

**WAMBO COAL
ENVIRONMENTAL REPORTING
1 DECEMBER – 31 DECEMBER 2017**

9 January 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

Table 1 - WCPL Surface and Mine Water Dam Results

Site	Date	pH	EC ($\mu\text{S}/\text{cm}$)	TSS (mg/L)	Comments
SW01	4 December 2017	7.52	774	5	
SW02	4 December 2017	7.59	1050	5	
SW03	4 December 2017	7.78	1960	10	
SW04	4 December 2017				Dry
SW05	4 December 2017				Dry
SW06	4 December 2017				Pool
SW07	4 December 2017				Dry
SW08	4 December 2017				Dry
SW14	19 December 2017	8.49	591	5	
SW15	4 December 2017	8.92	8990	183	
SW27	4 December 2017				Pool
SW31	19 December 2017	9.12	7980	541	
SW32a	4 December 2017				Pool
SW38	19 December 2017	9.06	8960	647	
SW39	4 December 2017				Dry
SW40	4 December 2017	7.55	667	5	

Monitoring Frequency: Every 2 months
 Sampling Method: Grab sample
 Limits: Nil

Date sampled: 1 and 22 December 2017
 Date obtained: 3 and 5 January 2018
 Date published: 9 January 2018

Table 2 - WCPL Groundwater Results

Site	Date	pH	EC ($\mu\text{S}/\text{cm}$)	Depth	Comments
P106	1 December				Dry
P109	1 December	6.5	778	6.11	
P114	1 December				Dry
P116	1 December	7.0	1946	6.80	
P202	1 December	7.6	3760	8.44	
P206	1 December	7.8	2060	20.55	
P301	1 December	6.7	5730	16.10	
P315	1 December	6.2	342	8.76	
GW02	1 December	6.6	511	8.36	
GW08	1 December	7.5	1800	6.96	
GW09	1 December				Dry
GW11	1 December	6.7	614	6.36	
GW12	1 December			12.66	Insufficient Water
GW13	1 December	6.9	3080	5.97	
GW15	1 December	7.3	599	11.14	
GW16	1 December	7.7	1065	10.66	
GW17	1 December	7.0	5390	11.00	
GW21	1 December			36.66	Insufficient Water
GW22	1 December	8.4	6940	35.47	
P1	22 December	6.7	7100	25.9	
P3	22 December				Removed
P11	22 December			31.21	Mud
P16	22 December	7.26	8260	8.64	
P20	22 December	7.32	7690	8.32	

Monitoring Frequency: Every 6 days
Sampling Method: AM15
Limits: 90 ug/m³ annual average limit

Date sampled: 2, 8, 14, 20 and 26 December 2017
Date obtained: 28 December 2017 and 9 January 2018
Date published: 9 January 2018

Table 3 - WCPL HVAS

Site	Date	TSP (UG/m3)
HV01	2 December	112
HV01	8 December	99.7
HV01	14 December	113
HV01	20 December	124
HV01	26 December	58.6
HV02	2 December	96.3
HV02	8 December	65.8
HV02	14 December	78.4
HV02	20 December	68.4
HV02	26 December	29.2
HV03	2 December	93.4
HV03	8 December	90.3
HV03	15 December	100
HV03	20 December	63.4
HV03	26 December	77.5
HV04	2 December	98.5
HV04	8 December	87.6
HV04	14 December	46.4
HV04	20 December	94.7
HV04	26 December	36.4

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

Date sampled: 15 December 2017
Date obtained: 28 December 2017
Date published: 9 January 2018

Table 4 - WCPL Depositional Dust Gauges

Site	Date	Ash (g/m ²)	Total Insoluble Matter (g/m ²)	AR/IS Ratio	Comment
D01	15 December	5.7	9.6	59.3	
D03	15 December	4.4	6.5	67.6	
D07	15 December	3.9	5.3	73.5	
D09	15 December	1.6	2.2	72.7	
D11	15 December	1.5	2.3	65.2	
D12	15 December	5.6	9.8	57.1	
D17	15 December	1.5	1.9	78.9	
D19	15 December	5.1	7.3	69.8	
D20	15 December	1.4	1.8	77.7	
D21	15 December	1.7	2.3	73.9	
D22	15 December	2.7	3.6	75	
D23	15 December	2.0	2.6	76.9	
D24	15 December	-	-	-	No sample as bottle smashed
D25	15 December	2.6	3.5	74.2	
D26	15 December	2.2	4.5	48.8	

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: 9 January 2018

Table 5 - 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 December	32.6	20.08	17.8	19.18	23.1	14.44	26.2	16.85
2 December	23.9	20.09	20.9	19.19	20.1	14.46	18.9	16.86
3 December	16.3	20.08	6.6	19.15	4.5	14.43	2.5	16.82
4 December	18.1	20.08	12.4	19.13	13.1	14.43	18.5	16.82
5 December	10.8	20.05	11.3	19.11	8.4	14.41	10.2	16.80
6 December	9.4	20.02	6.7	19.07	6.3	14.39	4.4	16.76
7 December	14.5	20.00	11.6	19.05	7.8	14.37	8.7	16.74
8 December	34.5	20.04	25	19.07	26.5	14.40	27.7	16.77
9 December	23.7	20.05	18.7	19.07	18	14.41	19.3	16.78
10 December	21.5	20.06	15.6	19.06	16.4	14.42	18.5	16.78
11 December	23.4868	20.07	15.2444	19.04	12.5688	14.41	21.1708	16.80
12 December	18.6	20.06	22.4	19.05	18.572	14.43	24.4	16.82
13 December	25.2	20.08	25.9	19.07	21	14.44	27.2	16.85
14 December	40.9	20.14	27.6	19.10	21.9	14.47	23.5	16.87
15 December	52.7	20.23	35.7	19.15	31.3	14.51	43.9	16.95
16 December	33.2	20.27	29.1	19.17	25.8972	14.55	36.1	17.00
17 December	34.2	20.31	24.5	19.19	26.5623	14.58	31.6	17.04
18 December	43.6	20.38	22.8	19.20	20.4	14.60	25.6	17.07
19 December	28.1	20.40	19.3	19.20	16.0364	14.60	18.3	17.07
20 December	37.8	20.45	24.9	19.22	24.6	14.63	26.3	17.10
21 December	43	20.51	23.5	19.23	20.2	14.65	25.8	17.12
22 December	23.9	20.52	15.8	19.22	14.0916	14.64	18.9	17.13
23 December	29.7	20.55	27	19.24	16.3942	14.65	29.5	17.16
24 December	22.9	20.55	20.1	19.24	13.7797	14.65	20	17.17
25 December	14.2	20.53	14.1	19.23	12.4	14.64	12.9	17.16
26 December	15.7	20.52	11.3	19.21	11.4	14.63	11.3	17.14
27 December	35.1	20.56	18.9	19.21	9.66914	14.62	21.4	17.15
28 December	23.9	20.57	19.3	19.21	12.2109	14.61	30.1	17.19
29 December	53.6	20.66	20.2	19.21	6.18302	14.59	20.3	17.20
30 December	20.7	20.66	12.1	19.19	NaN*	14.59	12.1	17.18
31 December	28.6	20.68	24.9	19.21	NaN*	14.59	23	17.20

*Thelander monitor had an intermittent fault with the UPS and as a result the TEOM was in operable and therefore no data was available on these two days.

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

Date sampled: After blast event
Date obtained: 1, 7, 15, 19, 20 and 29 December 2017
Date published: 9 January 2018

Table 6 - WCPL Blast Monitoring Results

Date & Time	ID	BM02 - Kelly		BM05 - Muller		BM07 - Thelander	
		dBL	mm/sec	dBL	mm/sec	dBL	mm/sec
2017-12-01 15:34:15	M_27WWA_207	95.9	0.20	101.8	0.58	99.1	0.61
2017-12-01 15:38:52	ME_21WTA_213	94.4	0.03	101.3	0.11	93.0	0.05
2017-12-07 15:34:17	M27_WWA_214	94.6	0.07	105.0	0.68	100.4	0.77
2017-12-15 12:33:39	RP_1WWA_215	89.6	0.10	99.9	0.04	99.5	0.03
2017-12-19 15:29:55	HD_1WWA_211	105.6	0.11	100.9	0.35	95.4	0.19
2017-12-20 14:39:25	Montrose RCA_215	88.5	0.10	96.1	0.11	93.2	0.12
2017-12-29 12:06:04	HD_1WWA_211	96.2	0.08	104.7	0.50	100.6	0.23
2017-12-29 12:09:01	M_RCA_219	90.9	0.02	105.3	0.16	100.0	0.08

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

Date sampled: Weather readings recorded daily
 Date obtained: 1 January 2018
 Date published: 9 January 2018

Table 7 - 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 December	16.6	26.6	35.9	17.2	26.7	35.5	25.6	59.3	96.2	319.7	1085.2	0	0.1	0.6	3.9
2 December	17.5	23.4	29.2	17.5	23.6	28.9	44.8	71.4	99.5	109.7	604.7	22	0	2.1	6.5
3 December	16.1	21.6	27.2	17	21.7	26.8	34.8	60.1	84.5	381.6	1256.8	0.2	0	3.5	6.7
4 December	14.2	19.8	25	15.7	19.9	24.5	50.9	70.9	94.7	249.8	1098.7	0	0.1	1.9	6
5 December	15.9	20.1	26.8	16.1	19.9	26.3	45.7	73.9	99	244.1	1198.7	8.8	0.1	1.7	5.7
6 December	14.3	20.9	27	14.6	20.9	26.4	36.5	66.9	98.3	320.8	1163.4	2.2	0.1	1.9	35.8
7 December	13.1	24.2	33.7	14.1	24.5	33.2	16.8	49.8	97.6	355.9	1203.3	0	0.1	1.3	5.3
8 December	13.2	22.5	35.1	13.9	22.8	34.6	18	58.5	90.6	292.6	1362.4	0	0.2	0.5	8
9 December	17.3	20.9	26.4	17.4	20.8	25.9	41.8	69.7	96.8	213.1	1256.9	2.2	0.4	1.7	5.1
10 December	14.1	21.5	29.1	14.4	21.5	28.4	35	64.5	94	335.8	1274.6	0	0.3	1.6	5.8
11 December	13.1	23.1	31.8	14.1	23.1	31	31.4	59.8	96	375.8	1093.2	0	0.3	1.7	5.7
12 December	17.2	25.3	33.6	17.9	25.2	33	27.4	56.2	85.8	371	1083.2	0	0.2	1.8	5.7
13 December	16.1	27.9	37.6	16.8	28.1	37.1	20.5	49.9	94.9	320.5	1096.6	0	0.1	0.6	5.1
14 December	16.5	30.1	40.6	17.6	30.4	40	14.6	41.9	87	366.1	1088	0	0	1.5	6.2
15 December	21.7	27.6	33.2	22.8	27.6	32.6	36.3	55.2	82.7	316.6	1094.4	0	0.2	2	5.8
16 December	21.2	28.3	39.6	21	28.3	39.1	17.1	60	93.7	287.9	1080.4	1.4	0.2	0.5	6.6
17 December	22.2	26.6	33.9	22.6	26.5	33.1	42.1	65.2	89.7	285.6	1071.2	0.2	0.4	1.9	5.9
18 December	20	26.8	36.5	20.1	26.8	36	30.6	66.6	93.2	255.4	1096.3	0	0	0.4	4.5
19 December	21.4	30.1	39.8	21.5	30.6	39.5	23.9	56.8	99	268.8	1179	6.2	0.1	1.5	5.8
20 December	22.1	31.4	41.9	22.7	31.6	41.3	18	49.4	87.1	319.6	1103.1	0	0.3	1.4	9.6
21 December	19.6	22.6	24.9	19.6	22.5	24.7	56.5	74.8	93.5	62.5	405.9	0	0.8	2.5	6.2
22 December	19.3	22.6	27.5	19.3	22.5	27	54.3	78.9	97.7	149.2	980.1	0.4	0.4	1.6	5.7
23 December	19.1	26.9	36.9	19.8	26.7	36.6	25.2	61.5	90.7	303.9	1121.8	0	0.3	0.1	7.2
24 December	17.8	29.2	40.2	18.7	29.4	39.9	13.2	52.9	93.1	278.3	1168.2	0.2	0	0.8	6.3
25 December	18.3	20.7	23.8	18.3	20.6	23.8	67.8	76.7	92.3	51.3	356.3	0	1.1	2.5	4.8
26 December	17.9	19.6	21.6	17.8	19.5	21.6	72	86.4	97.7	70.8	632.3	3.4	0.8	1.9	4.9
27 December	19.2	23.4	28.6	19.2	23.3	28.1	49.4	70.1	93.9	246.1	1162.8	0	1.1	2.9	7.1
28 December	15.4	26	35.6	16.5	26.1	34.9	22.6	60	98	343	1160.4	0	0.2	0.7	4.1
29 December	19.8	29.7	38.5	20.5	29.9	37.7	19.6	51.2	92.7	277.5	1119.6	0	0.1	1.3	4.5
30 December	22.7	28.6	35.6	22.9	28.7	35	31.8	56.9	91.4	180.9	1115.2	0.8	0.1	2.3	6.3
31 December	21.6	24.1	27.9	21.7	24	27.1	55.9	69.6	85.5	171.3	1033	0	1.3	3.4	6.2
MONTH	13.1	24.9	41.9	13.9	24.9	41.3	13.2	62.7	99.5	262.1	1362.4	48	0	1.6	35.8

