



**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](http://bengalla.com.au)

## **Bengalla Mine**

# **Environment Protection Licence 6538 Monthly Monitoring Data Summary**

## **November 2023**



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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:	<a href="http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=6538&amp;id=6538&amp;option=licence&amp;searchrange=licence&amp;range=POEOlicence&amp;prp=no&amp;status=Issued">http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=6538&amp;id=6538&amp;option=licence&amp;searchrange=licence&amp;range=POEOlicence&amp;prp=no&amp;status=Issued</a>
Monitoring Locations:	See main text and <b>Appendix A and B.</b>

This document provides a summary of environmental monitoring data sampled as prescribed by EPL 6538 for November 2023 (Reporting Period). Monitoring data provided is as follows:

- Air quality, particulate matter less than 10 microns (PM<sub>10</sub>);
- 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 PM<sub>10</sub> concentration at EPA Monitoring Points 22 and 24 at intervals of 10 minutes. As per Condition M2.2, BMC commenced monitoring at these EPA Monitoring Points on 31 August 2017.

PM<sub>10</sub> data for the Reporting Period is provided in **Table 1**.

### 2.1 Particulate Matter less than 10 Microns

<b>Pollutant:</b>	PM <sub>10</sub>
<b>Unit of measure:</b>	Micrograms per cubic metre (µg/m <sup>3</sup> )
<b>Monitoring location:</b>	See <b>Table 1</b> and <b>Appendix A</b> .
<b>Monitoring frequency required by licence:</b>	10-minute intervals
<b>Sampled:</b>	01/11/2023 – 30/11/2023



**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	4316	0.5	65.3	7.9
EPA24	Wybong Road (West), Muswellbrook	4320	2922 <sup>#1</sup>	0	74.7	9.8

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

*#1 – Electrical issues resulted in loss of data during November.*

## 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

<b>Pollutant:</b>	Mine water
<b>Unit of measure:</b>	Mega litres per day ( <b>ML/day</b> )
<b>Monitoring location:</b>	EPA26 – Outlet pipe from 700 ML HRSTS storage dam.
<b>Monitoring frequency required by licence:</b>	Continuous during all discharge events.
<b>Volume/mass limit:</b>	200 ML/day
<b>Sampled:</b>	Not applicable. During the Reporting Period, Bengalla did not discharge any mine water under the HRSTS

#### 3.1.2 Conductivity

<b>Pollutant:</b>	Conductivity
<b>Unit of measure:</b>	Microsiemens per centimetre ( <b>µS/cm</b> )
<b>Monitoring location:</b>	EPA26 – Outlet pipe from 700 ML HRSTS storage dam.
<b>Monitoring frequency required by licence:</b>	Continuous during all discharge events (EPA26)
<b>Sampled:</b>	Not applicable. During the Reporting Period, Bengalla did not discharge any mine water under the HRSTS

### 3.1.3 Total suspended solids and pH

<b>Pollutants:</b>	pH and Total Suspended Solids ( <b>TSS</b> )
<b>Unit of measure:</b>	pH and Milligrams per litre ( <b>mg/L</b> )
<b>Monitoring location:</b>	EPA26 – Outlet pipe from 700 ML HRSTS storage dam.
<b>Monitoring frequency required by licence:</b>	Daily during all discharge events
<b>pH limit:</b>	6.5 – 9.5 (100 <sup>th</sup> percentile)
<b>TSS limit:</b>	120 (100 <sup>th</sup> percentile)
<b>Sampled:</b>	Not applicable. During the Reporting Period, Bengalla did not discharge any mine water under the HRSTS

### 3.2 Effluent Quality Monitoring

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

<b>Pollutants:</b>	Faecal Coliforms and pH
<b>Unit of measure:</b>	Colony Forming Units (CFU) per 100 millilitres ( <b>CFU/100mL</b> ) and pH
<b>Monitoring location:</b>	EPA25 – See <b>Appendix B</b> .
<b>Monitoring frequency required by licence:</b>	Quarterly
<b>Sampled:</b>	Not applicable during the Reporting Period



## 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 2**.

<b>Pollutant:</b>	Noise – Bengalla Only
<b>Unit of measure:</b>	LAeq (15 minute)
<b>Monitoring locations:</b>	See <b>Table 2</b> and <b>Appendix C</b> .
<b>Monitoring frequency required by licence:</b>	Monthly
<b>EPA7/AN01 limit:</b>	35 dB(A)
<b>EPA9/AN04 limit:</b>	35 dB(A)
<b>EPA8/AN03 limit:</b>	40 dB(A)
<b>Sampled:</b>	23 November 2023

**Table 2: Noise – Bengalla Only<sup>1</sup> 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 (dB(A))
EPA07/AN01	1	1	23/11/23	01:29 – 01:44	32
EPA08/AN03	1	1	23/11/23	02:07 – 02:22	IA
EPA09/AN04	1	1	23/11/23	02:39 – 02:54	36 <sup>#2</sup>

Note:

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

1. LAeq, 15 minute operational noise levels for Bengalla in the absence of all other noise sources.
2. Bengalla Mine noise was not audible in the absence of insects (as stated in Bengalla Mine Noise Compliance Survey – November 2023 – Bridges Acoustics)



## 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 3 and 4**.

<b>Pollutant:</b>	Air blast overpressure & ground vibration peak particle velocity
<b>Unit of measure:</b>	dB (Lin Peak) and millimetres per second (mm/s)
<b>Monitoring locations:</b>	See <b>Table 3</b> , <b>Table 4</b> and <b>Appendix C</b> .
<b>Monitoring frequency required by licence:</b>	All blasts
<b>Overpressure limits:</b>	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
<b>Ground vibration limits:</b>	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
<b>Sampled:</b>	01/11/2023 – 30/11/2023

**Table 3: 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
MRE (EPA12)	Overpressure	dB(L)	All blast events	12	94.8	109.9	102.2

**Table 4: 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
MRE (EPA12)	Ground vibration	mm/s	All blast events	12	0.01	4.88	1.87

# **Appendix A**

## **EPL 6538 Particulate Matter Monitoring Locations**



**EPL 6538 PM10 Monitoring Locations**

Date: 30/03/2023	
Aerial Image: 15/10/2022	
Projection: MGA2020 Zone 56	

**BENGALLA**



**Legend**

- Bengalla Mine Project Boundary
- PM10 Monitoring Locations

# **Appendix B**

## **EPL 6538 Surface Water Monitoring Locations**



Bengalla Mine EPL 6538 Monitoring Points - Water 23/07/2020 Rev A

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



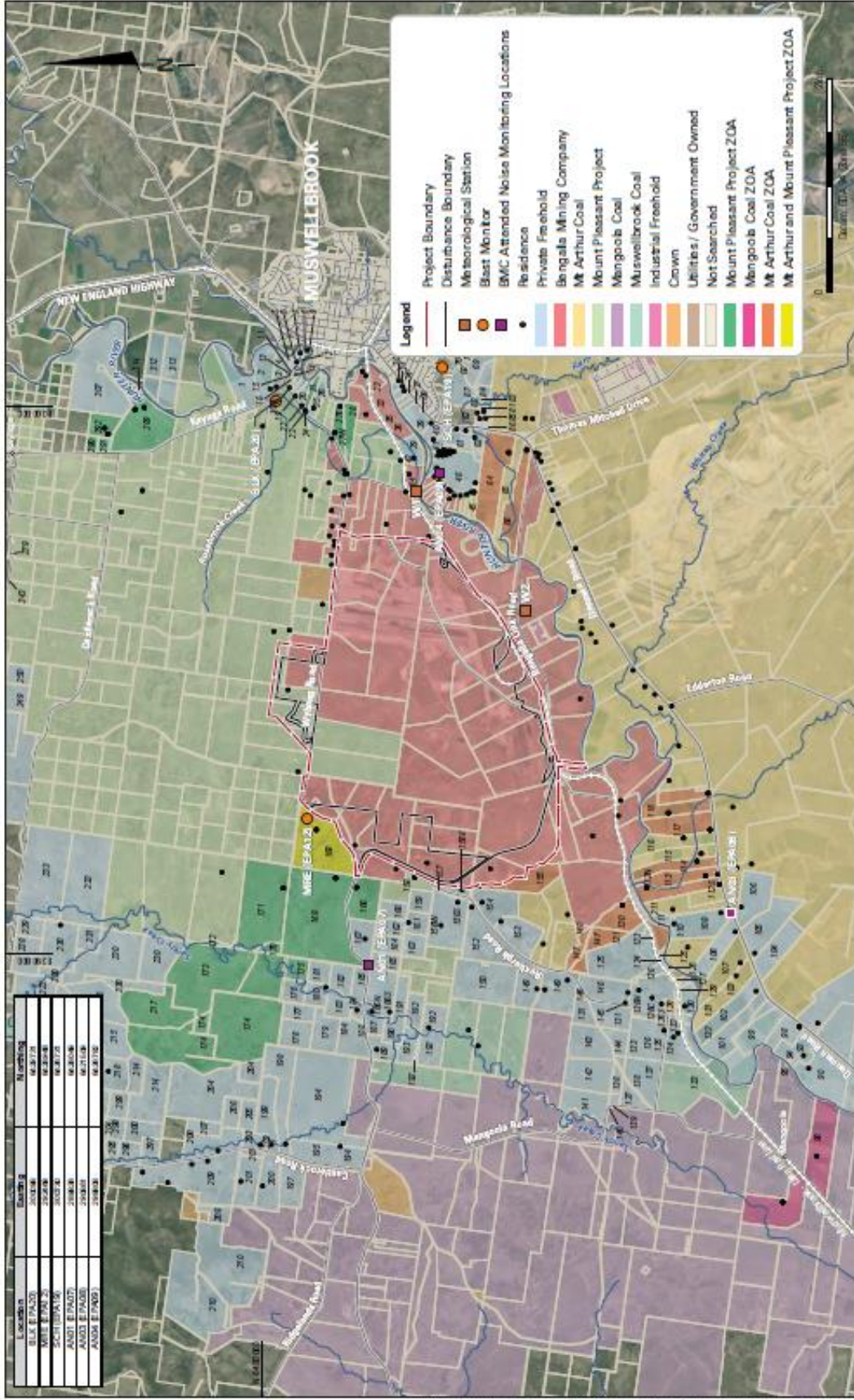
**Bengalla Mine**  
**EPL 6538 Monitoring Points - Water**



# **Appendix C**

## **EPL 6538 Noise and Blast Monitoring Locations**





BENGALLA MINE

EPL 6538 Noise & Blast Monitoring Locations