

**WAMBO COAL
POLLUTION MONITORING DATA
1 JULY 2020 – 31 JULY 2020**

JULY REPORT

Published 18 August 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**

The following pollution monitoring data is published as a requirement of the Wambo Environmental Protection Licence (EPL) 529. A link to EPL529 can be found on the Environmental Protection Authority (EPA) Public Register. A link to the EPA's public register can be found at: <https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers/about-prpoec>

Monthly interim reports will be provided on a fortnightly basis until a final monthly report is produced when all monthly data is available.

The location of each sampling point is provided in 'Plan 2672-2' at the end of this document.

Monitoring Data

Surface and Mine Water Dam Monitoring

Monitoring Frequency: Once per month

Sampling Method: Grab sample

Limits: Nil

Table 1 - WCPL Surface and Mine Water Dam Results

| EPL ID | Site ID | Date | pH | EC (µS/cm) | TSS (mg/L) | Comments |
|----------|-----------------|----------------------------|-----|------------|------------|----------------|
| Point 24 | SW01 | 27/07/2020 | | | | Access blocked |
| Point 25 | SW02 | 27/07/2020 | 7.3 | 829 | 14 | |
| Point 26 | SW03 | 27/07/2020 | 7.3 | 820 | <5 | |
| Point 27 | SW04 | 27/07/2020 | | | | No Flow |
| Point 28 | SW05 | 27/07/2020 | | | | No Flow |
| Point 29 | SW06 | 27/07/2020 | 7.0 | 470 | 6 | |
| Point 30 | SW07 | 27/07/2020 | | | | No Flow |
| Point 31 | SW08 | 27/07/2020 | | | | No Access |
| Point 32 | SW14 | 21/07/2020 | 8.4 | 737 | <5 | |
| Point 33 | SW15 | 21/07/2020 | 8.9 | 4110 | <5 | |
| Point 34 | SW27a | 27/07/2020 | 7.8 | 847 | 225 | |
| Point 35 | SW31 | 21/07/2020 | | | | No safe access |
| Point 36 | SW32a | 27/07/2020 | 7.9 | 624 | 409 | |
| Point 37 | SW38 | 21/07/2020 | 8.8 | 6670 | 11 | |
| Point 38 | SW12 | 21/07/2020 | 8.9 | 4920 | 14 | |
| Point 39 | SW39 | 27/07/2020 | | | | No Flow |
| Point 40 | SW40 | 27/07/2020 | 7.3 | 816 | <5 | |
| Point 41 | SW41 | 27/07/2020 | | | | No Flow |
| Point 46 | SW52 | 21/07/2020 | 9.1 | 3280 | <5 | |
| Point 47 | Wombat Dam | 21/07/2020 | 8.3 | 560 | 6 | |
| Point 48 | Milk Can Dam | 21/07/2020 | 8.6 | 2250 | 14 | |
| Point 49 | Rug Dump Dam | 21/07/2020 | | | | Dry |
| Point 50 | Montrose East 1 | 27/07/2020 | 8.7 | 407 | 126 | |
| Point 51 | Montrose East 2 | 27/07/2020 | 8.3 | 404 | 60 | |

Water Discharge Monitoring

Monitoring Frequency: Continuous during discharge (EC, pH, Turbidity)
 Daily during discharge (TSS, Volume)
 Sampling Method: In line instrumentation (EC, pH Turbidity)
 Grab sample (TSS)
 Limits: pH- 6.5 to 9.5
 TSS – 120
 Volume – 250ML/day
 Date sampled: Continuous
 Date obtained: Continuous

Table 2 - WCPL Discharge Monitoring

| Site | Date | pH | TSS (mg/L) | Turbidity (NTU) | Volume (ML/day) | Comments |
|----------|------|----|------------|-----------------|-----------------|---------------|
| Point 4 | | | | | | No Discharges |
| Point 19 | | | | | | No Discharges |

Sewerage Treatment Monitoring

Monitoring Frequency: Quarterly during discharge
 Sampling Method: Grab sample
 Limits: Nil
 Date sampled: No monitoring in July
 Date obtained: No monitoring in July

Table 3- WCPL Discharge Monitoring

| EPL ID | Site ID | Date | pH | Faecal Coliforms | Comments |
|-----------|---------|------------|------|------------------|---|
| Point 18 | STPD1 | | | | No discharge |
| Point 42 | STPD2 | 23/07/2020 | 8.16 | 21 | |
| Point 52* | STP2 | 23/07/2020 | 9.07 | 200,000 | *monitoring point is a Sewerage Treatment Plant, not a discharge location |

PM10 Monitoring
Monitoring Frequency: Continuous
Sampling Method: AM22
Limits: Nil

Date sampled: Continuous
Date obtained: Continuous

Table 4 - WCPL PM10 Results

| Date of Run | PM01 - Coralie (EPA13) | | PM02 - Wambo Road (Caban) (EPA14) | | PM03 - Thelander (EPA15) | | PM04 - Muller (EPA16) | |
|-------------|--|-------------|--|-------------|--|-------------|--|-------------|
| | 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 |
| 01/07/2020 | 16.1 | 22.96 | 18.4 | 22.54 | NaN | 19.34 | 7.8 | 23.20 |
| 02/07/2020 | 20.3 | 22.94 | 26.6 | 22.56 | NaN | 19.34 | 12.5 | 23.14 |
| 03/07/2020 | 14.6 | 22.90 | 13.6 | 22.51 | 5.0 | 19.26 | 8.0 | 23.06 |
| 04/07/2020 | 10.1 | 22.83 | 10.4 | 22.45 | 1.8 | 19.17 | 5.3 | 22.96 |
| 05/07/2020 | 8.0 | 22.75 | 12.0 | 22.39 | 4.0 | 19.08 | 4.8 | 22.86 |
| 06/07/2020 | 10.2 | 22.68 | 13.3 | 22.34 | 4.0 | 19.00 | 8.6 | 22.79 |
| 07/07/2020 | 22.8 | 22.68 | 15.1 | 22.31 | 8.0 | 18.94 | 15.0 | 22.75 |
| 08/07/2020 | 17.9 | 22.66 | 14.2 | 22.26 | 10.7 | 18.90 | 25.0 | 22.76 |
| 09/07/2020 | 18.0 | 22.63 | 22.2 | 22.26 | 9.4 | 18.85 | 16.0 | 22.72 |
| 10/07/2020 | 14.5 | 22.59 | 11.4 | 22.21 | 4.7 | 18.77 | 11.9 | 22.67 |
| 11/07/2020 | 9.3 | 22.52 | 8.7 | 22.14 | 4.7 | 18.70 | 8.0 | 22.59 |
| 12/07/2020 | 7.5 | 22.44 | 6.6 | 22.06 | 3.5 | 18.62 | 6.6 | 22.51 |
| 13/07/2020 | 6.7 | 22.36 | 7.1 | 21.98 | 1.8 | 18.53 | 3.7 | 22.41 |
| 14/07/2020 | 7.1 | 22.28 | 7.4 | 21.91 | 3.4 | 18.45 | 5.5 | 22.33 |
| 15/07/2020 | 5.9 | 22.20 | 4.4 | 21.82 | 2.4 | 18.36 | 4.0 | 22.23 |
| 16/07/2020 | 8.3 | 22.13 | 8.4 | 21.75 | 1.2 | 18.27 | 5.3 | 22.15 |
| 17/07/2020 | 9.5 | 22.07 | 6.3 | 21.67 | 3.7 | 18.20 | 13.3 | 22.10 |
| 18/07/2020 | 15.3 | 22.03 | 12.3 | 21.62 | 10.6 | 18.16 | 19.7 | 22.09 |
| 19/07/2020 | 12.0 | 21.98 | 11.8 | 21.58 | 6.6 | 18.10 | 6.8 | 22.01 |
| 20/07/2020 | 12.0 | 21.93 | 11.5 | 21.53 | 6.3 | 18.04 | 6.1 | 21.94 |
| 21/07/2020 | 15.9 | 21.90 | 14.6 | 21.49 | 7.7 | 17.99 | 19.8 | 21.92 |
| 22/07/2020 | 20.8 | 21.90 | 18.4 | 21.48 | 12.7 | 17.96 | 17.0 | 21.90 |
| 23/07/2020 | 17.3 | 21.87 | 18.1 | 21.46 | 12.6 | 17.94 | 22.4 | 21.90 |
| 24/07/2020 | 24.1 | 21.88 | 18.4 | 21.45 | 11.6 | 17.90 | 18.2 | 21.89 |
| 25/07/2020 | 20.6 | 21.88 | 12.7 | 21.40 | 7.0 | 17.85 | 16.5 | 21.86 |
| 26/07/2020 | 4.0 | 21.79 | 2.5 | 21.31 | 0.2 | 17.76 | NaN | 21.86 |
| 27/07/2020 | 4.2 | 21.71 | 4.4 | 21.23 | 2.9 | 17.69 | NaN | 21.86 |
| 28/07/2020 | 5.2 | 21.63 | 4.4 | 21.15 | 0.2 | 17.61 | 3.1 | 21.77 |
| 29/07/2020 | 7.9 | 21.56 | 6.2 | 21.08 | 3.6 | 17.54 | NaN | 21.77 |
| 30/07/2020 | 10.5 | 21.51 | 7.1 | 21.01 | 5.8 | 17.48 | 12.6 | 21.73 |
| 31/07/2020 | 15.6 | 21.48 | 9.7 | 20.96 | 12.3 | 17.46 | 22.5 | 21.73 |

*NaN due to power outage >75% of data collection period

Blast Monitoring

Monitoring Frequency: Every blast

Airblast Overpressure Limit: 120 dBL
115 dBL (5% of blast each year)

Ground Vibration Limit: 10mm/s
5mm/s (5% of blast each year)

Date sampled: Continuous

Date obtained: Continuous

Table 5 - WCPL Blast Monitoring Results

| Date & Time | ID | BM02 – Kelly (EPA10) | | BM05 – Muller (EPA11) | | BM07 – Thelander (EPA12) | |
|------------------------------|----------------------------|----------------------|--------|-----------------------|--------|--------------------------|--------|
| | | dBL | mm/sec | dBL | mm/sec | dBL | mm/sec |
| Fri/03/Jul/2020 1203hrs | WRA_511_1 | 97.6 | 021 | 102.3 | 0.28 | 99.9 | 0.19 |
| Fri/10/Jul/2020 1203hrs | WTA_500_4B | 83.2 | 0.17 | 98.1 | 0.33 | 88.3 | 0.24 |
| Fri/10/Jul/2020 1209hrs | WRC_505_510 | 96.3 | 0.18 | 102.0 | 0.19 | 89.2 | 0.12 |
| Thurs/16/Jul/2020 903hrs | WRC_512A | 89.2 | 0.12 | 118.5 | 0.21 | 107.3 | 0.18 |
| Thurs/23/Jul/2020 1101hrs | WTA_500_4b2 & WTA_500_6 | 80.2 | 0.25 | 104.7 | 0.51 | 100.7 | 0.37 |

Refer to Annual Blasting Report for Annual compliance limits

Meteorological Monitoring

Monitoring Frequency: Continuous

Sampling Method: Site Meteorological Station EPA17

Limits: Nil

Date sampled: continuous

Date obtained: continuous

Table 6 - WCPL Meteorology

| Date | Temperature (2m) | | | Temperature (10m) | | | Humidity | | | Solar Radiation | | RAIN | Wind Speed | | | Wind Direction at 10m | Sigma Theta | | |
|------------|------------------|------|------|-------------------|------|------|----------|------|------|-----------------|-------|----------|------------|-----|-----|-----------------------|-------------|-------|------|
| | Average | Min | Max | Average | Min | Max | Average | Min | Max | Average | Max | Sum (mm) | Average | Min | Max | Average | Average | Max | Min |
| 01/07/2020 | 11.8 | -0.1 | 20.4 | 12.6 | 0.2 | 19.9 | 69.6 | 33.4 | 100 | 208.1 | 585.7 | 0.2 | 1.5 | 0 | 4.3 | 222 | 25.0 | 68.7 | 10.3 |
| 02/07/2020 | 13.8 | 4.1 | 22.7 | 14.9 | 6.8 | 22.4 | 69.8 | 39.9 | 99.3 | 130.4 | 571.4 | 0.8 | 2.0 | 0.3 | 5.5 | 239 | 23.5 | 77.9 | 6.4 |
| 03/07/2020 | 12.4 | 6.7 | 19.1 | 13.1 | 8.1 | 18.7 | 69.6 | 31.6 | 99.6 | 130.7 | 594.2 | 1 | 2.0 | 0.1 | 4.5 | 242 | 28.6 | 92.8 | 8.4 |
| 04/07/2020 | 10.9 | 7.3 | 16.1 | 11.0 | 7.5 | 15.5 | 60.8 | 41.6 | 87.1 | 131.1 | 702 | 0 | 3.1 | 0.9 | 5.2 | 293 | 20.5 | 63.4 | 10.8 |
| 05/07/2020 | 10.3 | 3.3 | 17.6 | 10.5 | 4.3 | 17.2 | 66.2 | 41.7 | 97.2 | 154.0 | 600 | 0 | 2.6 | 0.1 | 4.7 | 287 | 24.3 | 76 | 13.8 |
| 06/07/2020 | 7.7 | -0.6 | 18.4 | 8.5 | 0.7 | 18.1 | 80.5 | 44.7 | 99.8 | 148.2 | 588.2 | 0 | 0.9 | 0.1 | 2.4 | 203 | 25.5 | 79 | 4.8 |
| 07/07/2020 | 9.4 | 1.7 | 17.8 | 10.0 | 2.4 | 17.5 | 78.0 | 43.5 | 100 | 114.3 | 691.5 | 0 | 0.8 | 0.1 | 3.3 | 149 | 24.5 | 79.6 | 5.3 |
| 08/07/2020 | 11.9 | 6 | 17 | 12.3 | 7.3 | 16.6 | 81.6 | 55.6 | 100 | 104.9 | 673.2 | 0 | 1.1 | 0 | 3.5 | 145 | 21.9 | 79.4 | 6.3 |
| 09/07/2020 | 10.2 | 2.9 | 19.4 | 10.9 | 3.8 | 19.2 | 84.5 | 50 | 100 | 140.5 | 582.3 | 0 | 0.8 | 0.1 | 1.8 | 189 | 27.2 | 89.1 | 5.7 |
| 10/07/2020 | 11.3 | 7 | 15.3 | 11.7 | 7.7 | 15.2 | 95.7 | 77.8 | 100 | 49.5 | 309.4 | 0.8 | 0.7 | 0 | 2.8 | 160 | 30.2 | 86.8 | 7.2 |
| 11/07/2020 | 12.7 | 8.3 | 17.9 | 13.0 | 8.5 | 17.9 | 96.9 | 76.8 | 100 | 48.8 | 454.2 | 4.4 | 0.9 | 0.1 | 3.2 | 189 | 31.6 | 89.4 | 6.4 |
| 12/07/2020 | 12.1 | 5.7 | 19.7 | 12.2 | 6.2 | 19.2 | 81.5 | 42.3 | 100 | 149.4 | 636.5 | 2.0 | 1.3 | 0.1 | 3.8 | 236 | 29.7 | 99.8 | 9.6 |
| 13/07/2020 | 9.2 | 3.1 | 16 | 9.5 | 3.4 | 15.6 | 82.0 | 46.2 | 100 | 161.1 | 618.8 | 0 | 1.7 | 0.2 | 4.3 | 249 | 29.5 | 93.6 | 7.2 |
| 14/07/2020 | 11.7 | 6.7 | 16.9 | 11.9 | 6.8 | 16.7 | 73.5 | 54.3 | 96.7 | 68.7 | 518.7 | 1.4 | 3.3 | 0.1 | 6.5 | 231 | 23.2 | 98.7 | 11.7 |
| 15/07/2020 | 13.3 | 5.1 | 18.3 | 14.0 | 7 | 18 | 58.6 | 41.1 | 92.5 | 158.1 | 657.6 | 0 | 2.6 | 0.2 | 5.2 | 196 | 21.6 | 83.9 | 10.1 |
| 16/07/2020 | 10.1 | 3.3 | 16.8 | 11.2 | 5.5 | 16.7 | 72.7 | 46.9 | 99.5 | 96.2 | 732.6 | 0 | 1.5 | 0.1 | 3.8 | 211 | 31.3 | 94.9 | 9.3 |
| 17/07/2020 | 12.9 | 7.9 | 17.1 | 13.3 | 8.7 | 16.7 | 68.2 | 55.7 | 97.4 | 99.9 | 785.3 | 0 | 1.6 | 0 | 3.7 | 180 | 26.4 | 90 | 9.3 |
| 18/07/2020 | 12.1 | 4.9 | 18.1 | 12.6 | 6.2 | 17.6 | 78.9 | 50.8 | 100 | 134.8 | 770.4 | 0.2 | 1.0 | 0.1 | 2.3 | 165 | 27.2 | 97.6 | 6 |
| 19/07/2020 | 11.0 | 1 | 20 | 11.7 | 2.1 | 19.8 | 73.2 | 39 | 100 | 166.4 | 642.5 | 0 | 2.2 | 0.1 | 6 | 245 | 28.7 | 92 | 8.2 |
| 20/07/2020 | 12.6 | 3.9 | 19.3 | 13.3 | 5.3 | 19 | 54.7 | 17.4 | 79.7 | 173.0 | 660.4 | 0 | 2.5 | 0.2 | 4.6 | 245 | 25.2 | 89.8 | 6.9 |
| 21/07/2020 | 7.7 | -1.8 | 17.1 | 8.6 | -0.6 | 16.7 | 73.9 | 40.5 | 99.3 | 164.7 | 648 | 0 | 1.1 | 0.1 | 4.1 | 171 | 28.9 | 97.9 | 5.2 |
| 22/07/2020 | 8.2 | 1.4 | 17.2 | 8.9 | 2.7 | 16.8 | 85.1 | 52.5 | 100 | 103.8 | 796.6 | 0 | 0.8 | 0 | 2.2 | 163 | 28.6 | 96.7 | 6.4 |
| 23/07/2020 | 9.7 | 2.4 | 19.5 | 10.4 | 3.2 | 19.3 | 77.3 | 34.6 | 100 | 166.2 | 641.6 | 0 | 0.8 | 0.1 | 2.2 | 164 | 29.4 | 100.3 | 6.3 |
| 24/07/2020 | 9.6 | 0.9 | 18.5 | 10.3 | 1.6 | 18.1 | 87.0 | 60.1 | 100 | 108.9 | 572.8 | 0 | 1.0 | 0 | 2.8 | 158 | 27.1 | 95.4 | 7.8 |
| 25/07/2020 | 11.2 | 4.1 | 17.3 | 11.6 | 5.3 | 17 | 89.5 | 63.6 | 100 | 74.8 | 671.4 | 4.4 | 1.3 | 0.1 | 4.2 | 121 | 25.5 | 85.9 | 7.6 |
| 26/07/2020 | 13.1 | 12 | 14.8 | 13.3 | 12.2 | 15.3 | 97.1 | 75.7 | 100 | 27.1 | 331.2 | 37.6 | 1.8 | 0 | 5.5 | 204 | 19.6 | 93.7 | 8.1 |
| 27/07/2020 | 14.1 | 11.3 | 17.5 | 14.2 | 11.5 | 17.4 | 84.8 | 61.3 | 100 | 55.0 | 443.1 | 11.4 | 4.1 | 2.1 | 6.9 | 299 | 18.4 | 27.9 | 13.2 |
| 28/07/2020 | 12.3 | 10.6 | 13.9 | 12.4 | 11 | 13.9 | 95.5 | 90 | 100 | 40.6 | 295.7 | 9 | 3.4 | 1.5 | 5.7 | 308 | 20.9 | 39.3 | 14 |
| 29/07/2020 | 14.2 | 9 | 19.4 | 14.4 | 9.4 | 19.1 | 86.7 | 55.9 | 100 | 132.7 | 727.2 | 0.2 | 0.5 | 0 | 2.5 | 304 | 25.5 | 83.1 | 6.3 |
| 30/07/2020 | 12.1 | 5.7 | 18.9 | 12.6 | 6 | 18.8 | 80.7 | 43.1 | 100 | 156 | 794.9 | 0 | 0.5 | 0.1 | 2.9 | 153 | 30.3 | 101.6 | 9.2 |
| 31/07/2020 | 11.2 | 4.9 | 17.5 | 11.8 | 6 | 17.3 | 78.1 | 41.7 | 100 | 161.3 | 821.7 | 0 | 0.7 | 0.1 | 4 | 155 | 26.9 | 97.8 | 8 |
| | 11.2 | -1.8 | 22.7 | 11.7 | -0.6 | 22.4 | 79.1 | 17.4 | 100 | 117.3 | 821.7 | 71.6 | 1.2 | 0 | 6.9 | 234 | 26.0 | 101.6 | 4.8 |

