

**WAMBO COAL
ENVIRONMENTAL REPORTING
1 NOVEMBER – 30 NOVEMBER 2017**

6 December 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

Table 1 - WCPL Surface and Mine Water Dam Results

| Site | Date | pH | EC ($\mu\text{S}/\text{cm}$) | TSS (mg/L) | Comments |
|-------|------------------|------|-----------------------------------|------------|----------|
| SW01 | 27 November 2017 | 7.69 | 775 | 8 | |
| SW02 | 27 November 2017 | | | | No flow |
| SW03 | 27 November 2017 | 7.78 | 1920 | 16 | |
| SW04 | 27 November 2017 | | | | Dry |
| SW05 | 27 November 2017 | | | | Dry |
| SW06 | 27 November 2017 | | | | Dry |
| SW07 | 27 November 2017 | | | | Dry |
| SW08 | 27 November 2017 | | | | Dry |
| SW14 | 21 November 2017 | 8.32 | 492 | - | |
| SW15 | 27 November 2017 | 9.08 | 8820 | 298 | |
| SW27 | 27 November 2017 | | | | Dry |
| SW31 | 21 November 2017 | 9.05 | 6560 | - | |
| SW32a | 27 November 2017 | | | | Dry |
| SW38 | 21 November 2017 | 9.06 | 7930 | - | |
| SW39 | 21 November 2017 | | | | Dry |
| SW40 | 27 November 2017 | 7.64 | 660 | <5 | |

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

Date sampled: 2, 8, 14, 20 and 26 November 2017
Date obtained: 22 November and 4 December 2017
Date published: 6 December 2017

Table 2 - WCPL HVAS

| Site | Date | TSP (UG/m3) |
|------|------------|-------------|
| HV01 | 2/11/2017 | 74.7 |
| HV01 | 8/11/2017 | 46.8 |
| HV01 | 14/11/2017 | 110 |
| HV01 | 20/11/2017 | 71.1 |
| HV01 | 26/11/2017 | 148 |
| HV02 | 2/11/2017 | 65.4 |
| HV02 | 8/11/2017 | 34.3 |
| HV02 | 14/11/2017 | 67.5 |
| HV02 | 20/11/2017 | 55.5 |
| HV02 | 26/11/2017 | 81.7 |
| HV03 | 2/11/2017 | 70.2 |
| HV03 | 8/11/2017 | 52.5 |
| HV03 | 14/11/2017 | 69.9 |
| HV03 | 20/11/2017 | 73.8 |
| HV03 | 26/11/2017 | 97.7 |
| HV04 | 2/11/2017 | 109 |
| HV04 | 8/11/2017 | 48.5 |
| HV04 | 14/11/2017 | 144 |
| HV04 | 20/11/2017 | 79.9 |
| HV04 | 26/11/2017 | 149 |

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

Date sampled: 15 November 2017
Date obtained: 22 November 2017
Date published: 6 December 2017

Table 3 - WCPL Depositional Dust Gauges

| Site | Date | Ash (g/m ²) | Total Insoluble Matter (g/m ²) | AR/IS Ratio | Comment |
|------|-------------|-------------------------|--|-------------|---------|
| D01 | 15 November | 2.10 | 3.30 | 63 | |
| D03 | 15 November | 2.20 | 3.60 | 61 | |
| D07 | 15 November | 2.50 | 3.60 | 69 | |
| D09 | 15 November | 1.20 | 1.60 | 75 | |
| D11 | 15 November | 1.30 | 1.90 | 68 | |
| D12 | 15 November | 3.00 | 6.70 | 44 | |
| D17 | 15 November | 0.90 | 1.50 | 60 | |
| D19 | 15 November | 3.20 | 4.50 | 71 | |
| D20 | 15 November | 1.00 | 1.60 | 62 | |
| D21 | 15 November | 2.00 | 2.80 | 71 | |
| D22 | 15 November | 1.80 | 2.20 | 81 | |
| D23 | 15 November | 2.10 | 2.80 | 75 | |
| D24 | 15 November | 1.00 | 1.60 | 62 | |
| D25 | 15 November | 2.00 | 2.40 | 83 | |
| D26 | 15 November | 1.40 | 1.90 | 73 | |

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: 6 December 2017

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 November | 20.3 | 19.92 | 17.3 | 19.56 | 22.2 | 14.19 | 19.8 | 16.69 |
| 2 November | 28.7 | 19.95 | 23.6 | 19.57 | 23.2 | 14.22 | 26.4 | 16.72 |
| 3 November | 20.4 | 19.95 | 21 | 19.58 | 17.7 | 14.23 | 17.2 | 16.73 |
| 4 November | 12.3 | 19.93 | 9.5 | 19.55 | 11.5 | 14.22 | 11.5 | 16.71 |
| 5 November | 9.5 | 19.90 | 6.1 | 19.50 | 6.4 | 14.19 | 6.4 | 16.68 |
| 6 November | 11.4 | 19.87 | 8.3 | 19.47 | 8.1 | 14.17 | 7.8 | 16.65 |
| 7 November | 17.5 | 19.86 | 10.3 | 19.44 | 11.3 | 14.16 | 12.2 | 16.63 |
| 8 November | 11.7 | 19.83 | 10.7 | 19.41 | 13.5 | 14.16 | 12.1 | 16.62 |
| 9 November | 14.9 | 19.82 | 9.9 | 19.38 | 12.2 | 14.16 | 14.9 | 16.61 |
| 10 November | 14.8 | 19.80 | 12.1 | 19.35 | 13.5 | 14.15 | 14.3 | 16.61 |
| 11 November | 18.1 | 19.80 | 15.5 | 19.34 | 13.8 | 14.15 | 14.5 | 16.60 |
| 12 November | 20.6 | 19.80 | 13.9 | 19.33 | 18 | 14.16 | 17.7 | 16.60 |
| 13 November | 22.8 | 19.81 | 18.1 | 19.32 | 18.5 | 14.18 | 20 | 16.61 |
| 14 November | 21.9 | 19.82 | 15.5 | 19.31 | 15.4 | 14.18 | 20.6 | 16.63 |
| 15 November | 19.6 | 19.82 | 15.3 | 19.30 | 19.4 | 14.20 | 25 | 16.65 |
| 16 November | 22.8 | 19.82 | 16.2 | 19.29 | 16.7 | 14.21 | 20.4 | 16.66 |
| 17 November | 23.1 | 19.83 | 13.5 | 19.27 | 16.5 | 14.21 | 19.3 | 16.67 |
| 18 November | 19 | 19.83 | 12.7 | 19.25 | 12.7 | 14.21 | 12.6 | 16.66 |
| 19 November | 23.8 | 19.84 | 14 | 19.23 | 17.4 | 14.22 | 16.7 | 16.66 |
| 20 November | 18.3 | 19.84 | 14.3 | 19.22 | 17.1 | 14.23 | 15.9 | 16.66 |
| 21 November | 23.6 | 19.85 | 17.1 | 19.21 | 21.6 | 14.25 | 21.2 | 16.67 |
| 22 November | 19.7 | 19.85 | 19.3 | 19.21 | 18.9 | 14.26 | 19.2 | 16.68 |
| 23 November | 21.8 | 19.86 | 17.7 | 19.21 | 19.6 | 14.28 | 17.4 | 16.68 |
| 24 November | 28.8 | 19.88 | 25.1 | 19.22 | 20.1 | 14.30 | 23.7 | 16.70 |
| 25 November | 36.7 | 19.93 | 17.1 | 19.22 | 25.6 | 14.33 | 32.5 | 16.75 |
| 26 November | 28.8 | 19.96 | 16.9 | 19.21 | 19.1 | 14.35 | 22.9 | 16.77 |
| 27 November | 23 | 19.97 | 19.4 | 19.21 | 21.1 | 14.37 | 20.9 | 16.78 |
| 28 November | 26.8 | 19.99 | 17.6 | 19.21 | 21 | 14.39 | 23.5 | 16.80 |
| 29 November | 26.3 | 20.01 | 14.3 | 19.19 | 17 | 14.40 | 20.5 | 16.81 |
| 30 November | 31.5 | 20.04 | 17.7 | 19.19 | 21.9 | 14.42 | 20.4 | 16.82 |

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

Date sampled: After blast event
Date obtained: 3, 16, 24 and 29 November 2017
Date published: 6 December 2017

Table 5 - WCPL Blast Monitoring Results

| Date & Time | ID | BM02 - Kelly | | BM05 - Muller | | BM07 - Thelander | |
|---------------------|------------------|--------------|--------|---------------|--------|------------------|--------|
| | | dBL | mm/sec | dBL | mm/sec | dBL | mm/sec |
| 2017-11-03 15:06:26 | M_27WWA_201 | 96.9 | 0.04 | 104.0 | 0.80 | 98.6 | 0.54 |
| 2017-11-03 15:09:20 | M_27WWA_198 | 104.9 | 0.06 | 104.2 | 0.74 | 98.5 | 0.73 |
| 2017-11-16 12:10:07 | M_27WWA_204 | 78.2 | 0.01 | 86.7 | 0.04 | 86.2 | 0.04 |
| 2017-11-24 10:35:17 | M_27WWA_204 | 92.0 | 0.15 | 107.3 | 0.07 | 104.7 | 0.06 |
| 2017-11-24 10:47:37 | M_27WWA_204 | 102.8 | 0.14 | 111.2 | 2.75 | 110.5 | 1.87 |
| 2017-11-24 10:52:11 | RP_1WWA_206 | 93.8 | 0.07 | 93.9 | 0.02 | 91.2 | 0.02 |
| 2017-11-29 10:40:39 | Montrose re-fire | 94.5 | 0.02 | 105.2 | 0.13 | 107.0 | 0.12 |

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

Date sampled: Weather readings recorded daily
 Date obtained: 1 December 2017
 Date published: 6 December 2017

Table 6 - 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 November | 11 | 17.3 | 25.6 | 11.7 | 17.5 | 25.2 | 22.3 | 54 | 84.1 | 277.2 | 1178.5 | 0 | 0.1 | 0.2 | 6 |
| 2 November | 8.2 | 17.8 | 26.6 | 9 | 17.9 | 26.1 | 29 | 63.3 | 95.1 | 340.1 | 1074.9 | 0 | 0 | 1 | 7.5 |
| 3 November | 11 | 22.6 | 32.6 | 11.9 | 22.7 | 32.2 | 17.5 | 53.2 | 97.8 | 318.1 | 1047.7 | 0 | 0.1 | 1.4 | 5.8 |
| 4 November | 15.3 | 17.6 | 20.7 | 15.3 | 17.5 | 20.7 | 66.7 | 84.2 | 98.5 | 93.6 | 727.4 | 6.6 | 0.3 | 1.4 | 3.8 |
| 5 November | 14.3 | 15.5 | 17.2 | 14.2 | 15.5 | 17.2 | 74.9 | 89 | 98.9 | 41.8 | 195.9 | 8.6 | 0.7 | 1.9 | 4.5 |
| 6 November | 15.1 | 19.8 | 28.8 | 15.4 | 20 | 28.8 | 36.2 | 70.2 | 99.4 | 181.9 | 978.5 | 5.2 | 0.3 | 3.8 | 158.5 |
| 7 November | 9.7 | 17 | 22.9 | 10.6 | 17.2 | 22.3 | 39.1 | 62.5 | 95.5 | 296.8 | 1227.3 | 0 | 0 | 1.8 | 6.3 |
| 8 November | 11.2 | 15.5 | 19.8 | 11.7 | 15.5 | 19.2 | 54.5 | 77.7 | 95.8 | 164 | 1257.5 | 1.6 | 0.4 | 2.1 | 6.2 |
| 9 November | 7.4 | 16.1 | 23.2 | 8.4 | 16.2 | 22.6 | 42.4 | 69.9 | 99.1 | 325.7 | 1207.4 | 0 | 0.2 | 1.8 | 5.7 |
| 10 November | 9.8 | 17.5 | 24.4 | 10.1 | 17.6 | 23.8 | 40.5 | 67.6 | 96.8 | 308.7 | 1136.5 | 0 | 0.3 | 1.9 | 5.7 |
| 11 November | 11.2 | 18.2 | 24.2 | 11.6 | 18.3 | 23.5 | 42.8 | 67.2 | 96.4 | 297.9 | 1191 | 0 | 0.1 | 2.2 | 6.2 |
| 12 November | 10 | 18 | 24.8 | 11.1 | 18.1 | 24.2 | 39.6 | 67.2 | 96.2 | 337.5 | 1193.2 | 0 | 0 | 2 | 6.4 |
| 13 November | 14 | 18.6 | 23.6 | 14.3 | 18.5 | 23.2 | 47.3 | 66.8 | 87.1 | 247 | 1218.8 | 0 | 0.3 | 2.2 | 7.2 |
| 14 November | 9.8 | 18.7 | 24.9 | 10.7 | 18.8 | 24.5 | 42.9 | 65 | 96.5 | 318.5 | 1270.1 | 0 | 0.1 | 2 | 6 |
| 15 November | 11.9 | 20.6 | 28.4 | 12.7 | 20.7 | 27.8 | 30.5 | 64 | 97.1 | 355.7 | 1067.2 | 0 | 0.1 | 1.7 | 5.8 |
| 16 November | 12.7 | 19.9 | 26 | 13.5 | 20.1 | 25.8 | 46.7 | 71.2 | 95.5 | 157.7 | 703.7 | 0 | 0.2 | 0.6 | 4.2 |
| 17 November | 14.6 | 21 | 26.8 | 15.6 | 21.1 | 26.2 | 51.4 | 73.8 | 98.2 | 229.8 | 1137.1 | 0 | 0.2 | 2 | 5.2 |
| 18 November | 16.3 | 20.2 | 24.4 | 17.1 | 20.3 | 24.1 | 47.2 | 71.8 | 89.3 | 90.1 | 454 | 0.2 | 0.3 | 1 | 4.8 |
| 19 November | 15.2 | 19.4 | 24.5 | 16 | 19.6 | 24 | 44.1 | 70 | 89.2 | 145.5 | 853.1 | 0 | 0.8 | 2.5 | 6.1 |
| 20 November | 11.7 | 19.2 | 26.1 | 12.9 | 19.3 | 25.4 | 41.4 | 70.7 | 98.4 | 305 | 1214.6 | 0 | 0.1 | 2.6 | 6.8 |
| 21 November | 14.8 | 20.3 | 26 | 15.4 | 20.2 | 25.4 | 35 | 62.3 | 91.6 | 330.9 | 1118 | 0 | 0.4 | 2.8 | 7.1 |
| 22 November | 14.8 | 20.2 | 25.3 | 15.5 | 20.2 | 24.7 | 43.3 | 66.7 | 92.1 | 195.1 | 940.1 | 0 | 0.3 | 2.2 | 6.3 |
| 23 November | 13.4 | 21.7 | 28.9 | 14.5 | 21.9 | 28.3 | 35.1 | 64.8 | 97.8 | 310.2 | 1178.3 | 0 | 0.2 | 1 | 5.1 |
| 24 November | 12.8 | 21.9 | 32.3 | 13.9 | 22.2 | 31.9 | 27.4 | 65.7 | 96.7 | 278.6 | 1064.9 | 0.4 | 0.1 | 2.3 | 115.8 |
| 25 November | 12.2 | 22.2 | 30.8 | 13.7 | 22.3 | 30.2 | 24.6 | 67 | 98.3 | 358.1 | 1059.6 | 0 | 0.1 | 2 | 6.7 |
| 26 November | 17.6 | 24.2 | 32.2 | 18.3 | 24.1 | 31.8 | 26.6 | 64.4 | 91.6 | 320.8 | 1072.1 | 0 | 0.6 | 1.8 | 5.3 |
| 27 November | 19.2 | 22.7 | 26.8 | 19.7 | 22.7 | 26.5 | 57.6 | 73.8 | 92 | 129.5 | 803.3 | 0 | 0.3 | 0.7 | 3.8 |
| 28 November | 15.6 | 22.9 | 30.3 | 16.4 | 22.9 | 29.6 | 42.1 | 73.2 | 98.8 | 263.4 | 1256.1 | 0 | 0.1 | 2 | 6.4 |
| 29 November | 19.6 | 23.6 | 30.2 | 20 | 23.6 | 29.3 | 44 | 71.6 | 89.2 | 211 | 1212.8 | 0 | 0.4 | 2.5 | 6.3 |
| 30 November | 20.1 | 25.1 | 32.2 | 20.2 | 25 | 31.4 | 36.5 | 65.4 | 92.6 | 267.6 | 1213.1 | 0 | 0.7 | 2.1 | 6.8 |
| MONTH | 7.4 | 19.8 | 32.6 | 8.4 | 19.9 | 32.2 | 17.5 | 68.4 | 99.4 | 249.9 | 1270.1 | 22.6 | 0 | 1.8 | 158.5 |

