

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

February 2020

**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 (μ S/cm)	TSS (mg/L)	Comments
SW01	3 Dec 2019				Pool
SW02	3 Dec 2019				Pool
SW03	3 Dec 2019				Dry
SW04	3 Dec 2019				Dry
SW05	3 Dec 2019				Dry
SW06	3 Dec 2019				Dry
SW07	3 Dec 2019				Dry
SW08	3 Dec 2019				Dry
SW12	3 Dec 2019	8.7	6880.0	16.0	
SW14	3 Dec 2019	8.9	814.0	5.0	
SW15	3 Dec 2019	8.8	3460.0	70.0	
SW27	3 Dec 2019				Dry
SW31	3 Dec 2019	8.6	500.0	25.0	
SW32a	3 Dec 2019				Dry
SW38	3 Dec 2019	8.9	9490.0	30.0	
SW39	3 Dec 2019				Dry
SW40	3 Dec 2019				Dry
SW51	3 Dec 2019				Dry
SW52	3 Dec 2019	10.5	1440.0	16.0	
Wombat Dam	3 Dec 2019				Dry
Milk Can Dam	3 Dec 2019				Dry
Rug Dump Dam	3 Dec 2019				Dry
Montrose East 1	3 Dec 2019				Dry
Montrose East 2	3 Dec 2019				Dry

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

Date sampled: 3 December 2019
 Date obtained: 5 December 2019
 Date published: 13 February 2020

Table 2 - WCPL Groundwater Results

Site	Date	pH	EC (μ S/cm)	Depth	Comments
P106	3 Dec 2019				Dry
P109	3 Dec 2019	6.7	636.0	6.8	
P114	3 Dec 2019				Dry
P116	3 Dec 2019	7.0	3310.0	7.2	
P202	3 Dec 2019	7.3	3970.0	9.8	
P206	3 Dec 2019	8.1	2060.0	23.0	
P301	3 Dec 2019	6.9	6850.0	20.1	
P315	3 Dec 2019				Dry
GW02	3 Dec 2019				Insufficient Water
GW08	3 Dec 2019				Dry
GW09	3 Dec 2019				Dry
GW11	3 Dec 2019	7.8	653.0	8.0	
GW12	3 Dec 2019				Dry
GW13	3 Dec 2019	7.0	2690.0	7.5	
GW15	3 Dec 2019	7.2	641.0	12.2	
GW16	3 Dec 2019	7.6	1506.0	12.4	
GW17	3 Dec 2019	7.1	5460.0	13.4	
GW21	3 Dec 2019				Dry
GW22	3 Dec 2019	8.4	6980.0	36.0	
GW23 (Site 4A)	3 Dec 2019				Dry
GW24 (Site 4B)	3 Dec 2019	6.1	1787.0	9.93	
GW25 (Site 9A)	3 Dec 2019				Dry
GW26 (Site 9B)	3 Dec 2019	7.2	1233.0	8.8	
GW27 (Instream 1)	3 Dec 2019				Dry
GW28 (Instream 3)	3 Dec 2019				Dry
GW30 (Site 11)	3 Dec 2019				Dry
P1	16 Dec 2019	7.0	8250.0	29.1	
P11	16 Dec 2019				Dry
P16	16 Dec 2019	7.3	7300.0	9.9	
P20	16 Dec 2019	7.3	5430.0	9.2	

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

Date sampled: 17 December 2019
Date obtained: 29 October 2019
Date published: 13 February 2020

Table 3 - WCPL Depositional Dust Gauges

Site	Date	Ash (g/m ²)	Total Insoluble Matter (g/m ²)	AR/IS Ratio	Comment
D11	17 Dec 2019	4.1	5.3	77.4	
D19	17 Dec 2019	5.1	7.0	72.9	
D21	17 Dec 2019	4.2	5.0	84.0	
D22	17 Dec 2019	4.3	5.2	82.7	

Monitoring Frequency: Continuous
 Sampling Method: AM22
 Limits: Nil

Date sampled: Continuous
 Date obtained: Continuous
 Date published: 13 February 2020

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
1/12/2019	72.1	28.6	73.5	30.2	79.2	23.6	64.4	29.2
2/12/2019	84.0	28.8	88.5	30.4	79.9	23.7	53.9	29.3
3/12/2019	84.0	28.9	88.5	30.6	79.9	23.9	53.9	29.4
4/12/2019	49.4	29.0	60.9	30.7	43.6	24.0	35.0	29.4
5/12/2019	51.8	29.0	67.4	30.8	54.6	24.1	43.2	29.4
6/12/2019	103.7	29.3	114.4	31.0	78.2	24.2	63.3	29.5
7/12/2019	238.4	29.9	156.0	31.4	158.2	24.6	212.7	30.1
8/12/2019	57.0	30.0	13.6	31.4	12.1	24.6	73.1	30.2
9/12/2019	82.7	30.1	64.4	31.5	65.0	24.7	92.3	30.4
10/12/2019	146.0	30.5	192.3	31.9	203.0	25.2	145.1	30.7
11/12/2019	144.4	30.8	149.8	32.3	50.5	25.3	142.6	31.1
12/12/2019	112.2	31.0	127.8	32.5	127.6	25.6	97.1	31.2
13/12/2019	40.1	31.1	50.7	32.6	35.6	25.6	40.5	31.3
14/12/2019	84.6	31.2	101.1	32.8	94.8	25.8	90.3	31.4
15/12/2019	64.1	31.3	78.7	32.9	58.2	25.9	53.6	31.5
16/12/2019	71.3	31.4	107.1	33.1	118.6	26.2	79.8	31.6
17/12/2019	39.0	31.4	40.1	33.2	49.7	26.2	42.2	31.7
18/12/2019	60.1	31.5	59.7	33.2	59.1	26.3	77.0	31.8
19/12/2019	98.9	31.7	171.3	33.6	90.5	26.5	99.1	32.0
20/12/2019	57.7	31.8	82.0	33.8	59.0	26.6	76.5	32.1
21/12/2019	128.8	32.1	187.0	34.2	117.1	26.9	115.9	32.4
22/12/2019	54.7	32.1	65.6	34.3	57.2	26.9	76.8	32.5
23/12/2019	43.7	32.2	50.6	34.3	37.8	27.0	53.6	32.5
24/12/2019	33.6	32.2	34.7	34.3	30.8	27.0	36.8	32.6
25/12/2019	23.0	32.1	32.4	34.3	24.5	27.0	22.9	32.5
26/12/2019	36.8	32.1	42.7	34.4	41.2	27.0	42.6	32.6
27/12/2019	70.4	32.3	61.8	34.4	67.8	27.1	81.0	32.7
28/12/2019	64.4	32.3	70.0	34.5	66.9	27.2	72.0	32.8
29/12/2019	55.3	32.4	83.6	34.7	58.2	27.3	74.0	32.9
30/12/2019	81.5	32.5	123.8	34.9	100.6	27.5	72.0	33.0
31/12/2019	73.5	32.7	93.9	35.1	70.9	27.7	65.7	33.1

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

Date sampled: Continuous
 Date obtained: Continuous
 Date published: 13 February 2020

Table 5 - WCPL Blast Monitoring Results

Date & Time	ID	BM02 - Kelly		BM05 - Muller		BM07 - Thelander	
		dBL	mm/sec	dBL	mm/sec	dBL	mm/sec
3 Dec 2019 15:39:19	M_WR_457	95.3	0.09	108.4	0.46	94.9	0.16
3 Dec 2019 15:46:28	M_WMA_458	102.5	0.04	101.7	0.72	101.1	0.55
6 Dec 2019 12:24:34	M_27WTA_462 & M_27WMA_460	101.8	0.03	100.2	0.27	91.9	0.23
10 Dec 2019 15:34:16	M_27WMA_461	82.9	0.02	96.8	0.26	88.5	0.18
10 Dec 2019 15:37:33	M_27WMA_465	89.8	0.17	101.0	0.47	93.1	0.30
19 Dec 2019 15:37:21	ME_WTA_63	92.1	0.06	96.3	0.09	90.5	0.05
19 Dec 2019 15:46:07	M_27WRC_456	78.9	0.10	97.0	0.35	92.4	0.31
19 Dec 2019 15:53:03	M_27WMA_464	77.8	0.08	103.0	0.52	98.2	0.45
20 Dec 2019 11:59:38	HS_WRA_466	103.2	0.44	109.0	0.02	82.8	0.03

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

Date sampled: continuous
 Date obtained: continuous
 Date published: 13 February 2020

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
1/12/2019	23.6	17.7	31.7	23.6	18.4	31.0	48.3	8.7	87.0	263.1	1166.6	0.0	1.3	0.3	7.1
2/12/2019	20.0	17.1	23.0	19.8	17.1	23.3	35.5	23.3	56.9	335.0	1263.5	0.0	5.5	2.3	9.8
3/12/2019	22.3	14.2	30.1	22.1	14.4	29.4	28.5	15.8	45.6	398.2	1179.9	0.0	4.2	0.5	7.4
4/12/2019	23.5	10.2	33.1	24.3	12.7	32.5	26.5	9.2	61.3	378.7	1174.3	0.0	2.6	0.1	7.1
5/12/2019	26.2	11.4	36.1	26.7	13.4	35.4	22.1	9.4	59.0	369.9	1147.0	0.0	2.6	0.1	6.7
6/12/2019	26.8	16.8	35.7	27.6	18.2	35.1	22.4	11.1	48.6	274.8	1151.1	0.0	1.7	0.0	6.6
7/12/2019	24.3	17.8	33.0	24.2	18.1	32.6	49.7	16.0	83.3	265.6	1024.6	0.0	1.1	0.1	5.7
8/12/2019	23.7	17.0	31.6	23.6	17.9	30.7	60.1	29.9	88.4	356.4	1117.2	0.0	2.8	0.8	6.9
9/12/2019	25.5	17.1	36.5	25.4	17.9	36.0	59.4	24.8	88.3	336.7	1035.5	0.0	1.2	0.2	6.3
10/12/2019	29.6	17.4	41.6	29.7	18.1	41.3	48.0	10.7	92.2	293.6	1120.7	0.0	0.5	0.0	6.0
11/12/2019	22.8	19.3	30.0	22.4	19.2	29.0	59.1	39.5	71.3	301.0	959.3	0.0	2.9	1.0	7.7
12/12/2019	21.5	18.2	27.6	21.2	18.0	26.9	63.3	41.8	80.5	241.8	1181.1	0.0	2.8	1.2	6.4
13/12/2019	21.7	18.0	26.0	21.5	17.9	25.2	61.1	43.9	79.1	209.9	1163.0	0.0	2.4	1.2	5.3
14/12/2019	25.4	19.5	35.0	25.2	19.6	34.6	52.4	17.6	76.4	317.5	1044.4	0.0	0.6	0.3	6.0
15/12/2019	27.2	19.7	36.0	27.2	19.9	35.7	50.2	12.5	83.4	284.9	1078.8	0.0	0.7	0.2	5.0
16/12/2019	22.5	16.7	28.7	23.0	19.2	27.6	54.2	39.1	79.8	298.4	1007.0	0.0	3.2	0.1	7.7
17/12/2019	21.8	13.5	28.8	21.5	14.2	27.9	55.4	32.5	86.5	376.2	1129.8	0.0	2.6	0.2	6.5
18/12/2019	23.9	12.4	35.0	23.9	13.4	34.4	53.3	17.8	90.2	346.0	1094.9	0.0	1.4	0.1	4.6
19/12/2019	28.1	15.3	40.1	28.5	16.1	40.0	39.9	11.6	83.1	231.3	1021.7	0.0	0.8	0.1	8.1
20/12/2019	24.4	16.6	32.3	24.3	18.0	31.3	48.3	26.6	78.9	347.5	1096.1	0.0	2.5	0.5	6.6
21/12/2019	29.2	16.0	44.5	29.3	16.6	44.0	51.3	11.0	92.4	303.7	1035.7	0.0	0.9	0.1	7.9
22/12/2019	21.9	19.5	25.8	21.6	19.4	24.8	55.0	41.5	66.1	198.5	978.2	0.0	3.4	1.7	6.1
23/12/2019	20.7	18.3	23.8	20.5	18.3	23.2	69.6	61.5	84.8	116.1	710.2	0.0	2.3	1.3	4.2
24/12/2019	24.9	21.6	31.4	24.7	21.5	30.5	70.3	45.3	85.4	248.6	1070.4	0.0	2.8	0.8	7.4
25/12/2019	25.2	21.1	31.0	25.0	21.2	30.2	63.1	38.3	88.9	288.2	1148.5	0.0	3.2	1.1	7.1
26/12/2019	25.9	17.1	34.6	25.7	17.9	33.7	52.2	22.3	89.5	368.1	1111.9	0.0	2.0	0.2	6.8
27/12/2019	25.9	16.1	34.9	25.8	17.2	34.2	46.8	16.3	71.5	373.4	1115.9	0.0	2.3	0.4	6.5
28/12/2019	27.4	14.1	39.3	27.5	15.1	38.6	46.1	9.3	91.8	384.4	1180.9	0.0	0.8	0.1	5.1
29/12/2019	30.1	16.0	42.4	30.4	17.2	41.8	34.4	5.9	71.2	357.6	1091.2	0.0	0.3	0.1	5.5
30/12/2019	30.9	18.9	42.0	31.4	19.8	41.4	34.5	8.1	63.1	314.3	983.8	0.0	0.7	0.1	4.4
31/12/2019	33.0	18.8	42.4	33.3	19.9	41.5	26.4	8.9	63.8	359.6	1097.7	0.0	2.2	0.1	6.0
	25.2	10.2	44.5	25.2	12.7	44.0	48.0	5.9	92.4	307.7	1263.5	0.0	2.1	0.0	9.8

