

Mt Arthur Coal

**Response to Submissions
Environmental Assessment
Proposed South Pit Extension
Project**

November 2007

Response to Submissions Environmental Assessment Proposed South Pit Extension Project

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

Mt Arthur Coal

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TABLE OF CONTENTS

1.0	Introduction	1.1
1.1	Report Structure	1.1
2.0	Response to Authority Submissions.....	2.1
2.1	Muswellbrook Shire Council	2.1
2.2	NSW Department of Lands	2.4
2.3	NSW Department of Environment and Climate Change.....	2.5
2.3.1	Noise.....	2.5
2.3.2	Blasting.....	2.6
2.3.3	Ecology.....	2.6
2.4	NSW Department of Primary Industries	2.8
2.5	Mine Subsidence Board.....	2.9
2.6	NSW Roads and Traffic Authority.....	2.9
2.7	Department of Water and Energy.....	2.10
3.0	Response to Community Submissions.....	3.1
3.1	Air Quality	3.1
3.1.1	Dust	3.1
3.1.2	Spontaneous Combustion	3.1
3.1.3	Greenhouse Gas Emissions.....	3.2
3.2	Noise and Blasting	3.2
3.2.1	Noise.....	3.2
3.2.2	Blasting and Vibration.....	3.3
3.3	Traffic	3.3
3.4	Ecology	3.4
3.5	Water Management.....	3.5
3.6	Environmental Monitoring	3.5
3.7	Cumulative Impacts.....	3.6
3.8	Planning Issues	3.7

FIGURES

2.1	Location of Proposed Fence for Saddlers Creek Buffer Zone	2.2
2.2	Crown Roads within Project Area	2.4

APPENDICES

1	Revised Statement of Commitments
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1.0 Introduction

This Response to Submissions report has been prepared in accordance with Section 75H(6) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in response to issues raised during the public exhibition period for the Environmental Assessment, Proposed South Pit Extension Project (Umwelt 2007) (the EA).

The report provides a response to submissions made by:

- Muswellbrook Shire Council (MSC);
- Department of Lands;
- Department of Environment and Climate Change (DECC);
- Department of Primary Industries (DPI);
- Mine Subsidence Board (MSB);
- Roads and Traffic Authority (RTA);
- Department of Water and Energy;
- Hunter Environment Lobby;
- The United Mineworkers Federation (Division of the Construction, Forestry, Mining and Energy Union); and
- two community members.

1.1 Report Structure

Section 2.0 of this report addresses comments in submissions made by government agencies whilst **Section 3.0** addresses issues raised by interest groups and community members on an issues basis. In these sections, the issues raised are noted in bold, followed by a response in normal type.

A revised Statement of Commitments for the project, addressing the issues raised in the submissions as discussed in the following sections, is included in **Appendix 1**. The changes made to the Statement of Commitments in response to the submissions received are highlighted in **Appendix 1** as tracked changes.

2.0 Response to Authority Submissions

2.1 Muswellbrook Shire Council

MSC Comment:

...Council has no objection to the [proposal]... subject to the following matters:

- 1. The Company entering into a suitable agreement with Council regarding funding under the provisions of Council's section 94 and Community Enhancement Program.***

Response:

As outlined in the EA, the proposed South Pit Extension Project will not result in increases in employment levels at Mt Arthur Coal above the levels approved for the existing operations (including the Mount Arthur North (MAN) and Bayswater mining areas and the Bayswater Rail Loading Facility) and will therefore not place any additional demands on public facilities. The project will also not result in an increase in total approved production from Mt Arthur Coal. The estimated capital cost of the project alone is only \$500,000.

The Department of Planning's (DoPs) Development Contributions Practice Notes outline the principles underlying s94 contributions under the *Environmental Planning and Assessment (EP&A) Act 1979*. The principal of reasonableness is the philosophy underlying the preparation and administration of a s94 development contributions plan (DIPNR, 2005). The consideration of reasonableness is based upon two key principles, nexus and apportionment. The practice notes define nexus as being the relationship between the expected types of development in the area and the demonstrated need for additional public facilities created by those developments. As discussed above, the proposed South Pit Extension Project alone will not result in changes to employment levels and will not increase production. Therefore, the project will not result in the need for additional public facilities, or impact on existing facilities.

It should also be noted that Mt Arthur Coal made a significant development contribution to MSC as part of the approval of the MAN Project in 2001, with this development contribution addressing impacts on community infrastructure associated with the current Mt Arthur Coal workforce.

On the basis of the above, it is considered that a contribution under s94 of the EP&A Act is not required as part of the proposed South Pit Extension Project.

MSC Comment:

- 2. The identification of the boundaries of the buffer to be established to protect the conservation area located at Saddlers Creek and management of the area of disturbance to ensure that no unauthorised impact on this area is possible.***

Response:

Commitment 6.10.1 of the draft Statement of Commitments contained in the EA states:

'Saddlers Creek near the project area (as defined in Section 6.3.2 of the Ecological Assessment in Appendix 5 of the Environmental Assessment report) will be fenced off to protect the riparian corridor and encourage natural regeneration. Cattle grazing (other than as a land management tool) will be excluded from this area'

To provide further clarity regarding this commitment, the proposed boundary is shown on **Figure 2.1**. The buffer zone includes all riparian vegetation along Saddlers Creek to the south of the project area and outside of the 'Approximate New Disturbance Footprint' discussed in the EA and shown on **Figure 2.1**. Commitment 6.10.1 has been revised in the Statement of Commitments contained in **Appendix 1** and now states:

'Saddlers Creek near the project area (as defined in Figure 2.1 of the Response to Submissions report, November 2007) will be fenced off to protect the riparian corridor and encourage natural regeneration. Cattle grazing (other than as a land management tool) will be excluded from this area'

Management strategies to be implemented in this area are outlined in detail in the Ecological Assessment included as Appendix 5 of the EA and include:

- erection of 25 nest boxes to enhance fauna habitat values;
- fencing to protect the riparian corridor from disturbance and encourage natural regeneration;
- supplementary plantings as required to assist regeneration of the riparian corridor;
- removal of grazing (other than as a land management tool) to promote natural regeneration; and
- ecological monitoring.

MSC Comment:

- 3. That natural water flows to the Saddlers Creek area are maintained where possible in regard to the diversion of clean water around the mine operation and area of disturbance.**

Response:

Section 5.4.1.3 of the EA describes the proposed surface water management system that would be established as part of the project. This system includes use of diversion drains to divert clean water from undisturbed catchment areas around the proposed mining pit to natural drainages including Saddlers Creek, where practical.

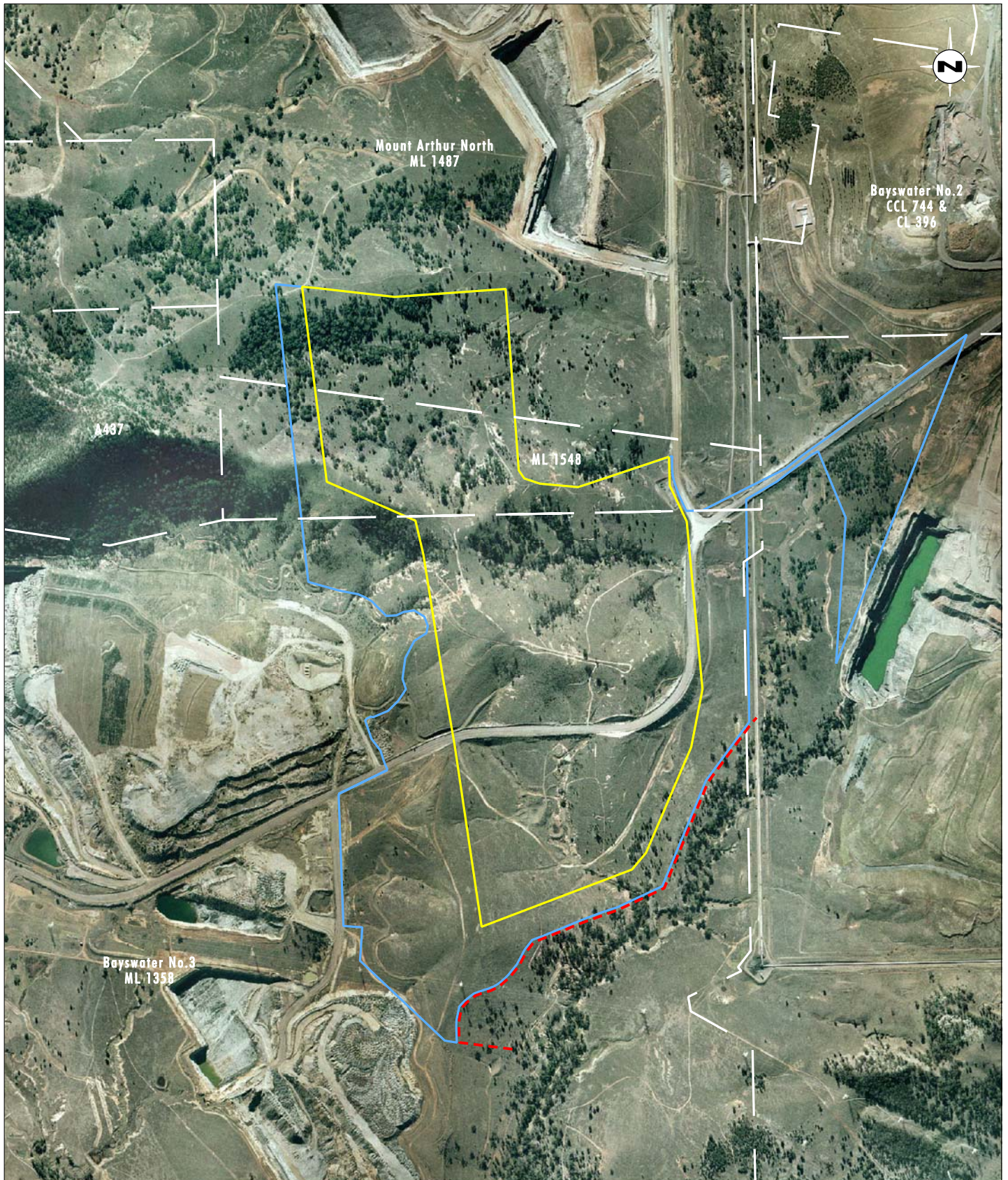
MSC Comment:

- 4. The construction and rehabilitation of the bund at the end of the northern face of the overburden emplacement area to be completed within five (5) years of the commencement of overburden operations.**

Response:

The EA contained three commitments relating to establishment and rehabilitation of the northern face of the overburden emplacement area at Bayswater No. 2. These commitments were:

- 6.9.1** *The northern faces of the overburden emplacement area at Bayswater No. 2 will be given priority in the first five years of mining operations in the South Pit Extension area to provide visual screening. The emplacement of overburden over the former North Pit tailings dam may not be possible within this period due to the need to allow*



Base Source: Mt Arthur Coal

0 0.25 0.5 1.0 km
1:20 000

Legend

- Mining and Exploration Lease Boundary
- South Pit Extension Mining Area
- Approximate New Disturbance Footprint
- - - Proposed Fenceline

FIGURE 2.1

**Location of Proposed Fence
for Saddlers Creek Buffer Zone**

sufficient time for tailings to dry out, however, this area will also be completed if possible.

6.9.2 *Initial revegetation works will be completed on the northern faces of the emplacement area within six months of final shaping unless severe dry conditions prevail.*

6.9.3 *To assist in the visual screening achieved by the northern face of the emplacement area, native trees chosen for their fast-growing and habitat qualities, will be planted along the crest line and adjacent land in this area.*

As stated in commitment 6.9.1, emplacement of overburden on the northern face of the emplacement area will be given priority by Mt Arthur Coal. However, the completion of this bund requires movement of a significant volume of overburden and the final detailed mining schedule will need to consider a range of other production and environmental constraints (e.g. overburden emplacement in shielded areas during winter nights to reduce noise). Therefore, an approval condition containing a firm five year date would not be appropriate and it is recommended instead that the above commitments are included in the project approval if granted.

The final overburden emplacement design and mining schedule will be included in Mt Arthur Coal's Mining Operations Plan (MOP) for approval of the DPI prior to emplacement activities commencing.

MSC Comment:

5. Management Plans developed for the project by the proponent in consultation with the government agencies to include matters as identified in the Environmental Assessment.

Response:

Commitment 6.15.2 in the EA states that Mt Arthur Coal will consolidate the existing Environmental Management Plans for the currently approved MAN, Bayswater No. 3 and Rail Loading Facility operations with a view to producing a single suite of environmental management plans that cover the entire Mt Arthur Coal complex, including the South Pit Extension area within 12 months of obtaining Project Approval. The revised plans will include all relevant management measures discussed in the EA.

Commitment 6.15.2 also states that the consolidation of the Environmental Management Plans will be undertaken in consultation with the relevant Government authorities. It is anticipated that should the project be approved, Mt Arthur Coal will consult with DoP regarding the appropriate agencies to be consulted in relation to each management plan. It is expected that MSC will be consulted regarding a number of the plans.

MSC Comment:

6. The existing Mount Arthur North Community Consultative Committee to monitor the operation relevant to the extension of the Mount Arthur North Pit into the area relevant to the Mount Arthur South Pit Extension Project.

Response:

Commitment 6.15.1 of the draft Statement of Commitment states:

'Mt Arthur Coal will report on activities undertaken within the South Pit Extension area and discuss relevant issues regarding these activities with either the Mount Arthur North of Bayswater No. 3 Community Consultative Committee (CCC) as agreed in consultation with Muswellbrook Shire Council and the Department of Planning.'

Mt Arthur Coal would have no objection to the existing MAN CCC being the relevant CCC for the project.

MSC Comment:

7. That the commitments included in the Environmental Assessment be included as conditions of consent.

Response:

Mt Arthur Coal has no objection to inclusion of the statement of commitments included in the EA (as revised as part of this Response to Submissions report and included in **Appendix 1**) as Project Approval conditions.

2.2 NSW Department of Lands

DoL Comment:

There are some discrepancies in the affected lands being identified as Crown lands. Figure 5.8 purports to identify those Crown lands involved (i.e. public Crown roads) but does not identify all such roads. There are additional Crown roads over and above those within Figure 5.8. The Departments preferred option is for the Mining Company to close, purchase and obtain title to the roads involved. The Department requires that closure of these roads be included as part of the Development Consent.

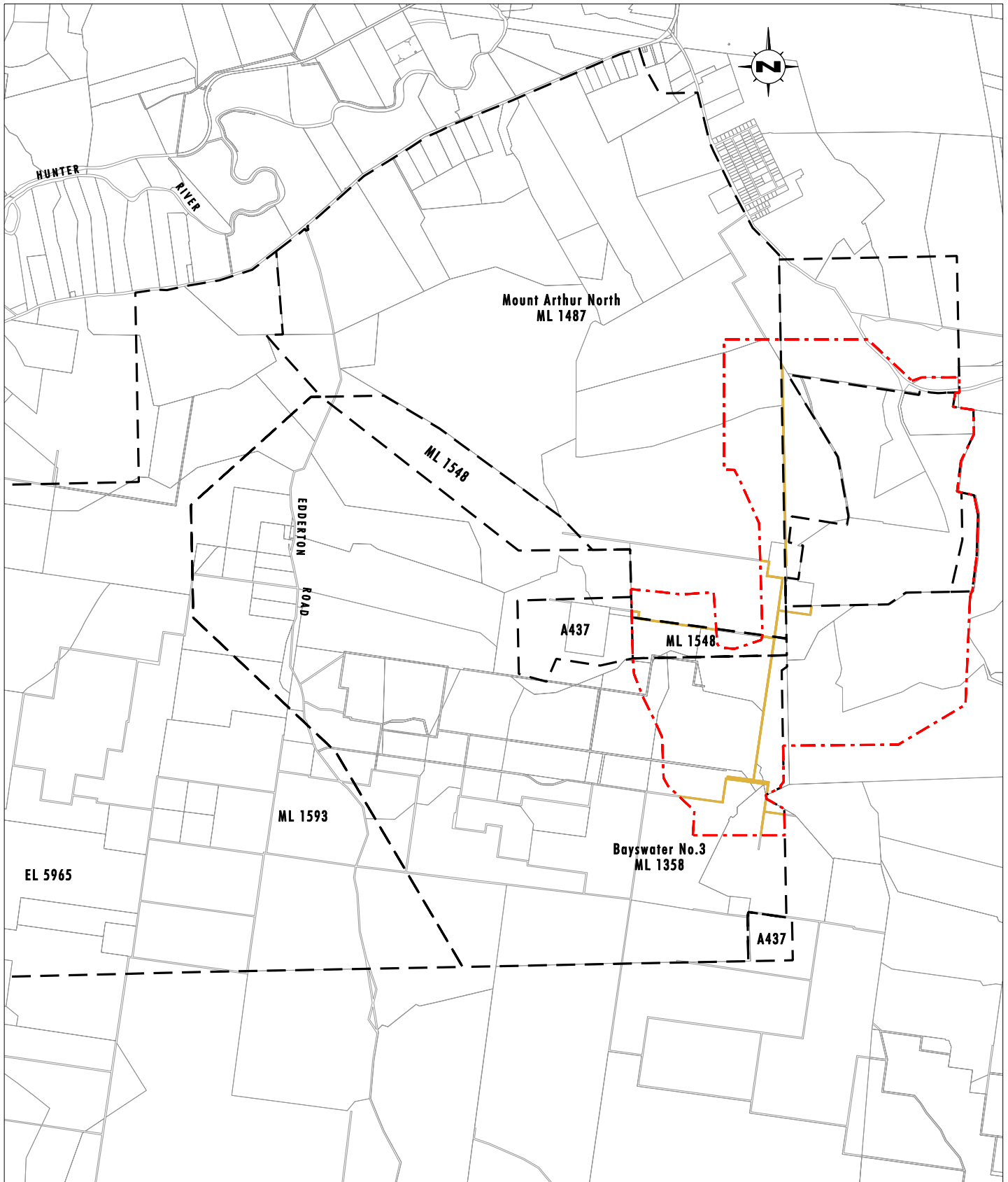
Response:

Figure 5.8 in the EA (Noise Assessment Locations) identifies areas of crown land, including some Crown roads. **Figure 2.2** shows all Crown roads within the Project Application Area. Section 4.1.2.9 of the EA notes that the approval of the Minister for Lands will be required for the closure of Crown Roads in the project area. Discussions were held with the Department of Lands during the preparation of the EA regarding the proposed closure of these road reserves.

Mt Arthur Coal will apply to the Department of Lands to close the Crown road reserves within the project area. The revised statement of commitments contained in **Appendix 1** has been modified to include a commitment regarding the closure of road reserves within the project area as detailed below:

Traffic

- 6.16.1 Mt Arthur Coal will apply to the Department of Lands to close the Crown road reserves within the project area.



Base Source: LPI 2004, Department of Lands (road status)

0 1 2 3km
1:70 000

Legend

- Exploration and Mining Lease Boundary
- - - Project Application Area
- Crown Road Reserves within Project Area

FIGURE 2.2

Crown Roads within Project Area

2.3 NSW Department of Environment and Climate Change

DECCs submission provides comments on noise, air quality, ecology and Aboriginal cultural heritage. Attachment A to DECCs submission also provides recommended conditions relating to water, waste and blasting. The following sections provide a response to issues raised in DECCs submission relating to noise, ecology and blasting.

2.3.1 Noise

DECC Comment:

DECC has reviewed the Noise Impact Assessment within the EA and is of the opinion that the proposed South Pit extension will not result in a significant change to existing noise levels and will not result in noise levels that the DECC cannot regulate using an Environmental Protection Licence (EPL).

DECC's Recommended Conditions of Approval in Attachment A include conditions relevant to the control of noise impacts from this proposal.

Response:

L6 Noise Limits

The recommended noise limits contained in recommended condition L6.1 of Attachment A of DECCs submission are not the Project Specific Noise Levels calculated for the project in accordance with DECCs NSW Industrial Noise Policy (INP). Alternatively, the limits recommended by DECC reflect the predicted noise levels for combined MAN and South Pit operations. This approach is not in accordance with the intent of the INP. The INP states that where the Project Specific Noise Levels (PSNLs) are not predicted to be exceeded that negotiation of noise limits is not required and that the PSNLs become the consent conditions (or in this case the Project Approval Conditions). The proposed noise limits contained in the draft statement of commitments in the EA are based on the PSNLs consistent with the approach outlined in the INP and are therefore considered to be the appropriate noise limits for the project.

The PSNLs calculated for the South Pit Extension Project are also consistent with the noise limits for the existing MAN mining area as detailed in the MAN development consent. These noise limits were calculated in accordance with DECCs INP. The limits proposed by DECC in recommended condition L6.1, if adopted, would therefore differ from the noise limits that apply to the current operations. The application of different noise limits for MAN and the proposed South Pit Extension Project would be highly problematic as the proposed South Pit Extension will be operating simultaneously with MAN and will be integrated with MAN operations, utilising equipment and infrastructure that also operates at MAN. It will therefore not be possible for noise monitoring to differentiate South Pit Extension noise from MAN noise. On this basis, it would be impractical to use monitoring to assess compliance with the differing noise limits.

It is also noted that DECC proposes a noise limit for 'all other residences'. It is not defined which residences this limit is planned to apply to. The noise assessment locations for the project (and therefore the proposed noise limits for the project as detailed in the EA draft statement of commitments) cover all private residential areas surrounding the Mt Arthur Coal operations that are potentially impacted by noise. A noise limit for 'all other residences' is therefore not considered necessary.

Based on the above discussion, it is considered that the appropriate noise limits for the South Pit Extension Project are those outlined in commitments 6.3.1 and 6.3.2 of the EA.

M2 Noise Monitoring

Attachment A of DECCs submission outlines a recommended noise monitoring program in conditions M2.1 to M2.4. This recommended monitoring program discusses initial monitoring three months after commencement of operations and then six monthly monitoring. Commitment 6.3.4 of the EA proposes monitoring in accordance with the MAN development consent. Mt Arthur Coal's current monitoring program includes four directional real-time monitoring locations and targeted noise monitoring. It is considered that the existing noise monitoring program is extensive and provides appropriate data for determining compliance with the noise limits.

2.3.2 Blasting

DECC Comment:

L7 Noise Limits

L7.5 Blasting operations at the premises may only take place between 9:00am-5:00pm Monday to Friday. (Where compelling safety reasons exist, the Authority may permit a blast to occur outside the abovementioned hours. Prior written (or facsimile) notification of any such blast must be made to the Authority).

Response:

Commitment 6.4.2 in the draft statement of commitments in the EA states:

6.4.2 Blasting will only take place between 9.00 am and 5.00 pm, Monday to Saturday inclusive unless otherwise approved by the Department of Environment and Climate Change.

This commitment is consistent with the existing blasting time limits for the existing MAN mining area. As the South Pit Extension Area is further away from surrounding residential areas (approximately 7.5 kilometres from the nearest residential areas) than the existing mining operations and is located centrally within existing mining areas, the blasting time limits as proposed in commitment 6.4.2 are considered appropriate.

2.3.3 Ecology

DECC Comment:

The proposed offset and management package is considered to adequately address DECC's request for an offset of existing vegetation in addition to the proposed rehabilitation areas. If the application is determined by granting consent, consent conditions should include a requirement for the proponent to provide adequate funding and management actions for implementation of the proposed VCA and rehabilitated lands for both the life of the mine and the 'in perpetuity' post mine period.

Response:

Mt Arthur Coal is committed to implementing an appropriate ecological offset package as part of the South Pit Extension Project. As part of this commitment, Mt Arthur Coal will provide adequate funding and management actions for implementation of the proposed VCA and rehabilitated lands for the life of the mine. Mt Arthur Coal will develop suitable

arrangements for the ongoing management of these areas post mine closure as part of future mine closure planning processes.

Commitment 6.10.1 of the revised statement of commitments contained in **Appendix 1** has been revised to appropriately reflect the above. The revised condition is included below (additional sections are underlined).

6.10.1 Mt Arthur Coal will implement an ecological offset package for the project in consultation with the Department of Environment and Climate Change and to the satisfaction of the Department of Planning. This package will include:

- modifying the Voluntary Conservation Agreement process (cultural heritage) underway for the proposed Mt Arthur conservation area to ensure that it provides for appropriate protection of the ecological values of this area in perpetuity, in addition to its archaeological values. This will include provision of adequate funding and management actions for implementation of the proposed Voluntary Conservation Agreement area for the life of the mine and suitable arrangements for the ongoing management of this area post mine closure as part of future mine closure planning processes;*
- a vegetated corridor (approximately 45 hectares) will be established to connect the vegetated habitats of Mt Arthur and Saddlers Creek (refer to **Section 5.2.4.1**). The corridor will be established through seeding/planting of native species;*
- Saddlers Creek near the project area (as defined in Figure 2.1 of the Response to Submissions Report, November 2007) will be fenced off to protect the riparian corridor and encourage natural regeneration. Cattle grazing (other than as a land management tool) will be excluded from this area; and*
- rehabilitation to create additional areas of native vegetation as discussed in commitment 6.10.7 below. Mt Arthur Coal will provide adequate funding and management actions for rehabilitated lands for the life of the mine and will consider any ongoing management requirements for these areas post mine closure as part of future mine closure planning processes. The post mine closure arrangements will be detailed in the closure plan prepared as part of the final Mining Operations Plan for the South Pit Extension area to the satisfaction of the Department of Primary Industries.*

DECC Comment:

The following issues associated with the Statement of Commitments should also be clarified in the consent conditions, if consent is granted:

- Item 6.10.2 reads “All tree clearing will be undertaken generally in accordance with the process outlined in Section 6.3 of the Ecological Assessment (refer to Appendix 5 of the Environmental Assessment report)”. Inclusion of the word ‘generally’ provides too much latitude and needs to be tightened in a corresponding consent condition.**

Response:

Commitment 6.10.2 of the revised statement of commitments contained in **Appendix 1** has been revised to address the above comment. The revised commitment states:

6.10.2 *Tree clearing will be undertaken in accordance with the process outlined in Section 6.3 of the Ecological Assessment (refer to **Appendix 5** of the Environmental Assessment report).*

DECC Comment:

- *Items 6.10.3, 6.10.4 and 6.10.6 specify a three yearly monitoring interval. Three years is too long an interval to detect (and subsequently effectively address) many changes that are likely to or are adversely affecting biodiversity or biodiversity enhancing/maintenance actions. Annual monitoring is considered necessary.*

Response:

These three commitments have been revised to include annual monitoring for a period of five years, with the need for ongoing monitoring to be assessed at this time in consultation with relevant government agencies. The revised commitments are contained in **Appendix 1**.

DECC Comment:

- *'Implementation' as well as 'preparation' of the Mt Arthur Coal complex wide Rehabilitation and Habitat Management Strategy (Item 6.11.1) will be necessary.*

Response:

Commitment 6.11.1 in the revised statement of commitments in **Appendix 1** has been revised to specifically include 'implementation'.

2.4 NSW Department of Primary Industries

DPI Comment:

DPI has no objections to the [EA] subject to the following provisions:

- *Integrated rehabilitation and environmental management reporting is to be captured in the Mining, Rehabilitation and Environmental Management Report documents to the satisfaction of DPI. The proponent should commence early discussions with DPI on amending the current Mining Operations Plan to capture the proposed additional mining. The proponent should also review the proposed modification activities in the Annual Environmental Management Report.*
- *The proponent should seek DPI approval for all landform designs that are proposed to have slopes of greater than 10 degrees.*

Response:

Mt Arthur Coal will comply with DPI reporting requirements, including preparation of an Annual Environmental Management Report (AEMR) and will obtain all required mining approvals. It is intended that discussions about amending Mt Arthur Coal's current MOP will be progressed with the DPI so that should project approval be granted, the revised MOP can be prepared and approved in a timely manner. Mt Arthur Coal will seek DPI approval for mining landform designs, including those that have slopes of greater than 10 degrees, as part of the MOP process.

The revised statement of commitments contained in **Appendix 1** has been modified to include a commitment regarding seeking DPI approval for all landform designs that are proposed to have slopes of greater than 10 degrees as detailed below:

Landform Design

6.11.7 *Mt Arthur Coal will seek the approval of the Department of Primary Industries for all landform designs that are proposed to have slopes of greater than 10 degrees as part of the Mining Operations Plan process.*

2.5 Mine Subsidence Board

MSB Comment:

The Mine Subsidence Board has no objection to the proposed development.

Response:

No comments or questions were raised which require a response.

2.6 NSW Roads and Traffic Authority

RTA Comment:

A night time road safety audit report shall be undertaken for the Golden Highway/Thomas Mitchell Drive and Denman Road/Thomas Mitchell Drive intersections in consultation with the RTA and Council. Any work identified from this report that requires intersections upgrades shall be undertaken at full cost to the developer..."

Response:

(Note: It is assumed that the reference to the intersection of Golden Highway/Thomas Mitchell Drive is a typographical error, and should read New England Highway/Thomas Mitchell Drive).

As outlined in Section 5.11 of the EA, the South Pit Extension Project will not result in any increase to employee numbers above that currently approved or increase total production from Mt Arthur Coal operations above that currently approved. Therefore, the project will not result in any significant change to vehicle movements to and from the mine and there are not expected to be any traffic impacts associated with the project. On this basis, the impact assessment findings indicate that a night time road safety audit is not required as part of the South Pit Extension Project.

Regardless of the above, Mt Arthur Coal would be willing to undertake a night time road safety audit for the New England Highway/Thomas Mitchell Drive and Denman Road/Thomas Mitchell Drive intersections. This audit will be undertaken in a manner that considers existing Mt Arthur Coal operations and the currently proposed Mt Arthur Underground Project.

However, in the event that the audit reveals safety issues associated with these intersections, Mt Arthur Coal do not accept responsibility for the full cost of upgrading the intersections as recommended by the RTA. The cost and accountability for any required

improvement works can be determined following the completion of the audit. These intersections, in addition to catering for general public traffic, cater for traffic from a number of mining operations, act as part of the heavy vehicle bypass of Muswellbrook and provide access to the Muswellbrook Industrial Estate. It should be noted that over the past few years, Mt Arthur Coal has contributed significant funds to the upgrade of both of these intersections.

The revised statement of commitments contained in **Appendix 1** has been modified to include a commitment regarding completion of a night time road safety audit as detailed below:

Traffic

6.16.2 *Mt Arthur Coal will commission a traffic consultant to undertake a night time road safety audit for the New England Highway/Thomas Mitchell Drive and Denman Road/Thomas Mitchell Drive intersections. This audit will be undertaken in a manner that considers existing Mt Arthur Coal operations and the currently proposed Mt Arthur Underground Project. The audit findings will be reported to the Roads and Traffic Authority and Muswellbrook Shire Council.*

2.7 Department of Water and Energy

DWE Comment:

DWE requires that Mt Arthur Coal obtain all licence required for the incidental interception of groundwater by the operation.

Response:

This requirement was addressed by commitment 6.8.6 of the draft statement of commitments in the EA which states:

6.8.6 *Mt Arthur Coal will apply for a licence under Part 5 of the Water Act 1912 from the Department of Water and Energy for the mining pit prior to the commencement of mining operations in the South Pit Extension area.*

DWE Comment:

The EA makes no commitment for Mt Arthur Coal to conduct a bore census within the zone of depressurisation surrounding the mine, or to replace any loss of water to registered bore owners should loss of groundwater yield occur. DWE requires a census to identify production bores for inclusion in the groundwater monitoring program for the development extension. DWE requires written agreement with any affected groundwater users in order to maintain security of water supply in the event of depressurisation of production bores in the area of impact.

Response:

As stated in Section 5.4.2 of the EA, there are no groundwater users within the vicinity of the South Pit Extension area with all nearby groundwater bores located on mine owned land. The nearest private bores are located to the west and north-west of the project area and are well outside the predicted zone of depressurisation from this project. Therefore, the project will not impact on any private groundwater bores and a private bore census and monitoring program is not required for the project.

As no privately owned bores will be affected, no agreements with private groundwater users are required.

DWE Comment:

The groundwater management plan for the project must include:

- ***monitoring program objectives design, and outcomes***
- ***measurement and assessment of groundwater inflow volumes and water quality impacts, and impacts on any bores location within the cone of depressurisation***
- ***verification process against EA groundwater impact predictions***
- ***remediation triggers for impacted bores or groundwater-dependent ecosystems***
- ***reporting requirements for groundwater quantity, quality and impact criteria and thresholds.***

Response:

As stated in commitment 6.15.2 in the draft statement of commitments in the EA, Mt Arthur Coal will revise the existing environmental management plans for the operation and incorporate relevant aspects for the South Pit Extension Project. The relevant commitment is outlined below:

6.15.2 *Within 12 months of obtaining Project Approval, Mt Arthur Coal will consolidate the existing Environmental Management Plans for the currently approved MAN, Bayswater No. 3 and Rail Loading Facility operations with a view to producing a single suite of environmental management plans that cover the entire Mt Arthur Coal complex, including South Pit Extension area. This work will be undertaken in consultation with the relevant Government authorities.*

This revision of management plans will include the existing Site Water Management Plan. This plan includes objectives, discussion of potential groundwater impacts and mitigation measures (including potential impacts on bores and ecosystems), contains a groundwater monitoring program including trigger level and outlines reporting requirements. The revision of the Site Water Management Plan will be undertaken in consultation with DWE.

DWE Comment:

Integration of groundwater impact verification programs between Mt Arthur Coal Operations and Anglo Coal Drayton Management operations should be required, to develop a sub-regional understanding of groundwater impacts caused by mining operations.

Response:

Mt Arthur Coal is happy to work cooperatively with neighbouring mining operations and will discuss with Drayton Mine the potential to share groundwater monitoring data. The revised statement of commitments contained in **Appendix 1** has been modified to include a commitment regarding consulting with Drayton Mine about opportunities to share groundwater monitoring data as outlined below:

6.8.9 *Mt Arthur Coal will discuss with Drayton Mine opportunities to share groundwater monitoring data for use in impact verification.*

3.0 Response to Community Submissions

Four community responses were received in relation to the proposed South Pit Extension Project. These included two responses from interest groups: The United Mineworkers' Federation of Australia and Hunter Environment Lobby Inc.; and two community members, one from Muswellbrook and one from Epping in Sydney (focussed on greenhouse gas emission issues). Three of these submissions were opposed to the project and one in support.

The submissions discussed a range of issues. These issues are discussed on an issues theme basis in the following sections. Specific comments from the submissions are included in bold where relevant.

3.1 Air Quality

3.1.1 Dust

Comment:

Increase in dust.

Response:

No specific comments or questions were raised which require a response.

A detailed air quality assessment was prepared for the proposal in accordance with relevant DECC guidelines. The assessment is outlined in Section 5.6 of the EA and presented in Appendix 10. The assessment concluded that any increase in off-site dust levels would be small and consistent with the impacts predicted for the MAN project which was approved in 2001. The assessment also concluded that dust emissions from the project would be well within all relevant air quality goals at the nearest sensitive receptor locations.

Section 5.6.4 of the EA outlines a range of dust controls that would be implemented as part of the project to minimise any off-site dust impacts.

3.1.2 Spontaneous Combustion

Comment:

Increase in spontaneous combustion, it is a known fact for these seams to burn.

Response:

No specific comments or questions were raised which require a response.

Section 5.7 of the EA discusses the potential for spontaneous combustion to occur from the project and states that the proposed expansion area will mine the Whittingham Coal Measures, which are currently being mined by Mt Arthur Coal in the Bayswater No. 3 and MAN mining areas. The risk of spontaneous combustion is significantly reduced in these coal measures compared with the Greta Coal Measures which have historically been susceptible to spontaneous combustion, resulting in areas affected by spontaneous combustion at Bayswater No. 2 and Drayton mines.

The potential for spontaneous combustion associated with the project is considered to be readily manageable through the implementation of existing management measures used by Mt Arthur Coal.

A key benefit of the project is the emplacement of significant volumes of inert overburden material mined from the proposed South Pit Extension area over former mining and capped areas at Bayswater No. 2 and (subject to a final agreement with Drayton regarding the sublease/partial lease transfer or equivalent agreement) the Drayton West Pit void, providing for effective rehabilitation of areas susceptible to spontaneous combustion.

3.1.3 Greenhouse Gas Emissions

Comment:

Greenhouse gas issues are given inadequate attention in the [EA]....

Response:

Mt Arthur Coal prepared the EA in accordance with the requirements of the EP&A Act and the requirements prescribed for the project by the Director-General of DoP. This included the completion of a detailed greenhouse gas and energy assessment. This assessment is outlined in Section 5.8 of the EA and presented in Appendix 10.

Mt Arthur Coal believes it has complied with all requirements for the EA including those related to greenhouse gas issues.

Comment:

Like any other developer and contractor, the proposer should submit an insurance certificate from an international insurer that will cover any claims against the proposer and the NSW Government arising from burning coal produced by the proposed mine.

Response:

Such an insurance certificate or equivalent is not considered appropriate and is not supported.

Mt Arthur Coal has prepared the application for approval of the proposal in accordance with the requirements of the EP&A Act and the requirements prescribed for the project by the Director-General of DoP.

3.2 Noise and Blasting

3.2.1 Noise

Comment:

Increase in noise.

Response:

No specific comments or questions were raised which require a response.

A detailed noise assessment was prepared for the proposal in accordance with relevant DECC guidelines. The assessment is outlined in Section 5.5.1 of the EA and presented in

Appendix 9. The assessment concluded that noise from the project would make a minimal contribution to the total noise levels from the approved Mt Arthur Coal operations. Small increases of up to 3 dBA were predicted under worst-case weather conditions for some residences in proximity to Mt Arthur Coal, however, none of these increases would exceed the assumed acquisition limits for the project or for the approved Mt Arthur Coal operations.

Section 5.5.1.4 of the EA outlines a range of noise controls that would be implemented as part of the project to minimise noise impacts. Mt Arthur Coal has a demonstrated record in effectively managing noise impacts.

3.2.2 Blasting and Vibration

Comment:

More blasts.

Response:

Section 5.5.2.2 of the EA states that the frequency of blasting would not change from the currently approved situation at Mt Arthur Coal.

As the proposed South Pit Extension area is further away from the nearest residential receivers than the approved Mt Arthur Coal operations, blasting impacts are expected to be readily manageable. Blasting in the Mt Arthur Coal mining area is managed in accordance with the Mt Arthur Coal Blasting/Vibration Management Plan.

Comment:

Increase in low frequency vibration.

Response:

A detailed noise and blasting assessment was completed as part of the project and is outlined in Section 5.5.1 of the EA and presented in Appendix 9. The assessment concludes that the project will not significantly change the noise and vibration impacts associated with the existing operations.

3.3 Traffic

Comment:

More traffic to and from mine.

Response:

Section 5.11 of the EA examines potential impacts on traffic and transport resulting from the project and concludes that the project is not expected to significantly change light or heavy vehicle movements to and from Mt Arthur Coal.

3.4 Ecology

Comment:

This proposal continues the loss of important habitat for NSW listed threatened species, and for nationally listed species under the Environment Protection and Biodiversity Conservation Act 1999. Clearing of remnant vegetation is totally unacceptable and is contrary to the objectives of the Native Vegetation Act 2003 and to NSW Government policy. The proposed development should be rejected on these grounds alone, and no offset can be provided which will ameliorate these impacts. The proposal results in a net loss of habitat and a loss of population of threatened species for at least a period of 50-100 years.

Response:

The *Native Vegetation Act 2003* does not apply to projects being assessed under Part 3A of the EP&A Act.

A detailed ecological assessment was completed for the project. The details of the ecological assessment are outlined in Section 5.2 of the EA and the full ecological assessment report is included as Appendix 5. The assessment concluded that the project will not have a significant impact on ecological values, with a range of ecological management measures proposed to further reduce impacts, including an ecological offset package.

DECC was consulted about the ecological impacts of the project by both DoP and Mt Arthur Coal throughout the preparation of the EA. DECC indicated in its submission on the EA that it has no objection to the approval of the project and that the proposed offset and management package is considered to adequately address DECCs requirements (refer to **Section 2.3.3**).

Comment:

There should be scientific studies undertaken of the effects of night lighting on the key species affected by the proposal, including a literature review. This issue is inadequately considered in the EIS.

Response:

A detailed ecological assessment was completed for the project and is outlined in Section 5.2 of the EA and the full ecological assessment report is included as Appendix 5. The assessment considered all relevant potential impacts and concluded that the project will not have a significant impact on ecological values.

Section 5.9.4 of the EA outlines controls to manage night lighting impacts from the project and concludes that the project is unlikely to significantly change night lighting impacts from the Mt Arthur Coal mining area. Mt Arthur Coal has existing management measures in place to control night lighting impacts and these will be implemented for the proposed South Pit Extension.

Comment:

The native vegetation on the site is significant on the regional scale. Issues of regional scale connectivity have not been evaluated in the EIS. A further review of these issues needs to be undertaken, with a view to updating the Department of Mineral Resources synoptic plan for this site.

The proposed loss of biodiversity is essentially irreversible, while the socio-economic benefits will only last for 21 years.

Response:

A detailed ecological assessment was completed for the project and is outlined in Section 5.2 of the EA and the full ecological assessment report is included as Appendix 5. The assessment considered all relevant potential impacts including issues of connectivity and concluded that the project will not have a significant impact on ecological values.

The ecological offset proposed in the EA and endorsed by DECC in their submission on the EA will provide a significant ecological offset as part of the project. The project will result in the planting of approximately 250 hectares of native woodland/forest vegetation as part of the rehabilitation program and an additional approximately 45 hectares as part of a proposed vegetated corridor connecting Mt Arthur to Saddlers Creek. In total, these areas provide an approximate 6:1 offset ratio to the extent of vegetation proposed to be cleared as part of the project (approximately 50 hectares). In addition, and importantly, Mt Arthur Coal have committed to modify the Voluntary Conservation Agreement process underway for approximately 100 hectares of land on Mt Arthur, designed to protect the archaeological values of this area, to ensure that it also provides for appropriate protection of the ecological values of this area in perpetuity.

3.5 Water Management

Comment:

The development of the mine will contribute to increased unsustainable water use within the Upper Hunter Valley.

Response:

Section 5.4.1 of the EA examines the water balance for the proposed South Pit Extension Project and concludes that it will result in an increase in available water for the Mt Arthur Coal water management system, due to an increase in mining footprint. The project will not increase Mt Arthur Coal's external water demand and Mt Arthur Coal has a demonstrated record in effectively using grey and dirty water sources, including minewater and Muswellbrook's treated sewage effluent, in preference to clean water sources such as the Hunter River.

3.6 Environmental Monitoring

Comment:

The general environmental monitoring program the company proposes to implement if the project is approved is totally inadequate to be able to assess the development within a regional context, and to link with other regional air quality monitoring programs. This requires a program of regional monitoring undertaken by an independent authority. Ongoing management commitments given by the company are vague and unenforceable.

Response:

Mt Arthur Coal currently has an extensive environmental monitoring program in place to monitor the environmental impacts of the existing operations. This program has been designed in accordance with current development consent conditions, current Environmental Protection Licence conditions and to meet site environmental management needs. Some of the monitoring elements have been recognised by regulators and other stakeholders as representing leading industry practice. The system includes four real-time noise, dust and meteorological monitoring stations in key surrounding residential areas to provide the operation with live information regarding noise levels, dust levels and meteorological conditions so that as necessary, operations can be modified to manage impacts. This proactive management approach is highly effective and assists Mt Arthur Coal to minimise environmental impacts. Additional monitoring and inspection systems are also in place for blasting, surface water, groundwater, spontaneous combustion, waste, ecology, land management and rehabilitation.

As outlined in the EA, the South Pit Extension area is located centrally within existing mining areas and therefore, the existing Mt Arthur Coal environmental monitoring network is considered to be appropriate with only minor changes related to additional ecological, rehabilitation and groundwater monitoring, as outlined in the Statement of Commitments.

3.7 Cumulative Impacts

Comment:

Cumulative impacts between the project and other mines which affect us.

The EIS inadequately considers the regional significance/context of the proposal in all but a few specific aspects. Issues of regional scale such as visual impacts, night lighting effects on biodiversity, environmental monitoring, and threatened species and biodiversity considerations have not been taken into account at the appropriate scale to allow for meaningful decision-making.

The overview of cumulative impacts considers impacts only from a site specific perspective and provides an inadequate assessment of cumulative impacts at the appropriate scales. In particular, greenhouse, biodiversity and water quality impacts are not appropriately considered because for a cumulative impact assessment these must be considered at the national, regional and catchment scales respectively.

Response:

Mt Arthur Coal prepared the EA in accordance with the requirements of the EP&A Act and the requirements prescribed for the project by the Director-General for DoP. This has included a detailed assessment of cumulative impacts.

The potential for cumulative impacts was considered throughout the EA on an issues basis (primarily in Section 5.0 of the EA). This included both the impact of the South Pit Extension Project combined with the existing approved Mt Arthur Coal operations, and an assessment of potential cumulative impacts of the project with other developments. The EA demonstrates that the project can be undertaken without significantly changing the potential impacts from Mt Arthur Coal's existing operations and without having a significant impact on the local environment and community.

3.8 Planning Issues

Comment:

Carrying out of the mine does not comply with the principal aims of the Muswellbrook Local Environmental Plan 1985 (LEP). Clause 2(1)(b) of the LEP states “to ensure that growth and development in the Shire of Muswellbrook occurs in a way which preserves existing environmental qualities and minimises adverse environmental impacts”. This proposal is clearly contrary to that aim.

Response:

It is noted that Environmental Planning Instruments, including Local Environmental Plans (LEPs), do not apply to projects assessed under Part 3A of the EP&A Act.

Despite the above, the EA concludes that the project can be undertaken without significantly increasing potential impacts from Mt Arthur Coal's existing operations and without a significant impact on the environment and community. The project will facilitate the continued operation of Mt Arthur Coal, which is a significant contributor to the local and regional economy. It is therefore considered that the proposal is consistent with Clause 2(1)(b) of the Muswellbrook LEP.

Comment:

The EIS does not comply with the Environmental Planning and Assessment Regulation in that it does not analyse feasible alternatives adequately and does not adequately assess the proposal in accordance with ESD principles.....

Response:

Section 3.3 of the EA examines alternatives to the proposal, which included not proceeding and alternative mining footprint areas, alternative mining methods and alternative overburden disposal locations and emplacement area designs. The proposed mine plan was chosen as it was found to minimise potential environmental and community impacts, while maximising economic resource recovery.

The principles of ecologically sustainable development (ESD) were assessed throughout the EA in an integrated fashion, in particular throughout Section 5.0 of the EA. The EA concludes that the project can be undertaken without significantly changing the impacts of the approved Mt Arthur Coal operations and without having a significant impact on the environment and community.

The Director-General's requirements for the project sought a conclusion justifying the project, including whether or not the project is in the public interest. As outlined in the EA, the Minister for Planning will determine whether or not the project is in the public interest, however, the project is consistent with relevant objectives of the EP&A Act, including the principles of ESD.

On considering the balance of environment and community impacts and the manner in which they will be managed, it is considered that it would be reasonable for the Minister to conclude that the State, regional and local benefits of the project outweigh the impacts.

APPENDIX 1

Revised Statement of Commitments

If project approval is granted for the proposed South Pit Extension Project and acted upon, Mt Arthur Coal will commit to the following controls:

- 6.1.1 To carry out the development for the South Pit Extension Project generally in accordance with the Project Application and the Environmental Assessment Report.

Production and Life of the Project

- 6.1.2 The project approval life will be 21 years from the date of project approval. Closure and rehabilitation activities may continue beyond this 21 year period if undertaken in accordance with an approved Mining Operations Plan.
- 6.1.3 Total annual coal production from Mt Arthur Coal including production from the South Pit Extension Project will remain within the combined production limits of the MAN and Bayswater No. 3 development consents: 15 Mtpa ROM in the MAN consent (DA 144-05-2000); and 3.8 Mtpa product coal (approximately 5 Mtpa ROM coal) in the Bayswater No. 3 consent (DA 210-93).

Hours of Operation

- 6.1.4 Mining and associated activities for the South Pit Extension Project may be undertaken on a 24 hour a day, seven day per week basis (refer to commitment 6.4.2 for blasting times).

Anglo Coal Sub-Lease/Partial-Lease Transfer

- 6.2.1 Mt Arthur Coal will enter into a sub-lease agreement/partial-lease transfer (or other legal agreement with the same effect) with Anglo Coal to enable mining and related activities to be conducted consistent with the proposal outlined in the EA within the Drayton mine Mining Lease. Any sub-lease/partial-lease transfer must be approved by the Minister for Primary Industries before mining or related activities commence in this area. If a sub-lease is entered into, the agreement will include delineation of responsibility for environmental management of this area including water management, rehabilitation, spontaneous combustion and associated approvals (e.g. EPL and MOP).

Noise

- 6.3.1 Mt Arthur Coal will manage operations associated with the South Pit Extension Project (the project alone) such that the noise emissions from the project comply with the noise criteria included in **Table 6.1** below.

Table 6.1 – Noise Criteria for the South Pit Extension Project Alone

Locations as Identified in Schedule B of the MAN Development Consent	Intrusive Noise Criteria (Day/Evening/Night) $L_{Aeq,15min}$
Antiene Estate	37 / 40 / 38 dBA
Skellator Stock Route Thomas Mitchell Drive Denman Road	39 / 38 / 37 dBA
Racecourse Road	37 / 36 / 35 dBA
Denman Road West Roxburgh Vineyard and Roxburgh Road	37 / 36 / 35 dBA
South Muswellbrook (incl. the South Muswellbrook Development Area)	35 / 35 / 35 dBA

- Notes:
- 1) Day period is 7.00 am – 6.00 pm; Evening is 6.00 pm – 10.00 pm; Night is 10.00 pm – 7.00 am.
 - a. $L_{Aeq,15min}$ is the value of $L_{Aeq,15min}$ which shall not be exceeded for more than 10% of the monitoring period for continuous noise monitoring for each season and would include the locality specific range of weather conditions occurring at the time of monitoring.
 - b. All measured or predicted noise levels to be rounded to the nearest decibel.

Where monitoring of noise from the combined Mt Arthur Coal operations (refer to commitment 6.3.4) identifies an exceedance of the criteria in **Table 6.1** above, an investigation will be undertaken to determine if the South Pit Extension is the source of this noise and where this is found to be the case, management controls will be applied with the objective of ensuring compliance.

- 6.3.2 Mt Arthur Coal will manage operations associated with the South Pit Extension Project such that the total noise impacts of the combined South Pit Extension Project and MAN mining operations comply with the relevant noise conditions in the MAN development consent. On this basis, the relevant maximum noise limits for the operation are included in **Table 6.2** below.

Table 6.2 – Noise Acquisition Criteria

Locations as Identified in Schedule B of the MAN development consent	Intrusive Noise Acquisition Criteria (Day/Evening/Night) $L_{Aeq,15min}$	Amenity Noise Acquisition Criteria (Day/Evening/Night) $L_{Aeq,period}$
Antiene Estate	greater than 42 / 45 / 43 dBA	greater than 53 / 48 / 43 dBA
Skellator Stock Route Thomas Mitchell Drive Denman Road	greater than 44 / 43 / 42 dBA	greater than 58 / 48 / 43 dBA
Racecourse Road	greater than 42 / 43 / 40 dBA	greater than 53 / 48 / 43 dBA
Denman Road West Roxburgh Vineyard and Roxburgh Road	greater than 42 / 41 / 40 dBA	greater than 53 / 48 / 43 dBA
South Muswellbrook (incl. the South Muswellbrook Development Area)	greater than 40 / 40 / 40 dBA	greater than 53 / 48 / 43 dBA

- Notes:
- 1) Day period is 7.00 am – 6.00 pm; Evening is 6.00 pm – 10.00 pm; Night is 10.00 pm – 7.00 am.
 - a. $L_{Aeq,15min}$ is the value of $L_{Aeq,15min}$ which shall not be exceeded for more than 10% of the monitoring periods detailed in the noise monitoring program for continuous noise monitoring (refer Condition 6.4.3(a)(i)) or for independent noise investigations (refer Condition 6.4.3(a)(v)), as representative of any season (i.e. December to February, March to May, June to August, or September to November) and would include the locality specific range of weather conditions occurring at the time of monitoring.

- b. LAeq,period is the long-term LAeq noise level over the relevant day, evening or night period, as detailed in the noise monitoring program for continuous noise monitoring (refer Condition 6.4.3(a)(i)) or for independent noise investigations (refer Condition 6.4.3(a)(v)). These periods would be representative of any season (i.e. December to February, March to May, June to August, or September to November) and would include the locality specific range of weather conditions occurring at the time of monitoring.
- c. All measured or predicted noise levels to be rounded to the nearest decibel.

6.3.3 Mining operations in the South Pit Extension area, including mobile equipment sound power levels, will be managed with the aim of achieving the predicted noise levels in **Section 5.5.1.3** of the Environmental Assessment report.

6.3.4 Noise monitoring will be undertaken in accordance with the MAN development consent. The MAN Operational Noise Management Plan shall be revised to specifically refer to the project during its next scheduled review.

Blasting

6.4.1 Blast overpressure and vibration levels from blasting undertaken as part of the South Pit Extension Project will comply with the following criteria

Overpressure

The overpressure level from blasting operations on the premises must not:

- a) Exceed 115 dB (Linear Peak) for more than 5% of the total number of blasts over a period of 12 months; and
- b) Exceed 120 dB (Linear Peak) at any time,

when measured at any point that is located at least 3.5 metres from any building or structure at any nearby residential property or other noise sensitive location, such as a school or hospital, and that is non-Company owned or not subject to a private agreement with the landowner.

Ground Vibration (ppv)

Ground vibration peak particle velocity from the blasting operations at the premises must not:

- a) Exceed 5 mm/s for more than 5% of the total number of blasts over a period of 12 months; and
- b) Exceed 10 mm/s at any time,

when measured at any point within the grounds of noise sensitive locations and within 30 metres of any residences or other noise sensitive location, such as a school or hospital, and that is non-Company owned or not subject to a private agreement with the landowner.

6.4.2 Blasting will only take place between 9.00 am and 5.00 pm, Monday to Saturday inclusive unless otherwise approved by the Department of Environment and Climate Change.

6.4.3 Transgrid will be consulted consistent with current practice when blasting in close proximity to the high voltage transmission line located near to the southern boundary of the mining area.

- 6.4.4 Blasting operations within the South Pit Extension area will be undertaken in accordance with the controls outlined in the MAN Blasting/Vibration Management Plan. The plan shall be revised to specifically refer to the project during its next scheduled review.

Air Quality

- 6.5.1 Operations associated with the South Pit Extension Project will be managed in accordance with the MAN Operational Dust Management Plan. The plan shall be revised to specifically refer to the project during its next scheduled review.
- 6.5.2 During the operation of the South Pit Extension Project, Mt Arthur Coal will ensure that the air quality criteria outlined in **Tables 6.3, 6.4 and 6.5** will be met by the project at any non-mine owned land unless a specific agreement is reached with the landholder in regard to air quality impacts.

Table 6.3 – Long Term Dust Concentration Criteria

Pollutant	Averaging Period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter <10 µm (PM ₁₀)	Annual	30 µg/m ³

Note: Should monitoring identify that the above limits are not met an investigation will be undertaken to identify if Mt Arthur Coal is a major contributor to dust levels at this location with further action subject to the findings from this investigation and as agreed with DoP.

Table 6.4 – Short Term Dust Concentration Criteria

Pollutant	Averaging Period	Criterion	Percentile ^a	Basis
Particulate matter <10 µm (PM ₁₀)	24 hour	150 µg/m ³	99 ^b	Total ^c
Particulate matter <10 µm (PM ₁₀)	24 hour	50 µg/m ³	98.6	Increment ^d

- a Based on the number of block 24 hour averages in an annual period.
- b Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, local short duration agricultural activities, illegal activities or any other activity agreed by DoP in consultation with DECC.
- c Background PM₁₀ concentrations due to all other sources plus the incremental increase in PM₁₀ concentrations due to the South Pit Extension Project alone.
- d Incremental increase in PM₁₀ concentrations due to the South Pit Extension Project alone.

Table 6.5 – Dust Deposition Criteria

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Spontaneous Combustion

- 6.6.1 Where possible, emplacement activities in Bayswater No. 2 and the Drayton West Pit will be prioritised to treat spontaneous combustion affected areas to remediate outbreaks as early as possible.

- 6.6.2 The MAN Spontaneous Combustion Management Plan will be applied to operations undertaken as part of the South Pit Extension Project. This plan shall be revised to specifically refer to the project during its next scheduled review.

Aboriginal Heritage

- 6.7.1 Aboriginal site loci within the disturbance area for the South Pit Extension Project (as defined by the 'new disturbance area' shown on **Figure 1.3**) shall be salvaged by surface collection prior to any earthworks. Salvage works will be undertaken in consultation with the Aboriginal community and in accordance with the salvage methodology contained in Appendix 3 of the Aboriginal Archaeology Assessment report (**Appendix 6** of the Environmental Assessment).
- 6.7.2 A report containing the findings of the salvage program and subsequent artefact analysis will be completed within two years of the salvage works and two copies provided to the Department of Environment and Climate Change. Copies will be made available to Aboriginal community groups that participated in the consultation program for this project.
- 6.7.3 Aboriginal site loci (or parts thereof) identified in the project specific archaeological survey for the project and located outside of the disturbance area for the South Pit Extension Project (as defined by the 'new disturbance area' shown on **Figure 1.3** and as listed in Table 8.1 of **Appendix 6**), shall be managed *in situ* and protected by fencing, appropriate signage and notification to relevant site personnel. These loci will be protected and managed under Mt Arthur Coal's Archaeology and Cultural Management Plan (prepared for the MAN mining area) which will be revised to incorporate these loci.
- 6.7.4 If any human skeletal material is uncovered during ground disturbing works all work will cease and the NSW Police Department, Department of Environment and Climate Change and Aboriginal stakeholder groups will be notified. These stakeholders will then be consulted in relation to the development of appropriate mitigation measures.

Water Management

- 6.8.1 Water management controls for all emplacement areas that are externally draining and other areas within the project area outside the pit water management system shall be designed and constructed to a standard consistent generally with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) (the Blue Book) and Guidelines for Establishing Drainage Lines on Rehabilitated Minesites (Draft) (DLWC, 1999) or their subsequent revisions or alternate guidelines as recommended by the Department of Water and Energy or Department of Primary Industries.
- 6.8.2 Sediment dams constructed to capture and treat runoff from disturbed catchment areas that do not flow into the mining pit will be designed to treat water to a standard such that any overflows do not exceed 50 mg/L of sediment for rainfall events within the dam design capacity (design capacity as per the Blue Book or subsequent revisions at the time of completing works).
- 6.8.3 Operational water quality control to be implemented as part of the project to minimise impacts on the surrounding environment will include:
- clearly identifying and delineating areas required to be disturbed and ensuring that disturbance is limited to those areas, clearing as little vegetation as required and minimising machinery disturbance outside of these areas;

- construction of drains upslope of mine disturbance areas to convey clean runoff around disturbed areas where practically possible;
- constructing road and earthworks cut and fill batters (excluding the mining pit and emplacement areas) at slopes of 1V:3H or less, where possible, to maximise long term stability;
- regular maintenance of all erosion control works and rehabilitated areas;
- prompt revegetation of areas as soon as practical following completion of earthworks; and
- inspections of all major sediment erosion and control works on a regular basis and after major storm events to ensure these are in a functional condition and operating effectively.

6.8.4 Water usage, estimated on-site water make (runoff and groundwater inflow) and external water sourcing will be reported in the AEMR.

6.8.5 Saddlers Creek itself will not be disturbed as part of mining or related activities with this area protected by management measures, including fencing.

Licences and Approvals

6.8.6 Mt Arthur Coal will apply for a licence under Part 5 of the *Water Act 1912* from the Department of Water and Energy for the mining pit prior to the commencement of mining operations in the South Pit Extension area.

Monitoring and Contingency Measures

6.8.7 An annual analysis of surface and groundwater monitoring data will be undertaken and will include:

- identification of any changes or long term trends in surface water quality. Should any adverse trends be identified, an investigation will be implemented to determine if the trend is a result of Mt Arthur Coal's operations and if so, will identify management strategies to be implemented to address the identified issues;
- a comparison to modelled groundwater impact predictions.

The monitoring results and analysis findings will be reported in the AEMR.

6.8.8 Mt Arthur Coal will explore the potential to establish a groundwater/base flow monitoring system for Saddlers Creek in consultation with the Department of Water and Energy. Where a suitable approach can be identified, a base flow measurement program will be implemented with results reported on an annual basis in the AEMR, or as otherwise agreed, to the Department of Water and Energy.

6.8.9 Mt Arthur Coal will discuss with Drayton Mine opportunities to share groundwater monitoring data for use in impact verification.

Visual

- 6.9.1 The northern faces of the overburden emplacement area at Bayswater No. 2 will be given priority in the first five years of mining operations in the South Pit Extension area to provide visual screening. The emplacement of overburden over the former North Pit tailings dam may not be possible within this period due to the need to allow sufficient time for tailings to dry out, however, this area will also be completed if possible.
- 6.9.2 Initial revegetation works will be completed on the northern faces of the emplacement area within six months of final shaping unless severe dry conditions prevail.
- 6.9.3 To assist in the visual screening achieved by the northern face of the emplacement area, native trees chosen for their fast-growing and habitat qualities, will be planted along the crest line and adjacent land in this area.
- 6.9.4 Controls to be implemented for operations undertaken as part of the South Pit Extension Project to minimise night time lighting impacts will include:
- designation of specific night-time overburden emplacement locations so that night-time operations are undertaken in visually shielded locations where possible; and
 - use of louvres or shields on mobile lighting plant used in exposed areas (i.e. potentially visible off site) to reduce potential for lighting visibility at night and to reduce fugitive light emissions.

Ecology

- 6.10.1 Mt Arthur Coal will implement an ecological offset package for the project in consultation with the Department of Environment and Climate Change and to the satisfaction of the Department of Planning. This package will include:
- modifying the Voluntary Conservation Agreement process (cultural heritage) underway for the proposed Mt Arthur conservation area to ensure that it provides for appropriate protection of the ecological values of this area in perpetuity, in addition to its archaeological values. This will include provision of adequate funding and management actions for implementation of the proposed Voluntary Conservation Agreement area for the life of the mine and suitable arrangements for the ongoing management of this area post mine closure as part of future mine closure planning processes;
 - a vegetated corridor (approximately 45 hectares) will be established to connect the vegetated habitats of Mt Arthur and Saddlers Creek (refer to **Section 5.2.4.1**). The corridor will be established through seeding/planting of native species;
 - Saddlers Creek near the project area (as defined in Figure 2.1 of the Response to Submissions report, November 2007) will be fenced off to protect the riparian corridor and encourage natural regeneration. Cattle grazing (other than as a land management tool) will be excluded from this area; and
 - rehabilitation to create additional areas of native vegetation as discussed in commitment 6.10.7 below. Mt Arthur Coal will provide adequate funding and management actions for rehabilitated lands for the life of the mine and will consider any ongoing management requirements for these areas post mine closure as part of future mine closure planning processes. The post mine closure

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arrangements will be detailed in the closure plan prepared as part of the final Mining Operations Plan for the South Pit Extension area to the satisfaction of the Department of Primary Industries.

6.10.2 Tree clearing will be undertaken in accordance with the process outlined in Section 6.3 of the Ecological Assessment (refer to **Appendix 5** of the Environmental Assessment report).

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6.10.3 The existing Mt Arthur Coal ecological monitoring program will be modified to include a fauna monitoring site on Saddlers Creek to the south of the project area, to be monitored on an annual basis for a period of five (5) years, with the need for ongoing monitoring to be determined at this time in consultation with the Department of Planning.

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6.10.4 Monitoring of rehabilitation success within the South Pit Extension area will be undertaken on an annual basis for a period of five (5) years following completion of rehabilitation works, with the need for ongoing monitoring to be determined at this time in consultation with the Department of Primary Industries.

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6.10.5 Nest boxes will be established as part of the project to offset the loss of tree hollows within the project area as discussed in Section 6.3.2 of the Ecological Assessment (refer to **Appendix 5** of the Environmental Assessment report).

6.10.6 Nest boxes installed as part of the project will be monitored on an annual basis for a period of five (5) years, with the need for ongoing monitoring to be determined at this time in consultation with the Department of Planning.

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Deleted: project

6.10.7 To offset the loss of native woodland and forest vegetation, the following minimum areas of each vegetation community will be established as part of rehabilitation or habitat creation works:

- at least 48 hectares of Central Hunter Spotted Gum – Ironbark - Grey Box Forest:
- at least 5 hectares of Central Hunter Bulloak Forest Regeneration; and
- at least 0.5 hectares of Hunter Floodplain Red Gum Woodland Complex via assisted regeneration of the Saddlers Creek riparian zone.

6.10.8 Consistent with the offset for impacts on the regionally significant spotted gum as part of the MAN project, seed stock from the site will be used to establish spotted gums included in offset plantings, where practical.

Rehabilitation and Decommissioning

Rehabilitation & Habitat Management Strategy

6.11.1 Mt Arthur Coal will prepare and implement a Mt Arthur Coal complex wide Rehabilitation and Habitat Management Strategy to guide future rehabilitation works and habitat management strategies for the Mt Arthur Coal operations area. The plan will be submitted to the Director General of the Department of Planning for approval within 12 months of the commencement of mining operations and reviewed at least every five (5) years. Progress in implementing the strategy will be reported in Mt Arthur Coal's AEMR. (Note: this strategy may be incorporated into the site wide Flora and Fauna Management Plan to be developed from existing management plans for site).

6.11.2 The rehabilitation and landscape management strategy to be implemented as part of the project will include:

- linkage of the Saddlers Creek riparian corridor to the Mt Arthur remnant vegetation area by a vegetation corridor as shown on **Figure 5.15** (resulting in establishment of approximately 45 hectares of native woodland/forest vegetation); and
- establishment of substantial areas of native vegetation on rehabilitated overburden emplacement areas in the Bayswater No. 2 area as shown on **Figure 5.15** to ensure a net gain of woodland/forest vegetation as a result of the project and consistent with the Synoptic Landscape Plan.

Rehabilitation Works

6.11.3 The detailed emplacement area design will be included in Mt Arthur Coal's Mining Operations Plan (MOP) for approval of the Department of Primary Industries prior to emplacement activities commencing and will aim to enhance progressive rehabilitation opportunities.

Decommissioning of Bayswater No. 2 Infrastructure

6.11.4 A decommissioning plan will be prepared for the Bayswater No. 2 workshop and industrial area as part of the MOP that proposes covering this area with overburden from new mining areas. This plan will be provided to the Department of Primary Industries for approval prior to the commencement of works.

Final Void

6.11.5 Details of the final void associated with the South Pit Extension Project will be included in the Final Void Management Plan, or subsequent revision depending on the date of Project Approval, required to be prepared for the MAN project by year five of operations at MAN.

Drayton West Pit

6.11.6 Mt Arthur Coal will reshape, construct drainage and sow with pasture grasses the Anglo Coal sub-lease/partial-lease transfer areas affected by emplacement activities conducted by Mt Arthur Coal. These works will be conducted in accordance with the terms of the sub-lease/partial-lease transfer and be detailed in the MOP covering activities in this area.

Landform Design

6.11.7 Mt Arthur Coal will seek the approval of the Department of Primary Industries for all landform designs that are proposed to have slopes of greater than 10 degrees as part of the Mining Operations Plan process.

Waste Management

6.12.1 No waste will be disposed of on site except for inert wastes permissible under Mt Arthur Coal's Environment Protection Licence with all other waste disposed of at an appropriately licensed waste management facility.

Annual Reporting

- 6.13.1 Details of the South Pit Extension operations including compliance with the final Statement of Commitments and any Conditions of Approval, will be reported annually in a AEMR. AEMR reporting for the project will be combined with AEMR reporting for other components of Mt Arthur Coal's operations.

Independent Environmental Audit

- 6.14.1 Three years after commencement of mining operations in the South Pit Extension area, and every three years thereafter, Mt Arthur Coal will commission and pay the full cost of an Independent Environmental Audit of the project in consultation with the Director-General of the Department of Planning. A copy of the audit report will be provided to the Director-General of the Department of Planning and Department of Primary Industries, Department of Environment and Climate Change, Muswellbrook Shire Council, Department of Water and Energy and members of the Community Consultative Committee relevant to this project. The audit timing will be preferably combined with other independent environmental audits required by Mt Arthur Coal's development consents as agreed by the Director-General of the Department of Planning.

Community Consultative Committee

- 6.15.1 Mt Arthur Coal will report on activities undertaken within the South Pit Extension area and discuss relevant issues regarding these activities with either the Mount Arthur North or Bayswater No. 3 Community Consultative Committee (CCC) as agreed in consultation with Muswellbrook Shire Council and the Department of Planning.

Consolidation of Environmental Management Plans

- 6.15.2 Within 12 months of obtaining Project Approval, Mt Arthur Coal will consolidate the existing Environmental Management Plans for the currently approved MAN, Bayswater No. 3 and Rail Loading Facility operations with a view to producing a single suite of environmental management plans that cover the entire Mt Arthur Coal complex, including South Pit Extension area. This work will be undertaken in consultation with the relevant Government authorities.

Traffic

- 6.16.1 Mt Arthur Coal will apply to the Department of Lands to close the Crown road reserves within the project area.
- 6.16.2 Mt Arthur Coal will commission a traffic consultant to undertake a night time road safety audit for the New England Highway/Thomas Mitchell Drive and Denman Road/Thomas Mitchell Drive intersections. This audit will be undertaken in a manner that considers existing Mt Arthur Coal operations and the currently proposed Mt Arthur Underground Project. The audit findings will be reported to the Roads and Traffic Authority and Muswellbrook Shire Council.

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