

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

11 September 2017

**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: 23 August 2017  
 Date obtained: 30 August 2017  
 Date published: 11 September 2017

Table 1 - WCPL Surface and Mine Water Dam Results

Site	Date	pH	EC ( $\mu\text{S/cm}$ )	TSS (mg/L)	Comments
SW01	30 August	7.23	719	5.0	
SW02	30 August	7.40	675	5.0	
SW03	30 August	7.15	814	6.0	
SW04	30 August				Dry
SW05	30 August				Dry
SW06	30 August				Dry
SW07	30 August				Dry
SW08	30 August				Dry
SW14	23 August	8.48	676	-	
SW15	23 August	8.76	7620	16	
SW20					No access
SW27	30 August				Dry
SW31	23 August	9.00	7650	-	
SW32a	30 August				Dry
SW38	23 August	8.97	7290	-	
SW39	30 August				Dry
SW40	30 August	7.40	604	5.0	

Monitoring Frequency: Bimonthly  
 Sampling Method: Grab sample  
 Limits: Nil

Date sampled: 3 and 14 August 2017  
 Date obtained: 1 and 4 September 2017  
 Date published: 11 September 2017

Table 2 - WCPL Groundwater Results

Site	Date	pH	EC ( $\mu\text{S/cm}$ )	Depth	Comments
P106	3 August				Dry
P109	3 August	6.5	793	6.03	
P114	3 August				Dry
P116	3 August	7.1	1270	6.71	
P202	3 August	7.4	3770	7.99	
P206	3 August	7.8	2060	19.53	
P301	3 August	6.7	4970	15.82	
P315	3 August	6.2	300	7.56	
GW02	3 August	6.6	518	8.02	
GW08	3 August	8.0	1930	6.76	
GW09	3 August				Dry
GW11	3 August	7.1	578	6.18	
GW12	3 August				Dry
GW13	4 August	7.0	2860	5.91	
GW15	4 August	6.8	599	10.99	
GW16	3 August	7.7	949	10.19	
GW17	3 August	7.0	5230	11.83	
GW21	3 August			36.73	Insufficient water
GW22	4 August	8.4	6970	35.42	
P1	15 August	6.83	4940	25.67	
P3	15 August				Removed
P11	15 August			31.17	Mud
P16	15 August	7.33	8040	8.30	
P20	15 August	7.21	9390	7.99	

**Monitoring Frequency: Every 6 days**  
**Sampling Method: AM15**  
**Limits: 90 ug/m<sup>3</sup> annual average limit**

**Date sampled: 4, 10, 16, 22 and 28 August**  
**Date obtained: 7 September 2017**  
**Date published: 11 September 2017**

**Table 3 - WCPL HVAS**

Site	Date	TSP (UG/m3)
HV1	4 August	17.2
HV1	10 August	48
HV1	16 August	69.3
HV1	22 August	121
HV1	28 August	39.9
HV2	4 August	22.9
HV2	10 August	58.2
HV2	16 August	73.3
HV2	22 August	94.5
HV2	28 August	40.3
HV3	4 August	6.1
HV3	10 August	9.6
HV3	16 August	25.9
HV3	22 August	92.2
HV3	28 August	45.4
HV4	4 August	8.1
HV4	10 August	8
HV4	16 August	29.4
HV4	22 August	138
HV4	28 August	46.8

**Monitoring Frequency: Once per month**  
**Sampling Method: AM19**  
**Limits: 4g / m<sup>2</sup> / month EPA Guideline**

**Date sampled: 15 August 2017**  
**Date obtained: 21 August 2017**  
**Date published: 11 September 2017**

**Table 4 - WCPL Depositional Dust Gauges**

Site	Date	Ash (g/m <sup>2</sup> )	Total Insoluble Matter (g/m <sup>2</sup> )	AR/IS Ratio	Comment
D01	15 August	4.20	12.70	33	
D03	15 August	1.60	3.20	50	
D07	15 August	2.30	3.50	65	
D09	15 August	3.20	6	53	
D11	15 August	1.30	2.20	59	
D12	15 August	1.60	2.50	64	
D17	15 August	0.40	0.60	66	
D19	15 August	1.50	2.40	62	
D20	15 August	1.20	1.90	63	
D21	15 August	0.50	0.80	62	
D22	15 August	1	1.80	55	
D23	15 August	1.30	2.10	61	
D24	15 August	0.30	0.50	60	
D25	15 August	0.80	1.20	66	
D26	15 August	1.50	2.80	53	

Monitoring Frequency: Continuous  
 Sampling Method: AM22  
 Limits: 50 (ug/m<sup>3</sup>)

Date sampled: Dust readings recorded daily  
 Date obtained: The next day for the preceding day's result  
 Date published: 11 September 2017

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 <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average	PM10 24 Hour Result (ug/m <sup>3</sup> )	YTD Average
1/8/2017	10.5	19.09	10.8	18.09	10.4118	13.62	15.6	16.48
2/8/2017	27.9	19.13	21.4	18.11	20.7	13.65	27.1	16.53
3/8/2017	29.3	19.18	18.6	18.11	22.4*	13.69	25.5	16.57
4/8/2017	5.6	19.12	7.1	18.06	4.4**	13.65	3.8	16.51
5/8/2017	12.3	19.09	8.2	18.01	5.7	13.61	5.9	16.46
6/8/2017	13.7	19.06	11.5	17.98	3.90629	13.57	7	16.42
7/8/2017	15	19.04	10.6	17.95	5.7	13.53	7.7	16.38
8/8/2017	9.1	19.00	11.6	17.92	6.4	13.50	6.5	16.33
9/8/2017	10.5	18.96	12	17.89	7.8	13.47	6	16.29
10/8/2017	15.4	18.94	21.4	17.91	7.1	13.44	6.6	16.24
11/8/2017	16.9	18.94	28.9	17.96	5.80352	13.41	10.6	16.22
12/8/2017	13.1	18.91	25.2	17.99	4.7	13.37	8.7	16.18
13/8/2017	17	18.90	16.7	17.99	10.1	13.35	21.7	16.21
14/8/2017	18.1	18.90	35.8	18.06	9.2	13.34	9.8	16.18
15/8/2017	23.3	18.92	24.5	18.09	10.8	13.32	13.4	16.17
16/8/2017	22.7	18.93	29.9	18.14	9.1	13.31	13.3	16.16
17/8/2017	16.5	18.92	16.1	18.14	12	13.30	10.9	16.13
18/8/2017	23.3	18.94	17.6	18.13	12.9	13.30	8.7	16.10
19/8/2017	10.6	18.91	15.7	18.12	10.9	13.29	5.5	16.05
20/8/2017	18	18.90	17	18.12	9.2	13.27	15.4	16.05
21/8/2017	21.8	18.91	38.9	18.21	5.7	13.24	16.6	16.05
22/8/2017	26.8	18.95	25.9	18.24	9.56714	13.22	42.9	16.17
23/8/2017	24.6	18.97	36.5	18.32	13.8	13.22	22.9	16.20
24/8/2017	23.2	18.99	24	18.34	30.4	13.30	17.4	16.20
25/8/2017	14.8	18.97	21	18.35	17.3	13.31	18.2	16.21
26/8/2017	16.6	18.96	31.7	18.41	17.7	13.33	9.6	16.18
27/8/2017	15.2	18.95	21.3	18.42	14.8	13.34	8.8	16.15
28/8/2017	12.9	18.92	15	18.41	9.3	13.32	11.9	16.13
29/8/2017	19.5	18.92	20.1	18.41	9.3	13.31	21.7	16.16
30/8/2017	17.734	18.92	32.7903	18.47	11.8	13.30	16.1194	16.16

31/8/2017	17.1	18.91	21.3	18.48	15	13.31	18.3	16.17
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\* 3/8 - 22.4 ug/m3 (83% complete data set, 20 out of 24 hours due to data loss)

\*\* 4/8 - 4.4 ug/m3 (88 % complete data set 21 out of 24 hours due to data loss)

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

**Date sampled: Blast readings recorded on 9, 14 and 23 August 2017**  
**Date obtained: Following each blast event**  
**Date published: 11 September 2017**

**Table 6 - WCPL Blast Monitoring Results**

Date & Time	ID	BM02 - Kelly		BM05 - Muller		BM07 - Thelander	
		dBL	mm/sec	dBL	mm/sec	dBL	mm/sec
09/08/2017 15:47:57	M_22WTA_168	95.3	0.06	100.2	0.44	71.5	0.45
09/08/2017 15:51:15	M_22WTA_168	93.1	0.05	99.2	0.79	74.4	1.13
09/08/2017 15:54:21	M_22WTA_168	91.2	0.05	102.3	0.39	69.6	0.43
14/08/2017 15:35:53	ME_22WMA_170	100.9	0.05	111.5	0.21	81.3	0.12
14/08/2017 15:38:51	ME_22WMA_170	98.3	0.07	106.7	0.21	72.3	0.12
23/08/2017 15:31:57	M_22WTA_174	96.0	0.06	94.9	0.37	67.1	0.4
23/08/2017 15:36:06	M_22WTA_174	91.1	0.06	97.7	0.63	69.6	0.75
23/08/2017 15:37:48	M_22WTA_174	88.9	0.04	109.2	0.49	71.5	0.54



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

Date sampled: Weather readings recorded daily  
 Date obtained: 6 September 2017  
 Date published: 11 September 2017

Table 7 - WCPL Meteorology

Date	Temperature (2m)			Temperature (10m)			Humidity			Solar Radiation		RAIN mm	SUM RAIN mm	Wind Speed		
	Min	Average	Max	Min	Average	Max	Min	Average	Max	Average	Max			Min	Average	Max
1/8/2017	2.5	11.1	18.8	5	11.7	18.6	35.8	71.1	96.5	170.7	640.9	0	0	0.1	1	5.7
2/8/2017	0.7	8.7	18.2	2	9.5	17.9	31.9	70.8	99	165.6	632	0	0	0.1	0.5	3.7
3/8/2017	-0.1	9.6	18.9	1.1	10.2	18.4	50.9	83.3	98.4	101.9	633.7	9.2	9.2	0.1	0.6	5.5
4/8/2017	10.1	12.6	14.8	10.3	12.7	14.5	53.2	66.5	89.4	133.4	770.6	0.4	9.6	2.1	4.5	7.7
5/8/2017	6.8	14	19.1	9.7	14.5	18.8	33.6	54.9	81	173.8	727.2	0	9.6	0.2	3.5	6.9
6/8/2017	1.8	12.1	20.6	3.6	13.2	20.3	30.2	61.7	98.4	178.2	694.6	0	9.6	0.1	1.8	6.4
7/8/2017	2.6	12.2	18.3	4.4	13	18	30.2	54.8	97.1	176.4	713.9	0	9.6	0.2	3.3	8.4
8/8/2017	3.4	12.3	19.1	5.8	12.7	18.7	24.8	51.2	82.1	184.3	678.7	0	9.6	0.2	3.4	5.5
9/8/2017	1.8	9.9	20.4	3.8	10.9	20	34.8	66.6	94.5	184.3	682.4	0	9.6	0.3	1.1	4.7
10/8/2017	-0.4	12.7	23.9	0.8	13.5	23.7	23.9	57.9	98.4	182.1	684.1	0	9.6	0	2.1	5.8
11/8/2017	13.3	19.9	26.8	14.7	20.3	26.6	16.8	29.8	45.2	181.6	674	0	9.6	1.2	3.4	7.5
12/8/2017	1.3	13	21.3	3.7	13.9	21	26.4	51.2	89.3	186.6	713.3	0	9.6	0.1	2.1	5.4
13/8/2017	0.6	11	22.1	2.2	11.9	21.8	23.9	63.1	96.3	190.4	698.1	0	9.6	0.1	0.5	2.7
14/8/2017	-0.5	11.1	22.7	0.5	12.1	22.4	20.5	61.7	98.9	184.4	681.7	0	9.6	0.1	0.7	3.1
15/8/2017	4.1	13.4	26.2	5.2	14.4	25.8	24.8	59	86.1	86.1	610.2	0	9.6	0.1	0.8	4.4
16/8/2017	5.7	18.6	23.7	9.2	19.5	23.9	22.9	40.5	86.2	164.1	669.8	0	9.6	0	3	8.5
17/8/2017	8.1	16.6	22.4	11.6	16.8	22	21.8	38.5	69.2	193.3	703.7	0.2	9.8	0	1.9	6.7
18/8/2017	9.4	14.4	17	11.3	14.5	16.6	30	38	52.1	186.9	740.7	0	9.8	0.5	4.8	9.4
19/8/2017	3.2	10.7	17.2	5.8	11.4	16.6	25.7	47.3	85.7	191.4	791.6	0	9.8	0.3	1.4	4.8
20/8/2017	-0.9	8.6	17.5	0.2	9.6	17	35.1	66.9	97.2	199.2	914	0	9.8	0.1	0.3	3.6
21/8/2017	2.1	9.4	17.6	3.1	9.9	17.4	30.3	68.4	97.3	84.5	625.6	0	9.8	0	0.9	4.2
22/8/2017	5.1	12.9	21.4	6.3	13.4	21.1	24.7	60.3	90.3	193.4	696.1	0	9.8	0.1	0.8	4.7
23/8/2017	1.4	12.3	24.7	2.6	13.3	24.2	26.2	68.6	99.3	190.1	690.5	0	9.8	0	0.6	3.8
24/8/2017	1.8	12.2	20.3	3.2	12.8	19.9	27.4	62.5	98	166.3	782	0	9.8	0	1.1	5.2
25/8/2017	3.4	12.7	18.5	5.8	13.1	18.2	37.6	59.9	93.3	172.3	812.5	0	9.8	0	2.3	5
26/8/2017	-0.2	9.7	21	1.1	10.6	20.4	25.1	67.1	99.1	199.6	712.4	0	9.8	0.1	0.8	3.3
27/8/2017	0	10.8	19.8	1.2	11.3	19.4	23.1	54.5	93.9	202	725.5	0	9.8	0.1	2.2	6.7
28/8/2017	1.8	9.4	17.3	3.9	10.5	16.8	29.4	59.7	92.3	184.3	782.4	0	9.8	0.1	0.9	3.6
29/8/2017	-1.3	9.3	18.8	-0.1	10	18.6	28	70.4	97.1	196.5	744.6	0	9.8	0.1	0.5	3.8
30/8/2017	3.3	11.6	21.5	4.8	12.3	21.1	19.5	65.1	99.2	194.3	713.5	0.4	10.2	0.1	0.5	4.2
31/8/2017	4.2	11.4	18.5	6.8	12.2	18	29.8	53.2	93.3	204.2	748.2	0	10.2	0.1	1.3	4.4
MONTH	-1.3	12.07	26.8	-0.1	12.76	26.6	16.8	58.85	99.3	174.26	914	10.2		0	1.69	9.4