



Bengalla Mining Company Pty Limited

Bengalla Road (Locked Mailbag 5)
Muswellbrook NSW 2333 Australia

ABN 32 053 909 470

T: +61 2 6542 9500

F: +61 2 6542 9599

bengalla.com.au

Bengalla Mine

Environment Protection Licence 6538 Monthly Monitoring Data Summary

April 2022



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1. INTRODUCTION

Environmental Protection Licence (EPL) holders are required under the *Protection of the Environment Operations Act 1997* to make publicly available their monitoring results for those parameters specified in the EPL. This document has been prepared to satisfy this requirement.

Bengalla Mining Company Pty Limited's (BMC) operations are conducted in accordance with EPL 6538. The licence details are as follows:

| | |
|-----------------------|---|
| License Holder: | Bengalla Mining Company Pty Limited |
| Licence Number: | 6538 |
| Premises: | Bengalla Mine Bengalla Road via Muswellbrook NSW 2333 |
| Access to Licence: | http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=6538&id=6538&option=licence&searchrange=licence&range=POEOlicence&prp=no&status=Issued |
| Monitoring Locations: | See main text and Appendix A |

This document provides a summary of environmental monitoring data sampled as prescribed by EPL 6538 for April 2022 (Reporting Period). Monitoring data provided is as follows:

- Air quality, particulate matter less than 10 microns (PM₁₀);
- Surface water, including discharge mine water and effluent water;
- Noise; and
- Blast vibration and overpressure.



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2. AIR QUALITY

Under EPL 6538 BMC is required to continuously record the average PM₁₀ concentration at EPA Monitoring Points 22, 23 and 24 at intervals of 10 minutes. As per Condition M2.2, BMC commenced monitoring at these EPA Monitoring Points on 31 August 2017.

PM₁₀ data for the Reporting Period is provided in **Table 1**.

2.1 Particulate Matter less than 10 Microns

| | |
|--|---|
| Pollutant: | PM ₁₀ |
| Unit of measure: | Micrograms per cubic metre (µg/m ³) |
| Monitoring location: | See Table 1 and Appendix A . |
| Monitoring frequency required by licence: | 10-minute intervals |
| Sampled: | 01/04/2022 – 30/04/2022 |

Table 1. PM10 Monitoring Summary

| Sampling point | | No. of samples required by licence | No. of samples collected and analysed | Minimum sample value | Maximum sample value | Monthly mean of sample |
|----------------|---|---|---------------------------------------|----------------------|----------------------|------------------------|
| EPA22 | Lumeah Dairy, Bengalla Road, Muswellbrook | 4320 | 4320 | 0 | 56 | 6.6 |
| EPA23 | Wybong Road (East), Muswellbrook | <i>The equipment at EPA23 was removed at 9:50am on 27/10/2021 due to impending blasting operations on 29/10/2021. This monitor is in the direct path of mining and will not be reinstated at this location. BMC will remove this monitoring point when the next Variation for EPL 6538 is lodged with the NSW Environment Protection Authority.</i> | | | | |
| EPA24 | Wybong Road (West), Muswellbrook | 4320 | 4320 | 0.1 | 138 | 9.2 |

(Table 1 represents total impact (ie incremental increase in concentration due to the development plus background concentrations due to other sources))

3. SURFACE WATER

3.1 Discharge Monitoring

BMC participates in the Hunter River Salinity Trading Scheme (HRSTS). In accordance with EPL 6538, BMC maintains two monitoring locations to measure concentration, volume and mass of mine water discharges (see **Appendix B**).

3.1.1 Volume

| | |
|--|---|
| Pollutant: | Mine water |
| Unit of measure: | Mega litres per day (ML/day) |
| Monitoring location: | EPA26 – Outlet pipe from 700 ML HRSTS storage dam. |
| Monitoring frequency required by licence: | Continuous during all discharge events. |
| Volume/mass limit: | 200 ML/day |
| Sampled: | During the Reporting Period, Bengalla discharged 84.48ML of mine water under the HRSTS. |

32.54 ML was discharged during Block No 93 (4:00am 1st April March 2022 to 4:00am 2nd April 2022);

18.59 ML was discharged during Block No 94 (4:00am 2nd April March 2022 to 4:00am 3rd April 2022);

18.07 ML was discharged during Block No 95 (4:00am 3rd April March 2022 to 4:00am 4th April 2022);

11.17 ML was discharged during Block No 96 (4:00am 4th April March 2022 to 4:00am 5th April 2022);

4.11 ML was discharged during Block No 97 (4:00am 5th April March 2022 to 4:00am 6th April 2022).

3.1.2 Conductivity

| | |
|--|---|
| Pollutant: | Conductivity |
| Unit of measure: | Microsiemens per centimetre ($\mu\text{S}/\text{cm}$) |
| Monitoring location: | EPA26 – Outlet pipe from 700 ML HRSTS storage dam. |
| Monitoring frequency required by licence: | Continuous during all discharge events (EPA26) |
| Sampled: | See Table 2 |

Table 2: Electrical Conductivity Summary for EPA26 (1/4/2022 – 6/4/2022)

| Discharge Block Number | No. of records |
|------------------------|----------------|
| 93 | 1133 |
| 94 | 984 |
| 95 | 1199 |
| 96 | 1186 |
| 97 | 1202 |

3.1.3 Total suspended solids and pH

| | |
|--|--|
| Pollutants: | pH and Total Suspended Solids (TSS) |
| Unit of measure: | pH and Milligrams per litre (mg/L) |
| Monitoring location: | EPA26 – Outlet pipe from 700 ML HRSTS storage dam. |
| Monitoring frequency required by licence: | Daily during all discharge events |
| pH limit: | 6.5 – 9.5 (100 th percentile) |

TSS limit: 120 (100th percentile)

Sampled: See Tables 3 & 4

Table 3: Total Suspended Solids Summary – EPA26 (1/4/2022 – 6/4/2022)

| Block Number | No of Samples collected and analysed | Sample value mg/L |
|--------------|--------------------------------------|-------------------|
| 93 | 1 | 8 |
| 94 | 1 | 8 |
| 95 | 1 | 6 |
| 96 | 1 | 5 |
| 97 | 1 | 11 |

Table 4: pH Summary – EPA26 (1/4/2022 – 6/4/2022)

| Block Number | No of Samples collected and analysed | Sample value pH |
|--------------|--------------------------------------|-----------------|
| 93 | 1 | 8.90 |
| 94 | 1 | 8.85 |
| 95 | 1 | 8.88 |
| 96 | 1 | 8.85 |
| 97 | 1 | 8.98 |

3.2 Effluent Quality Monitoring

Under EPL 6538 BMC is required to take quarterly grab samples from effluent quality monitoring point EPA25.

Pollutants: Faecal Coliforms and pH

Unit of measure: Colony Forming Units (CFU) per 100 millilitres (CFU/100mL) and pH

Monitoring location: EPA25 – See **Appendix B**.

Monitoring frequency required by licence: Quarterly

Sampled: Not applicable to April



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4. NOISE

In accordance with EPL 6538, BMC undertakes compliance attended noise monitoring for 15 minutes once per calendar month during the night period (10 pm to 7 am) at three locations representative of the nearest private receivers.

Noise monitoring data for the Reporting Period is provided in **Table 5**.

| | |
|--|--|
| Pollutant: | Noise – Bengalla Only |
| Unit of measure: | LAeq (15 minute) |
| Monitoring locations: | See Table 5 and Appendix C . |
| Monitoring frequency required by licence: | Monthly |
| EPA7/AN01 limit: | 35 dB(A) |
| EPA9/AN04 limit: | 35 dB(A) |
| EPA8/AN03 limit: | 40 dB(A) |
| Sampled: | 12 April 2022 |



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Table 5: Noise – Bengalla Only¹ LAeq (15 minute) Monitoring Summary

| Sampling point | No. of samples required by licence | No. of samples taken and analysed | Sample Date | Sample Time | Measured value |
|----------------|------------------------------------|-----------------------------------|-------------|---------------|----------------|
| EPA07/AN01 | 1 | 1 | 12/4/2022 | 00:00 – 00:15 | 27 |
| EPA08/AN03 | 1 | 1 | 12/4/2022 | 00:35 – 00:50 | IA |
| EPA09/AN04 | 1 | 1 | 12/4/2022 | 01:07 – 01:22 | IA |

Note:

IA - Inaudible. When there was no noise from the source of interest (Bengalla Mine) audible at the monitoring location.

1. LAeq,15minute operational noise levels for Bengalla in the absence of all other noise sources.

Operator, for and on behalf of Bengalla Joint Venture, an unincorporated joint venture between:
New Hope Bengalla Pty Ltd, Taipower Bengalla Pty Limited.

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5. BLASTING

In accordance with EPL 6538, BMC maintains three blast monitors on private (non-mine owned) land to measure air-blast overpressure and ground vibration for all blast events undertaken at Bengalla.

The blast overpressure and ground vibration data for the Reporting Period is provided in **Tables 6 and 7**.

| | |
|--|---|
| Pollutant: | Air blast overpressure & ground vibration peak particle velocity |
| Unit of measure: | dB (Lin Peak) and millimetres per second (mm/s) |
| Monitoring locations: | See Table 6 , Table 7 and Appendix C . |
| Monitoring frequency required by licence: | All blasts |
| Overpressure limits: | a) 115 linear decibels (dB(L)) for more than 5% of the total number of blasts carried out on the premises within the 12 months annual reporting period; and b) 120 dB(L) at any time |
| Ground vibration limits: | a) exceed 5 millimetres/second (mm/s) for more than 5% of the total number of blasts carried out on the premises within the 12 months annual reporting period; and b) 10mm/s at any time |
| Sampled: | 01/04/2022 – 30/04/2022 |



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Table 6: Blast Overpressure Monitoring Summary

| Sampling point | Pollutant | Unit of measure | No. of samples required by licence | No. of samples collected and analysed | Minimum value | Maximum value | Mean of samples |
|----------------|--------------|-----------------|------------------------------------|---------------------------------------|---------------|---------------|-----------------|
| BLK (EPA20) | Overpressure | mm/s | All blast events | 18 | 82.1 | 100.3 | 91.4 |
| SCH (EPA19) | Overpressure | mm/s | All blast events | 18 | 85.0 | 100.1 | 91.5 |
| MRE (EPA12) | Overpressure | mm/s | All blast events | 18 | 88.9 | 107.8 | 98.7 |

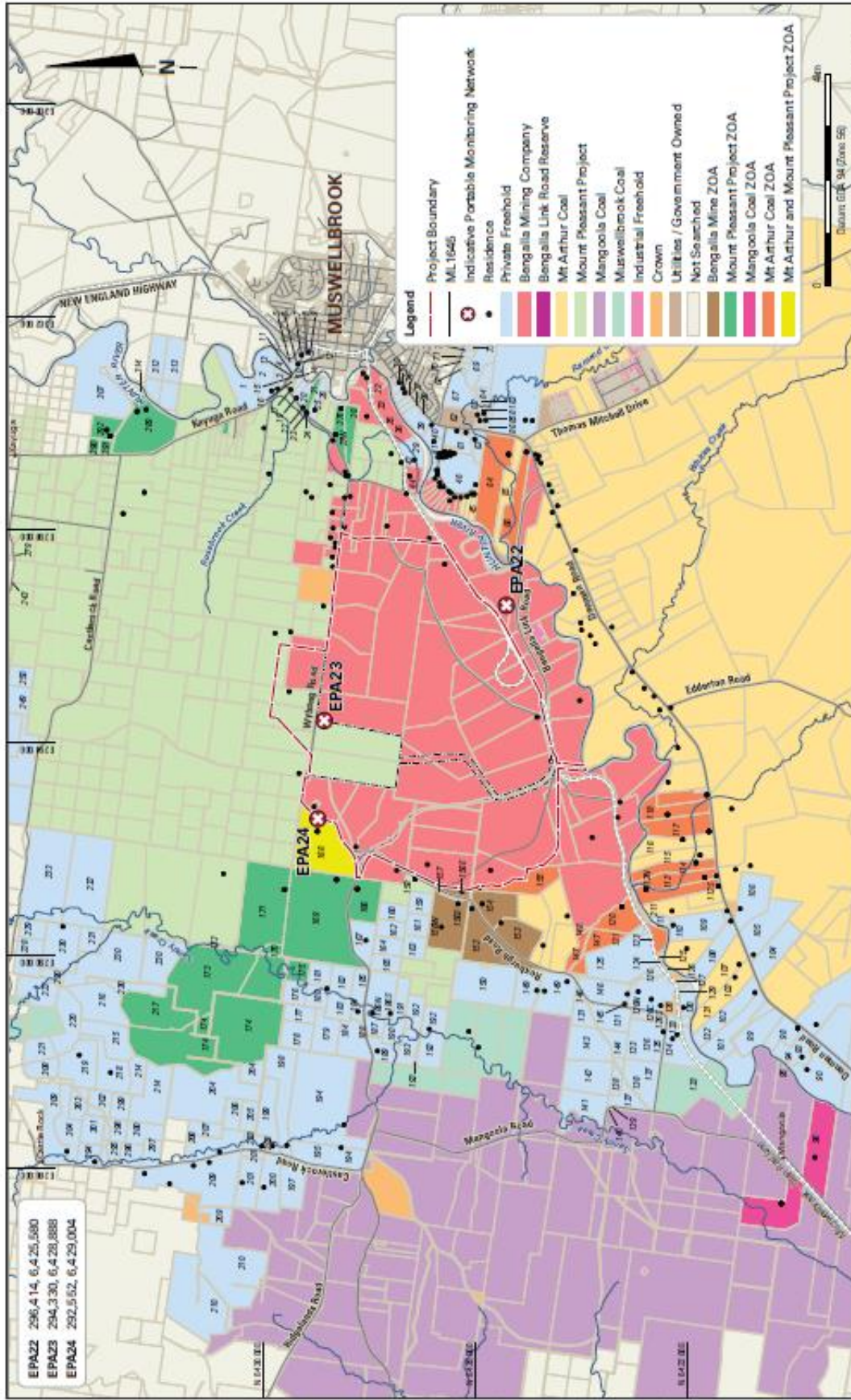
Table 7: Blast Vibration Monitoring Summary

| Sampling point | Pollutant | Unit of measure | No. of samples required by licence | No. of samples collected and analysed | Minimum value | Maximum value | Mean of samples |
|----------------|------------------|-----------------|------------------------------------|---------------------------------------|---------------|---------------|-----------------|
| BLK (EPA20) | Ground vibration | dB(L) | All blast events | 18 | 0.05 | 0.22 | 0.14 |
| SCH (EPA19) | Ground vibration | dB(L) | All blast events | 18 | 0.03 | 1.09 | 0.14 |
| MRE (EPA12) | Ground vibration | dB(L) | All blast events | 18 | 0.25 | 2.83 | 1.34 |

Operator, for and on behalf of Bengalla Joint Venture, an unincorporated joint venture between:
New Hope Bengalla Pty Ltd, Taipower Bengalla Pty Limited.

Appendix A

EPL 6538 Particulate Matter Monitoring Locations



BENGALLA MINE

EPL 6538 PM10 Monitoring Locations

EPA22 296,414, 6,425,980
 EPA23 294,330, 6,429,888
 EPA24 292,952, 6,429,004



Appendix B

EPL 6538 Surface Water Monitoring Locations



Aerial photo captured 22/01/2020
 Coordinates are approximate only
 Coordinate system MGA zone 56 GDA 94

Bengalla Mine

EPL 6538 Monitoring Points - Water



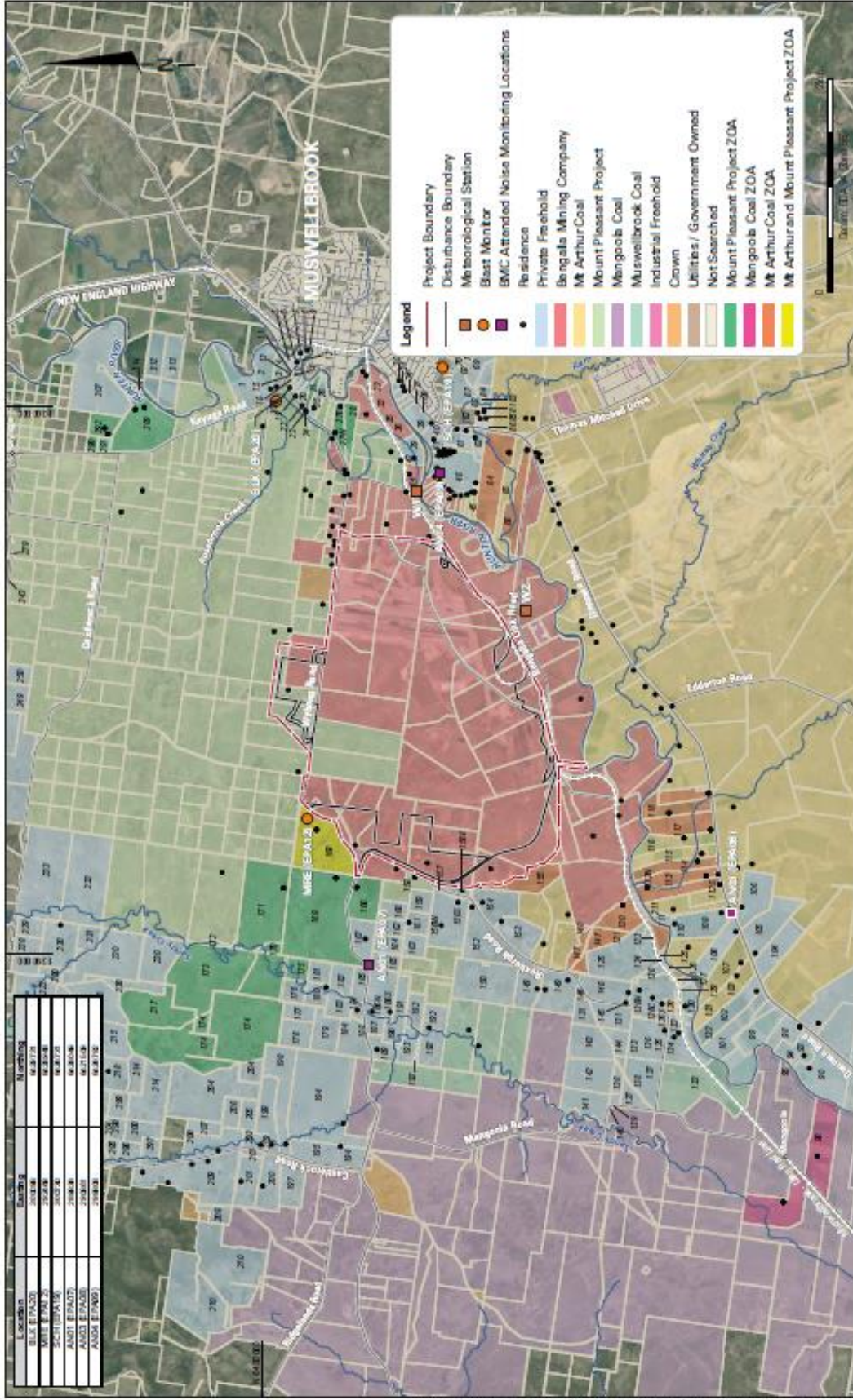


BENGALLA MINE

EPL 6538 Effluent Quality Monitoring Location

Appendix C

EPL 6538 Noise and Blast Monitoring Locations



BENGALLA MINE

EPL 6538 Noise & Blast Monitoring Locations

