

MOUNT PLEASANT PROJECT

# CONSTRUCTION AIR QUALITY MANAGEMENT PLAN

EMM | 6 August 2015



# Construction Air Quality Management Plan

### Draft report

| Prepared for | Rio Tinto Coal Australia |
|--------------|--------------------------|
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# DEFINITIONS

| Term              | Definition   |  |
|-------------------|--|--|
| PM <sub>10</sub>  | Particles with equivalent aerodynamic diameters of less than 10 $\mu m$  |  |
| PM <sub>2.5</sub> | Particles with equivalent aerodynamic diameters of less than 2.5 $\mu m$ diameter  |  |
| TSP               | Total suspended particulates; a measure of the total amount of small of liquid particulate matter suspended in or falling through the atmosphere |  |

# DEFINITIONS

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# CONSTRUCTION AIR QUALITY MANAGEMENT PLAN



#### 1. INTRODUCTION

#### 1.1 **Description of locality**

The Mount Pleasant Project (the Project) is located in the Upper Hunter Valley of New South Wales, approximately three kilometres (km) north-west of Muswellbrook and approximately 50 km north-west of Singleton. The villages of Aberdeen and Kayuga are located 12 km north-northeast and 3 km north of the Project boundary, respectively.

The Project boundary is taken to be that shown as the modified development consent boundary in Figure 3.2 of the Project's Development Consent (DA 92/97), as modified.

This Construction Air Quality Management Plan (AQMP) has been developed as required by Condition 23, Section 3 of DA 92/97. It forms part of the overarching Environmental Management Strategy for the Project. Relevant consent conditions for air quality management and the sections in this plan where they are addressed are provided in Table 1.1.

As permitted by Schedule 2, Condition13 of DA 92/97, the AQMP is submitted in stages. This plan covers the construction stage, approximately the first 18 to 24 months of the project, as described in the section below.

#### Scope of the Air Quality Management 1.2 Plan

This construction AQMP includes the management of all on-site dust generating activities within the Project boundary, and the potential offsite air quality impacts that may arise from construction activities to develop the project infrastructure, including but not limited to:

- Upgrade of Wybong Road from Bengalla Link Road • through to the mine access;
- Installation of the Hunter River water supply and associated pipeline;
- Establishment of site access roads and haul roads; .

Temporary facilities required for construction activities, e.g. offices, workshops, laydown areas;

- Construction of all permanent infrastructure, including • but not limited to the CHPP (Coal Handling Preparation Plant), administration buildings, workshops, sediment dams, power lines, haul roads, light vehicle access roads, dam walls, diversion drains, storage areas and fuel farms;
- Construction of the rail loop from the Ulan line, and • associated load out structures; and
- Installation of appropriate fencing and barriers to ensure public safety and security for mining and construction.

It is important to note that the majority of the construction activities were assessed to have minimal impact on air quality at sensitive locations, given the location and extent of the work, and only construction activities such as the construction of the CHPP and associated infrastructure, the infrastructure for transporting coal from the CHPP to a rail loop and construction activity at the rail loop are likely to have more noticeable impacts. Construction activities exclude the development of the box-cut and any extraction of coal.

This AQMP does not cover any initial mine pit or dump establishment activity near Muswellbrook. The operational AQMP will include the specific technical approaches necessary for managing operational dust and will be implemented prior to the development of the initial box cut, and will supersede the construction plan. Due to the sensitivity of potential impacts near Muswellbrook, controls associated with initial pit establishment will be addressed within the operational management regime. However, minor activities, such as construction of boundary fences, monitoring equipment, or minor exploration that may occur in the eastern parts of the mine lease boundary are covered in this construction AQMP.

Construction activity will be undertaken by several independent contractors. Individual contracting companies will be required to develop and implement environmental management plans, to be approved by the Project Environment team, which will include air quality management, and will comply with this plan.

The approach to managing construction dust in this AQMP is to limit any visible dust emissions at the source and where this cannot be reasonably controlled, to consider the temporary cessation of that activity until more favourable conditions prevail.

In addition, this AQMP is required under the DA 92/97 to describe the management of greenhouse gases in relation to the Project. Following recent legislative changes to the regulation of greenhouse gas emissions, Coal & Allied is reviewing and updating their management procedures for greenhouse gases. Accordingly, greenhouse gas management has not been included in this version of the AQMP. Greenhouse gas management will be included integrated into the management plan following update of the relevant Coal & Allied management procedures.

The Development Consent (DA 92/97) also requires Coal & Allied to coordinate management of cumulative air quality impacts with neighbouring mines, including Bengalla. The air quality impacts generated during the construction phase of the Project will not be of a scale likely to significantly affect cumulative air quality impacts; however, the operational phase of the project has potential to affect cumulative air quality. Accordingly, cumulative air quality impacts are not considered in the AQMP at this time and a protocol for cooperating with neighbouring mines will be included in the operational AQMP.

# 1.3 Objectives

The objectives of the AQMP are to:

- Manage the dust impacts of the construction phase to minimise impacts on sensitive receivers; and
- Ensure that statutory requirements, including performance criteria, and Rio Tinto corporate standards are met.

Table 1.1 Consent conditions relevant to air quality management

|     | Operating Conditions  | Section                 |
|-----|---|-------------------------|
| 20  | Air Quality Criteria<br>Except for the air quality-affected land referred to in Table 1 [of Development Consent DA 92/97], the<br>Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed<br>so that particulate matter emissions generated by the development do not exceed the criteria listed in<br>Tables 8, 9 or 10 [of Development Consent DA 92/97] at any residence on privately-owned land or on<br>more than 25 percent of any privately-owned land. | Sections 4.3 and 7.1    |
| 21  | Air Quality Acquisition Criteria<br>If particulate matter emissions generated by the development exceed the criteria in Tables 11, 12 or 13<br>[of Development Consent DA 92/97] at any residence on privately-owned land or on more than 25<br>percent of any privately-owned land, then upon receiving a written request for acquisition from the<br>landowner the Applicant shall acquire the land in accordance with the procedures in conditions 6-7 of<br>schedule 4 [of Development Consent DA 92/97]. | Section 7.1             |
| 22  | The Applicant shall:  |                         |
| (a) | implement best practice air quality management, including all reasonable and feasible measures to minimise offsite odour, fume and dust emissions of the development;   | Sections 5.2 and 6      |
| (b) | Minimise any visible off-site pollution;  | Section 4.3.3 & Table 1 |
|     | Minimise the surface disturbance on site:   | Section 6               |

Table 1.1 Consent conditions relevant to air quality management

|     | Operating Conditions   | Section  |
|-----|--|--|
| (d) | Regularly assess the real-time air quality monitoring and meteorological forecasting data and relocate, modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent; and                   | Section 7  |
| (e) | Co-ordinate the air quality management on site with the air quality management at nearby mines (including the Bengalla mine) to minimise the cumulative air quality impacts of the mines, to the satisfaction of the Director-General. | No cumulative air quality impacts are anticipated (refer to Section 1.2) |
|     | Air Quality and Greenhouse Gas Management Plan   |  |
| 23  | The Applicant shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Director-General. This plan must:   |  |
| (a) | Be submitted to the Director-General for approval prior to carrying out any development on site;   | -  |
| (b) | Describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, including a real-time air quality management system that employs reactive and proactive mitigation measures;        | Section 6  |
| (C) | Include an air quality monitoring program that:  | Section 7  |
|     | <ul> <li>uses a combination of real-time monitors and supplementary monitors to evaluate the<br/>performance of the development;</li> </ul>  |  |
|     | <ul> <li>includes PM<sub>2.5</sub> monitoring (although this obligation could be satisfied by the regional air quality<br/>monitoring network if sufficient justification is provided);</li> </ul>                                     |  |
|     | <ul> <li>includes a protocol for determining exceedances of the relevant conditions of this consent;<br/>and</li> </ul>  |  |
| (d) | Include protocol that has been prepared in consultation with the owners of nearby mines to minimise the cumulative air quality impacts of the mines.   | No cumulative air quality impacts are anticipated (refer to Section 1.2) |
|     | Meteorological Monitoring  |  |
| 24  | For the life the development, the Applicant shall ensure that there is a meteorological station operating in the vicinity of the site that:  | Section 7  |
| (a) | Complies with the requirements in the Approved Methods for Sampling of Air Pollutants in NSW guideline; and  | Section 7  |
| (b) | Is capable of continuous real-time measurement of temperature lapse rate in accordance with the <i>NSW Industrial Noise Policy</i> , or as otherwise approved by the Environmental Protection Agency (EPA).                            | Section 7  |
|     | Schedule 5   |  |
|     | Environmental Management, Reporting and Auditing   |  |
| 2   | Management Plan Requirements   |  |
|     | The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:   |  |
| (a) | Detailed baseline data;  | Section 4.2  |
| (b) | <ul> <li>A description of:</li> <li>the relevant statutory requirements (including any relevant consent, licence or lease conditions);</li> </ul>  | Section 4.3  |
|     | <ul> <li>any relevant limits or performance measures/criteria;</li> </ul>  |  |
|     | • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;  |  |
| (C) | A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;  | Section 6  |
| (d) | A program to monitor and report on the:  | Section 7  |
|     | • impacts and environmental performance of the development;  |  |
|     |  |  |
|     | effectiveness of any management measures (see c above);  |  |

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# Table 1.1 Consent conditions relevant to air quality management

|     | Operating Conditions  | Section  |
|-----|---|--|
| (f) | A program to investigate and implement ways to improve the environmental performance of the development over time;  | Section 9.2  |
| (g) | <ul> <li>A protocol for managing and reporting any:</li> <li>incidents;</li> <li>complaints;</li> <li>non-compliances with statutory requirements; and</li> <li>exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> | Sections 6.3 & 9.2   |
| (h) | A protocol for periodic review of the plan.   | Section 10   |
| 5   | Management of Cumulative Impacts  |  |
|     | In conjunction with the owners of the nearby mines (including Bengalla mine), the Applicant shall use its best endeavours to minimise the cumulative impacts of the development on the surrounding area to the satisfaction of the Director-General.      | No cumulative air quality impacts are anticipated (refer to Section 1.2) |
|     | Note: Nothing in this consent is to be construed as requiring the Applicant to act in a manner which is contrary to the Trade Practices Act 1974.   |  |

# 2. BACKGROUND

The Project has approval under Development Consent (DA 92/97) to extract up to 10.5 million tonnes of run-ofmine (ROM) coal per year initially by using truck and shovel, and later on through dragline operations. The potential impact of the Project on local air quality dispersion modelling was assessed as part of the EIS (ERM Mitchell McCotter, 1997). The assessment indicated that the greatest potential air quality impacts would be to the north-west and south-east of the Project boundary, in line with the prevailing winds for the area. Potentially impacted areas to the north-west consisted of a small number of rural properties. To the south-east of the Project, an increased number of Muswellbrook residences were predicted to experience an impact on air quality. To date, no coal has been mined from the Project, however, the development consent was substantially commenced in 2004 through construction of an environmental dam.

In October 2010, the Project sought approval for a minor modification to DA 92/97. The modification assessment determined that there would be no discernible difference in the measureable dust levels at nearby private receivers as a result of these changes. This modification was granted approval on 19 September 2011.

This AQMP is based on the modified consent conditions and the air quality impact assessment in the EIS (ERM Mitchell McCotter, 1997).

# 3. CONSULTATION

Schedule 3, Condition 23 of DA 92/97requires the Air Quality Management Plan be prepared to the satisfaction of the Secretary (formerly Director-General). The sections below provided an overview of consultation that has occurred during the preparation of the Construction AQMP.

It is noted that further consultation will completed during preparation of the Operational AQMP.

# 3.1 Government Agencies

This AQMP at version 7.0 is being submitted to the Department of Planning and Environment (DP&E) as a minor update to version 6.0 as submitted in 2012. Recent discussions with DP&E have indicated that this is appropriate given that scope of the project nor the requirements of the development consent have not changed since 2012.

# 3.2 Neighbouring Mines

The neighbouring Bengalla mining operation is adjacent to the Mount Pleasant construction area. Liaison with Bengalla operations has commenced in regards to air quality management and monitoring cooperation options.

At this stage, no formal agreement has been developed with Bengalla, however an in principle agreement of data sharing has been agreed upon.

It is noted that a formal agreement will be developed in consultation with Bengalla during the preparation of the Operational AQMP.

# 3.3 Community

Throughout the development of the construction AQMP, interested local community members have been engaged on through a series of focus group meetings and workshops (2007 and 2012). These sessions discussed operational control measures as described in the draft management plans. All of the suggestions put forward by the community members have been assessed and implemented to the management plan.

# 4. EXISTING CHARACTER

# 4.1 Existing Character / Infrastructure and Activities

The Project is located approximately 3 km to the westnorth-west of the town of Muswellbrook with its commercial hub and surrounding suburbs. Further south east is South Muswellbrook, which is predominantly a residential area, and the Muswellbrook Racecourse, which includes residential neighbours. To the northnorth-east is the town of Kayuga, with residential properties located along its eastern boundary. More isolated residences are located further afield to the east, south west and south.

Located to the south of the Project are the neighbouring mines Bengalla and Mt Arthur Coal, and further to the west, Muswellbrook Coal Company. To the south-east, towards Singleton, are the Bayswater and Liddell power stations, along with a number of other open cut and underground coal mines. All of the respective operations contribute to the air quality in the local air shed to varying degrees.

Land-use in the vicinity of the Project includes coal mining, grazing, viticulture and rural residential holdings. Other features of interest to air quality include the Hunter River Valley which is in a general north to south alignment in this area and intersects with the general north-west to south-east alignment of the Hunter Valley.

The terrain surrounding the Project is dominated by the Hunter Valley landform which is, for the most part, gently undulating within the valley with steeper slopes found along the valley walls. Much of the higher ground and steeper slopes retain moderately dense woodland cover which forms part of the national parks and state forests found within the region.

Dust in the vicinity of the Project is currently monitored by a series of dust gauges that measure deposited dust on a monthly basis. Other dust monitoring parameters are measured by the neighbouring mines Bengalla and Mt Arthur Coal and by the Upper Hunter Air Quality Monitoring Network in Muswellbrook. Monitoring on site generally shows that the air quality in terms of deposition is reasonably good and levels remain below 4g/m<sup>2</sup>/month. Results for 24-hour average Total Suspended Solids (TSP) from surrounding monitors reveal a typical seasonal trend in TSP concentrations, peaking during the warmer months and decreasing during the colder months. This common trend is seen consistently in the Hunter Valley. The peaks can be attributed to natural events such as reduced rainfall leading to enhanced dust lift off and increased pollen levels. Annual average PM<sub>10</sub> levels were below the EPA criteria of 30ug/m<sup>3</sup>, except on occasions during 2009, when a series of dust storms impacted the area.

# 4.2 Meteorological Conditions

The valley itself runs along a north-west/south-east axis through the Great Dividing Range and gives rise to the distinct channelling of winds along this axis that is prevalent in much of the area. Almost no winds originate from the north-east and south-west quadrants. The local topography plays an important role in steering and channelling the wind, generating turbulence and large scale eddies of which all influence dispersion of pollutants. Other influences in the valley include the nighttime drainage flows (katabatic winds) that transport air from the mountains down across the valley as well as the daytime flows that transport the air back upslope. There is also a strong seasonal variation in the prevailing wind direction in the Hunter Valley, with winds during summer originating predominantly from the south-eastern quadrant with fewer winds originating from the northwestern quadrant. During winter, this pattern is reversed and winds from the north-west are dominant. Spring and autumn are a combination of these two trends. This is a common seasonal pattern found throughout the Hunter Valley and is shown in the wind roses presented in the environmental impact statement (EIS) (ERM Mitchell McCotter, 1997).

# 4.3 Impact Assessment Criteria

### 4.3.1 Introduction

The effectiveness of the air quality management actions will be determined by specific performance indicators, discussed in the following sections.

# 4.3.2 Operational air quality criteria

Operational air quality criteria for the Project are given in the DA 92/97 and reproduced in Section 7.1. Monitoring of dust levels will be conducted prior and during construction as part of baseline data gathering for the operational management of the Project.

The HSE Superintendent and Environment officer will have access to this monitoring data, and will need to ensure that all significant dusty episodes/events (natural or construction related) during the construction period are recorded and maintained. With good quality assurance and a written log of any significant dust events the recorded data will be vitally useful for the operational management of the Project. Compliance with operational dust criteria (see Section 4.3.2) can be demonstrated where monitored dust levels are below criteria, but using the data in this way for managing construction is not advisable for a number of reasons:

- There will be periods where the monitoring data exceeds criteria due to events not related to construction. These events presently occur and will continue to occur regardless of any construction activity. Significant analysis may be necessary to show whether compliance is or is not related to construction activities when dust levels exceed criteria. This may not be practical due to the complex number of independent, ad-hoc activities that occur at any time during construction;
- The criteria are the wrong metric for managing low impact, short term ad-hoc construction activity, as most of the criteria apply to annual average levels which are not relevant for short term construction activity. The 24-hour average criteria are unlikely to be useful either, as many contracted activities will occur over brief periods and will not present any consistent pattern or daily trend in the data that can be identified or acted on; and
- Furthermore, dust generated by construction is unlikely to be significant enough to be clearly measurable, meaning the levels of construction generated dust would not be detectable outside the natural variability in the data. Accordingly, the data would not be of any use as the primary tool for construction dust management.

Therefore, presenting the community or regulator with monitoring data as a measure of compliance for construction activity is unlikely to be successful and could become complicated or unmanageable if started.

In this case, applying best practice means that the primary focus needs to be on the day to day management of visibly dusty construction activities, rather than reliance on monitoring data.

### 4.3.3 Specific performance indicators

Table 4.1 details specific air quality management performance indicators for Project construction activities.

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### Table 4.1 Specific performance indicators

| Objectives  | Target  | Performance indicator  |
|---|---|--|
| Minimise dust as far as practicable.  | Visible dust contained within the mine lease.   | Visible dust contained within the footprint of the activity.<br>No visible dust drifting outside the mine lease.   |
| Ensure all applicable<br>best practice measures<br>are being taken to<br>minimise dust. | Measures are comparable to established best practice (as applicable to the specific situation). | <ul> <li>Maintaining on-site documentation or a log of:</li> <li>dust mitigating measures taken; and</li> <li>the aspect of the operation to which the measures were applied.</li> </ul> |
| Demonstrate that dust has been minimised.   | Proof of performance for reporting to community and regulator.                                  | Log of regular visual inspections which shows required<br>performance is met, and where not met, that effective<br>action was taken to meet.   |

# 4.4 Potential Effects

Typically, dust generating activities during construction may arise from:

- traffic on unsealed roads, or across unsealed surfaces;
- loading and unloading of materials;
- wind erosion from exposed areas;
- clearing of vegetation, topsoil stripping;
- dozers operating on material;
- stockpiling of materials, topsoil and gravels;
- drilling and blasting of materials;
- grading roads; and
- re-handling of material.

Dust is of concern for nuisance and health reasons. Dust deposition on surfaces causes nuisance impacts, whereas existing evidence suggests that health effects from exposure to airborne particulate matter predominantly arise from affects on the respiratory and cardiovascular systems. These potential impacts are most closely associated with finer particles (PM<sub>10</sub>, PM<sub>2.5</sub> and below).

The prevailing weather conditions will play an important role in the management of dust impacts. Winds originating from the north-west (most prevalent during winter and during night-time katabatic flows) are significant as these winds could transport particulate matter from the Project towards Muswellbrook.

Consideration of different dispersion conditions, for example prolonged calm periods or strong winds, is a significant factor in implementing the most appropriate management strategy at any time. Under light winds and stable conditions the dispersion potential is limited and wind independent dust sources such as dozers, excavators, traffic and material handing are likely to be the largest contributors to impacts and should be managed accordingly. Conversely, when strong winds are experienced, wind erosion and wind dependent sources are likely to contribute most significantly. Thus, in most cases prolonged calm periods and strong steady wind conditions are generally likely to lead to the most potential impact.

Relative to mining operations, the scale of emissions generated during construction will be small and there is low risk for any actual impact to occur at receptors.

Potential risk aspects for construction include visible dust emissions, and also activity that may occur in close proximity to any residence, such as fencing, or installation of equipment. Whilst the actual risk of exceeding acceptable dust criteria at receptors from small scale activity near receptors is low, the first activities on a greenfield site will attract community attention to what is most apparent, i.e. visible dust.

Therefore the focus of this AQMP is on visible dust, as it represents the highest risk air quality issue. Odour and

fumes are considered to be very low risk during the construction phase of the project, and therefore management of these are not considered in this document. Monitoring during construction is discussed in Section 7.2.

# 5. MANAGEMENT & MITIGATION

# 5.1 Principles and framework

Environmental Management at Rio Tinto is based on the following principles and framework which are described in more detail in the Environmental Management Strategy (Coal & Allied 2013);

- Rio Tinto Environment Performance Standard E12 – Air Quality Protection;
- Rio Tinto Coal Australia (RTCA) integrated Health, Safety, Environment, Quality Management System (HSEQMS) Framework policy, plan, do, measure, review.

# 5.2 Best Management Practice

Section 128 of the NSW *Protection of the Environment Operations Act* 1997 requires that the project must operate "...by such practicable means as may be necessary to prevent or minimise air pollution." This requirement applies the concept of practicable means to air quality management.

Part 7.2.1 of the NSW Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005) introduces the concept of minimising (toxic) air pollutants "...to the maximum extent achievable through the application of best-practice process design and/or emission controls..." and outlines that this would have regard to technical, logistical (i.e. practicable) and financial (cost-effective) considerations.

Best practice in this AQMP is defined as practices used to manage air quality that is consistent with the following:

 the measure should firstly aim to prevent emissions, and where that is not practicable, to generally reduce emissions and impacts<sup>1</sup> to the environment as a whole<sup>2</sup>

- The measure is reasonably accessible and is developed on a scale which allows implementation at the Project, under economically and technically viable conditions, taking into consideration the costs and advantages; and
- 3. Of the options available, it is the most effective in achieving a high general level of protection of the environment as a whole.

This definition is derived from the European Union Directive 2008/1/EC definition of Best Available Techniques.

Management actions outlined in Section 6.3 are consistent with best practice management as defined above.

most likely to influence the level of impact, even if these are relatively minor sources compared to others.

2 Meaning more than just air quality impacts should be considered.

# 6. AIR QUALITY MANAGEMENT CONTROLS

referenced in Table 6.1 below is included to this plan as Appendix A - Air Quality Control TARP.

# 6.1 Management actions

Best practice dust mitigation will be applied to the Project by means of the air quality control management measures shown in Table 6.1 below. This table includes contingency actions which should be considered in the event of adverse conditions, and for the management of complaints. The Trigger Action Response Plan (TARP) as

Table 6.1 Best practice air quality management control measures and actions

| Control measure target | Management actions   |
|------------------------|--|
| General                | • The Site induction will include air quality requirements to ensure employee and contractor awareness of potential dust impacts, especially with respect to the nearest receptors, the location of receptors to whom the activity is visible, and the performance indicators in row one of Table 4.1.   |
|                        | <ul> <li>A programme of regular visual inspection of dust emissions and meteorological conditions will be conducted<br/>by the project HSE team at least once daily. Contractor supervisors will use the Mount Pleasant Air Quality<br/>TARP to monitor dust continually.</li> </ul>   |
| Disturbed areas        | Clearing will be kept to the minimum required for safe working conditions.   |
|                        | • Cleared areas will be watered regularly during construction activities to control visible dust lift off, as outlined in the TARP.  |
|                        | Progressively reshape and revegetate completed areas within 3 months of completion.  |
|                        | • Where any exposed areas, stockpiles, earth mounds, cuttings and the like are predicted to be inactive for one month or more, they will be treated with water or chemical controls.   |
|                        | • Trees and branches that have been cleared will be used in stabilising rehabilitated landforms. This will include spreading of mulch on completed landforms.  |
| Handling of materials  | • When loading or unloading material, for example loading a truck with an excavator, or unloading a dump truck, the drop height will be minimised as far as practicable, e.g. by taking extra care when tipping the excavator bucket, or by unloading partially into an existing material pile, rather than beside it.   |
|                        | • Material with low moisture content will be sprayed with water prior to and/or during handling if necessary and where practicable to control visible dust.  |
|                        | <ul> <li>Material handling will be avoided or postponed if excessive dust lift off occurs.</li> </ul>  |
|                        | • Spillage from loading/unloading will be minimised and cleaned up as soon as practicable. For regularly trafficked roads and any hardstand areas (cement, bitumen, road base and the like) this will be done within a few hours.  |
|                        | • Relocation/rescheduling of activities known to produce excessive dust will occur during adverse weather conditions as assessed by visual inspection combined with onsite meteorological monitoring data.   |
|                        | <ul> <li>Topsoil stripping will preferentially be undertaken when there is sufficient soil moisture to prevent or minimise<br/>significant dust lift-off i.e. expediting topsoil stripping during or following rain (however not when topsoil is<br/>saturated to avoid impacts to soil structure restricting potential re-use) to take advantage of increased<br/>surface and subsurface soil moisture levels.</li> </ul> |
|                        | Alternatively fresh water will be applied from water trucks to increase topsoil moisture if significant dust lift off occurs during stripping.   |

| Control measure target                     | Management actions   |  |  |  |
|--|--|--|--|--|
| Roads                                      | • Permanent light vehicle roads will be sealed or treated with chemical controls within 3 months of construction.  |  |  |  |
|  | • Speed limits are imposed on all roads for safety reasons. Safe speed limits are generally well below the speeds at which large trucks may generate dust emissions due to wake effects or under-body air turbulence. Light vehicles however can significantly increase generated dust from unsealed roads with increased speed. The speed limits on light vehicle roads will be limited by the Project Manager to reduce any visible dust wake. Where this speed is impracticably slow, the road will be watered or its surface upgraded. |  |  |  |
|  | Roads identified by the Project Manager as no longer required will be rehabilitated within 3 months of the end of their use.   |  |  |  |
|  | • Permanent roads (i.e. sealed roads) and parking areas will be regularly cleaned to prevent the build-up of loose material.   |  |  |  |
|  | • Primary trafficked unsealed roads (i.e. used for more than 12 months) will be constructed to achieve a compact, stable and durable surface, using material with a low silt/fines content.  |  |  |  |
|  | <ul> <li>Primary trafficked unsealed roads will be regularly maintained to keep the dust levels at an acceptable level<br/>(in line with the requirements of any relevant EPL condition and as identified in the TARP) by ensuring a<br/>smooth surface, defining road edges and removing excessively fine/silty material.</li> </ul>  |  |  |  |
|  | • Primary trafficked unsealed roads will be regularly watered. If necessary, chemical stabilisers / suppressants will be applied, unless it can be proved that the products are ineffective.   |  |  |  |
|  | • Other unsealed roads and tracks will be watered to manage dust emissions as necessary, with risk-based consideration of application of additional measures such as chemical controls and gravel surfacing.   |  |  |  |
|  | Road vehicles will remain on formed roads and tracks at all times (i.e. no discretionary off-road driving). Off road driving will limited to necessary situations, e.g. survey/inspection work.  |  |  |  |
| Drilling and blasting                      | The blasting contractor will ensure that:  |  |  |  |
|  | All blasting will be conducted during daylight hours when dispersion is favourable.  |  |  |  |
|  | Blasting will be avoided during low level temperature inversions.  |  |  |  |
|  | • Drill rigs will utilise water injection or will be fitted with dust collectors, dust aprons or dust extraction cyclones.   |  |  |  |
|  | <ul> <li>Blast hole stemming, using coarse stemming, not drilling fines, will always be used to prevent venting of<br/>explosion gases.</li> </ul>   |  |  |  |
|  | Blasts will be designed to avoid excessive throw.  |  |  |  |
|  | Consider alternatives, such as hydraulic breaking if compatible with noise management requirements   |  |  |  |
| Adverse conditions and contingency actions | <ul> <li>Weather conditions, forecasts, scheduled construction activity and visible dust levels will be assessed and<br/>communicated to the project manager by the HSE team when adverse conditions are expected to determine<br/>what mitigating action may be required.</li> </ul>  |  |  |  |
|  | <ul> <li>Any required mitigating actions will be implemented by the relevant contractors, and inspections of dust<br/>levels and weather conditions by the HSE team will continue regularly to assess the level of any<br/>improvement.</li> </ul>   |  |  |  |
|  | Mitigating measures will include:  |  |  |  |
|  | <ul> <li>scheduling of additional water cart(s) in advance;</li> </ul>   |  |  |  |
|  | <ul> <li>scheduling of amended working hours or working locations during unfavourable dispersion conditions;</li> </ul>  |  |  |  |
|  | <ul> <li>review of the elevation and wind exposure of activities and, where possible, relocating the<br/>activity to a sheltered area or undertaking of alternative, non-dusty activity until more suitable<br/>conditions return; and/or</li> </ul>   |  |  |  |
|  | <ul> <li>temporary cessation of work within an area or a particular activity when it is identified to be a<br/>likely contributor to elevated dust measurements, until more favourable conditions return.</li> </ul>   |  |  |  |

| Table 6.1 Best practice air quality management control measures and act | ions |
|---|------|
|---|------|

| Control measure target                           | Management actions  |
|--|---|
| Community and regulatory concern<br>(complaints) | <ul> <li>Any concerns raised will be managed through the complaints procedure. As a minimum, this will include:         <ul> <li>using the Coal and Allied complaints hotline, available 24 hours, seven days a week, and advertised in local newspapers and newsletters;</li> <li>Execution team member contacting the complainant to identify the nature of the issue;</li> <li>Ensuring the issue is rectified as required; and</li> <li>documenting steps taken.</li> </ul> </li> </ul> |

# 6.2 Responsible parties

Roles and responsibilities are described in Section 9.5.

#### 7. **MONITORING PROGRAM**

will be used for the management of both operational and construction related air quality.

#### 7.1 Dust criteria

Table 7.1 below describe the relevant air quality criteria from the Development Consent (DA92/97). These criteria

### Table 7.1 Development Consent Conditions Addressed

| Pollutant                     | Averaging period | <sup>e</sup> Impact<br>assessment<br>criterion | <sup>a,b</sup> Basis | <sup>f</sup> Land acquisition criterion | <sup>a,b</sup> Basis |
|-------------------------------|------------------|--|----------------------|---|----------------------|
| dTSP                          | Annual           | 90 µg/m³                                       | Cumulative           | 90 µg/m³                                | Cumulative           |
| <sup>d</sup> PM <sub>10</sub> | Annual           | 30 µg/m³                                       | Cumulative           | 30 µg/m³                                | Cumulative           |
| <sup>d</sup> PM <sub>10</sub> | 24-hour          | 50 µg/m³                                       | Cumulative           | -                                       | -                    |
| <sup>d</sup> PM <sub>10</sub> | 24-hour          | -  | -                    | 50 µg/m³                                | Increment            |
| <sup>d</sup> PM <sub>10</sub> | 24-hour          | -  | -                    | 150 µg/m³                               | Cumulative           |
| <sup>c</sup> Deposited dust   | Annual           | 2 g/m <sup>2</sup> /month                      | Increment            | 2 g/m <sup>2</sup> /month               | Increment            |
| CDeposited dust               | Annual           | 4 g/m <sup>2</sup> /month                      | Cumulative           | 4 g/m <sup>2</sup> /month               | Cumulative           |

Notes: a Cumulative - Incremental increase in concentrations due to the Project plus background concentrations due to all other sources.

<sup>b</sup> Increment - Incremental increase in concentrations due to the Project on its own.

c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003 methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

<sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General of DP&I.

e Except for the air quality-affected land referred to in Table 1 of Schedule 3 of the Development Consent (DA 92/97) the Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not exceed the criteria at any residence on privately-owned land or on more than 25% of any privately-owned land.

<sup>f.</sup> If particulate matter emissions generated by the Project exceed the criteria at any residence on privately owned land, or on more than 25% of any privately owned land, then upon receiving a written request for acquisition from the landowner the proponent shall acquire the land in accordance with the procedures in conditions 6-7 of Schedule 4 of the Development Consent DA 92/97.

#### 7.2 **Operational monitoring plan**

### 7.2.1 Purpose

The following plan is an outline of the monitoring programme that will apply during the operations phase. It is provided for reference only and will not be used for management of construction related dust issues. Monitoring will occur throughout construction as per section 7.3.

The operational monitoring equipment will be installed during construction. The monitoring programme is not designed to provide data for managing construction dust, it is designed to provide baseline data for the operational aspects of the Project and prior to the commencement of Project operations. Section 7.2.2 below summarises elements of the programme which will be established during construction.

### 7.2.2 Programme summary

The proposed monitoring locations are subject to change (pending site inspection). The location of the existing and proposed monitoring equipment is detailed in Table 7.2 and the proposed locations are shown in Figure 7.1. Note that the location of the real-time PM<sub>10</sub> monitors is approximate, as siting is yet to be determined. All permanent (fixed) monitors shown in Figure 7.1 are to be operational at least one year prior to the commencement of the operational phase.

A reactive management system will be installed to manage the day-to-day impacts of dust and fine particles due to the mine's operation. This would include a telemetry network that would link real-time measurement of PM<sub>10</sub> to meteorological data that can be accessed and evaluated remotely.

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An air quality network will be established to enable realtime analysis and management of potential dust impacts from the Project and neighbouring mines Bengalla and Mt Arthur Coal during the operational phase of the Project. A data access/sharing agreement will be established with the Upper Hunter Air Quality Monitoring Network (UHAQMN), which currently measures  $PM_{10}$  and  $PM_{2.5}$  in Muswellbrook.

Table 7.2 Proposed Operational Air quality monitoring network

| Parameter                                   | Frequency             | Monitor location                         | Limit/guideline                           | Sampling method                              |
|---|-----------------------|--|---|--|
|   |                       | D1                                       |   |  |
|   |                       | D3                                       |   |  |
|   |                       | D4                                       |   |  |
|   |                       | D5                                       | Maximum increase in deposited dust level: |  |
|   |                       | D6                                       |   |  |
| Descriptional duration where the            |                       | D7                                       | 2 g/m <sup>2</sup> /month                 | AS3580.10.1:2003                             |
| Depositional dust – privately<br>owned land | Monthly               | D8                                       |   | (Dust gauge)                                 |
|   |                       | D9                                       | Maximum total deposited                   | (Dust gauge)                                 |
|   |                       | D10                                      | dust level:                               |  |
|   |                       | D11                                      | 4 g/m <sup>2</sup> /month                 |  |
|   |                       | D12                                      |   |  |
|   |                       | D13                                      |   |  |
|   |                       | D14                                      |   |  |
| Total suspended particulate                 | 24 hours every 6 days | TSP HVAS (to be determined)              | 90 µg/m <sup>3</sup> (Annual<br>average)  | AS 3580.9.6:2003                             |
|   |                       |  |   | (High volume air sampler)                    |
| PM <sub>10</sub>                            | 24 hours every 6 days | PM <sub>10</sub> HVAS (to be determined) | 30 µg/m³ (Annual<br>average)              | AS 3580.9.6:2003                             |
|   |                       |  |   | (High volume air sampler)                    |
|   |                       |  | Short term concentration                  |  |
|   |                       |  | 50 µg/m³ (24 hour)                        |  |
|   |                       | TEOM 1 (to be                            |   | AS3580.9.8-2008                              |
|   |                       | determined)                              | Long term concentration                   | Tapered element oscillating<br>microbalance) |
| PM <sub>10</sub>                            | Real-time             | TEOM 2 (to be<br>determined)             | 30 µg/m³ (Annual<br>average)              | AS3580.9.7-2009                              |
|   |                       | TEOM 3 (to be                            | average)                                  | Tapered element oscillating                  |
|   |                       | determined)                              | Also to be used for                       | microbalance)                                |
|   |                       |  | management purposes                       | ·  |
|   |                       |  |   | AS 2923-1987                                 |
| Meteorological Stations                     | Real-time             | MTW AWS                                  | Measurement for<br>management purposes    | Measurement of horizontal                    |
|   |                       |  |   | winds <sup>a</sup>                           |

Notes: <sup>a</sup> Meteorological station is calibrated and maintained to a Class 2 performance level.

# 7.3 Construction monitoring plan

# 7.3.1 Scope

This Air Quality Monitoring Programme outlines the monitoring required to assess compliance with this Management Plan during construction. Monitoring will be via a combination of simple real time monitors, visual assessments and supplementary monitoring devices.

# 7.3.2 Programme

Air Quality monitoring during construction will focus on active construction areas / dust generating activities. The exact locations will vary depending on the location of the work, and its position relative to any sensitive receptors and prevailing weather. The following notes apply to the dust monitoring:

- At least two portable real time dust monitors will be positioned around each construction area, one upwind and one downwind to represent dust impacts to the nearest sensitive receptor;
- The system will provide for real time upwind (background) and downwind levels.

Table 7.3 Construction air quality monitoring

- If the monitors indicate there is an exceedance to the limits as described in Table 7.3 below, the TARP will be enacted.
- The downwind monitor will be moved further from the construction activity until it reads the same as the background level. This will give an indication of how far dust is travelling, and whether dust controls need to be increased.
- The MUSWELLBROOK NW (located Cnr Wybong Rd and Kayuga Rd) Upper Hunter Air Quality Network monitor data may also be used in the investigation of a non-compliance;
- Visible dust will also be a trigger for implementing controls as per the TARP.

Details of the meteorological conditions, the work occurring, visible dust levels and the readings from the monitors will be recorded to build an understanding of the effectiveness of the controls under different conditions.

| Parameter                                   | Frequency                 | Monitor location                                  | Limit/guideline                              | Sampling method  |
|---|---------------------------|---|--|--|
|   |                           |   | Maximum increase in deposited dust level:    |  |
| Depositional dust – privately<br>owned land | Monthly                   | D1, D3, D4, D5, D6, D7<br>D8, D9, D10, D11, D12,  | 2 g/m <sup>2</sup> /month                    | AS3580.10.1:2003   |
| owned land                                  |                           | D13, D14.   | Maximum total deposited dust level:          | (Dust gauge)   |
|   |                           |   | 4 g/m <sup>2</sup> /month                    |  |
| Total suspended particulate                 | Annual                    | Upwind and Downwind of<br>construction activities | 90 µg/m³                                     |  |
| PM10  | Annual                    | Upwind and Downwind of construction activities    | 30 µg/m³                                     | Relocatable real time monitors<br>capable of reporting short term<br>and annual average PM <sub>10</sub> |
| PM <sub>10</sub>                            | 24-hour                   | Upwind and Downwind of construction activities    | 50 µg/m³                                     |  |
|   | tations Real-time MTW AWS |   | M  | AS 2923-1987   |
| Meteorological Stations                     |                           | Measurement for<br>management purposes            | Measurement of horizontal winds <sup>a</sup> |  |

Notes: \* Where PM<sub>10</sub> levels are met it can be assumed that TSP levels are met.

# 7.3.3 Compliance issues identified through monitoring

Where the dust monitors have identified an exceedance of the applicable dust limits, the following protocol will be followed.

- quantify the level of the exceedance and compare against the relevant criteria as outlined in Table 7.3;
- document the date and time of the exceedance(s);
- confirm that weather conditions prevailing at the time of the exceedance were applicable according to the consent;
- identify the activities at the time of the exceedance, with the view to isolate the likely item of plant or activity that caused the exceedance;
- log and report all the details of the exceedance including final resolution outcomes. The report will be provided to the regulator and the landowner within two weeks of the exceedance.

Where visual dust is sighted leaving the site or considered excessive the following protocol will be followed:

- The appropriate construction works manager will be contacted to discuss immediate control options;
- Further visual assessments within 15 minutes to ensure changes or controls implemented have been effective.

Should a complaint be received due to dust potentially generated from construction related activities, the TARP as outlined in Appendix B will be enacted.

Where complaints due to construction dust require additional monitoring this will be undertaken at a location representative of the complainant's residence.

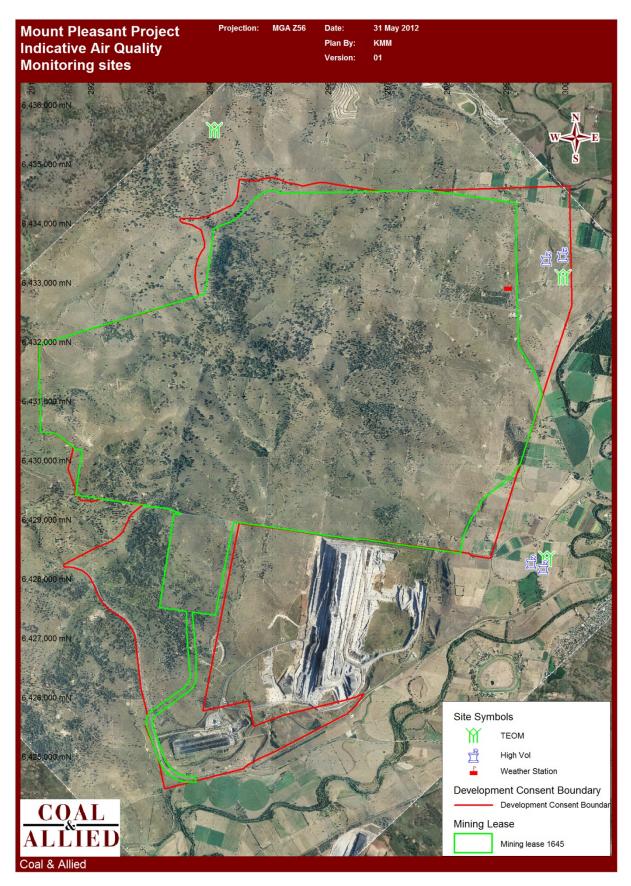
# 7.3.4 Reporting

Reporting which will occur during the construction phase is detailed below in Table 7.4.

Table 7.4 Air quality reporting relevant to monitoring (during construction).

| Reporting aspect   | What is reported   | When                                   | Who to report to                       |
|--|--|--|--|
| Measured dust levels for deposited dust and $PM_{10}$ (as per Table 7.3) | Events where dust levels exceed the relevant criteria* in table 7.3. | Event based<br>Annual (Annual Review). | DP&E (compliance officer - Singleton). |

Notes:  $\ ^{*}$  Where PM\_{10} levels are met it can be assumed that TSP levels are met.



### *Figure 7.1 Air quality monitoring network for operations*

# 8. COMPLIANCE PROTOCOL

Exceedance of the criteria as outlined in the Approvals will be determined in accordance with Section 7.

# 9. IMPLEMENTATION OF THE AIR QUALITY MANAGEMENT PLAN

# 9.1 Complaints Management

The Environmental Services department will maintain a centralised location to record communication details of relevant external stakeholders. Complaints will be handled in accordance with CNA-09-EWI-SITE-003 Environmental Complaints Line work instruction, which is an internal document regularly updated.

The Complaints Procedure will utilise the Community Complaints Hotline, 1800 656 892 that will be regularly advertised in the Muswellbrook Chronicle. The Complaints Hotline will be in operation 24 hours per day, seven days a week. Complaints will be recorded and investigated by project staff. All other complaints lodged via letter, in person or by fax, will also be recorded and investigated by project staff. An initial response to the complainant will be made as soon as practicable by the project staff with follow up actions including investigation of complaint, undertaking mitigation measures where applicable, reporting complaint to senior management and follow up correspondence with the complainant to explain the outcome of the complaint investigation.

# 9.2 Roles and Responsibilities

During construction, there are likely to be a number of different contractors on site and working in different areas. While the Rio Tinto Execution Team will have overall responsibility on site, the relevant construction area project manager, supervisor or leading hand (the responsible person) will be responsible for daily visual assessments of dust from their construction areas and activities, and for maintaining a written log of any significant observed visible dust episodes, and any actions taken and outcomes associated with these. An internal response protocol has been developed to provide guidance on the level of actions to take for different triggers (Mount Pleasant Air Quality TARP). The responsible person can also raise concerns about areas outside their control, if in their view the emissions from that area are not adequately controlled.

The Rio Tinto Project Manager will have overall authority to direct any on-site contractors and Coal & Allied staff to take dust mitigating actions for specific areas or activities, up to and including temporary cessation of activity until favourable conditions return.

At least one of the identified responsible persons will have available at any time:

- at least one operational site water cart, fitted with spray nozzles for watering roads and water jets for spraying atop stockpiles and the like;
- access to water and if necessary chemical agents to use in the water cart, as necessary to adequately control dust from all areas; and
- the ability to secure additional temporary resources, such as a second water cart or a fogging cannon, to use in the event of actual or predicted adverse conditions, but only where such equipment is reasonably procurable in sufficient time, or for sufficient duration to be of benefit. Best practice mitigation, by definition, must be balanced with other environmental constraints, for example excessive wetting with water containing salts to control dust may have ecological implications that require consideration.

As part of the tender process, the contractor will provide Coal & Allied with a written environmental management plan which incorporates how it will manage dust from the area or activity. This will include the number of water trucks to be provided. This plan must be commensurate and compatible with this AQMP and to the satisfaction of the responsible person.

Construction water will be drawn from nearby to site (either from Bengalla or other approved water sources). The Hunter River water pipeline will be constructed early in execution and water fill points will be installed as required along the length to ensure ease of access to water at different stages of construction.

## Table 9: Roles and Responsibilities

| Project Manager – Construction                                    |
|---|
| Direction and overall project oversight                           |
| Manager – Environmental Services (Hunter Valley Services)         |
| Technical oversight   |
| Site Environmental Co-ordination/Officer – Mount Pleasant         |
| Exceedance investigation  |
| Receipt of community complaints                                   |
| Receipt of dust alarms and communicate                            |
| Respond to community complaints                                   |
| Complete daily dust inspections                                   |
| HSE Superintendent – Mount Pleasant                               |
| Management and implementation of air quality monitoring programme |
| Non-compliance reporting  |
| Manage maintenance of unattended monitoring network               |
| Management Plan reviews   |
| Technical oversight   |
| Systems development   |
| Principle contractor / Sub contractors                            |
| Comply with the requirements of this plan when undertaking works  |
| Supervisors / Shift Co-ordinator                                  |
| Implement modification of activities following triggers           |
| Monitor the works and activities as they relate to this plan      |
| All Site Personnel  |
| Understand the requirements of this plan                          |
| Community Relations   |
| Follow up with community as required                              |

# 10. Reporting and Review

# 10.1 Internal reporting

Reporting on the effectiveness of the air quality management actions and performance against objectives will be conducted through internal quarterly reviews and annual regulatory and corporate reporting.

# 10.2 External reporting

The performance of this AQMP will be reviewed annually through the Annual Review process with the final report published to the company website.

Details will be provided in these reports on the success of the AQMP implemented on the Project site and any areas requiring modification to meet the performance indicators given in Table 4.1, will be updated so long as these meet the best practice criteria given in Section 4.3.3.

## 10.3 Review

The construction AQMP will be reviewed and updated prior to any mining activities occurring on site such as the development of the box cut or extraction of coal.

The AQMP will be reviewed within three months of the submission of the Annual Review and updated to the satisfaction of the Director-General of the DP&E where necessary.

The AQMP will also be reviewed within three months of the completion of an independent environmental audit, any non-compliance of the Approvals' criteria or any modification to the conditions of the Approvals.

Any major amendments to the AQMP that affect its application will be undertaken in consultation with the appropriate regulatory authorities and stakeholders. Minor changes such as formatting edits may be made with version control on the Project website. The AQMP may also be revised due to:

- deficiencies being identified;
- introduction of additional mitigation measures or controls;
- results from the monitoring and review programme, including exceedances of criteria;
- recommendations resulting from the monitoring and review programme;
- changing environmental requirements;
- improvements in knowledge or technology becoming available;
- changes in legislation;
- identification of a requirement to alter the AQMP
- following a risk assessment; or,
- updating of the Mining Operation Plan.

Appendix A – Construction Air Quality Control Trigger Action Response Plan (TARP)

|                                    | TRIGGER LEVEL AND ACTION RESPONSE PLAN _ DUST  |  |   |  |  |  |
|------------------------------------|--|--|---|--|--|--|
| Parameter                          | Normal State   | Level 1 Trigger  | Level 2 Trigger   | Level 3 Trigger  |  |  |
| Instruction for use                | <ul> <li>Identify the most appropriate trigger level by reviewing all parameters (i.e. visible dust) provided for each trigger level.</li> <li>Review the general response approaches required to be activated by your role under the trigger level selected above.</li> <li>Remember that successive trigger levels may incorporate the general response approaches from the previous level.</li> </ul> |  |   |  |  |  |
| Wind conditions                    | Presence of calm and stable wind   | <ul> <li>Presence of strong and steady wind</li> <li>South-easterly prevailing winds are more likely<br/>to carry dust to sensitive receptors (in summer<br/>in the morning and afternoon)</li> <li>North-westerly prevailing winds are more likely<br/>to carry dust to sensitive receptors (in winter at<br/>night)</li> </ul> |   | N/A  |  |  |
| /isible dust                       | <ul> <li>No visible dust drifting<br/>outside the mining lease<br/>boundary</li> <li>Visible dust is contained<br/>within the footprint of the<br/>activity</li> </ul>   | <ul> <li>Visible dust drifting outside of the consent<br/>boundary</li> <li>Visible dust is not contained within the<br/>footprint of the activity</li> </ul>  | N/A   | N/A  |  |  |
| Monitoring                         | Real time air quality<br>monitoring below warning<br>trigger levels  | The air quality monitors low level warning level is triggered  | <ul> <li>The air quality monitors show an exceedance of criteria limits is (one off)</li> <li>Cumulative or incremental depositional dust levels are exceeded at one or more sensitive locations (one off)</li> </ul> | <ul> <li>The air quality monitors show criteria<br/>limits are met or exceeded (repeated</li> <li>Cumulative or incremental<br/>depositional dust levels are exceeded<br/>at one or more sensitive locations<br/>(repeated)</li> </ul> |  |  |
| Community (including<br>regulator) | <ul><li>No community concerns</li><li>No non-compliances</li></ul>   | Informal community concern / comment   | <ul><li>Formal community concern (one off)</li><li>Non-compliance (one off)</li></ul>   | <ul> <li>Formal community concern<br/>(repeated)</li> <li>Non-compliances (repeated)</li> </ul>  |  |  |

|                            | TRIGGER LEVEL AND ACTION RESPONSE PLAN _ DUST     |   |                 |                 |  |  |
|----------------------------|---|---|-----------------|-----------------|--|--|
| Parameter                  | Normal State                                      | Level 1 Trigger   | Level 2 Trigger | Level 3 Trigger |  |  |
|                            |   | <ul> <li>High risk dust activities (e.g. clearing and<br/>grubbing, stripping and stockpiling, earthworks,<br/>loading and unloading of material, drilling and<br/>blasting, crushing and screening)</li> </ul> |                 |                 |  |  |
| Construction<br>activities | No high risk dust generating activities occurring | <ul> <li>High risk work locations close to sensitive<br/>receptors (e.g. CHPP, conveyor from CHPP to<br/>rail loop, rail loop, proximity to any residence or<br/>mining lease boundary)</li> </ul>              | N/A             | N/A             |  |  |
|                            |   | <ul> <li>High risk materials being handled (e.g. dry,<br/>dusty)</li> </ul>   |                 |                 |  |  |

|  | TRIGGER LEVEL AND ACTION RESPONSE PLAN _ DUST                       |  |  |  |  |
|--|---|--|--|--|--|
| Responsible person                                   | Normal State  | Level 1 Response   | Level 2 Response   | Level 3 Response   |  |
| GENERAL RESPONSE<br>APPROACH                         | Day to day active<br>management                                     | Immediate response – take proactive measures<br>to prevent dust causing a non-compliance or<br>community concern | Immediate response – reactive measures to<br>mitigate and actual non-compliance or<br>community concern  | Longer term response –actions to<br>address an ongoing / repeated source of<br>non-compliance or community concern   |  |
| General Manager<br>Construction /<br>Project Manager | No response required  | No response required   | <ul> <li>Notify the relevant government department<br/>of non-compliance to Development<br/>Consent (DC) conditions within 7 days.</li> <li>Notification of relevant community<br/>concerns at the scheduled Community<br/>Consultative Committee (CCC).</li> </ul>  | <ul> <li>Initiate land acquisition protocol<br/>in compliance with DC conditions<br/>where applicable</li> <li>Notify government bodies as<br/>appropriate</li> </ul>  |  |
| Manager<br>Construction                              | Manage the implementation<br>of routine dust mitigation<br>controls | Manage the implementation of proactive dust<br>mitigation controls   | <ul> <li>Investigate current activities and if there is no obvious source of dust generated from construction activities, make a file note and continue working</li> <li>Investigate current activities and if the source of dust is believed to be associated with construction activities, consider temporary cessation of activity until the real time monitoring drops to the compliance level or dust abates</li> <li>Procure and utilise additional temporary resources including water carts</li> <li>Avoid handling dusty materials (i.e. sand) if dust generation cannot be avoided</li> <li>Relocate, reschedule or modify work method for activities generating dust</li> </ul> | <ul> <li>Investigate rehabilitation of<br/>exposed surfaces, including roads<br/>and tracks</li> <li>Investigate the use of chemical<br/>additives in water trucks to<br/>improve effectiveness of dust<br/>suppression</li> <li>Procure and utilise additional<br/>permanent resources including<br/>water carts and fogging cannons</li> <li>Prohibit use of selected unsealed<br/>roads and tracks</li> </ul> |  |

| Responsible person  | Normal State  | Level 1 Response  | Level 2 Response  | Level 3 Response   |  |
|---|---|---|---|--|--|
| GENERAL RESPONSE Day to day active<br>APPROACH management |   | Immediate response – take proactive measures<br>to prevent dust causing a non-compliance or<br>community concern  | Immediate response – reactive measures to<br>mitigate and actual non-compliance or<br>community concern   | Longer term response –actions to<br>address an ongoing / repeated source of<br>non-compliance or community concern   |  |
| Supervisor (s)  | <ul> <li>Check daily weather<br/>forecast for wind speed</li> <li>Maintain daily visual dust<br/>observation log</li> <li>Minimise clearing and<br/>ground disturbance<br/>activities</li> <li>Implement routine dust<br/>suppression activities</li> <li>Maintain roads</li> </ul> | <ul> <li>Stabilise disturbed areas using mulch, cleared trees or branches</li> <li>Record any significant dusty episode / event (i.e. natural or construction related)</li> <li>Procure and utilise additional temporary resources including water carts</li> <li>Minimise drop heights during loading and unloading operations</li> <li>Spray water on material with low moisture content</li> <li>Review elevation and wind exposure of activities and, where possible, relocate to sheltered areas</li> <li>Minimise use of and speed on unsealed roads</li> </ul> | <ul> <li>Act as directed by the Manager<br/>Construction</li> <li>Log an incident report in RTBS</li> </ul>   | Act as directed by the Manager<br>Construction   |  |
| HSE Superintendent  | <ul> <li>Regularly review<br/>monitoring data;</li> <li>Monitor meteorological<br/>station and daily weather<br/>forecast.</li> </ul>   | <ul> <li>Notify the Manager Construction and<br/>Supervisors that real time air quality<br/>monitoring system warning alarm has been<br/>triggered;</li> <li>Advise Supervisors and the Manager<br/>Construction regarding dust mitigation<br/>controls.</li> </ul>   | <ul> <li>Notify Manager Construction and Supervisors that compliance levels have been exceeded;</li> <li>Assist Manager Construction with investigation of non-conformance (interrogate data from EPA and other available real time monitors where available);</li> <li>Review monitoring data and interpret against site activities, commence investigations where appropriate;</li> <li>Prepare communication to DP&amp;E and EPA for non-compliances within 7 days.</li> </ul> | <ul> <li>Provide monitoring data as necessary to support land acquisition;</li> <li>Prepare communication for government bodies as appropriate.</li> </ul> |  |

| TRIGGER LEVEL AND ACTION RESPONSE PLAN _ DUST |                                 |  |  |  |
|---|---------------------------------|--|--|--|
| Responsible person                            | Normal State                    | Level 1 Response   | Level 2 Response   | Level 3 Response   |
| GENERAL RESPONSE<br>APPROACH                  | Day to day active<br>management | Immediate response – take proactive measures<br>to prevent dust causing a non-compliance or<br>community concern | Immediate response – reactive measures to<br>mitigate and actual non-compliance or<br>community concern  | Longer term response —actions to<br>address an ongoing / repeated source of<br>non-compliance or community concern |
| Specialist Community<br>Relations             | No response required            | Ensure appropriate response for informal comments or complaints.   | <ul> <li>Ensure appropriate response for calls made<br/>though the Community Information line</li> <li>Provide support for response to other<br/>enquiries and community concerns</li> </ul> | Support the land acquisition practices   |

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# Appendix B – Department of Planning and Environment (DP&E) Approval Letter



Contact: Scott Brooks Phone: 6575 3401 Fax: 6575 3415 Email: <u>scott.brooks@planning.nsw.gv.au</u> Our ref: DA 92/97

David Patterson Senior Advisor – Health, Safety and Environment Mt Pleasant Mine Project PO Box 315 SINGLETON NSW 2330

Dear David,

# Mt Pleasant Mine Project – Approval of Construction Air Quality Management Plan

Thank you for forwarding the revised Construction Air Quality Management Plan (Ver.8) for the Mt Pleasant project. It is required by Condition 23 Schedule 3 of the Mt Pleasant Approval DA 92/97.

The Department has reviewed the plan and found generally satisfies the requirements of the Approval. I would like to advise you that the Secretary has approved the Plan.

There are no approved earlier versions of this Plan This Plan comes into force on the 6<sup>th</sup> October 2015 and remains in force until replaced by any future updated approved Plans, or the "early works" are completed.

Could you please forward finalised copies of the above plan (preferably in PDF format with a copy of this approval letter appended) for the Department's records by the end of October 2015.

If you require further information or clarification in this matter please contact Scott Brooks on 6575 3401 or by email to <u>scott.brooks@planning.nsw.gov.au</u>.

Yours sincerely

Scott Brooks Investigations (Lead) Compliance 2 - 10 - 2017 As Nominee for the Secretary, Department of Planning & Environment End of Document

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