



# **Muswellbrook Coal**

# MP 31 Air Quality 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 Air Quality Management Plan (AQMP). This AQMP also addresses environmental protection licence conditions that relate to MCC's air quality management system. Whilst this plan specifically addresses issues related to the management of air quality generating activities, it should be read in conjunction with other EMPs.

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

## 1.2 OBJECTIVES

The objective of the AQMP is to manage and minimise the impact of air quality from rehabilitation activities on the environment and nearby residences. The following actions will be undertaken to achieve this objective:

- Detail the methods to be used to minimise air quality emissions,
- Maintain an air quality monitoring program,
- Identify the risk levels at which operations may need to be modified to manage compliance,
- Define the measures to manage short term episodic events,
- Define the mechanisms for community consultation,
- Detail the management measures to be undertaken where the air quality levels are

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demonstrated to exceed the criterion,

- Detail the specifications and procedures to be used for the purpose of Independent Air quality Investigations, and
- Specify the regulatory reporting requirements.

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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.

Approval/ Licence Condition No.	Condition			Section
		Development Consent		
	so that particulate matter emissions gene quality criteria at a residence on privately The relevant air quality criteria for the dev	velopment are contained in Table 1 and Ta	ceedance of the relevant air	
	Table 1. Long Term Particulate Matter Crite. Pollutant	ria Criterion	1	
	Porticulate matter < 10µg (PM <sub>10</sub> )	30ug/m <sup>3</sup> (annual mean)		
27	Table 2.       Short Term Particulate Matter Criteri         Pollutant       Particulate Matter <10μm (PM10)	Criterion 50µq/m³ (24hr average)		6.0
	Note: • Total impact (i.e. incremental increase i concentrations due to all other sources); • Excludes extraordinary events such as	in concentrations due to the development p	sea fog, fire incidents, (but	
28	The Applicant must use reasonable and t gas emissions generated by the develop residence on privately owned land.	feasible measures to manage the developn ment do not cause exceedance of the relev ria for the development are contained in Ta	nent so that the atmospheric ant air quality criteria at any	6.0

## Table 1: Statutory Requirements

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	Table 3.         Atmospheric Gas Content Criteria		
	Pollutant Criterion		
		opb (1hr average)	
	Hydrogen Sulphide (H2S) 100 ppb (24hr average) 500 p	opb (1hr average)	
	Note:		
	• Total impact (i.e. incremental increase in concentrations due to the deve	elopment plus background	
	concentrations due to all other sources);		
	• Excludes extraordinary events such as bushfires, prescribed burning, du		
	not Spontaneous Combustion within the mine) or any other activity agreed		
	• The need for the applicant to monitor its compliance with the requiremen Quality Management Plan and condition 30A of this development consent		
	Council's consideration of the outcomes of the EPA's current Environmen		
	agreement with Council.	tal Study and any changes would be by	
	The Applicant must prepare a detailed Air Quality Management Plan for the	he development in consultation with the	
29	EPA, to the satisfaction of Council, and carry out the development in acco		This plan
	This plan must include, but not be limited to the following matters:		
00 (i)	the identification of properties which may be affected by dust generated b	y the mine in excess of the criteria	C 4
29 (i)	detailed above;	-	6.4
29 (ii)	specifications of the procedures for the dust monitoring program and atmo	ospheric gas assessment for the	8.0
23 (II)	management of the mine and for the purpose of undertaking independent		0.0
29 (iii)	outline the procedure to notify property owners and occupiers as identified	d by monitoring as likely to be affected	6.4
20 (11)	by dust generated by the mine in excess of the criteria detailed above;		0.1
	mitigation measures to be employed to minimise dust and/or atmospheric		
29 (iv)	phase (this plan can refer to the Spontaneous Combustion Management		6.0
- ( )	include proactive/predictive and reactive mitigation measures to be emplo		
	atmospheric gas emissions including visible dust emanating from the site		
29 (v)	the Applicant must ensure the prompt and effective rehabilitation of all dis following the completion of mining and associated activities in that area to		6.1
29 (V)	dust:	minimise the generation of wind-blown	0.1

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Approval/ Licence Condition No.	Condition	Section
29 (vi)	the use of the existing protocol for handling dust and atmospheric gas complaints that include recording, reporting and acting on complaints;	8.0
29 (vii)	details of locations and frequency of existing monitoring;	8.0
29 (viii)	as far as practicable details of the interrelationships of this plan with the Air Quality Management Plans with other mining operations in the vicinity; and	10.2
29 (ix)	unsealed roads are to be managed to minimise the generation of fugitive dust.	6.1
	The Applicant must: (i) operate in real time air quality monitors representative of residence on privately owned land to the north and south of the development. The locations of all the monitors must be identified in the Air Quality Management Plan as approved by Council.	8.0 13.1
30 (a)	<ul> <li>(ii) monitor and report against criteria in Tables 1 and 2 for the monitors located to be representative of nearby residences on privately owned land in accordance with the Air Quality Management Plan. The results of this monitoring and reporting are to be incorporated into the AEMR;</li> <li>(iii) Include in the AEMR a summary of the performance of the control measures and of the monitoring system against the criteria outlined in Tables 1 and 2. The assessment locations and the methodology of assessment is to be identified in the Air Quality Management Plan, and</li> </ul>	13.1
30 (b)	In the event that a landowner or occupier of a residence on privately owned land considers that dust from the development at his/her dwelling is in excess of the criteria detailed in Tables 1 or 2 of the consent, and Council is satisfied after adequate examination of the relevant facts, that an investigation is required, the Applicant must upon the receipt of a written request from Council: <ul> <li>(i) consult with the landowner or occupant affected to determine his/her concerns;</li> <li>(ii) commission an independent dust impact assessment at the privately owned residence, and provide a report to Council. Where elevated levels of dust in excess of the criteria in Tables 1 and 2 are identified, and the independent expert is of the opinion that the Applicant's activities have materially contributed to the exceedance, the independent dust assessment is to include suggested remedial actions;</li> <li>(iii) modify the mining activity or take other steps in accordance with the Air Quality Management Plan, or independent dust assessment, if exceedances are demonstrated by the independent investigations, engaged by the Applicant, to materially result in part from the development related activity. This may include:</li></ul>	12.1

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Approval/ Licence Condition No.	Condition	Section
	<ul> <li>2) negotiate, as far as reasonably practicable, an agreement with the landowner or provide such forms of benefit or amelioration of the impact of dust as may be agreed between the parties as providing acceptable compensation for the dust levels experienced.</li> <li>(iv) conduct follow up investigation(s) to the satisfaction of the Council, where necessary.</li> </ul>	
30 (c)	Further independent investigation(s) shall cease if Council is satisfied that the relevant criteria detailed in the consent are not being exceeded and are unlikely to be exceeded in the future.	12.1
30 (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.	8.0 12.0 14.0
	<ul> <li>The Applicant must:         <ul> <li>(i) Operate gas assessment equipment representative of non-mine owned residents to the north and south of the development. The locations of the atmospheric gas assessment equipment must be identified in the Air Quality Management Plan.</li> </ul> </li> </ul>	No longer applicable
30A (a)	<ul> <li>(ii) Include in the AEMR a summary of the performance of the control measures and of the monitoring system, Assess the Atmospheric Gas Content against the requirements outlined in Table 3. The assessment locations and the methodology of assessment is to be identified in the Air Quality Management Plan, and;</li> </ul>	13.1
	(iii) Should the results of the Atmospheric Gas Content criterion outlined in Table 3 be exceeded, the Applicant is to immediately advise Council.	No longer applicable
	In the event that a landowner or occupier of a residence on privately owned land considers that atmospheric gas from the development at his/her dwelling is in excess of the criteria detailed in Table 3 of the consent, and Council is satisfied that an investigation is warranted, the Applicant must upon the receipt of a written request from Council:	
30A (b)	<ul> <li>(i) consult with the landowner or occupant affected to determine his/her concerns;</li> <li>(ii) commission a relevant expert, approved by Council, to conduct an independent atmospheric gas impact assessment at the residence, and provide a report to Council. Where levels of atmospheric gas in excess of the criteria in Table 3 are identified, and the independent expert is of the opinion that the Applicant's activities have caused the exceedances, the Applicant must:</li> </ul>	12.2

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Approval/ Licence Condition No.	Condition				
	<ul> <li>a. modify the mining activity or take such other steps as are reasonably necessary to ensure that the Applicant operates so as not to cause or partly cause the criteria identified in Table 3 to be exceeded at the residence.</li> <li>b. conduct follow up investigation(s) to the satisfaction of the Council, where necessary.</li> </ul>				
	The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.				
P1.1	15 Ambient Air Monitoring Sulfur Dioxide (SO2) monitor located at co-ordinates 305255 6432519 (Easting Northing) defined as Ambient Air Monitoring Location 15 on the Muswellbrook Coal Company Limited Muswellbrook Coal Mining Operations Premise Plan dated 9-08-17	8.0			
	16       Ambient Air Monitoring       Sulfur Dioxide (SO2) monitor located at co-ordinates 305934 6426585 (Easting Northing) defined as Ambient Air Monitoring Location 9 on the Muswellbrook Coal Company Limited Muswellbrook Coal Mining Operations Premise Plan dated 9-08-17				
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.				
O3.2	Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.				
O3.3	All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of windblown or traffic generated dust.				
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.				
M1.2	All records required to be kept by this licence must be: 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.	8.0			

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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.	8.0
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling methods, units of measure, and sample at the frequency, specified opposite in the other columns:	8.0
M2.2	Special Method 1 requires the Licensee to undertake the monitoring of Hydrogen sulphide and Sulphur dioxide in accordance with method as approved by the Environment Protection Authority using Serinus 51 analyser.	8.0
M3.1	<ul> <li>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:</li> <li>(a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or</li> <li>(b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or</li> <li>(c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place</li> <li>Note: The <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i> requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</li> </ul>	8.0
M8.2	The licensee must record the average PM10 concentration at Monitoring Points 7 and 8 at intervals of 10 minutes. This data must be made available upon request by any Authorised Officer of the EPA who asks to see them.	8.0
M8.3	The licensee must record: a) average PM10 concentration at monitoring point 13 at intervals of one hour; b) average sulphur dioxide concentration at monitoring points 15 and 16 at intervals of one hour;	8.0

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	c) average hydrogen sulphide concentrations at monitoring points 9 and 10 at intervals of 30 minutes; and d) this data must be made available upon request by an Authorised Officer of the EPA who asks to see them.	
R1.1	<ul> <li>The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:</li> <li>1. a Statement of Compliance,</li> <li>2. a Monitoring and Complaints Summary,</li> <li>3. a Statement of Compliance - Licence Conditions,</li> <li>4. a Statement of Compliance - Load based Fee,</li> <li>5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,</li> <li>6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and</li> <li>7. a Statement of Compliance - Environmental Management Systems and Practices.</li> </ul>	13.2

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#### **AIR QUALITY CRITERIA** 2.1

Air quality criteria are set in Development Consent DA205/2002 and are reproduced in Table 2 to Table 4.

#### **Table 2: Long Term Particulate Matter Criteria**

Pollutant	Standard / Goal
Particulate Matter <10µg (PM <sub>10</sub> )	30µg/m³ (annual mean)
Note: This is shown as Table 1 in DA205/2002	

Note: This is shown as Table 1 in DA205/2002.

#### **Table 3: Short Term Particulate Matter Goal**

Pollutant	Standard/Goal
Particulate Matter <10µm (PM <sub>10</sub> )	50µg/m <sup>3</sup> (24-hour average)
Note: This is shown as Table 2 in DA205/2002	

Note: This is shown as Table 2 in DA205/2002.

#### Table 4: Atmospheric Gas Content Criteria

Pollutant	Criterion			
Sulphur Dioxide (SO <sub>2</sub> )	20ppb (24 hour average)	100ppb (1 hour average)		
Hydrogen Sulphide (H <sub>2</sub> S)	100ppb (24 hour average)	500ppb (1 hour average)		
Note: This is shown as Table 3 in DA205/2002				

e: This is shown as Table 3 in DA205/2002

#### REFERENCES 3.0

- 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.
- EPA Approved Sampling Method AM-22 •

#### 4.0 **DEFINITIONS/ACRONYMS**

- AS Australian Standard
- DA **Development Application**
- EPA **Environmental Protection Authority**
- EPL **Environmental Protection Licence**
- H<sub>2</sub>S Hydrogen Sulphide
- MCC Muswellbrook Coal Company Ltd
- **Muswellbrook Shire Council** MSC
- NSW **New South Wales**
- OCE **Open Cut Examiner**
- PΜ Particulate Matter
- Parts per billion ppb
- SO<sub>2</sub> Sulphur Dioxide

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## 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.

## 6.0 AIR QUALITY MITIGATION AND CONTROL PROCEDURES

## 6.1 DUST CONTROL PROCEDURES

Dust can be generated from two primary sources, either windblown dust from exposed areas or dust generated by rehabilitation activities. The control procedures utilised by MCC for these sources include the procedures outlined in **Table 5** and **Table 6**.

Source	Control Procedures				
Areas disturbed by operations	<ul> <li>Disturb only the minimum area necessary for operations.</li> <li>Reshape, topsoil and rehabilitate completed overburden emplacement areas after the completion of overburden tipping.</li> </ul>				

#### **Table 5: Control Procedures for Wind Blown Dust**

#### **Table 6: Control Procedures for Rehabilitation Generated Dust Sources**

Source	Control Procedures
Haul roads	<ul> <li>All roads and traffic areas will be watered using water carts to minimise the generation of dust.</li> <li>Long term haul roads will be sheeted with hard wearing material where practicable.</li> </ul>
Minor roads	<ul> <li>Development of minor roads will be limited to those roads as required by rehabilitation activities.</li> <li>Minor roads will be watered if used for extended periods.</li> </ul>
Drilling	<ul> <li>Dust aprons will be lowered during drilling.</li> <li>Drills will be equipped with dust extraction cyclones or water injection systems.</li> <li>Water injection or suppression sprays will be used when high levels of dust are being generated.</li> </ul>
Blasting	<ul> <li>Stemming will be used at all times.</li> <li>Blasting will occur in accordance with the Blast-Vibration Management Plan relating to meteorological conditions.</li> </ul>

Equipment to be available and used to control dust generation include: water cart, dust extraction cyclones or water injection systems on drill rigs.

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## 6.2 SHORT TERM DUST EPISODIC EVENTS

Periods of high dust emissions usually relate to periods of high wind speeds. The primary wind directions are generally from the southeast in summer and from the northwest during the winter.

Short term episodic events generally result from:

- Wind gusts related to changes in the wind direction,
- Periods of high wind speeds, and
- Blasting operations.

The procedures to manage short term episodic events that may affect MCC are shown in **Table 7**.

Scenario	Control Procedures
Wind speeds greater than 5m/s from the operation towards Muswellbrook.	<ul> <li>OCE to confirm that all available water carts are operational.</li> <li>Blasting may be deferred, if safe to do so.</li> <li>OCE to inspect operations to identify any operations that are generating dust emissions and identify further mitigation measures.</li> </ul>
Wind speeds greater than 10m/s.	<ul> <li>All stripping and/or placement activities are to be reviewed for ongoing operation.</li> <li>All operations on out-of-pit overburden dumps are to be reviewed for ongoing operation.</li> <li>Blasting will be deferred, if safe to do so.</li> <li>Maximum availability of dust suppression equipment to be used.</li> <li>OCE to inspect operations to identify any activities that are causing excessive dust emissions and stop these identified activities.</li> </ul>

Table 7: Control Measures for Short Term Episodic Events

### 6.3 ADVERSE WEATHER

MCC utilise a forecasting system to predict the likelihood of potential adverse weather conditions with the forecasts being considered in the planning process. When adverse weather conditions are anticipated operations are modified or additional measures are implemented, where practicable, to reduce excess emissions leaving site. These measures may include but are not limited to:

- Dumping in protected areas,
- Running water carts for longer hours,
- Wetting down areas prior to any predicted change arriving,
- Ceasing grading of non-essential roads,
- Postponing blasting, where safe to do so,
- Trucks driving slower to reduce dust generation,
- Water cart spraying water over the blast loading area to help crust the surface, and
- Water cart spraying water onto material before loading.

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It is noted that these additional control measures can introduce additional safety risks and reduce production output, so they are not utilised as standard dust control procedures on non-adverse weather days.

## 6.4 IDENTIFICATION OF PROPERTIES AFFECTED BY DUST

An Air Quality and Greenhouse Gas Assessment (AQGGA) was prepared as part of the Statement of Environmental Effects (SEE) for the Continuation Project. The AQGGA concluded that there are no predicted exceedances of the long term  $PM_{10}$  criteria at any privately-owned property. The AQGGA concluded that two privately owned properties would be expected to experience concentrations above the short term  $PM_{10}$  criteria for a maximum of three days/year as a result of MCC's operations. These properties are identified as R25 and R40 in **Figure 1**. Due to this predicted exceedance of the short-term criteria, these properties have been provided with a copy of the NSW Health Fact Sheet entitled "Mine Dust and You".

## 6.5 ATMOSPHERIC GAS CONTROL PROCEDURES

Control measures for atmospheric gas are discussed in the Spontaneous Combustion Management Plan (SCMP).

## 7.0 INFORMATION AND TRAINING

All workers required to work at the site must undertake the relevant site Induction. This includes information on air quality 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 AIR QUALITY MONITORING PROGRAM

The Air Quality Monitoring Program incorporates Monitoring of fine air quality particles less than  $10\mu g$  (PM<sub>10</sub>.

This program has been developed in consultation with MSC and the EPA. The locations of the monitoring sites can be seen in **Figure 1**. All monitoring equipment will be maintained and calibrated as required.

Conditions relating to air quality monitoring do not apply once the completion of Rehabilitation – Land Preparation, as defined in the NSW Resources Regulator Form and Way Annual Rehabilitation Report and Forward Program for Large Mines has been completed.

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## 8.1 PARTICULATE MATTER (PM<sub>10</sub>)

Particles less than 10µg mean aerodynamic diameter ( $PM_{10}$ ) are measured on a continuous basis using a Tapered Element Oscillating Microbalance (TEOM) at three locations. The TEOM units continuously relay  $PM_{10}$  data to a website that site personnel have access to. The locations of these units are shown in **Figure 1** with a description provided in **Table 8**. All  $PM_{10}$  monitoring will be in intervals of 10 minutes.

PM<sub>10</sub> monitoring and maintenance of the units will be conducted in accordance with the EPA Approved Sampling Method AM-22.

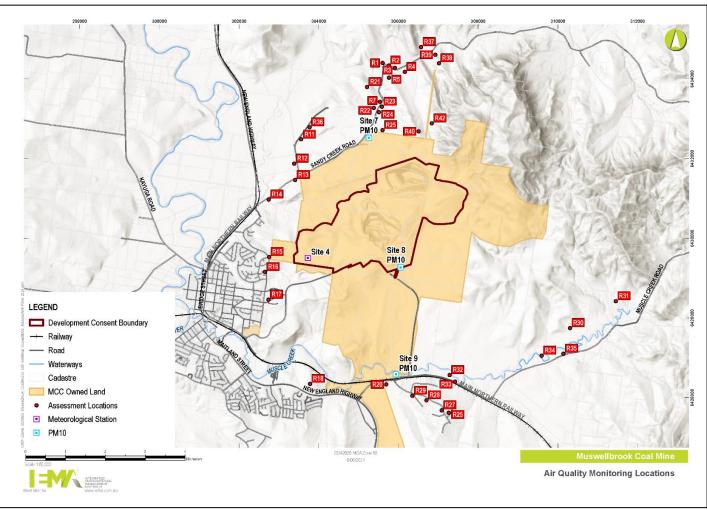
Location Identifier	Equipment Type	Description of Location	Reason for Monitoring
Site 7	TEOM	Sandy Creek Road – northwest of operations	Compliance with development consent – impacts on residents to northwest of operations Compliance with environmental protection licence – dust optimisation monitoring requirements
Site 8	TEOM	On site near the weighbridge – southeast of operations	Compliance with environmental protection licence – dust optimisation monitoring requirements
Site 9	TEOM	Between Muscle Creek and Muscle Creek Road – southeast of operations	Compliance with development consent – impacts on residents to southeast of operations

### Table 8: PM10 Monitoring Locations

If additional monitoring is required for independent dust investigations (see **Section 12.1**), this will be identified in the scope of the investigation by the independent consultant.

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## Figure 1: Air Quality Monitoring Locations

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## 8.2 RECORD KEEPING

All monitoring results will be retained in a legible format for at least four years after they are collected. These results will include date, time and location of monitoring. If a physical sample is collected, the name of the person who collected the sample will also be recorded.

## 9.0 COMPLAINT MANAGEMENT

Air quality 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.

# **10.0 EXTERNAL RELATIONS**

## **10.1 EXTERNAL STAKEHOLDERS**

External stakeholders are provided information about to air quality management at MCC through a variety of avenues including:

- Air quality monitoring data is made available on MCC's website,
- Air quality monitoring data is provided to the Community Consultative Committee (CCC) and the minutes of the meeting are made available to the public on MCC's website,
- The results of environmental monitoring are published in the AEMR,
- Timely responses are provided to residents in the event of a complaint or inquiry, and
- The CCC receives reports at each committee meeting on the number of air qualityrelated complaints and the action taken.

## **10.2 OTHER MINING OPERATIONS**

Other operating mines or approved mines nearest to Muswellbrook include Maxwell Underground Mine, Mt Arthur Coal, Bengalla Mine, Mount Pleasant Mine and Dartbrook Mine, which are all further southwest/northwest to MCC (these mines are at various stages of development). Therefore, under south easterly wind conditions, these mines will have their lowest impact on Muswellbrook residences when MCC is having its greatest impact. Conversely, nearby mines will have their maximum impact on Muswellbrook residences when winds are from the west to northwest, whilst MCC's operations are having their least impact. As a result of this there have been relatively few, if any, instances where cumulative effects have been experienced as a result of air quality impacts from MCC in conjunction with neighbouring mines. If cumulative effects start to be identified, MCC will work with the other mining operations to manage these cumulative impacts.

## **11.0 INCIDENT REPORTING**

Any results above the criteria shown in **Table 2** and **Table 3** will be investigated to identify the source of the high result. This investigation will determine if an incident has occurred.

In the event that an initial investigation concludes that the criteria shown in Table 2 and

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**Table 3** are exceeded due to MCC's operations alone, an air quality related incident has occurred. The incident will be reported to MSC and EPA within 24 hours of confirming the incident.

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

- a) Describes the date, time, and nature of the incident;
- b) Identifies the cause (or likely cause) of the incident;
- c) Describes what action has been taken to date to address the incident; and
- d) Describes the proposed measures to address the incident and prevent it from occurring again.

In the event that the criteria shown in **Table 2** and **Table 3** are exceeded at a non-mine residence from MCC's operations alone MCC shall notify the resident of the results in writing and will provide the resident an opportunity to discuss the results further if requested.

## 12.0 INDEPENDENT AIR QUALITY INVESTIGATION

## 12.1 PARTICULATE MATTER (PM10)

In the event that a landowner or occupier considers that air quality from MCC at their dwelling is in excess of the criteria detailed in **Table 2** and **Table 3** and MSC is satisfied that an independent investigation is required, MCC shall upon the receipt of a written request from MSC:

- consult with the landowner or occupant affected to determine their concerns,
- commission an independent dust assessment at the residence,
- determine whether any modification to the rehabilitation activity needs to be acted on, or take other steps in accordance with the AQMP, if exceedances are demonstrated by the independent investigations to result in part from MCC's activities, and
- conduct follow up investigation(s) to the satisfaction of the MSC, where necessary.

Further independent investigation(s) shall cease if MSC is satisfied that the relevant criteria are not being exceeded and are unlikely to be exceeded in the future.

If the independent air quality investigations confirm that air quality levels from MCC alone are in excess of the relevant criteria and if the measures above do not reduce the air quality levels below the relevant criteria, from MCC alone, or if agreement cannot be reached, MCC shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in DA205/2002.

Conditions relating to independent air quality investigations do not apply once the completion of Rehabilitation – Land Preparation, as defined in the NSW Resources Regulator Form and Way Annual Rehabilitation Report and Forward Program for Large Mines has been completed.

## **12.2 ATMOSPHERIC GAS**

In the event that a landowner or occupier considers that air quality from MCC at their dwelling is in excess of the criteria detailed in **Table 4** and MSC is satisfied that an

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independent investigation is required, MCC shall upon the receipt of a written request from MSC:

- consult with the landowner or occupant affected to determine their concerns. •
- commission a relevant expert, approved by Council, to conduct an independent atmospheric gas assessment at the residence,
- determine whether any modification to the activity needs to be acted on, or take other steps in accordance with the AQMP, if exceedances are demonstrated by the independent investigations to result in part from MCC's activities, and
- conduct follow up investigation(s) to the satisfaction of the MSC, where necessary.

Conditions relating to independent air quality investigations do not apply once the completion of Rehabilitation - Land Preparation, as defined in the NSW Resources Regulator Form and Way Annual Rehabilitation Report and Forward Program for Large Mines has been completed.

## **13.0 EXTERNAL REPORTING**

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

The performance of MCC's AQMP 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.

## **13.1 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT**

The AEMR will include a summary of:

- Air guality monitoring results and comparison to the criteria, monitoring results from • previous years and predictions in any Environmental Assessment (if applicable),
- Summary of air quality 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.

## **13.2 EPL ANNUAL RETURN**

The EPL Annual Return will include a summary of:

- Air quality monitoring results.
- The number of air quality related complaints received, and •
- Identification of any air quality related non-compliances, and response to these noncompliances.

## 14.0 REVIEW OF THE AQMP

The AQMP will be reviewed:

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

The requirement for a AQMP 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.

## **15.0 ACCOUNTABILITIES**

Table 9 outlines the responsibilities relating to the AQMP.

Role	Accountability
MCC Head of Muswellbrook Site	<ul> <li>Provide adequate resources to implement the requirements of the AQMP</li> </ul>
Thiess Maintenance Manager	Maintain mining and dust suppression equipment
Thiess OCE	<ul> <li>Implement air quality control mitigation measures as outlined in AQMP</li> </ul>
Thiess Environment and Community Superintendent	<ul> <li>Coordinate response to all air quality management related complaints</li> </ul>
MCC Environmental Superintendent	<ul> <li>Notify regulatory authorities of any air quality management related incidents</li> </ul>
	Coordinate reviews of the AQMP
	<ul> <li>Coordinate monitoring as required in AQMP (includes maintenance and calibration of monitoring equipment)</li> </ul>
	Coordinate reporting as required in AQMP

#### **Table 9: Organisational Responsibilities**

## **16.0 LIST OF APPENDICIES**

Appendix 1: Correspondence Regarding Air Quality Management Plan

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# 17.0 REVISION DETAILS

Revision No.	Date	Reviewed By	Details/Reason for Revision
1	March 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	June 2017	MCC Environmental, Technical Services and Production Departments	Update following modification for Continuation Project
5	October 2020	MCC Environmental Department	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 Air Quality Management Plan



Enquiries Please ask for Direct 02 6549 3700 Our reference CM 24/49337

23 October 2024

Julie Thomas Environmental Superintendant Muswellbrook Coal

Dear Ms Thomas,

Muswellbrook Coal Mine Air Quality Management Plan (MP31) – Approval Letter

Reference is made to the 'Muswellbrook Coal Air Quality Management Plan v7'.

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

Accordingly, Staff approve the 'Muswellbrook Coal Air Quality Management Plan v7'.

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 Tracy Ward (Sustainability Officer) on 02 6549 3700 or email council@muswellbrook.nsw.gov.au.

Yours faithfully

J.Furpp

Theresa Folpp Environmental Planning Officer

Muswellbrook Shire Council	Sec. (02) 6549 3700	@ council@muswellbrook.nsw.gov.au
🚡 Campbell's Corner 60-82 Bridge	Street Muswellbrook NSW 2333	📋 PO Box 122 Muswellbrook 2333
🌐 muswellbrook.nsw.gov.au	f 💽 🔟 muswellbrook shire council	ABN 86 864 180 944
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#### **Julie Thomas**

From: Julie Thomas Sent: Tuesday, 2 July 2024 12:43 PM 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

To:

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 +61 427 228 412 julie.thomas@muscoal.com.au

idemitsu.com.au

Please note my working days are Monday-Thursday.

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			DOC	24/518339-1, EF13/3318
Muswellbrook C	coal Company Ltd			
By email: musw	ellbrookcoal@iden	nitsu.com.au		
<u>Attention:</u> Ms Ju	Ilie Thomas			
				4 July 2024
Dear Ms Thomas				
ENVIRONMENT P	ROTECTION LICE	NCE 656 – ENVI	RONMENTAL MANA	GEMENT PLANS
l refer to your email to comments on the upd Noise Management P	lated draft Air Qual	ity Management F	lan, Blast Manageme	
The EPA encourages have determined how objectives.				
The EPA's role, as a r and protection and to of strategies to achiev plans.	set environmental	objectives rather t	han being involved ir	the development
Accordingly the EPA	has not reviewed a	and offers no com	ments on the above r	nanagement plans.
Accordingly, the EFA				•
If you have any furthe		his issue, please	contact Freia Johnsto	n on 02 4908 6872
If you have any furthe or at <u>freia.johnston@</u> e		his issue, please o	contact Freia Johnsto	n on 02 4908 6872
		his issue, please (	contact Freia Johnsto	n on 02 4908 6872
If you have any furthe or at <u>freia.johnston@e</u> Yours sincerely	epa.nsw.gov.au.	his issue, please (	contact Freia Johnsto	n on 02 4908 6872
If you have any furthe or at <u>freia.johnston@e</u> Yours sincerely Had hef HAMISH RUTHERFO A/Unit Head – Opera	epa.nsw.gov.au. PRD tions	his issue, please (	contact Freia Johnsto	n on 02 4908 6872
If you have any furthe or at <u>freia.johnston@e</u> Yours sincerely Had hef HAMISH RUTHERFO A/Unit Head – Opera	epa.nsw.gov.au. PRD tions	his issue, please (	contact Freia Johnsto	n on 02 4908 6872
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