



# Mount Thorley Warkworth EPL Monitoring Data

Published 31 January 2025  
FOR THE MONTH ENDING 31 December 2024

|                                |   |
|--------------------------------|---|
| <b>Name of Operation</b>       | <b>Mount Thorley Coal Loader</b>  |
| Environment Protection Licence | 24  |
| Licensee                       | Mount Thorley Coal Loading Ltd  |
| Premises                       | Mount Thorley Coal Loading Ltd<br>Mount Thorley Road, Mount Thorley<br>Via Singleton NSW 2330   |
| EPL Link                       | <a href="http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=89660&amp;SYSUID=1&amp;LICID=24">http://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=89660&amp;SYSUID=1&amp;LICID=24</a>           |
| <b>Name of Operation</b>       | <b>Mount Thorley Operations</b>   |
| Environment Protection Licence | 1976  |
| Licensee                       | Mount Thorley Operations Pty Limited  |
| Premises                       | Mount Thorley Operations<br>Mount Thorley Road<br>Mount Thorley NSW 2330  |
| EPL Link                       | <a href="https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=161559&amp;SYSUID=1&amp;LICID=1976">https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=161559&amp;SYSUID=1&amp;LICID=1976</a> |
| <b>Name of Operation</b>       | <b>Warkworth Coal Mine</b>  |
| Environment Protection Licence | 1376  |
| Licensee                       | Warkworth Mining Ltd  |
| Premises                       | Warkworth Coal Mine<br>Putty Road<br>Mount Thorley NSW 2330   |
| EPL Link                       | <a href="https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=160262&amp;SYSUID=1&amp;LICID=1376">https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=160262&amp;SYSUID=1&amp;LICID=1376</a> |

## 1 INTRODUCTION

This report provides a summary of environmental monitoring results for Mount Thorley Warkworth (MTW) in accordance with the requirements of the following Environment Protection Licences (EPL):

- EPL24 – Mount Thorley Coal Loader (MTCL);
- EPL1376 – Warkworth Mining Limited (WML); and
- EPL1976 – Mount Thorley Operations (MTO).

This report includes all monitoring data collected in accordance with the above licences for the period 1 to 31 December 2024.

Monitoring in this report includes:

- Air quality monitoring;
- Surface water monitoring including mine water discharge and effluent quality; and
- Blast monitoring.

Monitoring locations are shown in **Figure 1**.

## 2 AIR QUALITY

In accordance with the requirements of Condition M2.2 of WML EPL 1376 and MTO EPL 1976, MTW maintains a network of five PM<sub>10</sub> monitors.

Results of Particulates (PM<sub>10</sub>) monitoring are shown in **Table 1**. Results reported represent the 24hr average PM<sub>10</sub>, derived from 10 minute PM<sub>10</sub> values for the period midnight to midnight, for each calendar date during the reporting period. The last sampling date was 31 December 2024 and the data was obtained on 1 January 2025.

**TABLE 1: PARTICULATE MATTER <10µM MONITORING**

| Date       | Unit of Measure   | Monitoring Frequency & Capture | Monitoring Point                               |  |  |   |  |
|------------|-------------------|--------------------------------|--|--|--|---|--|
|            |                   |                                | Warkworth North<br>(EPA ID # 9 - WML EPL 1376) | MTO Boundary<br>(EPA ID # 13 - MTO EPL 1976) | Dragline Crossing<br>(EPA ID # 10 - WML EPL 1376 & MTO EPL 1976) | Heavy Vehicle Bridge<br>(EPA ID # 11 - WML EPL 1376 & MTO EPL 1976) | MTIE<br>(EPA ID # 12 - WML EPL 1376 & EPA ID #19 - MTO EPL 1976) |
| 1/12/2024  | µg/m <sup>3</sup> | Continuous                     | 7.0  | 4.9  | 17.4   | 6.5   | 5.2  |
| 2/12/2024  | µg/m <sup>3</sup> |                                | #  | #  | 29.8   | #   | #  |
| 3/12/2024  | µg/m <sup>3</sup> |                                | 10.9   | 9.0  | #  | 9.7   | 10.1   |
| 4/12/2024  | µg/m <sup>3</sup> |                                | #  | #  | #  | #   | #  |
| 5/12/2024  | µg/m <sup>3</sup> |                                | #  | 10.3   | 18.2   | #   | 8.8  |
| 6/12/2024  | µg/m <sup>3</sup> |                                | #  | 17.3   | #  | 14.9  | 14.0   |
| 7/12/2024  | µg/m <sup>3</sup> |                                | 9.9  | #  | 30.3   | 10.5  | 8.7  |
| 8/12/2024  | µg/m <sup>3</sup> |                                | #  | #  | 18.0   | 9.4   | 5.9  |
| 9/12/2024  | µg/m <sup>3</sup> |                                | 13.3   | 9.5  | 18.7   | #   | 9.4  |
| 10/12/2024 | µg/m <sup>3</sup> |                                | 17.2   | #  | #  | 19.6  | 14.0   |
| 11/12/2024 | µg/m <sup>3</sup> |                                | 10.5   | 8.6  | 19.7   | 11.0  | 7.6  |
| 12/12/2024 | µg/m <sup>3</sup> |                                | 12.4   | 11.6   | 32.7   | 10.5  | #  |
| 13/12/2024 | µg/m <sup>3</sup> |                                | #  | #  | #  | #   | 11.8   |
| 14/12/2024 | µg/m <sup>3</sup> |                                | 25.6   | #  | 33.3   | 26.6  | #  |
| 15/12/2024 | µg/m <sup>3</sup> |                                | 29.9   | 29.4   | 48.1   | #   | #  |
| 16/12/2024 | µg/m <sup>3</sup> |                                | 18.6   | 16.0   | 22.5   | 15.2  | 15.5   |
| 17/12/2024 | µg/m <sup>3</sup> |                                | 7.8  | 7.0  | #  | 8.4   | 5.7  |
| 18/12/2024 | µg/m <sup>3</sup> |                                | 8.0  | #  | 9.2  | 5.4   | 4.7  |
| 19/12/2024 | µg/m <sup>3</sup> |                                | 8.3  | #  | 9.9  | 7.0   | 4.5  |
| 20/12/2024 | µg/m <sup>3</sup> |                                | #  | 6.7  | 15.4   | 6.9   | 5.9  |
| 21/12/2024 | µg/m <sup>3</sup> |                                | #  | 10.1   | 18.4   | 9.7   | 5.8  |
| 22/12/2024 | µg/m <sup>3</sup> |                                | 17.9   | 14.8   | 17.3   | 14.1  | 9.4  |
| 23/12/2024 | µg/m <sup>3</sup> |                                | #  | 16.3   | 26.8   | 13.3  | #  |

MTW EPL Monitoring Data  
FOR THE MONTH ENDING 31 December 2024

| Date                           | Unit of Measure         | Monitoring Frequency & Capture | Monitoring Point                               |  |  |   |  |
|--------------------------------|-------------------------|--------------------------------|--|--|--|---|--|
|                                |                         |                                | Warkworth North<br>(EPA ID # 9 - WML EPL 1376) | MTO Boundary<br>(EPA ID # 13 - MTO EPL 1976) | Dragline Crossing<br>(EPA ID # 10 - WML EPL 1376 & MTO EPL 1976) | Heavy Vehicle Bridge<br>(EPA ID # 11 - WML EPL 1376 & MTO EPL 1976) | MTIE<br>(EPA ID # 12 - WML EPL 1376 & EPA ID #19 - MTO EPL 1976) |
| 24/12/2024                     | µg/m <sup>3</sup>       |                                | 9.4  | 6.0  | #  | 6.8   | #  |
| 25/12/2024                     | µg/m <sup>3</sup>       |                                | #  | 6.3  | 7.3  | #   | 4.3  |
| 26/12/2024                     | µg/m <sup>3</sup>       |                                | 9.2  | 9.2  | 11.9   | 9.1   | 7.0  |
| 27/12/2024                     | µg/m <sup>3</sup>       |                                | 12.3   | 12.1   | 20.1   | 10.3  | 7.3  |
| 28/12/2024                     | µg/m <sup>3</sup>       |                                | 14.0   | 13.3   | 19.4   | 10.5  | 8.6  |
| 29/12/2024                     | µg/m <sup>3</sup>       |                                | #  | 25.4   | #  | 14.9  | 10.4   |
| 30/12/2024                     | µg/m <sup>3</sup>       |                                | 14.5   | #  | #  | 14.2  | #  |
| 31/12/2024                     | µg/m <sup>3</sup>       |                                | 18.3   | 16.6   | 20.3   | #   | #  |
| <b>Monthly Meaningful Data</b> |                         |                                |  |  |  |   |  |
| <b>December</b>                | <b>µg/m<sup>3</sup></b> | <b>Minimum*</b>                | 4.9  | 4.9  | 7.3  | 5.4   | 4.3  |
| <b>December</b>                | <b>µg/m<sup>3</sup></b> | <b>Mean*</b>                   | 13.1   | 12.5   | 22.3   | 12.0  | 9.6  |
| <b>December</b>                | <b>µg/m<sup>3</sup></b> | <b>Maximum*</b>                | 29.9   | 29.4   | 48.1   | 30.5  | 26.2   |
| <b>December</b>                | <b>µg/m<sup>3</sup></b> | <b>Median*</b>                 | 12.3   | 10.4   | 20.1   | 10.5  | 8.9  |

# 24 hour data unavailable due to equipment or communications issue causing one or more missing 10 minute values

\*Data calculated with missing 10 minute value(s) due to equipment or communication issue

MTIE denotes Mount Thorley Industrial Estate

### 3 SURFACE WATER

#### 3.1 Mine Water Discharge Monitoring

MTW participates in the Hunter River Salinity Trading Scheme (HRSTS) and maintains two monitoring locations associated with this scheme.

MTW did not undertake any HRSTS discharges in the reporting period as shown in **Table 2**. As such, no samples were collected during the reporting period as shown in **Table 3**.

**TABLE 2: MINE WATER DISCHARGE MONITORING - VOLUME AND MASS LIMITS**

| Monitoring Location  | Unit of measure    | Volume/mass Limit | No. of samples required by licence | No. of samples you collected and analysed | Lowest Sample Value | Mean of sample | Highest sample value | Median |
|--|--------------------|-------------------|------------------------------------|---|---------------------|----------------|----------------------|--------|
| Dam 1N Discharge / Point 1<br>(WML EPL 1376)<br>Dam 1N Discharge Point         | Megalitres per day | 100               | 0                                  | 0   | -                   | -              | -                    | -      |
| Dam 9S Discharge / EPL Point 4<br>(MTO EPL 1976)<br>Discharge pipe from Dam 9S | Megalitres per day | 100               | 0                                  | 0   | -                   | -              | -                    | -      |

**TABLE 3: MINE WATER DISCHARGE MONITORING- CONCENTRATION LIMITS**

| Discharge Point  | Pollutant               | Unit of measure               | Licence limits | No. of samples required by licence | No. of samples you collected and analysed | Lowest Sample Value | Mean of sample | Highest sample value | Median |
|--|-------------------------|-------------------------------|----------------|------------------------------------|---|---------------------|----------------|----------------------|--------|
| Dam 1N Discharge / Point 1<br>(WML EPL 1376)<br>Dam 1N Discharge Point                             | Electrical Conductivity | microsiemens per centimetre   | -              | 0                                  | 0   | -                   | -              | -                    | -      |
|  | pH                      | pH                            | 6.5 - 9.5      | 0                                  | 0   | -                   | -              | -                    | -      |
|  | Total Suspended Solids  | milligrams per litre          | 120            | 0                                  | 0   | -                   | -              | -                    | -      |
| Dam 1N Discharge Turbidity Monitoring / Point 25<br>(WML EPL 1376)<br>Continuous turbidity monitor | Turbidity               | nephelometric turbidity units | -              | 0                                  | 0   | -                   | -              | -                    | -      |
| Dam 9S Discharge / EPL Point 4<br>(MTO EPL 1976)<br>Discharge pipe from Dam 9                      | Electrical Conductivity | microsiemens per centimetre   | -              | 0                                  | 0   | -                   | -              | -                    | -      |
|  | pH                      | pH                            | 6.5 - 9.5      | 0                                  | 0   | -                   | -              | -                    | -      |
|  | Total Suspended Solids  | milligrams per litre          | 120            | 0                                  | 0   | -                   | -              | -                    | -      |

### 3.2 Water Quality Monitoring

MTW undertakes monitoring in accordance with Condition M2.3 of WML EPL 1376 and MTO EPL 1976 as detailed in **Table 4**. Monthly sampling occurred on 2 and 12 December 2024 and the data was obtained 17 January 2025. Next quarterly sampling will occur in March 2025.

**TABLE 4: WATER QUALITY MONITORING**

| Monitoring Location  | Pollutant               | unit of measure             | Monitoring frequency required by licence | No. of samples required by licence | No. of samples collected and analysed | Value(s) |
|--|-------------------------|-----------------------------|--|------------------------------------|---------------------------------------|----------|
| W5 – Loders Creek / EPL Point 3<br>(MTO EPL 1976)<br>Coal preparation plant access road bridge | Electrical Conductivity | microsiemens per centimetre | Once a month<br>(min. of 4 weeks)        | 1                                  | 1                                     | 9780     |
|  | pH                      | pH units                    | Once a month<br>(min. of 4 weeks)        | 1                                  | 1                                     | 7.4      |
|  | Total Suspended Solids  | milligrams per litre        | Once a month<br>(min. of 4 weeks)        | 1                                  | 1                                     | 94       |
| W1 – Hunter River / EPL Point 26<br>(WML EPL 1376)   | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 1183     |
|  | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 8.3      |
|  | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | 29       |
| W2 – Hunter River / EPL Point 27<br>(WML EPL 1376)   | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 2440     |
|  | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 7.9      |
|  | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | 142      |
| W3 – Hunter River / EPL Point 28<br>(WML EPL 1376)   | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 1176     |
|  | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 8.3      |
|  | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | 36       |

| Monitoring Location   | Pollutant               | unit of measure             | Monitoring frequency required by licence | No. of samples required by licence | No. of samples collected and analysed | Value(s) |
|---|-------------------------|-----------------------------|--|------------------------------------|---------------------------------------|----------|
| W5 – Loders Creek / EPL Point 29<br>(WML EPL 1376)                | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 9780     |
|   | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 7.4      |
|   | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | 94       |
| WW5 – Dights Creek / EPL Point 30<br>(WML EPL 1376)               | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 0                                     | #        |
|   | pH                      | pH units                    | Once a quarter                           | 1                                  | 0                                     | #        |
|   | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 0                                     | #        |
| SW40 – Wollombi Brook Downstream / EPL Point 31<br>(WML EPL 1376) | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 0                                     | #        |
|   | pH                      | pH units                    | Once a quarter                           | 1                                  | 0                                     | #        |
|   | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 0                                     | #        |
| Wollombi Brook / EPL Point 32<br>(WML EPL 1376)                   | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 845      |
|   | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 7.6      |
|   | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | <5       |
| Wollombi Brook Upstream / EPL Point 33<br>(WML EPL 1376)          | Electrical Conductivity | microsiemens per centimetre | Once a quarter                           | 1                                  | 1                                     | 878      |
|   | pH                      | pH units                    | Once a quarter                           | 1                                  | 1                                     | 8.2      |
|   | Total Suspended Solids  | milligrams per litre        | Once a quarter                           | 1                                  | 1                                     | 6        |

# - Sample unable to be collected due to insufficient water or unsafe access



### 3.3 Effluent Quality Monitoring

Monitoring is undertaken in accordance with Condition M2.3 of WML EPL 1376 and MTO EPL 1976 as detailed in **Table 5**. Next quarterly sampling will occur in March 2025.

**TABLE 5: EFFLUENT QUALITY MONITORING**

| Monitoring Location   | Pollutant        | unit of measure                          | Monitoring frequency required by licence | No. of samples required by licence | No. of samples collected and analysed | Value  |
|---|------------------|--|--|------------------------------------|---------------------------------------|--------|
| North Pit North Crib Hut Envirocycle / EPL Point 14<br>(WML EPL 1376) | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | ~2000  |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 7.3    |
| Main Warkworth Staging Pond / EPL Point 15<br>(WML EPL 1376)          | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | ~3200  |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 9.6    |
| Warkworth Admin Envirocycle / EPL Point 16<br>(WML EPL 1376)          | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | 700000 |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 7.3    |
| West Pit South Crib Hut Envirocycle / EPL Point 17<br>(WML EPL 1376)  | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | ~100   |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 6.0    |
| Warkworth Medical Centre Envirocycle / EPL Point 18<br>(WML EPL 1376) | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 0                                     | #      |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 0                                     | #      |
| Dam 1S / EPL Point 18<br>(MTO EPL 1976)                               | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | ~<1000 |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 9.5    |
| WML - Workshop STP  | Faecal Coliforms | Colony forming units per 100 millilitres | Once a quarter                           | 1                                  | 1                                     | 8600   |
|   | pH               | pH units                                 | Once a quarter                           | 1                                  | 1                                     | 3.4    |

# Sample not collected as effluent now diverted from this point to the "WML - Workshop STP" for treatment (since 28 November 2023).

#### 4 BLAST MONITORING

In accordance with the requirements of Conditions M7.1 (WML EPL 1376) and M8.1 (MTO EPL 1976), MTW maintains a network of blast monitors to measure airblast overpressure and ground vibration for all blasts carried out at MTW. Blast monitoring results are detailed in **Table 6** (Airblast Overpressure) and **Table 7** (Ground Vibration). The last date sampled was on 31 December 2024. The data was obtained on 1 January 2025.

**TABLE 6: BLAST MONITORING (AIRBLAST OVERPRESSURE)**

| Blast ID                       | Date and Time    | Unit of Measure | Monitoring Frequency & Capture | EPL Limits    |                | Monitoring Point  |  |  |   |  |
|--------------------------------|------------------|-----------------|--------------------------------|---------------|----------------|---|--|--|---|--|
|                                |                  |                 |                                | 95% of Blasts | 100% of Blasts | Bulga Village<br>EPA ID # 6<br>(EPL 1376) &<br>EPA ID # 7<br>(EPL 1976) | Wambo Road<br>EPA ID # 5<br>(EPL 1376) &<br>EPA ID # 6<br>(EPL 1976) | Putty Rd<br>MTIE<br>EPA ID # 8<br>(EPL 1376) &<br>EPA ID # 9<br>(EPL 1976) | Warkworth<br>EPA ID # 4<br>(EPL 1376) &<br>EPA ID # 5<br>(EPL 1976) | Wollemi Peak<br>Road<br>EPA ID # 7<br>(EPL 1376) &<br>EPA ID # 8<br>(EPL 1976) |
| w41-skijump-pr1 & w45-wnd-ps1a | 3/12/2024 12:34  | dB(L)           | All Blasts<br>100%             | 115           | 120            | 105.1   | 92.0   | 105.8  | 107.0   | 109.4  |
| w38-gmb-pr4 & w38-whc-ps1d     | 5/12/2024 12:11  | dB(L)           |                                | 115           | 120            | 99.3  | 99.4   | 95.0   | 97.6  | 97.3   |
| w36-wwe-ps1c                   | 7/12/2024 12:46  | dB(L)           |                                | 115           | 120            | 75.5  | 100.9  | 99.3   | 80.0  | 94.7   |
| n45-wha-ptg3                   | 7/12/2024 12:46  | dB(L)           |                                | 115           | 120            | 83.6  | 112.4  | 113.2  | 91.3  | 91.1   |
| w41-skijump-pr2                | 9/12/2024 12:04  | dB(L)           |                                | 115           | 120            | 101.6   | 104.6  | 106.6  | 98.4  | 102.5  |
| n45-wha-ptg4                   | 10/12/2024 12:04 | dB(L)           |                                | 115           | 120            | 81.1  | 97.3   | 85.6   | 115.9   | 90.6   |
| w38-gmb-pr5                    | 11/12/2024 12:05 | dB(L)           |                                | 115           | 120            | 97.4  | 102.4  | 97.6   | 97.1  | 94.0   |
| w41-ble-ptg3                   | 12/12/2024 12:11 | dB(L)           |                                | 115           | 120            | 98.3  | 104.7  | 107.5  | 89.9  | 101.0  |
| n51-wba-pr3                    | 13/12/2024 12:58 | dB(L)           |                                | 115           | 120            | 93.8  | 104.4  | 108.9  | 105.0   | 93.6   |
| n49-wnd-ps1b & n42-bfb-wwa-co2 | 14/12/2024 15:51 | dB(L)           |                                | 115           | 120            | 94.3  | 94.9   | 105.1  | 102.0   | 101.8  |
| w45-wnb-pr1                    | 16/12/2024 11:37 | dB(L)           |                                | 115           | 120            | 102.1   | 106.1  | 103.7  | 103.3   | 97.8   |
| n45-gmd-ptg2                   | 17/12/2024 14:33 | dB(L)           |                                | 115           | 120            | 100.3   | 104.5  | 99.9   | 95.5  | 102.1  |

| Blast ID                       | Date and Time    | Unit of Measure | Monitoring Frequency & Capture | EPL Limits    |                | Monitoring Point  |  |  |   |  |
|--------------------------------|------------------|-----------------|--------------------------------|---------------|----------------|---|--|--|---|--|
|                                |                  |                 |                                | 95% of Blasts | 100% of Blasts | Bulga Village<br>EPA ID # 6<br>(EPL 1376) &<br>EPA ID # 7<br>(EPL 1976) | Wambo Road<br>EPA ID # 5<br>(EPL 1376) &<br>EPA ID # 6<br>(EPL 1976) | Putty Rd<br>MTIE<br>EPA ID # 8<br>(EPL 1376) &<br>EPA ID # 9<br>(EPL 1976) | Warkworth<br>EPA ID # 4<br>(EPL 1376) &<br>EPA ID # 5<br>(EPL 1976) | Wollemi Peak<br>Road<br>EPA ID # 7<br>(EPL 1376) &<br>EPA ID # 8<br>(EPL 1976) |
| n49-wnb-pr1 & n49-wnd-ps1c     | 18/12/2024 13:41 | dB(L)           |                                | 115           | 120            | 109.2   | 104.5  | 95.8   | 104.8   | 108.7  |
| n45-whf-ps1                    | 19/12/2024 13:31 | dB(L)           |                                | 115           | 120            | 90.1  | 101.5  | 98.0   | 96.6  | 85.8   |
| n45-wha-c-co3                  | 20/12/2024 16:17 | dB(L)           |                                | 115           | 120            | 99.5  | 104.2  | 103.5  | 106.4   | 97.7   |
| w38-whc-ps1                    | 21/12/2024 12:46 | dB(L)           |                                | 115           | 120            | 99.3  | 89.2   | 103.4  | 83.0  | 99.1   |
| n49-wnd-ps1d & n49-wna-pr4     | 24/12/2024 12:02 | dB(L)           |                                | 115           | 120            | 95.1  | 105.4  | 93.2   | 105.6   | 97.0   |
| n45-gmd-ptg3                   | 24/12/2024 12:02 | dB(L)           |                                | 115           | 120            | 89.4  | 99.1   | 93.6   | 105.6   | 103.4  |
| w35-wwk-maa-ptg3               | 28/12/2024 11:58 | dB(L)           |                                | 115           | 120            | 87.8  | 89.7   | 98.7   | 89.2  | 88.7   |
| w38-gmb-pr6                    | 31/12/2024 10:00 | dB(L)           |                                | 115           | 120            | 99.4  | 102.0  | 105.3  | 105.9   | 100.7  |
| <b>Monthly Meaningful Data</b> |                  |                 |                                |               |                |   |  |  |   |  |
| <b>Minimum</b>                 | <b>December</b>  | <b>dB(L)</b>    |                                | 115           | 120            | 75.5  | 89.2   | 85.6   | 80.0  | 85.8   |
| <b>Mean</b>                    | <b>December</b>  | <b>dB(L)</b>    |                                | 115           | 120            | 95.1  | 101.0  | 101.0  | 99.0  | 97.9   |
| <b>Maximum</b>                 | <b>December</b>  | <b>dB(L)</b>    |                                | 115           | 120            | 109.2   | 112.4  | 113.2  | 115.9   | 109.4  |
| <b>Median</b>                  | <b>December</b>  | <b>dB(L)</b>    |                                | 115           | 120            | 97.8  | 102.2  | 101.6  | 100.2   | 97.8   |

**TABLE 7: BLAST MONITORING (GROUND VIBRATION)**

| Blast ID                       | Date and Time    | Unit of Measure | Monitoring Frequency & Capture | EPL Limits    |                | Monitoring Point  |  |  |   |  |
|--------------------------------|------------------|-----------------|--------------------------------|---------------|----------------|---|--|--|---|--|
|                                |                  |                 |                                | 95% of Blasts | 100% of Blasts | Bulga Village<br>EPA ID # 6<br>(EPL 1376) &<br>EPA ID # 7<br>(EPL 1976) | Wambo Road<br>EPA ID # 5<br>(EPL 1376) &<br>EPA ID # 6<br>(EPL 1976) | Putty Rd<br>MTIE<br>EPA ID # 8<br>(EPL 1376) &<br>EPA ID # 9<br>(EPL 1976) | Warkworth<br>EPA ID # 4<br>(EPL 1376) &<br>EPA ID # 5<br>(EPL 1976) | Wollemi Peak<br>Road<br>EPA ID # 7<br>(EPL 1376) &<br>EPA ID # 8<br>(EPL 1976) |
| w41-skijump-pr1 & w45-wnd-ps1a | 3/12/2024 12:34  | mm/s            | All Blasts<br>100%             | 5             | 10             | 0.50  | 1.17   | 0.08   | 1.69  | 0.62   |
| w38-gmb-pr4 & w38-whc-ps1d     | 5/12/2024 12:11  | mm/s            |                                | 5             | 10             | 1.61  | 1.18   | 0.13   | 1.07  | 1.08   |
| w36-wwe-ps1c                   | 7/12/2024 12:46  | mm/s            |                                | 5             | 10             | 1.82  | 1.08   | 0.14   | 1.32  | 1.51   |
| n45-wha-ptg3                   | 7/12/2024 12:46  | mm/s            |                                | 5             | 10             | 1.82  | 1.46   | 0.14   | 1.32  | 1.51   |
| w41-skijump-pr2                | 9/12/2024 12:04  | mm/s            |                                | 5             | 10             | 0.30  | 0.34   | 0.06   | 0.22  | 0.30   |
| n45-wha-ptg4                   | 10/12/2024 12:04 | mm/s            |                                | 5             | 10             | 0.07  | 0.11   | 0.08   | 1.97  | 0.06   |
| w38-gmb-pr5                    | 11/12/2024 12:05 | mm/s            |                                | 5             | 10             | 2.57  | 1.76   | 0.11   | 0.63  | 1.26   |
| w41-ble-ptg3                   | 12/12/2024 12:11 | mm/s            |                                | 5             | 10             | 0.05  | 0.06   | 0.04   | 0.21  | 0.04   |
| n51-wba-pr3                    | 13/12/2024 12:58 | mm/s            |                                | 5             | 10             | 0.36  | 0.45   | 0.06   | 0.44  | 0.19   |
| n49-wnd-ps1b & n42-bfb-wwa-co2 | 14/12/2024 15:51 | mm/s            |                                | 5             | 10             | 0.21  | 0.62   | 0.06   | 0.75  | 0.21   |
| w45-wnb-pr1                    | 16/12/2024 11:37 | mm/s            |                                | 5             | 10             | 0.87  | 1.01   | 0.13   | 0.64  | 0.74   |
| n45-gmd-ptg2                   | 17/12/2024 14:33 | mm/s            |                                | 5             | 10             | 0.15  | 0.25   | 0.07   | 0.43  | 0.13   |

| Blast ID                       | Date and Time    | Unit of Measure | Monitoring Frequency & Capture | EPL Limits    |                | Monitoring Point  |  |  |   |  |
|--------------------------------|------------------|-----------------|--------------------------------|---------------|----------------|---|--|--|---|--|
|                                |                  |                 |                                | 95% of Blasts | 100% of Blasts | Bulga Village<br>EPA ID # 6<br>(EPL 1376) &<br>EPA ID # 7<br>(EPL 1976) | Wambo Road<br>EPA ID # 5<br>(EPL 1376) &<br>EPA ID # 6<br>(EPL 1976) | Putty Rd<br>MTIE<br>EPA ID # 8<br>(EPL 1376) &<br>EPA ID # 9<br>(EPL 1976) | Warkworth<br>EPA ID # 4<br>(EPL 1376) &<br>EPA ID # 5<br>(EPL 1976) | Wollemi Peak<br>Road<br>EPA ID # 7<br>(EPL 1376) &<br>EPA ID # 8<br>(EPL 1976) |
| n49-wnb-pr1 & n49-wnd-ps1c     | 18/12/2024 13:41 | mm/s            |                                | 5             | 10             | 1.36  | 1.86   | 0.20   | 2.16  | 0.97   |
| n45-whf-ps1                    | 19/12/2024 13:31 | mm/s            |                                | 5             | 10             | 1.02  | 1.38   | 0.29   | 0.83  | 0.89   |
| n45-wha-c-co3                  | 20/12/2024 16:17 | mm/s            |                                | 5             | 10             | 0.06  | 0.08   | 0.05   | 0.11  | 0.03   |
| w38-whc-ps1                    | 21/12/2024 12:46 | mm/s            |                                | 5             | 10             | 1.36  | 0.84   | 0.28   | 0.84  | 1.63   |
| n49-wnd-ps1d & n49-wna-pr4     | 24/12/2024 12:02 | mm/s            |                                | 5             | 10             | 1.02  | 1.58   | 0.25   | 0.76  | 0.92   |
| n45-gmd-ptg3                   | 24/12/2024 12:02 | mm/s            |                                | 5             | 10             | 0.22  | 0.24   | 0.20   | 0.16  | 0.11   |
| w35-wwk-maa-ptg3               | 28/12/2024 11:58 | mm/s            |                                | 5             | 10             | 0.06  | 0.05   | 0.03   | 0.05  | 0.05   |
| w38-gmb-pr6                    | 31/12/2024 10:00 | mm/s            |                                | 5             | 10             | 3.17  | 2.61   | 0.19   | 1.11  | 2.89   |
| <b>Monthly Meaningful Data</b> |                  |                 |                                |               |                |   |  |  |   |  |
| <b>Minimum</b>                 | <b>December</b>  | <b>mm/s</b>     |                                | 5             | 10             | 0.05  | 0.05   | 0.03   | 0.05  | 0.03   |
| <b>Mean</b>                    | <b>December</b>  | <b>mm/s</b>     |                                | 5             | 10             | 0.93  | 0.91   | 0.13   | 0.84  | 0.76   |
| <b>Maximum</b>                 | <b>December</b>  | <b>mm/s</b>     |                                | 5             | 10             | 3.17  | 2.61   | 0.29   | 2.16  | 2.89   |
| <b>Median</b>                  | <b>December</b>  | <b>mm/s</b>     |                                | 5             | 10             | 0.69  | 0.93   | 0.12   | 0.76  | 0.68   |

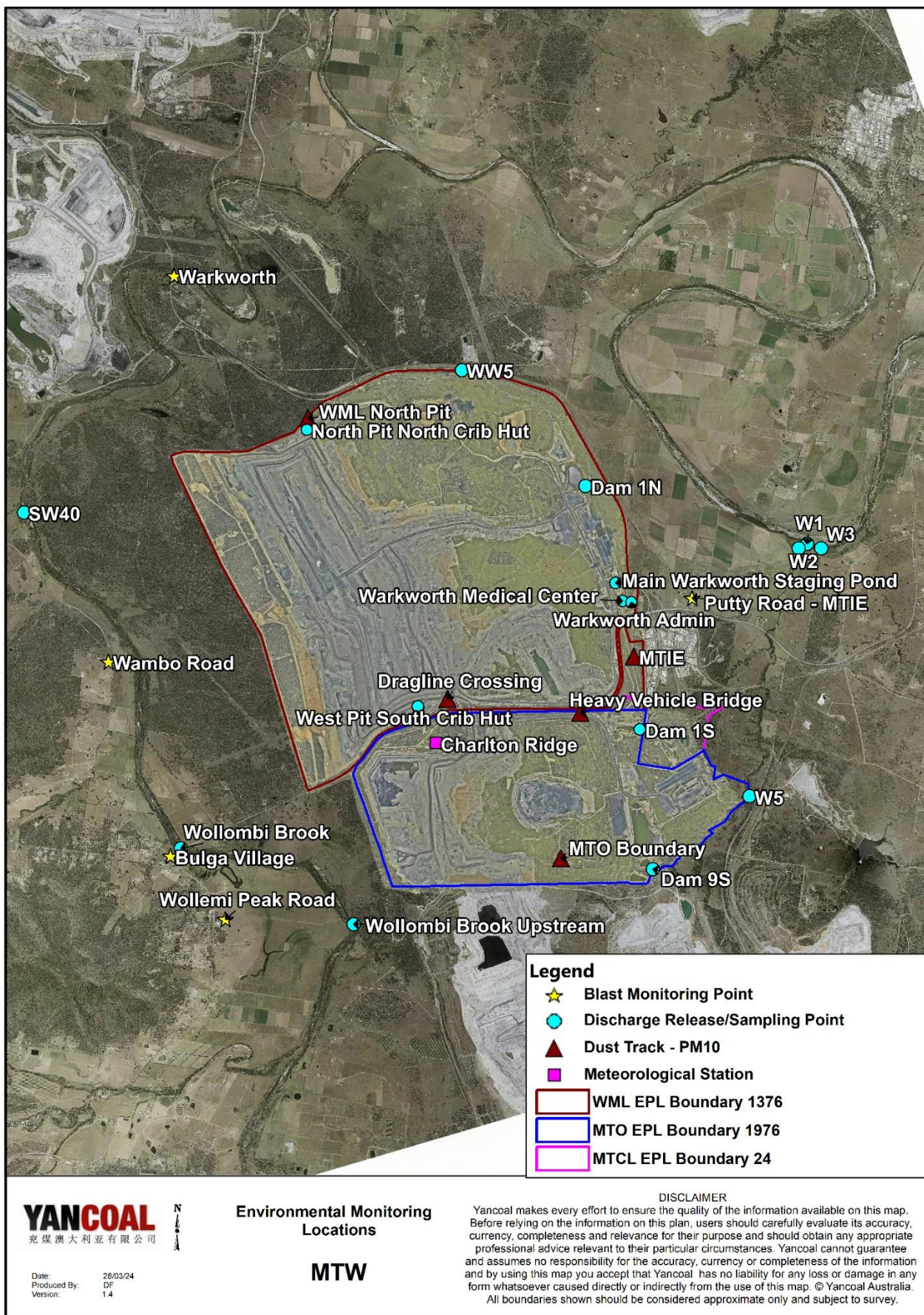


Figure 1 : Mount Thorley Warkworth Environmental Monitoring Locations