

# Muswellbrook Coal

## MP 32 Blast Management Plan

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## 1.0 INTRODUCTION

Muswellbrook Coal Company (MCC) is a wholly owned subsidiary of the Idemitsu Kosan Company Ltd. Group. MCC has a long association with coal mining at Muswellbrook, with underground coal mining commencing in 1907 and open cut operations in 1944. The mine is located on Muscle Creek Road, approximately 3 kilometres to the north-east of Muswellbrook.

On September 1, 2003, Development Consent for DA 205/2002 was granted by Muswellbrook Shire Council (MSC) to extend the former MCC No.1 Open Cut. The No.1 Open Cut Extension commenced operations in March 2005 and has a capacity to produce up to 2,000,000 tonnes coal per annum. This approval has subsequently been modified on several occasions with the latest modification granted in 2016 to allow mining in an area known as the “Continuation Project” and to extend the life of the mining operations to 2022. Rehabilitation activities will continue past this date. A modification to the approval was granted on 20 December 2022 to allow the storage, handling and transport of coal to continue until the end of March 2023. An additional modification to the consent was granted on 27 February 2024 to align rehabilitation requirements with updated mining lease conditions and other administrative changes.

Mining activities ceased at MCC in December 2022 with the last coal hauled from site in March 2023. Rehabilitation of the site and completion of mine closure activities are ongoing.

## 1.1 SCOPE

The Development Consent requires the preparation, approval and implementation of an Environmental Management Strategy (EMS) and subordinate Environmental Management Plans (EMP). One of these EMPs is the Blast Management Plan (BMP). This BMP also addresses environmental protection licence conditions that relate to MCC’s blasting activities. Whilst this plan specifically addresses issues related to the management of blasting on site, it should be read in conjunction with other EMP’s.

This BMP has been prepared in consultation with Environmental Protection Authority (EPA) and Resources Regulator (RR) to the satisfaction of MSC (see **Appendix 1** for copies of correspondence).

## 1.2 OBJECTIVES

The primary objective of the BMP is to enable the effective management of blasting activities to minimise the impact of blasting operations on off-site receptors. The BMP will achieve this objective through the implementation of the following strategies:

- Complying with consent and licence conditions through the utilisation of best practice methodologies,
- Defining blast design criteria,
- Monitoring meteorological conditions prior to blasting,
- Maintaining a blast monitoring system,
- Implementing measures to protect buildings and infrastructure,
- Maintaining a resident notification procedure to advise of future blasting events,
- Maintaining a blast environmental checklist for the retention of blast design records and environmental conditions,

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- Recording blast related complaints and responding to complaints in a timely fashion, and
- Interpreting and reporting the results of blast monitoring.

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## 2.0 LEGISLATION AND STATUTORY REQUIREMENTS

The relevant approval and licence conditions are shown in **Table 1** along with information on where they are addressed in this plan.

**Table 1: Statutory Requirements**

Approval/ Licence Condition No.	Condition	Section
<b>Development Consent Requirement</b>		
32 (a)	Time of blasting Blasting operations on the premises must only take place between 9:00am and 5.00pm Monday to Friday inclusive, unless permission is granted by Council where special circumstances related to the safety of the mine requires a blast to be initiated outside these hours.	6.5
32 (b)	Overpressure The overpressure level from blasting operations on the premises must not: <ul style="list-style-type: none"> <li>(i) Exceed 115dB (Linear Peak) for more than 5% of the total number of blasts over a period of 12 months when measured at any residence on privately owned land or noise sensitive locations (such as a school or hospital); and</li> <li>(ii) Exceed 120dB (Linear Peak) at any time, when measured at any residence on privately owned land or noise sensitive location (such as a school or hospital).</li> </ul>	2.1
32 (c)	Ground vibration (ppv) Ground vibration peak particle velocity from the blasting operations at the premises must not: <ul style="list-style-type: none"> <li>(i) Exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months when measured at any residence on privately owned land or noise sensitive locations (such as a school or hospital); and</li> <li>(ii) Exceed 10mm/s at any time, when measured at any residence on privately owned land or noise sensitive location (such as a school or hospital)</li> </ul> The overpressure and ground vibration limits above do not apply if the Applicant has a written agreement with the relevant owner(s) of these residences to generate higher blast levels, and Council has been advised in writing of the terms of the agreement. The blasting limits above do not apply to residences owned by the Applicant.	2.1
32 (d)	The Applicant must investigate any blast ground vibration/air overpressure concerns associated with residential buildings which occur as a result of blasting at the mine in relation to the standards in the consent. Should such an investigation be necessary the Applicant shall advise Council the result of such investigation and any proposed preventive/remedial measures.	9.1

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Approval/ Licence Condition No.	Condition	Section
33 (a)	The Applicant must prepare and implement an updated Blast Management Plan, in consultation with EPA and DRE, to the satisfaction of Council. This plan must include, but not be limited to, the following matters:	This plan
	(i) demonstration of consistency in compliance with blasting criteria at the existing mining operation;	2.1
	(ii) compliance blasting criteria;	2.1
	(iii) mitigation measures, such as, adverse weather conditions;	6.3
	(iv) monitoring methods and program in accordance with blast monitoring and inspection conditions;	8.0
	(v) measures to be undertaken to demonstrate that the development is achieving best practice applicable to the development in minimising air blast overpressure, ground vibration levels, fumes and odours from blasting activities;	6.3
	(vi) measures to protect underground utilities (e.g.: rising mains, subsurface telecommunication and electric cables, irrigation lines) and livestock on non-mine owned land;	6.1, 6.2
	(vii) measures to protect surface infrastructure where relevant, such as dams, rail infrastructure and power poles;	6.1
	(viii) measures to consider the blasting activities from other neighbouring mines. This shall include details of the proposed measures to ensure that cumulative blast related impacts are managed, such as through consultation with the other mines to co-ordinate blasting activities	6.6
	(ix) procedures for the investigation of blast related complaints from the development, in consultation with other mines in the event of cumulative related impacts;	9.0
	(x) procedures for the notification of occupiers of buildings and residences prior to detonation of each blast;	6.6
	(xi) measures to ensure no damage by flyrock to people, property, livestock and powerlines;	6.3
(xii) location of blast monitors to assess blasting within the development; and	8.0	
33 (b)	The Applicant must, as a minimum, advise occupiers of buildings and residences, unless otherwise requested by the occupier, in the North Muswellbrook, Sandy Creek Road and other areas to the satisfaction of Council of future blasting events through a community information telephone hotline and the advertisement and promotion of the hotline. The hotline shall be at no cost to the caller.	6.6
33 (c)	The Applicant must respond to complaints regarding blasting in accordance with its Environmental Management Strategy.	9.0
33 (d)	This condition applies until the completion of Rehabilitation – land preparation, as defined in NSW Resources Regulator Form and Way Annual Rehabilitation Report and Forward Program for Large Mines.	13.0
34 (a)	The Applicant must monitor ground vibration and air blast overpressure of all blasts at locations in accordance with the Blast Management Plan;	8.0
34 (b)	Ground vibration or airblast overpressure is to be monitored at the relevant noise sensitive sites (e.g. Residences on privately owned land, hospitals, schools etc.), selected in consultation with the EPA.	8.0

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Approval/ Licence Condition No.	Condition	Section
34 (c)	The Applicant must document the date, wind speed and direction, weather conditions, atmospheric conditions including cloud cover, location of blast and the quantity of explosive used for each blast.	6.8
<b>Environmental Protection Licence</b>		
P1.2	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of noise from the point. EPA ID #3: Air blast overpressure & ground vibration peak particle velocity monitoring - Monitoring location identified as B1 in "Muswellbrook Coal Company Limited, No.1 Open Cut Extension, Blast-Vibration Management Plan, December 2010". EPA ID #4: Air blast overpressure & ground vibration peak particle velocity monitoring - Monitoring location identified as B2 in "Muswellbrook Coal Company Limited, No.1 Open Cut Extension, Blast-Vibration Management Plan, December 2010". EPA ID #5: Air blast overpressure & ground vibration peak particle velocity monitoring - Monitoring location identified as B3 in "Muswellbrook Coal Company Limited, No.1 Open Cut Extension, Blast-Vibration Management Plan, December 2010". EPA ID #6: Air blast overpressure & ground vibration peak particle velocity monitoring - Monitoring location identified as B4 in "Muswellbrook Coal Company Limited, No.1 Open Cut Extension, Blast-Vibration Management Plan, December 2010".	8.0
L3.1	The airblast overpressure level from blasting operations in or on the premises must not exceed 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period at either monitoring point 3, 4, 5 or 6 in Condition P1.2.	2.1
L3.2	The airblast overpressure level from blasting operations in or on the premises must not exceed 120 dB (Lin Peak) at any time at either monitoring point 3, 4, 5 or 6 in Condition P1.2.	2.1
L3.3	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 5mm/s for more than 5% of the total number of blasts carried out on the premises during each reporting period at either monitoring point 3, 4, 5 or 6 in Condition P1.2.	2.1
L3.4	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 10mm/s at any time at either monitoring point 3, 4, 5 or 6 in Condition P1.2.	2.1
L3.5	Offensive blast fume must not be emitted from the premises. Definition: Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances 1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or 2. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.	6.9
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	10.0
M1.2	All records required to be kept by this licence must be:	10.0

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	(a) in a legible form, or in a form that can readily be reduced to a legible form; (b) kept for at least 4 years after the monitoring or event to which they relate took place; and (c) produced in a legible form to any authorised officer of the EPA who asks to see them."													
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: (a) the date(s) on which the sample was taken; (b) the time(s) at which the sample was collected; (c) the point at which the sample was taken; and (d) the name of the person who collected the sample"	10.0												
M7.1	To determine compliance with condition(s) L3.1 and L3.2: a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring points 3, 4, 5 and 6 for the parameters specified in column 1 of the table below; and b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameter</th> <th style="text-align: center;">Units of measure</th> <th style="text-align: center;">Frequency</th> <th style="text-align: center;">Sampling Method</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Airblast Overpressure</td> <td style="text-align: center;">Decibels (Linear Peak)</td> <td style="text-align: center;">All blasts</td> <td style="text-align: center;">Australian Standard AS 2187.2-2006</td> </tr> <tr> <td style="text-align: center;">Ground Vibration Peak Particle Velocity</td> <td style="text-align: center;">millimetres/second</td> <td style="text-align: center;">All blasts</td> <td style="text-align: center;">Australian Standard AS 2187.2-2006</td> </tr> </tbody> </table>	Parameter	Units of measure	Frequency	Sampling Method	Airblast Overpressure	Decibels (Linear Peak)	All blasts	Australian Standard AS 2187.2-2006	Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006	8.0
Parameter	Units of measure	Frequency	Sampling Method											
Airblast Overpressure	Decibels (Linear Peak)	All blasts	Australian Standard AS 2187.2-2006											
Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006											
R1.1	"The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: (a) a Statement of Compliance; and (b) a Monitoring and Complaints Summary. A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA."	12.2												
R4.2	The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	11.0												
R4.3	The results of the blast monitoring required by condition M7.1 must be submitted to the EPA at the end of each reporting period.	12.2												

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## 2.1 BLASTING CRITERIA

The blasting criteria that apply to MCC are shown in **Table 2**.

**Table 2: Blast Criteria**

Vibration (mm/s)	Allowable Exceedance
5	5% of total number of blasts over a 12 month period
10	0%
Overpressure (dB(L))	Allowable Exceedance
115	5% of total number of blasts over a 12 month period
120	0%

Between 1 July 2011 and 30 April 2024, MCC have had 1,184 blasts and all of these blasts have complied with the criteria listed in **Table 2**.

## 3.0 REFERENCES

- *Environmental Planning and Assessment Act 1979.*
- *Protection of the Environment Operations Act 1997.*
- Development Consent DA 205/2002.
- Environmental Protection Licence 656.
- Continuation Project Statement of Environmental Effects (EMM) 2016.
- AS2187.2 2006 Explosives - Storage and use, Part 2: Use of explosives

## 4.0 DEFINITIONS/ACRONYMS

<b>AS</b>	Australian Standard
<b>DA</b>	Development Application
<b>dB(L)</b>	Decibels (Linear Peak)
<b>EPA</b>	Environmental Protection Authority
<b>EPL</b>	Environmental Protection Licence
<b>MCC</b>	Muswellbrook Coal Company Ltd
<b>MSC</b>	Muswellbrook Shire Council
<b>NSW</b>	New South Wales
<b>OCE</b>	Open Cut Examiner

## 5.0 SUPPORTING DOCUMENTS

- Development Consent DA 205/2002.
- Environmental Protection Licence 656.
- MP 30 Environmental Management Strategy.
- MOP 15-01 Complaint Handling Procedure.
- F1553 Community Complaint Record Form.

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## 6.0 MANAGEMENT SAFEGUARDS AND AMELIORATIVE ACTIONS

### 6.1 MEASURES TO PROTECT PUBLIC INFRASTRUCTURE

To protect public surface infrastructure and underground facilities, the Mine Engineer responsible for blast design will:

- Identify all public surface infrastructure and underground facilities within 500 metres of potential blast zones,
- Contain the Maximum Instantaneous Charge (MIC) to a level so that damage will not occur to the public surface infrastructure and underground facilities, and
- Periodically monitor public infrastructure to verify that no damage is occurring.

### 6.2 MEASURES TO PROTECT LIVESTOCK ON NON-MINE OWNED LAND

As there is no non-mine owned land within 500m of the potential blast zones at MCC, mitigation measures to protect livestock on non-mine owned land are not required.

### 6.3 BEST PRACTICE DRILL AND BLAST

The intent of best practice goals in drill and blast activities is to comply with the fragmentation requirements for each blast. The use of best practice techniques will reduce air blast overpressure, ground vibration, fumes and odours from blasting activities.

Best practice in drill and blast activities at MCC include:

- A high degree of accuracy in the placement of drill holes so that design spacing and burden is achieved using Automatic Positioning System (APS) or other survey control,
- Management of surface and groundwater in the drill holes (to reduce fume and odour issues),
- Blast design and delays are designed to avoid wavefront reinforcement,
- Regular inspections of ground and hole conditions to identify any geological abnormalities that may create a path for the uncontrolled release of gaseous products from explosive material,
- Loading of the explosive material so that holes are not loaded in excess of the design,
- Proper placement of decking charges if required,
- Effective placement of good quality stemming to design column height for containment of explosive product,
- Reduce the sleep time of the blast pattern to minimise the potential for deterioration of the explosive material,
- Take into account any adverse meteorological conditions at the time of the blast and defer or modify the blast to accommodate those conditions,
- Video recording of blasts to identify any causal factors contributing to any aberration from the predicted outcomes, and
- Vibration and overpressure monitoring for all blasting activities on site.

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## 6.4 DESIGN OF BLASTS

Every blast pattern is designed so far as reasonably practicable that MCC aims not to exceed the criteria in **Table 2**.

## 6.5 FIRING TIME OF BLASTS

All routine blasts are to occur between the hours of 9:00am to 5:00pm Monday to Friday. No blasts are planned to occur outside of these hours unless the Head of Muswellbrook Site or Mining Engineering Manager determines that safety-related issues dictate an emergency blast.

An emergency blast outside of the approved hours shall not to be initiated until MCC have utilised their best endeavours to gain specific approval from MSC. If approval can't be gained despite MCC's best endeavours the Head of Muswellbrook Site or Mining Engineering Manager can approve for the blast to go ahead.

## 6.6 PRE-BLAST NOTIFICATIONS

MCC operates a toll-free telephone Blast Information Service Line which contains recorded information that provides residents with proposed blasting times for that particular day.

A nominated person will update the message on the Blasting Information Service Line prior to 9am on the day of each blast (Monday-Friday). If the blast time is changed by more than 2 hours, the message shall be updated as soon as practicable after the decision to vary the blast time is made. The message shall include the following information for the blast planned for that day:

- Date,
- Approximate time range (maximum 2-hour window),
- Location, and
- Predicted vibration levels at the Queen Street blast monitor at North Muswellbrook.

MCC has not been requested by individual community members to provide them with individual phone calls prior to the blast.

A misfire that requires a second initiation is considered to be the same blast as originally advertised.

The MSC Blasting Notification webpage will be updated for each blast and notify nearby mines of proposed blast times to minimise cumulative blast impacts.

## 6.7 SAFETY ZONE OF EXCLUSION

Prior to the initiation of a blast, the Blast Controller shall:

- Confirm that sentries are safely positioned at all points of access to the blast, and
- Confirm that the public are excluded from an area within the blast exclusion zone of the planned blast.

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## 6.8 PRE-BLAST ENVIRONMENTAL CHECKLIST

MCC utilises a daily weather forecasting system to assist with identifying the weather conditions at the time of blasting. This involves a summary daily email to personnel on site and access to a webpage for further detail. Prior to granting approval for the initiation of a blast, the Blast Controller shall complete the pre-blast section of the Blasting Environmental Checklist. This checklist includes the recording of date, wind speed and direction, stability class, cloud cover, location of the blast and the MIC of the blast.

Unfavourable meteorological conditions can increase the impact of overpressure and dust. The meteorological conditions for MCC are monitored at the on-site weather station as shown in **Figure 1**.

If the weather conditions are potentially adverse a review of the weather conditions, and the location and type of blast will be undertaken by relevant personnel to assess the risk of this blast. If the Head of Muswellbrook Site or Mining Engineering Manager determines that the risk is low they can approve for the blast to proceed.

## 6.9 FUME MANAGEMENT

Blasts at MCC are designed to minimise the risk of fume generation from blasting activities. All blasting activities at MCC are rated with a fume category rating scale, using the rating system in Appendices 2 and 3 of AEISG Code of Practice – Prevention and Management of Blast Generated NO<sub>x</sub> Gases in Surface Blasting. The rating is given to the greatest extent of the post blast fume.

If a blast has a fume rating of 3 and the fume is leaving site or has a rating of 4 or greater, MSC and the EPA will be notified.

## 6.10 POST-BLAST REVIEW

The Mine Engineer shall undertake a Post-Blast Review and take the following actions:

- If the ground vibration recorded at any monitoring site exceeds 5mm/s or the overpressure exceeds 115 B(L), the blast shall be investigated, and the reasons recorded for the variation on the Blast File. A copy shall be provided to the Head of Muswellbrook Site and Environmental Superintendent. Corrective action will be taken to prevent a recurrence,
- If the ground vibration recorded at any monitoring site exceeds 10mm/s or the overpressure exceeds 120dB(L), the Mine Engineer shall promptly contact the Environmental Superintendent who, after satisfying themselves with the veracity of the monitoring records, and following discussions with the Head of Muswellbrook Site, shall contact MSC and the EPA and advise them of a potential exceedance. A full investigation that establishes the causes of the exceedance shall be performed by the Mine Engineer and following endorsement by the Head of Muswellbrook Site and Environmental Superintendent, shall be forwarded by the Environmental Superintendent to MSC and the EPA within 7 days. Corrective action will be taken to prevent a recurrence,
- If any flyrock lands outside of the Mine Lease or the Exclusion Zone, the Mine Engineer shall investigate the cause of the incident and report to the Head of Muswellbrook Site and the Mining Engineering Manager. The Mines Inspector and the Industry Safety and Health Representative will be notified as well, and

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- If any complaints are received in respect to vibration, noise, dust or fumes associated with the blast, the Mine Engineer and Environmental Superintendent are to manage the complaint in accordance with the requirements in **Section 9.0**.

## 7.0 INFORMATION AND TRAINING

All workers required to work at the site must undertake the relevant site Induction. This includes information on blast management at the site.

The requirements of MOP 15-01 Complaint Handling Procedure will be communicated to workers involved in responding to complaints.

Training records will be maintained for each worker at the site.

## 8.0 BLAST MONITORING PROGRAM

All blasts are monitored by blast monitoring equipment which is established at the sites shown in **Table 3** and **Figure 1**.

**Table 3: Blast Monitoring Locations**

Blast Monitor	Location
B1 (Queen St)	In the vicinity of the nearest non-company owned residence
B2 (School)	At the Muswellbrook Public School, Roger Street, North Muswellbrook
B3 (99 Queen St)	At the northern end of Queen Street, North Muswellbrook
B4 (Nisbet)	Sandy Creek Road

Blast monitoring instrumentation is installed and maintained in accordance with relevant standards (AS2187.2) or as otherwise prescribed by the EPA. Monitoring units are calibrated annually in accordance with the relevant standards.

Blasts are recorded on a suitable video recording device with a target capture rate >95%.

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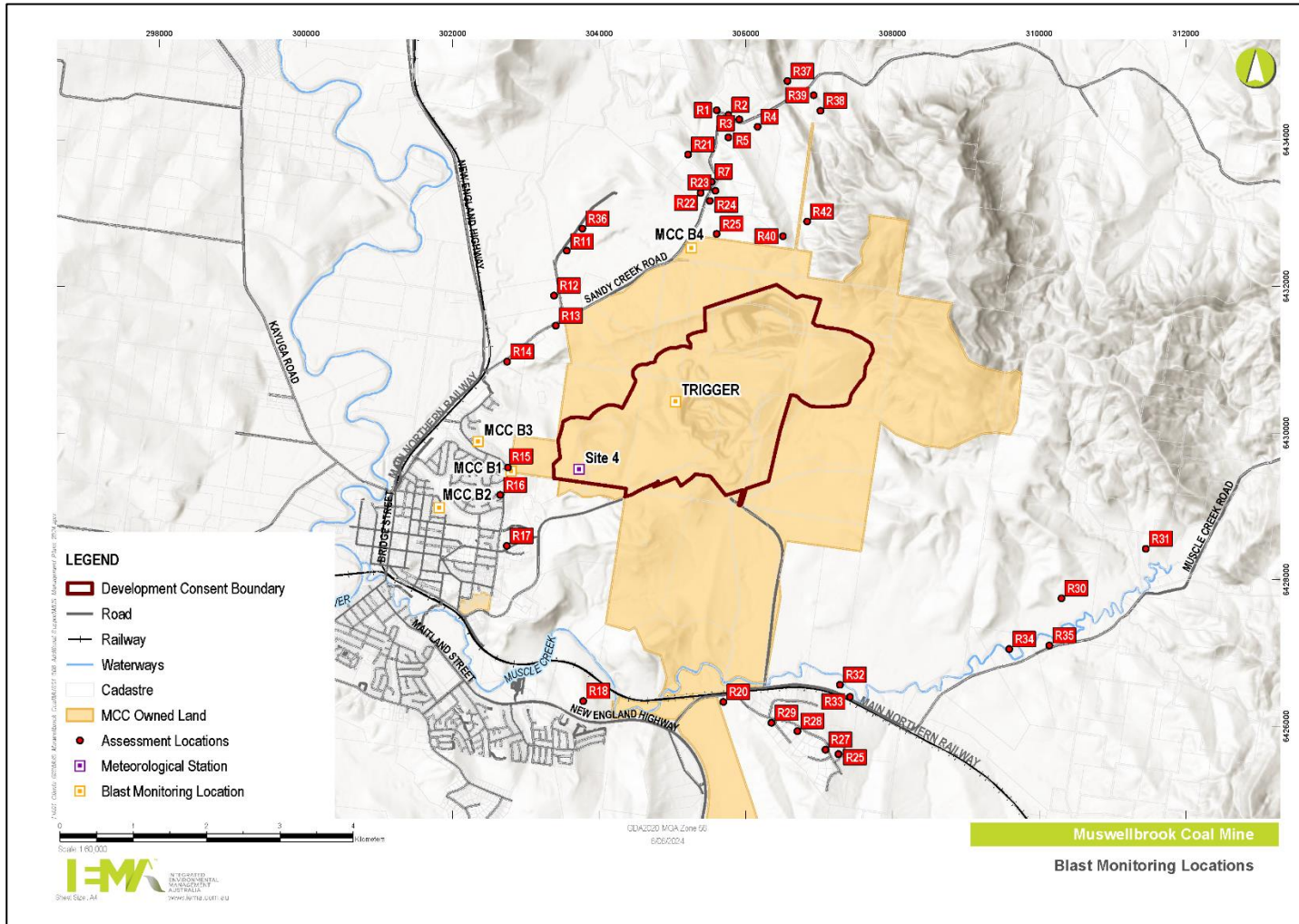


Figure 1: Blast Monitoring Locations

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## 9.0 COMPLAINT MANAGEMENT

Blasting related complaints by the community can be directed to the 24-hour toll-free telephone Environmental Contact Line 1800 600 205. More details on the complaints management at MCC are found in the Environmental Management Strategy.

### 9.1 PROPERTY INSPECTIONS

If a private landholder has concerns that buildings and/or structures on their land have been damaged as a result of blasting activities at MCC, a review of the damage will be undertaken by MCC. If required, a qualified and experienced independent expert may be engaged to undertake this review.

If the review confirms the landholder's claim, and both parties agree with these findings, MCC will repair the damages. However if the landholder or MCC disagree with the findings of the report, either party may refer the matter to MSC for resolution.

## 10.0 RECORDS

The Mine Engineer shall maintain a Blast File for each individual blast for a minimum of four years. A misfire is considered part of the original blast. The Blast File shall contain the following information:

- The drill hole layout plan,
- Drill records,
- Shot firer's dip sheets,
- Stemming records,
- Tie up/surface initiation plan,
- Charge sheets including MIC,
- Quantities and types of explosives,
- Video of blast,
- Actual fume rating,
- Results from all blast monitors, and
- Blasting Environmental Checklist.

If any of the blast monitors recorded a ground vibration level of greater than 5mm/s or an overpressure greater than 115dB(L), the Blast File shall also contain:

- Blast monitor waveforms, and
- Any subsequent investigations and/or reports associated with the blast.

## 11.0 INCIDENT REPORTING

In the event that an initial investigation concludes that an exceedance of the criteria in **Table 2** was directly attributed to MCC's activities the event will be reported to MSC and EPA within 24 hours of detecting the exceedance.

Within 7 days of the incident, MCC will submit a written report to MSC and the EPA that:

- a) Describes the date, time, and nature of the exceedance,
- b) Identifies the cause (or likely cause) of the exceedance,

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- c) Describes what action has been taken to date, and
- d) Describes the proposed measures to address the exceedance.

## 12.0 EXTERNAL REPORTING

Within 2 weeks of approval of this BMP, a copy will be made available for public viewing via the MCC website.

The performance of MCC's BMP will be reported through a number of external reporting requirements, which include:

- Annual Environmental Management Report (AEMR),
- EPL Annual Licence Return,
- Regular updates of monitoring results on the MCC website, and
- CCC Meetings.

### 12.1 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

The AEMR will include a summary of:

- Blast monitoring results and comparison to the criteria, monitoring results from previous years and predictions in any Environmental Assessment (if applicable),
- Summary of blast related complaints and management measures undertaken,
- Identification of any trends in the monitoring results,
- Measures undertaken during the period to monitor compliance,
- Identification of any non-compliance and management measures undertaken, and
- Review of the performance of management measures and the monitoring program.

### 12.2 EPL ANNUAL RETURN

The Annual Return for EPL656 will include the following:

- The date and time of each blast,
- The blast monitoring results at each blast monitoring station, and
- An explanation for any exceedances or missing blast monitoring results.

## 13.0 REVIEW OF THE BMP


The Blast Management Plan will be reviewed:

- Within 6 months of changes to Development Consent or licence conditions relating to blast management,
- Following reportable incidents at MCC relating to blasting,
- Following an independent environmental audit which recommends changes to the Blast Management Plan, and
- If there is a relevant change in technology or legislation.

The requirement for a BMP will no longer apply after the completion of Rehabilitation – Land Preparation as defined in NSW Resources Regulator Form and Way, Annual Rehabilitation Report and Forward Program for Large Mines.

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## 14.0 ACCOUNTABILITIES

Table 4 outlines the responsibilities relating to the BMP.


**Table 4: Organisational Responsibilities**

Role	Accountability
MCC Head of Muswellbrook Site	<ul style="list-style-type: none"> <li>• Provide adequate resources to implement the requirements of the BMP</li> <li>• Undertake best endeavours to gain authorisation from MSC to blast outside of approved hours</li> </ul>
MCC Mining Engineering Manager	<ul style="list-style-type: none"> <li>• Undertake best endeavours to gain authorisation from MSC to blast outside of approved hours</li> </ul>
Thiess Mining Engineer	<ul style="list-style-type: none"> <li>• Undertake blast notifications as required</li> <li>• Design blasts to comply with vibration and overpressure limits</li> <li>• Maintenance of blast record system</li> <li>• Notify surrounding mines of blasting activities to minimise cumulative impacts</li> <li>• Undertake post blast reviews</li> <li>• Confirm that blast monitors are working prior to blasting</li> </ul>
Thiess Blast Controller	<ul style="list-style-type: none"> <li>• Confirm safety exclusion zone is in place with placement of blast sentry guards</li> </ul>
Thiess OCE	<ul style="list-style-type: none"> <li>• Confirm the exclusion zone has been cleared</li> </ul>
Thiess Environment and Community Superintendent	<ul style="list-style-type: none"> <li>• Coordinate response to all blast management related complaints</li> </ul>
MCC Environmental Superintendent	<ul style="list-style-type: none"> <li>• Notify regulatory authorities of any exceedance of the blast criteria</li> <li>• Coordinate reviews of the BMP</li> <li>• Coordinate annual calibration of blast monitoring equipment</li> <li>• Coordinate reporting as required in BMP</li> </ul>

## 15.0 LIST OF APPENDICIES

Appendix 1: Correspondence Regarding Blast Management Plan

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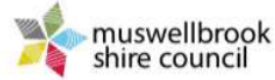
 <p>ESTABLISHED 1907 MUSWELLBROOK COAL COMPANY</p>	<p>Blast Management Plan</p>	<p>MP 32</p>
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## 16.0 REVISION DETAILS

Revision No.	Date	Reviewed By	Details/Reason for Revision
1	February 2005	MCC Technical Services Department, Carbon Based Environmental	Original Management Plan
2	December 2010	MCC Technical Services Department, Carbon Based Environmental	5 Yearly Review
3	December 2015	MCC Environmental, Technical Services and Production Departments	5 Yearly Review
4	May 2017	MCC Environmental, Technical Services and Production Departments	Update following modification for Continuation Project
5	May 2020	MCC Environmental, Technical Services and Production Departments	3 Yearly Review
6	April 2023	Environmental, Production, Administration and Maintenance Departments	End of mining operations
7	July 2024	Environmental and Production, Departments	Consent Modification 9

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## Appendix 1: Correspondence Regarding Blast Management Plan



**Enquiries**  
Please ask for Theresa Folpp  
**Direct** 02 6549 3700  
**Our reference** CM 24/49316

06 August 2024

**Julie Thomas**  
**Environmental Superintendent**  
**Muswellbrook Coal**

Dear Ms Thomas,

**Muswellbrook Coal Mine (DA 2002-205) - Blast Management Plan**

Reference is made to 'Muswellbrook Coal Company Blast Management Plan v7' (July 2024), submitted in accordance with Condition 14f) of the development consent for the Muswellbrook Coal Mine (DA 2002-205).

Staff have carefully reviewed this document and are satisfied with all aspects proposed.

Accordingly, Staff approve the 'Muswellbrook Coal Company Blast Management Plan v7' (July 2024). Please ensure that the approved plan is placed on the project website at the earliest convenience.

Should you need to discuss the above, please contact the undersigned on 02 6549 3700 or email [council@muswellbrook.nsw.gov.au](mailto:council@muswellbrook.nsw.gov.au).

Yours faithfully



**Theresa Folpp**  
**Environmental Planning Officer**

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**Julie Thomas**

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**From:** Julie Thomas  
**Sent:** Tuesday, 2 July 2024 12:43 PM  
**To:** info@epa.nsw.gov.au  
**Subject:** Muswellbrook Coal - Environmental Management Plans for Review  
**Attachments:** MP 31 Air Quality Management Plan draft post consent modification clean version.pdf; MP 32 Blast Management Plan draft post consent modification clean version.pdf; MP 34 Noise Management Plan draft post consent modification review clean version.pdf

Hello

Muswellbrook Coal Company (MCC) has a requirement in our development consent to develop an Air Quality Management Plan (AQMP), Blast Management Plan (BMP) and Noise Management Plan (NMP) in consultation with the Environmental Protection Authority (EPA). MCC has recently received a modification to our consent, which has triggered a review of these documents. Draft copies of the AQMP, BMP and NMP are attached for your review and comment.

If there are any comments the EPA would like to make on these plans, please provide them to me by 19<sup>th</sup> July 2024.

When the plans are approved by MSC, a final version of the plans will be sent to the EPA.

If you have any questions regarding these plans, please let me know.

Regards  
Julie

**Julie Thomas**

**Environmental Superintendent**

**Muswellbrook Coal Company Ltd**

-  [Muscle Creek Rd, Muswellbrook NSW 2333](#)
-  [+61 2 6542 2312](tel:+61265422312)
-  [+61 427 228 412](tel:+61427228412)
-  [julie.thomas@muscoal.com.au](mailto:julie.thomas@muscoal.com.au)
-  [jdemitsu.com.au](http://jdemitsu.com.au)



Please note my working days are Monday-Thursday.

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Muswellbrook Coal Company Ltd

By email: [muswellbrookcoal@idemitsu.com.au](mailto:muswellbrookcoal@idemitsu.com.au)

Attention: Ms Julie Thomas

4 July 2024

Dear Ms Thomas

**ENVIRONMENT PROTECTION LICENCE 656 – ENVIRONMENTAL MANAGEMENT PLANS**

I refer to your email to the Environment Protection Authority (EPA), received 2 July 2024, inviting comments on the updated draft Air Quality Management Plan, Blast Management Plan and the Noise Management Plan prepared in respect of the Muswellbrook Coal Mine.

The EPA encourages the development of such plans to ensure that proponents and licensees have determined how they will meet their statutory obligations and designated environmental objectives.

The EPA's role, as a regulatory authority, is to administer statutes for environmental management and protection and to set environmental objectives rather than being involved in the development of strategies to achieve those objectives. As such the EPA does not review or comment on such plans.

Accordingly, the EPA has not reviewed and offers no comments on the above management plans.

If you have any further questions about this issue, please contact Freia Johnston on 02 4908 6872 or at [freia.johnston@epa.nsw.gov.au](mailto:freia.johnston@epa.nsw.gov.au).

Yours sincerely



**HAMISH RUTHERFORD**  
**A/Unit Head – Operations**  
**Environment Protection Authority**

Phone 131 555  
Phone 02 9995 5555  
(from outside NSW)

TTY 133 677, then  
ask for 131 155

Locked Bag 5022  
PARRAMATTA  
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[info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)  
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ABN 43 692 285 758

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**Julie Thomas**

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**From:** Julie Thomas  
**Sent:** Tuesday, 2 July 2024 12:53 PM  
**To:** Resources Regulator  
**Cc:** jenn.warner@regional.nsw.gov.au  
**Subject:** Muswellbrook Coal - Blast Management Plan for Review  
**Attachments:** MP 32 Blast Management Plan draft post consent modification clean version.pdf

Hi Jen

Muswellbrook Coal Company (MCC) has a requirement in our development consent to develop a Blast Management Plan (BMP) in consultation with the Resources Regulatory (RR). MCC has recently received a modification to our consent, which has triggered a review of the BMP. The BMP has recently been reviewed and updated. A draft copy is attached for your review and comment.

If there are any comments the RR would like to make on the BMP, please provide them to me by 19<sup>th</sup> July 2024.

When the plan is approved by MSC, a clean version of the plan will be sent to the RR.

If you have any questions regarding this plan, please let me know.

Regards  
Julie

**Julie Thomas**

**Environmental Superintendent**

**Muswellbrook Coal Company Ltd**

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Please note my working days are Monday-Thursday.

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No comments have been received from RR

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