

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

November 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 ($\mu\text{S}/\text{cm}$)	TSS (mg/L)	Comments
SW01	29 Oct 2019				Pool
SW02	29 Oct 2019				Dry
SW03	29 Oct 2019				No Flow
SW04	29 Oct 2019				Dry
SW05	29 Oct 2019				Dry
SW06	29 Oct 2019				Dry
SW07	29 Oct 2019				Dry
SW08	29 Oct 2019				Dry
SW12	29 Oct 2019	8.6	7400.0	96.0	
SW14	29 Oct 2019	9.0	480.0	14.0	
SW15	29 Oct 2019	8.7	7110.0	48.0	
SW27	29 Oct 2019				Dry
SW31	29 Oct 2019	8.7	1050.0	58.0	
SW32a	29 Oct 2019				Dry
SW38	29 Oct 2019	8.6	9260.0	58.0	
SW39	29 Oct 2019				Dry
SW40	29 Oct 2019				Pool
SW51	29 Oct 2019				Dry
SW52	29 Oct 2019	9.0	1190.0	14.0	
Wombat Dam	29 Oct 2019				Dry
Milk Can Dam	29 Oct 2019				Dry
Rug Dump Dam	29 Oct 2019				Dry
Montrose East 1	29 Oct 2019				Dry
Montrose East 2	29 Oct 2019	8.4	970.0	146.0	

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

Date sampled: 3 October 2019
 Date obtained: 10 October 2019
 Date published: 26 November 2019

Table 2 - WCPL Groundwater Results

Site	Date	pH	EC ($\mu\text{S}/\text{cm}$)	Depth	Comments
P106	3 Oct 2019				Dry
P109	3 Oct 2019	6.6	633.0	6.7	
P114	3 Oct 2019				Insufficient water
P116	3 Oct 2019	7.1	3080.0	7.3	
P202	3 Oct 2019	7.5	4020.0	9.6	
P206	3 Oct 2019	8.0	2140.0	22.6	
P301	3 Oct 2019	6.9	7030.0	20.1	
P315	3 Oct 2019				Dry
GW02	3 Oct 2019	7.2	744.0	9.8	
GW08	3 Oct 2019				Dry
GW09	3 Oct 2019				Dry
GW11	3 Oct 2019	8.0	656.0	7.9	
GW12	3 Oct 2019				Insufficient water
GW13	3 Oct 2019	6.9	2630.0	7.3	
GW15	3 Oct 2019	7.0	655.0	12.04	
GW16	3 Oct 2019	7.7	1515.0	12.3	
GW17	3 Oct 2019	7.2	5500.0	13.3	
GW21	3 Oct 2019				Dry
GW22	3 Oct 2019	8.4	7330.0	36.1	
GW23 (Site 4A)	3 Oct 2019				Dry
GW24 (Site 4B)	3 Oct 2019	6.0	1820.0	9.84	
GW25 (Site 9A)	3 Oct 2019				Dry
GW26 (Site 9B)	3 Oct 2019	7.3	1310.0	8.68	
GW27 (Instream 1)	3 Oct 2019				Dry
GW28 (Instream 3)	3 Oct 2019				Dry
GW29 (Site 7b)	3 Oct 2019				Dry
GW30 (Site 11)	3 Oct 2019				Dry
P1	9 Oct 2019	6.9	7970.0	9.08	
P11	9 Oct 2019				Dry
P16	9 Oct 2019	7.7	7040.0	9.80	
P20	9 Oct 2019	7.8	5120	9.08	

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

Date sampled: 18 October 2019
Date obtained: 29 October 2019
Date published: 26 November 2019

Table 3 - WCPL Depositional Dust Gauges

Site	Date	Ash (g/m ²)	Total Insoluble Matter (g/m ²)	AR/IS Ratio	Comment
D11	18 Oct 2019	2.2	3.0	73.33	
D19	18 Oct 2019	4.1	6.1	67.21	Insects
D21	18 Oct 2019	1.9	2.5	76.00	Insects
D22	18 Oct 2019	3.1	4.1	75.61	Insects

Monitoring Frequency: Continuous
 Sampling Method: AM22
 Limits: Nil

Date sampled: Continuous
 Date obtained: Continuous
 Date published: 26 November 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 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
1/10/2019	28.5	23.77	28.6	24.03	23.7	17.83	27.8	24.40
2/10/2019	28.7	23.78	36.9	24.08	20.8	17.85	38.7	24.46
3/10/2019	33.4	23.82	42.0	24.14	31.4	17.89	42.6	24.52
4/10/2019	47.8	23.91	59.5	24.27	40.4	17.98	36.4	24.57
5/10/2019	24.8	23.91	29.9	24.29	25.9	18.01	24.7	24.57
6/10/2019	24.1	23.91	37.1	24.34	20.7	18.02	44.1	24.64
7/10/2019	54.0	24.02	62.2	24.47	59.6	18.16	61.8	24.77
8/10/2019	36.1	24.06	36.1	24.52	30.7	18.21	30.3	24.79
9/10/2019	22.6	24.06	20.8	24.50	20.7	18.22	28.2	24.80
10/10/2019	21.5	24.05	29.3	24.52	27.3	18.25	40.5	24.86
11/10/2019	20.7	24.04	19.6	24.50	21.2	18.26	37.4	24.90
12/10/2019	11.0	23.99	9.3	24.45	12.9	18.24	14.1	24.87
13/10/2019	13.3	23.95	12.4	24.41	15.5	18.23	18.2	24.84
14/10/2019	23.1	23.95	25.8	24.41	19.5	18.24	37.3	24.89
15/10/2019	34.7	23.99	36.4	24.45	39.2	18.31	53.3	24.99
16/10/2019	48.9	24.07	55.9	24.56	35.4	18.37	35.0	25.02
17/10/2019	45.1	24.15	46.4	24.64	38.2	18.44	29.7	25.04
18/10/2019	26.3	24.15	31.9	24.66	19.7	18.44	17.2	25.01
19/10/2019	37.0	24.20	49.4	24.75	33.6	18.50	29.4	25.02
20/10/2019	26.5	24.21	28.6	24.76	26.3	18.52	36.0	25.06
21/10/2019	31.5	24.23	31.2	24.78	32.5	18.57	45.8	25.13
22/10/2019	41.8	24.29	44.8	24.85	37.9	18.64	45.6	25.20
23/10/2019	35.0	24.33	49.3	24.94	28.1	18.67	34.8	25.24
24/10/2019	47.5	24.41	70.0	25.09	41.2	18.74	45.4	25.30
25/10/2019	42.2	24.47	63.2	25.22	33.1	18.79	27.0	25.31
26/10/2019	92.6	24.70	151.8	25.64	78.0	18.99	63.1	25.44
27/10/2019	55.8	24.80	53.6	25.74	41.0	19.07	55.2	25.54
28/10/2019	53.5	24.90	38.7	25.78	44.3	19.15	57.6	25.64
29/10/2019	52.5	24.99	51.3	25.87	52.8	19.26	72.1	25.80
30/10/2019	84.9	25.19	104.4	26.13	85.6	19.48	95.1	26.03
31/10/2019	102.0	25.44	117.0	26.43	86.5	19.71	103.8	26.29

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

Date sampled: Continuous
 Date obtained: Continuous
 Date published: 26 November 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
4 Oct 2019 12:03:35	M_WTA_436	88.1	0.06	98.0	0.30	90.0	0.26
4 Oct 2019 12:17:42	M_WMA_424	90.9	0.10	107.6	1.61	103.1	1.83
16 Oct 2019 14:42:48	M_WMA_438	97.0	0.12	108.4	0.32	103.5	0.22
16 Oct 2019 14:52:11	M_WTA_441	78.2	0.04	89.1	0.24	85.2	0.22
16 Oct 2019 14:56:27	M_WMA_429	80.2	0.12	109.2	1.05	101.9	0.65
18 Oct 2019 12:01:22	M_WMA_437	87.6	0.22	100.4	0.82	99.4	0.65
18 Oct 2019 12:06:56	M_27WMA_434	92.5	0.02	95.0	0.30	93.0	0.24
25 Oct 2019 12:04:35	M_WMA_422	94.8	0.21	95.7	0.66	100.2	0.37
25 Oct 2019 12:12:40	M_WRC_440	99.6	0.25	103.3	0.34	96.2	0.25

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

Date sampled: continuous
 Date obtained: continuous
 Date published: 26 November 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
1/10/2019	17.6	11.3	24.1	16.9	11.4	22.6	63.6	33.3	90.4	263.8	1192.8	0.0	1.7	0.5	5.3
2/10/2019	18.3	5.6	28.8	18.0	6.1	27.6	59.1	26.3	98.0	289.0	964.7	0.0	0.4	0.1	3.9
3/10/2019	20.2	7.9	31.6	20.1	8.1	30.3	48.2	18.5	88.3	288.4	1010.4	0.0	0.3	0.1	3.5
4/10/2019	23.1	9.1	35.0	22.7	10.5	33.8	45.8	14.3	79.1	297.7	974.0	0.0	1.1	0.0	6.5
5/10/2019	18.9	14.6	22.4	18.0	14.3	21.1	74.3	57.4	89.7	119.0	1012.4	0.2	2.2	0.9	5.5
6/10/2019	21.9	13.7	33.6	20.7	13.7	32.1	67.2	30.1	92.8	213.8	1022.7	0.0	0.5	0.0	3.7
7/10/2019	24.6	14.6	40.3	22.8	13.1	37.1	63.8	12.6	95.8	263.4	978.9	0.0	0.1	0.0	6.0
8/10/2019	20.4	14.3	28.8	18.8	14.2	26.2	61.3	19.2	96.7	210.9	1079.4	0.0	1.8	0.1	8.4
9/10/2019	15.8	7.2	23.1	14.6	6.2	21.3	56.4	26.4	90.3	267.8	1125.7	0.0	1.5	0.1	6.5
10/10/2019	16.8	7.9	24.0	15.0	7.0	21.3	64.5	32.4	97.3	290.9	1141.7	0.0	1.7	0.1	6.5
11/10/2019	16.2	11.1	25.1	14.8	10.1	20.0	70.2	42.3	95.5	175.2	963.8	0.2	1.9	0.1	10.1
12/10/2019	13.9	11.0	16.8	13.9	11.3	16.4	76.7	58.4	91.9	80.1	395.5	0.6	2.2	0.6	5.8
13/10/2019	15.1	9.1	21.1	15.3	10.4	20.3	68.9	42.7	95.6	221.5	1052.2	0.2	1.5	0.2	4.6
14/10/2019	18.1	8.7	28.3	18.2	9.4	27.7	59.8	23.9	92.6	300.2	1029.0	0.0	0.2	0.1	5.4
15/10/2019	21.4	8.9	33.3	21.8	10.6	32.6	56.1	18.2	93.0	313.9	1027.3	0.0	0.8	0.1	6.4
16/10/2019	21.9	10.5	34.9	22.4	12.0	34.2	62.0	15.9	95.5	254.2	1011.9	0.0	0.2	0.1	4.7
17/10/2019	22.0	14.4	31.4	22.0	15.1	30.7	49.8	7.6	98.5	318.5	1032.3	0.0	2.9	0.1	8.6
18/10/2019	19.1	6.1	28.6	19.5	8.5	27.9	26.1	8.1	63.1	353.1	1090.4	0.0	2.1	0.2	5.6
19/10/2019	19.4	3.2	30.2	19.8	5.0	29.5	29.8	9.3	64.5	338.1	1076.0	0.0	2.3	0.1	7.0
20/10/2019	17.8	8.1	24.4	18.0	10.6	23.8	38.7	17.4	69.7	348.7	1084.0	0.0	1.3	0.1	5.9
21/10/2019	18.4	9.6	26.4	18.4	11.0	25.8	56.1	27.6	89.4	335.3	1047.6	0.0	1.7	0.3	6.5
22/10/2019	19.6	7.5	29.3	19.8	8.9	28.4	54.8	16.0	95.2	344.0	1062.9	0.0	1.4	0.0	4.6
23/10/2019	23.5	14.4	33.2	23.6	15.4	32.5	49.0	14.5	88.2	326.3	1046.8	0.0	0.2	0.2	4.4
24/10/2019	24.2	13.3	34.2	24.8	14.6	33.4	39.4	13.2	71.5	260.4	1164.7	0.0	0.3	0.1	5.6
25/10/2019	25.8	10.8	36.0	26.3	12.6	35.5	33.8	12.2	75.1	322.3	1047.2	0.0	2.3	0.1	5.7
26/10/2019	27.5	20.3	33.1	27.7	20.9	32.5	21.2	12.3	28.7	286.6	1039.1	0.0	4.7	1.1	17.5
27/10/2019	19.6	8.5	28.8	20.0	11.0	28.2	29.4	10.0	54.4	361.6	1091.8	0.0	0.2	0.1	5.4
28/10/2019	18.9	10.9	26.3	19.1	11.4	25.3	55.6	32.6	80.5	296.8	1178.7	0.0	2.2	0.1	6.8
29/10/2019	21.2	10.4	30.5	21.3	11.9	30.3	58.5	17.4	96.2	329.3	1031.4	0.0	0.9	0.1	4.8
30/10/2019	23.1	12.9	32.8	23.4	13.7	32.4	50.9	14.0	88.6	216.5	775.0	0.0	1.0	0.0	5.0
31/10/2019	24.0	13.4	34.0	24.2	14.2	33.3	47.5	13.8	85.5	290.9	1076.0	0.0	1.2	0.0	6.7
	20.3	3.2	40.3	20.1	5.0	37.1	52.9	7.6	98.5	276.7	1192.8	1.2	1.4	0.0	61.4

