quality.	Yes	Refer to Surface Water Results (Section 7.6) Refer to Stream Health (Section 7.9)
Aquatic, riparian and groundwater dependent ecosystems	Negligible environmental consequences beyond those predicted for the development.	Yes	Refer to Surface Water Results (Section 7.6) Refer to Stream Health (Section 7.9)
Flood mitigation measures*	Ensure all open cut pits, CHPP, coal stockpiles and main mine facilities areas exclude flows for all flood events up to and including the 1 in 100 year ARI. All final voids designed to exclude all flood events up to include the PMF event.	Yes	The Wilpinjong Coal Mine open cuts are located outside the extent of flooding from Wilpinjong Creek in the 1 in 1,000 AEP design flood. Flood mitigation works for open cut infrastructure in the vicinity of Cumbo Creek are already being implemented at the Wilpinjong Coal Mine and have been designed to a 1 in 100 AEP flood protection (WRM Water and Environment, 2015).
Overburden, CHPP Reject and Tailings	Design, install and maintain emplacements to prevent or minimise the migration of pollutants due to seepage.	Yes	Waste rock emplacements and coal reject management in accordance with the MOP
Chemical and hydrocarbon storage	Chemical and hydrocarbon products to be stored in bunded areas or structures in accordance with relevant Australian Standards.	No	Chemical and hydrocarbon products stored in bunded areas in accordance with relevant Australian Standards (refer to IEA 2021)

Notes: * Consistent with Condition 29, Schedule 3 of Development Consent (SSD-6764), WCPL have maintained all open cut pits, CHPP, coal stockpiles and main mine facilities areas so that they exclude flows for all flood events up to and including the 1 in 100 year ARI. The final voids would be designed to exclude all flood events up to the probable maximum flood.

Surface Water Reports 2022