

**WAMBO COAL  
ENVIRONMENTAL REPORTING  
1 AUGUST – 31 AUGUST 2019**

September 2019

**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 (µS/cm)	TSS (mg/L)	Comments
SW01	27 Aug 2019				No flow
SW02	27 Aug 2019				Dry
SW03	27 Aug 2019				No flow
SW04	27 Aug 2019				Dry
SW05	27 Aug 2019				Dry
SW06	27 Aug 2019				Dry
SW07	27 Aug 2019				Dry
SW08	27 Aug 2019				Dry
SW12	20 Aug 2019	8.66	7200	36	
SW14	20 Aug 2019	8.39	707	10	
SW15	20 Aug 2019	8.83	4000	62	
SW27	27 Aug 2019				Dry
SW31	20 Aug 2019	8.71	1380	28	
SW32a	27 Aug 2019				Dry
SW38	20 Aug 2019	8.80	9100	41	
SW39					
SW40	27 Aug 2019				No flow
SW51	20 Aug 2019	8.79	1650	91	
SW52	2- Aug 2019	8.75	1020	48	
Wombat Dam	27 Aug 2019				No access
Milk Can Dam	20 Aug 2019	8.95	5410	38	
Rug Dump Dam	20 Aug 2019	8.84	2040	92	
Montrose East 1	20 Aug 2019	8.29	757	102	
Montrose East 2	20 Aug 2019	8.44	691	20	

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

Date sampled: 6 and 14 Aug 2019  
 Date obtained: 9 Aug 2019 and 2 Sept 2019  
 Date published: 4 Sept 2019

Table 2 - WCPL Groundwater Results

Site	Date	pH	EC ( $\mu\text{S}/\text{cm}$ )	Depth	Comments
P106	6 Aug 2019				Dry
P109	6 Aug 2019	6.0	672	6.7	
P114	6 Aug 2019				Dry
P116	6 Aug 2019	7.0	3020	7.2	
P202	6 Aug 2019	7.5	4000	9.6	
P206	6 Aug 2019	8.0	2040	22.1	
P301	6 Aug 2019	7.0	6720	19.9	
P315	6 Aug 2019				Dry
GW02	6 Aug 2019	7.2	591	9.7	
GW08	6 Aug 2019				Dry
GW09	6 Aug 2019				Dry
GW11	6 Aug 2019	7.9	637	7.8	
GW12	6 Aug 2019				Insufficient water
GW13	6 Aug 2019	7.0	2910	7.2	
GW15	6 Aug 2019	6.8	681	11.9	
GW16	6 Aug 2019	7.9	1540	12.2	
GW17	6 Aug 2019	7.2	5160	13.1	
GW21	6 Aug 2019				Dry
GW22	6 Aug 2019	8.3	6900	36.03	
GW23 (Site 4A)	6 Aug 2019				Dry
GW24 (Site 4B)	6 Aug 2019	6.2	1736	20.8	
GW25 (Site 9A)	6 Aug 2019				Dry
GW26 (Site 9B)	6 Aug 2019	7.4	1179	8.58	
GW27 (Instream 1)	6 Aug 2019				Dry
GW28 (Instream 3)	6 Aug 2019				Dry
GW29 (Site 7b)	6 Aug 2019				Dry
GW30 (Site 11)	6 Aug 2019				Dry
P1	14 Aug 2019	6.8	9570	28.4	
P3	14 Aug 2019				Removed
P11	14 Aug 2019				Dry
P16	14 Aug 2019	7.45	8680	9.72	
P20	14 Aug 2019			9.03	Insufficient water

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

Date sampled: 19 Aug 2019  
Date obtained: 27 Aug 2019  
Date published: 4 Sept 2019

Table 3 - WCPL Depositional Dust Gauges

Site	Date	Ash (g/m <sup>2</sup> )	Total Insoluble Matter (g/m <sup>2</sup> )	AR/IS Ratio	Comment
D11	19 Aug 2019	2.4	3.0	80.0	Insects
D19	19 Aug 2019	0.9	1.2	75.0	Insects/ veg.
D21	19 Aug 2019	0.8	1.0	80.0	Insects
D22	19 Aug 2019	3.0	3.6	83.3	Insects

Monitoring Frequency: Continuous  
 Sampling Method: AM22  
 Limits: Nil

Date sampled: Continuous  
 Date obtained: Continuous  
 Date published: 4 Sept 2019

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 <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
1/08/2019	15.6	23.28	16.3	23.07	13.4	17.64	19.2	24.63
2/08/2019	20.0	23.26	17.5	23.04	16.7	17.64	27.0	24.64
3/08/2019	21.9	23.26	23.5	23.05	12.2	17.61	13.3	24.59
4/08/2019	30.5	23.29	21.8	23.04	21.8	17.63	31.4	24.62
5/08/2019	17.5	23.26	29.1	23.07	11.1	17.60	20.8	24.60
6/08/2019	15.2	23.23	52.4	23.20	9.3	17.56	10.6	24.54
7/08/2019	23.4	23.23	25.9	23.22	15.8	17.55	9.4	24.47
8/08/2019	48.7	23.34	25.5	23.23	23.2	17.58	54.4	24.60
9/08/2019	51.3	23.47	58.2	23.39	37.4	17.67	33.0	24.64
10/08/2019	12.9	23.42	15.9	23.35	9.1	17.63	9.0	24.57
11/08/2019	12.3	23.37	10.1	23.29	8.4	17.59	6.2	24.49
12/08/2019	9.5	23.31	17.0	23.26	4.1	17.53	4.6	24.40
13/08/2019	16.2	23.28	18.6	23.24	8.4	17.49	16.8	24.37
14/08/2019	20.5	23.27	20.3	23.23	10.4	17.46	21.1	24.35
15/08/2019	26.4	23.28	24.2	23.23	12.4	17.43	9.2	24.28
16/08/2019	26.0	23.29	34.8	23.28	10.2	17.40	10.2	24.22
17/08/2019	34.0	23.34	33.4	23.33	25.5	17.44	35.6	24.27
18/08/2019	30.9	23.37	43.0	23.42	28.6	17.49	38.8	24.33
19/08/2019	41.8	23.45	33.1	23.46	28.3	17.53	25.5	24.34
20/08/2019	16.4	23.42	27.3	23.47	8.8	17.49	9.3	24.27
21/08/2019	20.1	23.41	32.2	23.51	10.2	17.46	11.8	24.22
22/08/2019	20.6	23.40	23.2	23.51	16.9	17.46	19.8	24.20
23/08/2019	24.5	23.40	28.0	23.53	26.5	17.50	28.1	24.22
24/08/2019	30.5	23.43	39.0	23.60	25.0	17.53	22.7	24.21
25/08/2019	30.9	23.46	38.2	23.66	29.2	17.58	38.5	24.27
26/08/2019	24.8	23.47	28.2	23.68	22.9	17.60	41.4	24.34
27/08/2019	17.4	23.44	23.0	23.68	22.3	17.62	25.2	24.35
28/08/2019	23.1	23.44	23.5	23.67	14.2	17.61	20.3	24.33
29/08/2019	18.4	23.42	29.0	23.70	12.8	17.59	23.5	24.33

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
30/08/2019	4.9	23.34	4.2	23.62	3.7	17.53	6.4	24.25
31/08/2019	6.1	23.27	5.8	23.54	5.4	17.48	7.2	24.18

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

Date sampled: Continuous  
 Date obtained: Continuous  
 Date published: 4 Sept 2019

Table 5 - WCPL Blast Monitoring Results

Date & Time	ID	BM02 - Kelly		BM05 - Muller		BM07 - Thelander	
		dBL	mm/sec	dBL	mm/sec	dBL	mm/sec
7-08-2019 14:34:43	M_27WTA_420	79.2	0.05	96.9	0.05	92.5	0.33
7-08-2019 14:38:19	M_27WRC_417	94.6	0.07	97.7	0.29	95.0	0.21
7-08-2019 14:48:36	M_WMA_412	80.2	0.09	104.2	1.12	98.8	1.45
15-08-2019 15:15:03	W_27WRA_418	100.7	0.15	105.7	0.48	97.8	0.19
16-08-2019 12:29:55	M_27WMA_421	103.0	0.31	107.8	1.20	101.0	0.81
28-08-2019 14:44:09	M_27WMA_419	83.3	0.14	104.3	1.07	101.0	1.10
28-08-2019 14:50:14	M_27WRA_423	101.9	0.14	110.5	0.36	100.9	0.23
28-08-2019 14:58:33	M_27WRC_422	82.4	0.12	102.9	0.52	95.8	0.37

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

Date sampled: continuous  
 Date obtained: 1 Sept 2019  
 Date published: 4 Sept 2019

Table 6 - WCPL Meteorology

Date	Temperature (2m)			Temperature (10m)			Humidity			Solar Radiation		RAIN	Wind Speed		
	Average	Min	Max	Average	min	Max	Average	Min	Max	Average	Max	Sum (mm)	Average	Min	Max
1/08/2019	12.8	6.1	20.7	12.9	6.7	20.2	76.0	41.7	99.6	166.3	682.6	0.0	0.2	0.1	3.1
2/08/2019	10.8	3.0	19.8	11.2	3.9	18.9	81.6	46.5	100.0	137.2	787.6	0.0	0.3	0.1	3.0
3/08/2019	10.8	0.4	23.3	11.6	1.1	22.7	65.0	22.0	99.8	173.2	660.4	0.0	1.4	0.0	5.4
4/08/2019	9.9	0.3	21.3	10.7	1.4	20.8	61.5	19.8	95.5	175.9	664.2	0.0	0.1	0.1	2.7
5/08/2019	11.0	2.3	22.5	11.7	3.8	21.9	65.5	19.6	99.8	166.2	659.2	0.0	0.8	0.0	3.9
6/08/2019	8.9	-3.1	23.0	10.0	-2.2	22.4	50.2	12.6	92.1	181.4	679.6	0.0	1.3	0.2	5.9
7/08/2019	11.2	-2.6	23.8	12.1	-0.8	23.1	44.5	16.1	82.7	169.8	664.4	0.0	1.4	0.2	5.7
8/08/2019	13.6	1.9	22.7	14.0	2.6	22.4	46.9	20.3	86.6	144.1	645.1	6.2	2.9	0.1	7.1
9/08/2019	13.8	10.7	17.6	13.8	10.9	17.3	43.9	34.2	61.1	166.6	739.1	0.0	5.2	2.7	9.7
10/08/2019	9.9	7.6	13.9	9.9	7.8	13.3	56.0	34.9	82.0	161.5	714.3	0.8	4.1	2.1	8.8
11/08/2019	8.9	5.8	13.8	8.9	5.9	13.2	66.1	45.0	79.7	144.1	745.2	0.2	4.5	0.3	8.8
12/08/2019	10.2	3.5	18.2	10.5	5.4	17.8	61.6	38.8	85.2	195.2	727.7	0.0	3.0	0.1	5.8
13/08/2019	8.0	-3.3	20.1	9.0	-1.4	19.7	59.3	18.8	95.8	206.0	759.8	0.0	1.1	0.1	4.2
14/08/2019	7.6	-4.0	20.6	8.7	-2.7	20.1	52.1	13.1	93.2	211.3	771.2	0.0	0.9	0.0	4.4
15/08/2019	8.8	-4.5	21.8	9.8	-2.9	21.3	46.3	17.4	78.0	211.2	770.7	0.0	1.3	0.1	5.3
16/08/2019	11.3	-2.4	25.2	12.7	-1.0	24.8	43.6	11.7	81.7	205.2	748.3	0.0	1.4	0.0	5.7
17/08/2019	12.3	1.6	22.6	13.1	3.6	22.0	52.1	21.9	89.4	199.3	738.0	0.0	1.2	0.1	6.2
18/08/2019	12.2	1.4	24.7	13.1	2.4	24.2	66.5	29.2	97.4	196.3	722.4	0.0	0.4	0.0	54.2
19/08/2019	14.4	8.2	19.8	14.4	9.6	20.8	33.0	21.3	45.0	197.3	839.6	0.0	2.9	0.6	6.7
20/08/2019	12.7	4.8	22.1	12.7	5.6	21.6	41.5	18.7	60.1	208.8	743.9	0.0	3.4	0.3	6.1
21/08/2019	15.2	9.5	21.8	15.1	9.6	21.2	47.1	30.7	62.6	204.6	744.4	0.0	4.0	2.1	7.4
22/08/2019	15.5	6.1	21.2	15.6	8.7	20.6	48.3	27.6	78.8	180.7	827.7	0.0	1.4	0.0	6.0
23/08/2019	10.1	1.9	19.8	11.5	4.5	19.2	58.4	27.5	89.6	212.1	754.7	0.0	0.2	0.1	2.3
24/08/2019	12.0	-2.4	25.6	12.8	-1.2	25.1	53.4	21.9	94.0	215.9	768.2	0.0	1.6	0.0	6.0
25/08/2019	14.6	1.3	26.3	15.2	3.1	25.6	49.1	12.1	84.7	220.8	783.9	0.0	0.7	0.1	5.6
26/08/2019	16.4	13.4	21.4	16.1	13.6	20.5	67.9	48.4	80.0	173.6	896.0	0.0	1.8	0.6	4.3
27/08/2019	16.0	12.7	21.4	15.8	13.2	20.6	69.2	41.2	84.3	149.5	873.6	0.0	1.4	0.5	4.7
28/08/2019	16.2	8.0	23.6	16.5	11.0	23.0	59.1	20.9	92.4	208.3	859.2	0.0	0.7	0.2	5.0
29/08/2019	11.6	5.0	18.6	12.0	6.0	17.9	65.6	40.6	87.7	155.7	906.0	0.0	2.1	0.1	6.3
30/08/2019	12.1	10.6	15.1	12.0	10.6	14.4	83.0	65.8	96.2	85.1	584.1	18.2	2.8	0.8	5.4
31/08/2019	14.1	10.6	18.0	14.0	10.2	17.6	79.4	63.2	96.2	107.8	568.5	3.2	2.2	0.1	4.5
	<b>12.0</b>	<b>-4.5</b>	<b>26.3</b>	<b>12.5</b>	<b>-2.9</b>	<b>25.6</b>	<b>57.9</b>	<b>11.7</b>	<b>100.0</b>	<b>178.4</b>	<b>906.0</b>	<b>28.6</b>	<b>1.8</b>	<b>0.0</b>	<b>54.2</b>



