

Carmichael Coal Mine Project

Groundwater Quality data

October 2025

Sample Type:	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	
Sample Date:	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	08/10/2025	15/10/2025	06/10/2025	06/10/2025	06/10/2025
Client sample ID (1st):	C180119SP	C180120SP	C180122SP	C180123SP	C914108PTR	C9180121SPR	C9180124SPR	C9180125SPR	Mellaluka Spring	Duplicate B	Trip Blank 1	C014P2	C14011SP	C14012SP	C14013SP	
Hydro-stratigraphic unit:	Joe Joe Group	Composite Bore (Tertiary / Joe Joe)	Composite Bore (Tertiary / Joe Joe)	Joe Joe Group	Joe Joe Group	Tertiary	Joe Joe Group	Joe Joe Group	Joe Joe Group	Mellaluka Spring Spring Discharge Composite		Bandanna Formation	Clematis Sandstone	Clematis Sandstone	Clematis Sandstone	
Analyte grouping/Analyte	Unit															
pH Value	pH Unit	6.7	5.85	5.69	8.12	6.13	6.08	5.92	8.18	7.23	6.95	----	8.1	6.37	7.32	5.44
Electrical Conductivity @ 25°C	µS/cm	787	8470	7300	834	525	3630	513	954	2060	2400	----	2010	348	519	436
Total Dissolved Solids @180°C	mg/L	435	5520	4770	464	296	2260	352	580	1300	1320	----	1100	185	287	243
Total Alkalinity as CaCO3	mg/L	84	30	17	253	35	36	20	322	70	133	----	325	53	147	10
Sulfate as SO4 - Turbidimetric	mg/L	6	180	77	22	18	84	7	<1	<1	57	----	<1	4	4	9
Chloride	mg/L	195	2890	2500	109	129	1050	136	122	603	655	----	454	64	69	110
Calcium	mg/L	6	102	102	7	5	32	3	9	24	17	----	19	12	3	1
Magnesium	mg/L	5	145	119	4	4	46	4	3	23	15	----	4	6	2	9
Sodium	mg/L	138	1410	1200	184	89	595	93	205	325	470	----	408	38	103	56
Potassium	mg/L	4	30	19	4	5	9	4	4	16	9	----	8	3	8	7
Aluminium	mg/L	<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
Arsenic	mg/L	0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	----	<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	----	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	----	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	<0.001	0.002	0.003	<0.001	0.002	<0.001	0.002	<0.001	<0.001	<0.001	----	<0.001	0.001	<0.001	0.004
Copper	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	----	<0.001	0.001	<0.001	0.004
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	----	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	0.034	0.031	0.264	0.034	0.168	0.028	0.006	0.04	0.294	0.096	----	0.008	0.009	0.002	0.018
Molybdenum	mg/L	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	----	0.004	<0.001	<0.001	<0.001
Nickel	mg/L	<0.001	0.005	0.003	<0.001	0.003	<0.001	0.003	0.006	0.001	<0.001	----	<0.001	0.003	<0.001	0.01
Selenium	mg/L	<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
Silver	mg/L	<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
Uranium	mg/L	<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
Vanadium	mg/L	<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
Zinc	mg/L	1.36	0.047	0.03	0.007	0.017	0.049	0.051	0.298	<0.005	0.008	----	<0.005	<0.005	<0.005	0.023
Boron	mg/L	0.11	0.39	0.39	0.29	0.1	0.23	0.07	0.2	0.19	0.37	----	0.32	0.09	0.11	0.13
Iron	mg/L	9.35	7	1.27	<0.05	0.77	2.76	0.6	<0.05	0.16	0.82	----	0.14	<0.05	<0.05	<0.05
Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	----	<0.0001	<0.0001	<0.0001	<0.0001
Fluoride	mg/L	0.2	0.1	<0.1	0.6	0.3	0.1	0.1	0.6	0.2	0.6	----	1.1	<0.1	0.4	<0.1
Ammonia as N	mg/L	0.07	0.06	0.09	0.04	0.02	0.26	<0.01	0.24	0.03	0.04	----	0.96	0.01	<0.01	<0.01
Nitrite as N	mg/L	<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
Nitrate as N	mg/L	<0.01	0.1	<0.01	<0.01	0.04	0.19	0.16	<0.01	<0.01	<0.01	----	<0.01	0.4	0.02	0.61
Total Phosphorus as P	mg/L	0.03	0.06	<0.02	0.03	0.04	0.02	0.06	<0.01	1.27	0.07	----	<0.01	<0.01	0.06	0.02
Sulfide as S2-	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	<0.10	<0.10	----	<0.10	<0.10	<0.10	<0.10
C6 - C9 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	----	<20	<20	<20	<20
C6 - C10 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	----	<20	<20	<20	<20
>C10 - C40 Fraction (sum)	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	490	<100	----	<100	<100	<100	<100
Sum of BTEX	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	----	<1	<1	<1	<1

Sample Type:	REG	REG	REG	REG	REG	REG	REG	REG	REG					
Sample Date:	07/10/2025	07/10/2025	07/10/2025	06/10/2025	07/10/2025	07/10/2025	07/10/2025	07/10/2025	07/10/2025					
Client sample ID (1st):	C18010SP	C18011SP	C18014SP	C19007SP	HD02	HD03A	HD03B	Joshua Spring	Duplicate A					
Hydro-stratigraphic unit:	Spring Discharge Clematis SSt	Spring Discharge Clematis SSt	Spring Discharge Clematis SSt	Dunda Beds	Clematis Sandstone	Clematis Sandstone	Alluvium	Spring Discharge Clematis SSt						
Analyte grouping/Analyte	Unit													
pH Value	pH Unit	9.34	7.43	6.2	8.39	7.42	7.47	7.5	7.56	7.49				
Electrical Conductivity @ 25°C	µS/cm	841	664	599	972	378	756	766	576	755				
Total Dissolved Solids @180°C	mg/L	848	448	330	536	210	420	422	290	430				
Total Alkalinity as CaCO3	mg/L	327	138	20	162	87	125	130	129	124				
Sulfate as SO4 - Turbidimetric	mg/L	<1	2	4	8	1	10	8	6	10				
Chloride	mg/L	61	118	155	192	53	143	145	83	140				
Calcium	mg/L	4	2	2	5	3	4	3	10	4				
Magnesium	mg/L	1	<1	12	<1	2	2	2	3	2				
Sodium	mg/L	161	120	76	193	64	128	132	81	133				
Potassium	mg/L	19	12	10	5	9	14	15	18	14				
Aluminium	mg/L	0.02	<0.01	<0.01	0.03	0.05	<0.01	<0.01	<0.01	<0.01				
Arsenic	mg/L	0.002	0.002	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001				
Cadmium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				
Chromium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Cobalt	mg/L	<0.001	<0.001	0.002	<0.001	0.003	<0.001	<0.001	<0.001	<0.001				
Copper	mg/L	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Manganese	mg/L	0.002	0.003	0.011	0.026	0.457	0.399	0.279	0.034	0.406				
Molybdenum	mg/L	0.001	<0.001	<0.001	0.014	<0.001	<0.001	<0.001	<0.001	<0.001				
Nickel	mg/L	0.001	<0.001	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Selenium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Uranium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
Vanadium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Zinc	mg/L	<0.005	<0.005	0.007	<0.005	<0.005	0.037	<0.005	<0.005	0.037				
Boron	mg/L	0.12	0.14	0.13	0.1	0.08	0.15	0.15	0.1	0.16				
Iron	mg/L	0.39	0.33	<0.05	<0.05	1.51	0.73	0.29	<0.05	0.74				
Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				
Fluoride	mg/L	0.2	0.2	0.1	0.4	0.1	0.2	0.3	0.4	0.2				
Ammonia as N	mg/L	<0.01	0.05	0.04	0.26	0.18	0.16	0.11	<0.01	0.16				
Nitrite as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Nitrate as N	mg/L	0.08	0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Total Phosphorus as P	mg/L	0.15	0.31	0.03	0.01	0.08	0.09	0.12	0.02	0.13				
Sulfide as S2-	mg/L	<0.10	<0.10	<0.10	1.03	<0.10	<0.10	<0.10	----	<0.10				
C6 - C9 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20				
C6 - C10 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20				
>C10 - C40 Fraction (sum)	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100				
Sum of BTEX	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1				