

**WAMBO COAL
ENVIRONMENTAL REPORTING
1 OCTOBER – 31 OCTOBER 2018**

7 November 2018

**Environment Protection Licence Number: 529
Licensee: Wambo Coal Pty Limited, PMB 1, Singleton NSW 2330
Premises: Wambo Coal Pty Limited, Jerrys Plains Road, Warkworth NSW 2330**

Monitoring Frequency: Once per month
 Sampling Method: Grab sample
 Limits: Nil

Date sampled: 9 and 26 October 2018
 Date obtained: 2 November 2018
 Date published: 7 November 2018

Table 1 - WCPL Groundwater Results

Site	Date	pH	EC ($\mu\text{S}/\text{cm}$)	Depth	Comments
P106	9 October				Dry
P109	9 October	6.6	794	6.39	
P114	9 October				Dry
P116	9 October	7.2	2900	7.06	
P118	9 October				Dry
P202	9 October	7.8	4070	9.25	
P206	9 October	8.0	2110	21.17	
P301	9 October	6.8	6570	17.01	
P315	9 October				Dry
GW02	9 October	7.2	562	9.10	
GW08	9 October				Insufficient Water
GW09	9 October				Dry
GW11	9 October	7.3	641	7.19	
GW12	9 October				Insufficient Water
GW13	26 October	7.0	3570	6.70	
GW15	26 October	7.0	651	11.58	
GW16	9 October	7.6	1321	11.44	
GW17	9 October	7.2	5490	12.37	
GW21	9 October				Insufficient Water
GW22	9 October	8.4	6960	35.72	
GW23	9 October				Dry
GW24	9 October	6.2	1736	8.99	
GW25	9 October				Dry
GW26	9 October	7.2	1084	19.4	
P1	16 October	6.88	5500	27.67	
P3	16 October				Removed
P11	16 October				Mud
P16	16 October	7.30	7530	9.25	
P20	16 October	7.45	5490	8.63	

Monitoring Frequency: Once per month
 Sampling Method: Grab sample
 Limits: Nil

Date sampled: 5, 11, 19 and 23 October 2018
 Date obtained: 10, 18 and 25 October 2018
 Date published: 7 November 2018

Table 2 - WCPL Surface and Mine Water Dam Results

Site	Date	pH	EC ($\mu\text{S}/\text{cm}$)	TSS (mg/L)	Comments
SW01	5 October				Pool
	11 October				Pool
	19 October				No flow
SW02	5 October				Pool
	11 October				Pool
	19 October				Pool
SW03	5 October				Pool
	11 October				Pool
	19 October	7.87	2620	12	Trickle
SW04	5 October				Pool
	11 October				Dry
	19 October				Pool
SW05	5 October				Pool
	11 October				Dry
	19 October				Pool
SW06	5 October				Pool
	11 October				Pool
	19 October				Pool
SW07	5 October				Dry
	11 October				Dry
	19 October				Dry
SW08	5 October				Dry
	11 October				Unsafe access
	19 October				Dry
SW14	23 October	8.90	545	<5	
SW15	5 October	9.15	7160	214	
	11 October	9.16	7320	122	
	19 October	9.27	7570	128	
SW27	5 October				Pool
	11 October				Pool
	19 October				Pool

Site	Date	pH	EC (µS/cm)	TSS (mg/L)	Comments
SW31	23 October	9.34	5520	35	
SW32a	5 October	7.73	384	756	Dry
	11 October				Pool
	19 October	7.53	629	368	
SW38	23 October	9.23	7580	39	
SW39	5 October				Pool
	11 October				Pool
	19 October				Pool
SW40	5 October				Pool
	11 October				Pool
	19 October				Pool
SW41	5 October				Pool
	11 October				Pool
	19 October				Pool
SW52	23 October	9.64	2260	28	
Montrose East 1	5 October	7.98	448	682	
	11 October	8.12	491	104	
	19 October	9.40	584	74	
Montrose East 2	5 October	7.54	432	1060	
	11 October	8.50	480	73	
	19 October	10.5	556	104	
Wombat Dam	5 October	9.08	1320	190	
	11 October	8.96	1280	52	
	19 October	9.09	1430	158	
Milk Can Dam	5 October	8.00	821	614	
	11 October	7.88	1290	97	
	19 October	8.04	1630	77	
Rug Dump Dam	5 October	9.06	630	5560	
	11 October	8.55	919	300	
	19 October	8.84	1180	96	

Monitoring Frequency: Once per month
Sampling Method: AM19
Limits: 4g / m² / month EPA Guideline

Date sampled: 17 October 2018
Date obtained: 26 October 2018
Date published: 7 November 2018

Table 3 - WCPL Depositional Dust Gauges

Site	Date	Ash (g/m ²)	Total Insoluble Matter (g/m ²)	AR/IS Ratio	Comment
D11	17 October	1.3	1.5	86.6	
D19	17 October	2.9	3.8	76.3	
D21	17 October	1.2	1.4	85.7	
D22	17 October	2.0	2.4	83.3	

Monitoring Frequency: Continuous

Sampling Method: AM22

Limits: Nil

Date sampled: Dust readings recorded daily

Date obtained: The next day for the preceding day's result

Date published: 7 November 2018

Table 4 - WCPL PM10 Results

Date of Run	PM01 - Coralie (Sentinex 19)		PM02 - Wambo Road (Caban) (Sentinex 20)		PM03 - Thelander (Sentinex 21)		PM04 - Muller (Sentinex 22)	
	PM10 24 Hour Result (ug/m ³)	YTD Average	PM10 24 Hour Result (ug/m ³)	YTD Average	PM10 24 Hour Result (ug/m ³)	YTD Average	PM10 24 Hour Result (ug/m ³)	YTD Average
1 October	16.1	24.67	15.5	23.27	11.7	17.39	20.3	24.94
2 October	21.1	24.66	27.1	23.28	15.6	17.39	26.2	24.94
3 October	29.3	24.68	31.9	23.31	18.9	17.39	26.9	24.95
4 October	13.5	24.64	11.3	23.27	12.1	17.37	14.4	24.91
5 October	3.5	24.56	2.8	23.19	2.6	17.32	3	24.83
6 October	9.4	24.51	8.1	23.14	6.6	17.28	14.1	24.79
7 October	8.2	24.45	7.7	23.08	5.7	17.24	7.9	24.73
8 October	12.6	24.41	8.7	23.03	8.5	17.21	11.6	24.68
9 October	19.2	24.39	15.7	23.01	10.9	17.19	20.5	24.67
10 October	10.6	24.34	9.4	22.96	8.4	17.15	13.4	24.63
11 October	12.1	24.30	9.8	22.91	8.8	17.12	9.4	24.58
12 October	17.5	24.27	8.9	22.86	10.7	17.10	10.8	24.53
13 October	23.5	24.27	10.7	22.82	13.3	17.09	15.2	24.49
14 October	25.2	24.27	15.3	22.79	15.3	17.08	18.9	24.48
15 October	22	24.27	15.3	22.77	20.7	17.09	18	24.45
16 October	20.5	24.25	15.5	22.74	14	17.08	18.3	24.43
17 October	16	24.22	15.4	22.72	8.4	17.05	12.8	24.39
18 October	12.4	24.18	9.6	22.67	8.2	17.02	9.7	24.34
19 October	14.1	24.15	12.8	22.64	9.2	17.00	12.4	24.30
20 October	22.1	24.14	15.8	22.61	11.8	16.98	13.8	24.26
21 October	16	24.11	13.4	22.58	16	16.98	13.5	24.23
22 October	23.5	24.11	21.4	22.58	21.6	16.99	23.1	24.22
23 October	12.7	24.07	18	22.56	14.4	16.98	14.2	24.19
24 October	26.3	24.08	28.6	22.58	26.4	17.01	32	24.22
25 October	18.6	24.06	21.5	22.58	22.2	17.03	26.3	24.22
26 October	36.5	24.10	23.7	22.58	25.4	17.06	51.2	24.31
27 October	39.7	24.16	30.9	22.61	23	17.08	30.8	24.33
28 October	32.7	24.19	24.1	22.62	27.1	17.11	27.2	24.34
29 October	39.4	24.24	22.3	22.62	30.9	17.16	32.9	24.37
30 October	26.1	24.24	21.7	22.61	22.6	17.18	34.8	24.41
31 October	45.2	24.31	42.3	22.68	31	17.22	45.9	24.48

Monitoring Frequency: Every blast
 Airblast Overpressure Limit: 120 dBL
 Ground Vibration Limit: 10mm/s

Date sampled: After each blast event
 Date obtained: After each blast event
 Date published: 7 November 2018

Table 5 - WCPL Blast Monitoring Results

Date & Time	ID	BM02 - Kelly		BM05 - Muller		BM07 - Thelander	
		dBL	mm/sec	dBL	mm/sec	dBL	mm/sec
2018-10-03 14:17:51	HD_WWA_308/HD_RCA	97.5	0.12	105.2	0.38	97.0	0.33
2018-10-09 15:31:28	MW_WWA_310	104.5	0.15	106.0	0.49	101.6	0.90
2018-10-19 11:59:48	HD_1RCA_3321	91.1	0.02	92.6	0.08	88.9	0.04
2018-10-19 12:03:18	M_27WMA_316	106.2	0.17	107.3	1.84	97.2	1.62
2018-10-30 14:35:12	M_27WRA_322	95.0	0.03	106.0	0.39	102.6	0.45
2018-10-30 14:40:32	M_27WRA_323	100.5	0.09	115.7	0.69	107.4	0.44
2018-10-30 14:51:12	ME_WMA_324	98.6	0.14	116.5	1.45	108.9	1.61

Monitoring Frequency: Continuous
 Sampling Method: Site Meteorological Station
 Limits: Nil

Date sampled: Weather readings recorded daily
 Date obtained: 1 November 2018
 Date published: 7 November 2018

Table 6 - WCPL Meteorology

Date	Temperature (2m)			Temperature (10m)			Humidity			Solar Radiation		RAIN mm	Wind Speed		
	Min	Average	Max	Min	Average	Max	Min	Average	Max	Average	Max		Min	Average	Max
1 October	6.6	16.7	25.4	5.8	15.1	22.6	34.6	67.6	99.1	288.5	1038.8	0	0.1	1.3	5.2
2 October	6.1	19	29.4	5.4	16.9	26.5	20.6	63.9	97.3	302.1	974.6	0	0	1	5
3 October	10.4	22.3	32.7	8.1	19.6	28.1	24.7	58.5	98.7	184.8	902.9	0	0.1	0.5	84.1
4 October	16.8	19	22.9	15.3	17.4	21.1	48.3	85.3	100	53.4	376.2	62.6	0.1	1.5	3.8
5 October	15.3	16.6	18.9	14.1	15.1	17.2	74.5	83.1	97.8	88.8	511.8	3	1.4	3.8	6.8
6 October	12.8	16.4	21.1	13.1	15.5	19.4	60	72.8	89.8	184.8	995.1	0	0.1	3	5.5
7 October	10.5	17.6	24.2	10.3	16.6	21.8	49.8	67.9	93.2	180.5	1075.8	2.2	0	0.8	4.2
8 October	15.3	20.2	27.6	14.3	19.1	26.5	33.1	69.5	98.3	301.4	1160.6	0	0.1	0.4	4.6
9 October	10.9	20.4	29.9	10.8	19.7	28.7	26.6	66.2	99.1	263.2	1035.4	0	0.1	0.4	3.8
10 October	12.9	16.1	19.8	11.9	15.4	18.9	76.1	89.1	98.7	37.6	316.1	20.8	0	2	4.4
11 October	12.6	14.4	17	11.6	13.5	16	64.4	83	99	93.8	497.7	2.8	0.7	2.2	6.5
12 October	12.5	16	20.6	11.6	14.8	19	56.4	77.8	98.2	191.8	1098.2	0.8	0.5	2.6	5.9
13 October	12.6	18	23.7	11.3	16.2	21.2	51.9	75.6	92.9	236.5	1188.2	0	0.3	2.6	7.3
14 October	16.4	19.9	25	14.8	18.2	22.6	46.8	75.7	97.8	220.9	1212.1	0	1	2.9	6.4
15 October	14.8	20.4	26.3	13.6	18.7	23.5	56.1	78.3	97.9	238.1	1116.7	0	0.2	2.9	6.9
16 October	18	22.2	27.7	16.4	20.4	25.4	53.7	74.4	93.1	212.2	1040.5	0	0.9	2.5	5.9
17 October	16.9	21.7	27.3	15.8	19.9	25.1	57.2	79.2	95.7	148.3	815.7	2.4	0	0.5	5.6
18 October	17.7	21.8	31.1	16.1	20.1	28.9	48.2	86.6	100	250.6	1086.4	27.6	0	0.1	6.9
19 October	17.8	23.7	31.7	16.2	22.9	30.5	34.9	73.4	100	322.6	1079.8	0.2	0.1	1.1	5.2
20 October	15.6	22.6	32.5	16.2	22.8	32.1	37.2	73.2	98.4	236.2	1158.2	1	0.1	3.2	123.7
21 October	17.2	18.6	20.4	17.2	18.5	20	73.1	86.1	98.5	88.9	757.2	0.4	0.1	1.7	4.1
22 October	16.6	20.6	27.1	16.8	20.4	26.8	46.3	73.9	90	268.2	1205.6	0	0.3	1.2	4.3
23 October	13.5	22.4	33.3	14	22.8	33	18.3	63.3	98.9	307	1071.8	0	0.1	1.1	5.2
24 October	12.4	17.9	23.1	13.5	18.1	22.5	54.5	70.3	88.9	177.1	926.5	0	0.3	2.3	5.7
25 October	15.5	18.9	24.1	15.4	18.8	23.5	53.7	71.4	92.8	252.8	1164.5	0	0.4	1.5	5
26 October	10.3	19.3	27.6	11	19.4	27.1	33	68.5	99.4	343.3	1121.6	0	0	1.8	6.1
27 October	14.8	22.1	31.3	15.4	22.1	30.9	22.7	56.2	88.5	342.5	1071	0	0.1	0.3	4.6
28 October	13.2	17.7	20.8	13.6	17.7	21	59	71.8	89.5	85.6	438.4	0.2	0.1	2.2	6.9
29 October	12	17.7	23.6	12.5	17.6	23.1	45	63.8	88.3	282.9	1040.5	0	0.4	2.5	6.7
30 October	10.8	21.5	32.1	11.5	21.6	31.7	24.2	55.4	90.2	353.1	1072	0	0	1	4.6
31 October	12.1	23.6	34.3	13.1	23.8	33.8	22	55.1	92	306.5	1158.5	0	0.1	0.3	6.6
MONTH	6.1	19.5	34.3	5.4	18.6	33.8	18.3	72.1	100	220.7	1212.1	124	0	1.6	123.7

