COORDINATOR-GENERAL'S

REPORT

on the

ENVIRONMENTAL IMPACT STATEMENT

for the proposed

CLERMONT COAL MINE

Under Part (4) of the Queensland

State Development and Public Works Organisation Act 1971

June 2005

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1. INTRODUCTION

This report has been prepared pursuant to section 35 of the Queensland *State Development and Public Works Organisation Act 1971 (SDPWO Act)* and s.17 of the *SDPWO Regulation 1999 to* evaluate the environmental effects of the proposed Clermont Coal Mine Project (the Project).

The Proponent for the Project is the Clermont Joint Venture, which comprises Queensland Coal Pty Limited (50.1%); Mitsubishi Development Pty Limited (34.9%); and EPDC Australia Pty Limited (15%).

1.1 Environmental Impact Assessment Requirements under Queensland Legislation

The Coordinator-General (CoG) declared the Project to be a 'significant project', for which an Environmental Impact Statement (EIS) is required, under s.26 of the *SDPWO Act* on 20 August 2003. Terms of Reference (ToR) for the EIS were finalised by the CoG in December 2003 following receipt of public comments and pursuant to ss.29 and 30 of the *SDPWO Act* and s.15 of the *SDPWO Regulation*.

1.2 Assessment Requirements under Commonwealth Legislation

The Proponent referred the Project proposal to the Commonwealth Minister for the Environment and Heritage under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) on 3 September 2003 (Referral No. 2003/1167). The Minister determined that the proposal constituted a 'controlled action' pursuant to s.75 of *EPBC Act* on 17 September 2003. The controlling provisions of Part 3, Division 1 of this Act are sections 18 and 18A (Listed threatened species and communities). The assessment of the Project, pursuant to s.87 of the *EPBC Act*, Act, will follow the EIS process under Part 4 of the *SDPWO Act* and Part 5 of the *SDPWO Regulation*, as accredited by the Commonwealth Minister on 3 October 2003.

1.3 Environmental Impact Assessment Documentation

For the purpose of this Report, the EIS comprises the "Clermont Coal Mine Project, Environmental Impact Statement, August 2004" and "Clermont Coal Mine Project, Environmental Impact Statement Supplementary Report, January 2005", both prepared by Rio Tinto Coal Australia Pty Limited (RTCA).

In making my evaluation I have drawn on the information contained in the EIS. In addition, I have considered all properly made submissions on the EIS; comments on the Supplementary Report from Advisory Agencies; matters raised in correspondence with RTCA, State and Commonwealth agencies and local Government, legal advice and other material relevant to the Project. A summary of the relevant documentation that I considered in making my evaluation of the EIS is provided in s.6.1.

The objective of this Report is to summarise the key issues associated with the impact assessment of the Clermont Coal Project on the existing physical, social and economic environments at the local, regional, State and national levels. It is not intended to record all the matters that were addressed during the EIS process. The Report focuses on those key issues that were identified, some of which require specific conditioning for the Project to proceed.

2. PROJECT DETAILS

2.1 The Proponent

The Project proponent is the Clermont Coal Joint Venture, which comprises Queensland Coal Pty Limited (50.1% interest), Mitsubishi Development Pty Limited (34.9%) and EPDC Australia Pty Limited (15%). Rio Tinto Coal Australia Pty Limited (RTCA) is the project manager. Both RTCA and Queensland Coal are fully owned subsidiaries of Rio Tinto Limited.

RTCA, formerly Pacific Coal, has successfully developed and managed world-class open cut and underground coal mining operations. RTCA manages the Blair Athol, Tarong, Kestrel and Hail Creek mines in Queensland and is the State's largest producer of thermal coal.

Mitsubishi Development Pty Limited is wholly owned by the Mitsubishi Corporation. It is engaged in the production and sale of coal through joint ventures in New South Wales and Queensland, including the BHP Billiton Mitsubishi Alliance.

EPDC Australia Pty Limited is a wholly owned Australian subsidiary of J Power, which is a major Japanese electricity generator, and is also one of the joint venture partners in the Blair Athol mine.

2.2 Project Description

The Clermont Coal Joint Venture (the Proponent) proposes to develop a new open cut coal mine to produce 10 to 15 million tonnes per annum (Mtpa) of thermal coal for the export market (the Project). The proposed mine is located 10km north of the township of Clermont and 234km southwest of Mackay in Central Queensland. The proposed mine is approximately 15km east of the existing Blair Athol coal mine.

Based on an average production of 12Mtpa from proven reserves in excess of 190Mt of coal, the life of the mine would be approximately 17 years. The total capital investment for the Project is estimated to be A$440 million. Employment is expected to peak at 565 jobs during the construction phase, with up to 450 direct jobs available during operations.

The proposed open pit would be approximately 290m deep and up to 2km wide. Waste rock dumps would be established outside the pit area during the early mine life, until in-pit disposal of waste rock is possible. An option to use an in-pit crushing and conveying system for the removal of part of the overburden is being considered as part of the detailed mine feasibility studies.

The Project would involve the development of a coal preparation plant for washing higher ash coal (estimated to be about 17% of the run-of-mine coal production) and a coal washery waste disposal area. In addition, a 13km long overland conveyor will be built to transport the product coal from the mine to the existing coal handling facilities at the Blair Athol mine.

Development of the mine will necessitate the re-location of approximately 14km of the Peak Downs Highway, Gregory Highway and Gregory Developmental Road. It is proposed to realign these state-controlled roads to the north and west of the mine. The development will also require diversion of an 8.5km section of Gowrie Creek, an ephemeral stream, to a channel east of the proposed mine.

The Proponent currently holds mining leases (ML) 1884 and 1904, which were granted in 1983. ML 1884 is for the purpose of mining and ML 1904 is for dumping waste rock and mine infrastructure. The proposed Project's pit design encroaches on ML 1904. Consequently, the Proponent proposes to conditionally surrender most of ML 1904 and has applied for a ML for

mining purposes (MLA 70343). In addition, an application for a mining lease for transportation through land covering the proposed overland conveyor corridor has been made (MLA 70334).

2.3 Rationale for Project

RTCA currently exports over 12Mtpa of thermal coal from the Blair Athol mine to supply markets in north-east Asia and elsewhere. Coal from the Clermont deposit is similar in character and suitable for the same markets. The proposed production from the Clermont mine could replace similar quality and quantities of coal from the Blair Athol mine in this market. The development of the Clermont mine would be scheduled to coincide with wind-down of mining at Blair Athol in 2008 to 2010. This would enable utilisation of existing stockpiles, stacker reclaimers and rail load-out facilities at the Blair Athol mine.

The Project provides an opportunity to maintain coal mining activities in the Clermont region for up to 20 years after the closure of the Blair Athol mine, with the associated significant economic and social benefits to the region. It is estimated that the Project could support approximately 3,800 jobs throughout the Queensland economy during operations, with over 3,000 in the Mackay region. Further, the Project could contribute approximately $500 million per annum to Queensland's Gross State Product, as well as $100 million per annum to the State in royalties and rail freight charges.

3. THE EIS PROCESS

3.1 Declaration of Significant Project

Pacific Coal Pty Limited (now RTCA) lodged an Initial Advice Statement (IAS) for the Project with the CoG on 11 August 2003. Pursuant to s.26 of the *SDPWO Act*, the CoG declared the Clermont Coal Mine Project to be a 'significant project' on 20 August 2003.

3.2 Terms of Reference for EIS

Draft Terms of Reference (ToR) for the EIS were prepared by the CoG. Copies of the IAS and the draft ToR were distributed to the Advisory Agencies and other key stakeholders for comment. Both documents were publicly released and their availability advertised in *The Emerald Central Queensland News* on 26 September 2003 and *The Courier-Mail* and *Weekend Australian*, on 27 September 2003. Comments on the draft ToR were accepted until the close of business on 27 October 2003. Following evaluation of all comments received from the Agencies and the public, the final ToR were formally issued by the CoG to Pacific Coal (RTCA) on 12 December 2003.

3.3 Public Review of the EIS

The EIS was approved for release by the CoG and distributed to Advisory Agencies and other key stakeholders on 28 July 2004. Advertisements were placed in *The Weekend Australian*, and *Courier-Mail*, on 31 July 2004 and *The Emerald Central Queensland News* on 4 August 2004, inviting written submissions from the public, addressed to the CoG, for six weeks until the close of business on 13 September 2004.

The EIS was placed on public display at the following locations: the State Development and Innovation Centre in Mackay, the Belyando Shire Council in Clermont, the Clermont Town Library, the Department of Environment and Heritage Central Library in Canberra, and the State Library of Queensland, the Department of the Premier and Cabinet Library and Naturally Queensland Information Centre in Brisbane from 2 August 2004, for review during business hours.

The EIS could also be inspected via a link from the Department of State Development and Innovation (DSDI) and RTCA internet web-sites to consultant Parsons Brinkerhoff's website at: http://www.pb.com.au/clermonteis. Hardcopy and CD-Rom versions were available for purchase for $75 and $15 respectively from the Proponent.

Following a six-week public review period for the EIS, a total of 30 submissions were received by the CoG. Submissions were received from the following:

Advisory Agencies

Belyando Shire Council (BSC)
Commonwealth Department of Environment and Heritage (DEH) – 2 submissions
Department of Aboriginal and Torres Strait Islander Policy (DATSIP)
Department of Emergency Services (DES)
Department of Employment and Training (DET)
Department of Housing (DoH)
Department of Industrial Relations (DIR)
Department of Main Roads (DMR)
Department of Natural Resources and Mines (DNRM)
Department of Primary Industries and Fisheries (DPIF)
Environmental Protection Agency (EPA)
Queensland Health (QH)

Queensland Rail (QR)
Queensland Transport (QT)
Queensland Treasury

Organisations

AgForce Queensland – 2 submissions
Clermont Youth and Housing Association

Private Individuals

David Bridgeman of "Morbridge", Clermont
PJ and MA Corbett, C Kelly and C Sypher, Clermont
Trevor and Catherine Dennis of "Kurrajong", Clermont
William D Fraser of "Langfield" and "Fleurs", Clermont
William J Fraser and Robyn Cross of "Fleurs", Clermont
Geoffrey and Phillipa Hurrey of "Crillee", Clermont
Phil and Sue McLean, CI McLean & Co, "Kinsale", Clermont
Stacy Mills of "East Kurrajong", Clermont
Rod and Eileen Otto of "Homelea Downs", Clermont
Sid and Margaret Perrin of "Araluen", Clermont
Peter and Desley Thompson of "Upsan Downs", Clermont

3.4 Review of the EIS Supplementary Report

All responses to the EIS were forwarded to RTCA for its consideration. A summary of the written submissions, which included directions to RTCA to respond to specific points raised, was sent to RTCA. Where respondents raised major issues, RTCA contacted the respondent directly to discuss the matter.

RTCA then prepared additional information or clarification for inclusion in a document entitled "Clermont Coal Mine Project Environmental Impact Statement Supplementary Report", which was lodged with DSDI on 23 December 2004. This Supplementary Report includes the above summary of submissions along with RTCA's response and a column cross-referencing the issue to the relevant section of the EIS.

Copies of the Supplementary Report were issued to all Advisory Agencies and other respondents to the EIS for their information. The Supplementary Report was also available for review on Parson Brinkerhoff's web site, the Mackay State Development and Innovation Centre, the Belyando Shire Council Chambers in Clermont and all libraries listed in s.3.3 from 12 January 2005.

Advisory Agencies were also invited to comment on the Supplementary Report and to provide specific advice to the CoG for consideration for inclusion as conditions or recommendations in this Report. Comments from Advisory Agencies were due by the close of business on 4 February 2005. Agency responses on the Supplementary Report to the EIS were forwarded to RTCA for additional comment or clarification, where necessary. RTCA subsequently provided further information or made specific commitments to address the remaining concerns.

4. EVALUATION OF ENVIRONMENTAL EFFECTS

4.1 Introduction

The *SDPWO Act* defines 'environment' to include:

a) ecosystems and their constituent parts, including people and communities;
b) all natural and physical resources; and
c) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and
d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c).

'Environmental effects' means "the effects of development on the environment, whether beneficial or detrimental". These effects can be direct or indirect, of short, medium or long-term duration and cause local or regional impacts.

The following section outlines the major environmental effects identified during the EIS process, including in the EIS and Supplementary Report, in submissions on the EIS and in consultation with Advisory Agencies and other key stakeholders. I have provided comments on these matters and, where necessary, set conditions or made recommendations to mitigate adverse impacts.

This Report states conditions that must attach to the proposed environmental authority (mining lease) issued under Chapter 5, Part 6 of the *Environmental Protection Act 1994* (*EP Act*). A draft environmental authority (EA) that includes these conditions is attached to this Report as Appendix A. The draft EA was developed from the following:

- information provided in the EIS and Supplementary Report;
- comments in formal submissions on the EIS;
- comments from Advisory Agencies on the Supplementary Report;
- specific advice sought from Agencies; and
- subsequent meetings between Agencies and RTCA.

I state, pursuant to s.49 of the *SDPWO Act*, that all of the conditions set down in Appendix A must attach to any new or amended EA required under the *EP Act* for the Project to proceed.

The Proponent presented a draft Environmental Management Overview Strategy (EMOS) in the Supplementary Report. The purpose of the EMOS, now known as an Environmental Management Plan (EM Plan), as defined in s.202 of the *EP Act*, is to propose environmental protection commitments to protect the environmental values affected by the proposed mining activities. I have recommended that certain other matters, which cannot be included as conditions under the statutory provisions of the EA, be dealt with as commitments in the EM Plan to mitigate potential impacts from Project activities (see Appendix B1). Subject to the inclusion of these recommendations in the EM Plan, I state, pursuant to s.205(1)(c) of the *EP Act*, that the EM Plan complies, or substantially complies with the content requirements under s.203 of the *EP Act*.

A number of the conditions in the Draft EA and recommendations for inclusion in the EM Plan relate to management of potential impacts to matters of national environmental significance. The Report states that these conditions and recommendations could be considered by the Commonwealth Minster for the Environment and Heritage in making a decision on approval for the controlled action, pursuant to the *EPBC Act* (see s.5.8 and Appendix B1).

The Report states specific conditions that could be considered by the Chief Executive for inclusion in any water licences granted under the *Water Act 2000* (see s.4.2 and Appendix B2).

The Report does not state any conditions that must attach to proposed mining leases, pursuant to s.45 of *SDPWOA*. Mining lease 1884, which allows mining of most of the coal resource, was granted in 1983. The conditions to which this mining lease is subject may only be varied with the written agreement of the holder of the mining lease, pursuant to s.294 of the *Mineral Resources Act 1989* (*MRA*). Two other mining lease applications have been lodged to enable mining of part of the remaining coal resource and for infrastructure purposes (the overland conveyor to Blair Athol). However, I have determined that there are no additional conditions that should be attached to these mining leases, beyond those set down in the draft EA (see Appendix A) to manage any potential adverse environmental effects.

The Project requires limited development approvals under the provisions of the *Integrated Planning Act 1997* (*IPA*). I have determined, pursuant to s.39 of *SDPWOA*, that there are no specific conditions to mitigate potential adverse environmental effects that are relevant and reasonable and should be included in any particular development approvals.

RTCA presented a revised schedule of Project Commitments in Appendix H of the Supplementary Report, following public submissions on the EIS. These commitments include actions beyond those required to meet statutory approvals and their implementation will enhance the mitigation of potential adverse environmental impacts of the Project. In reaching a conclusion on the acceptability or otherwise of the management of potential impacts of components of the Project, I have considered these Project Commitments. Where necessary, I have extended particular commitments and recommend that the Proponent implements specific actions, in accordance with best practice environmental management (see Appendix B3).

Table 1 summarises the key issues, grouped into 14 categories, which were raised in submissions received by the CoG on the EIS that was released for public comment on 2 August 2004. The following sections of this Report discuss the substantive issues raised in the submissions and my consideration of, and findings in relation to, them.

Table 1 CLERMONT COAL MINE PROJECT
Summary of Key Issues in Responses to EIS

SUBMITTER	Groundwater	Surface water	Land Resources (incl .rehab)	Nature Conservation	Air Quality	Noise & Vibration	Visual Amenity	Cultural Heritage	Infrastructure (roads & rail)	Housing & Accommodation	Employment & Training	Health & Safety	Social Services	Property Values
ADVISORY AGENCIES														
Environment & Heritage (C'th)				X										
Belyando Shire Council										X	X		X	
Natural Resources & Mines	X	X	X	X				X	X					X
Environmental Protection Agency	X	X	X	X	X	X		X						
Main Roads					X			X	X					
Transport									X					
Emergency Services												X		
Primary Industries & Fisheries		X		X										
Housing										X			X	
Health					X							X	X	
Employment & Training														
Aboriginal & Torres Strait Islander Policy								X			X			
Industrial Relations														
Treasury														
Queensland Rail														
OTHER ORGANISATIONS														
AgForce	X			X	X	X	X							X
Clermont Youth & Housing Assoc										X			X	
PRIVATE INDIVIDUALS														
D Bridgeman	X								X					
R & E Otto	X				X	X	X		X					X
S & M Perrin	X	X			X	X			X					X
S Mills	X	X												X
P & S McLean	X													
T & C Dennis	X			X										X
P & D Thompson	X													
P & M Corbett, C Kelly & C Sypher	X	X												
WJ Fraser & R Cross	X	X			X	X	X	X	X					X
WD Fraser	X	X			X	X								X
G & P Hurrey	X	X			X	X	X							X

4.2 Groundwater

On the basis of material provided in the EIS, Supplementary Report, groundwater reports prepared for RTCA by Matrix Plus Consulting Pty Limited (November 2004 and March 2005), a report prepared for RTCA by Dr Noel Merrick (Acting Director of the National Centre for Groundwater Management at the University of Technology Sydney) of a review of the regional groundwater model for the Project (August 2004), and advice provided by the Department of Natural Resources and Mines (DNRM), I find the following:

- Dewatering of Tertiary aquifers overlying the coal deposit and the Permian coal measures in advance of mining is necessary for the safe development of the Clermont Coal Mine;
- There is a considerable body of information available on the structure of the aquifers in the immediate area of the mine and their response to various natural and induced impacts obtained during investigations over the last 25 years, including the results from monitoring the effects of groundwater extraction from the Clermont Coal mining leases that is taken under water licences to supplement the water supply at the Blair Athol Coal Mine;
- Groundwater modelling undertaken by RTCA based on this information is technically sound and able to be used with confidence to predict likely scenarios;
- The proposed mine dewatering will result in a drawdown of the regional aquifers;
- The groundwater modelling predicts that seven neighbouring properties will be affected by this groundwater drawdown during the life of the mine and for an extensive period post mining, with some pre-existing bores outside the mining leases permanently affected;
- Landholders rely on groundwater as their primary source of water for stock and domestic purposes, due to the highly permeable nature of the underlying basalt terrain in the Clermont area not enabling farm dams to hold water; and
- An assessment of alternative groundwater resources on properties potentially affected by the proposed groundwater extraction, including drilling pilot bores and pump-testing undertaken by RTCA during October to November 2004, identified suitable alternative groundwater supplies on each property to replace current and planned future water supplies should the existing bores become impacted by the dewatering.

I have also considered the requirements for taking water from an aquifer under land that is classified as a declared sub-artesian area, which is regulated under the Queensland *Water Act 2000* and *Water Regulation 2000*, and advice provided by DNRM in relation to the implementation of this legislation. This is summarised in the following section.

Before the Proponent can undertake any dewatering activities on its land, as distinct from taking its current entitlement, it must obtain a separate water licence or an amendment to its existing water licences under the *Water Act*. This is a public process and any interested party, including landowners that could be affected, may make submissions on the application. The Chief Executive under the *Water Act* must consider these submissions, along with the outcome of the EIS process as set down in this Report, in deciding whether to grant the water licence. The *Water Act* provides a number of appeal provisions.

If the proposed water extraction is likely to result in an undue effect on pre-existing water entitlements, and without pre-empting the decision of the Chief Executive, it would be usual for the Chief Executive to include "make good" provisions as a condition of the water licence. Such a condition would entail the Proponent making good the existing water supply at no cost to the affected landowners. The water licence would also contain conditions that require the licensee to regularly monitor the impacts of extractions and, if appropriate, review the modelling on which the impact assumptions are made.

I note the specific issues and concerns associated with the potential effects of this dewatering program on landholders in the vicinity of the proposed mine that were raised in the 11 formal submissions on the EIS received from private individuals living in the Clermont district, as well as in two submissions from AgForce Queensland, on behalf of landowners. I have also been informed that a number of the landholders have subsequently made joint representations to both the Minster for Natural Resources and Mines and the Minister for State Development and Innovation regarding their concerns.

As stated, the Chief Executive may impose specific conditions to a water licence under the *Water Act* and would have regard to the findings from the EIS process (set out above) for the Project. I would like to highlight the following points for consideration:

- Mechanisms to ensure that development of the proposed Clermont Coal Mine does not result in an undue adverse impact on the availability and quality of groundwater supplies to neighbouring landholders must be implemented under approvals, pursuant to the *Water Act*;
- RTCA has committed to reaching mutually agreeable arrangements with landholders potentially affected by groundwater drawdown for the provision of alternative supplies throughout the mine life, and after mine closure, with the alternative supplies to be put in place before supplies from relevant existing landholder bores are adversely affected and the costs associated with changes to landholder extraction of groundwater from bores on affected land covered by the Proponent (s.3.4.5 of the Draft EMOS); and
- Prior to the surrender of mining leases post-mining, pursuant to the *MRA* and *EP Act*, the conditions under which an alternative supply of groundwater would be provided to any landholders potentially adversely affected by impacts to groundwater directly attributable to the mine dewatering program must be agreed to between the Proponent (and its successors and assigns) and the relevant regulators.

As stated above, any new or amended water licence that might be granted to the Proponent will include prescribed conditions for the Proponent to regularly monitor and assess the impacts of its groundwater extractions. These conditions would include: the design of the groundwater monitoring network; recording any changes to water levels and water quality in monitoring bores; and reporting requirements. In addition, the Proponent would be required to implement a groundwater monitoring program to determine the impacts of activities on the mining leases on the groundwater quality in underlying aquifers and on existing groundwater bores in adjacent areas (see Schedule C6 of the draft EA conditions presented in Appendix A of this Report).

I am satisfied that implementation of the above monitoring programs, regulated under the *Water Act* and *EP Act*, would provide an early warning of likely impacts to the groundwater supply and quality. I am also satisfied that options for the Proponent to provide alternative supplies of groundwater to affected landholders are sufficient to ensure that "make good" provisions in the water licence could be implemented in a timely manner that causes minimal or no disruption to the landholders.

4.3 Surface Water

Issues associated with potential impacts to the surface water resources due to the Project that were raised in submissions on the EIS and Supplementary Report by several neighbouring landholders, as well as EPA, DNRM and the Department of Primary Industries and Fisheries (DPIF) relate to the following matters:

- The permanent diversion of an 8.5 km section of Gowrie Creek, an ephemeral stream, to the east of the proposed mining operations, with associated disturbance of riparian vegetation and potential impacts to flooding and long-term integrity of proposed diversion levees;

- Release of surplus groundwater from mine dewatering and surface mine water into Gowrie Creek and the potential impacts on water quality and ecosystems in the drainage system downstream; and
- Water quality in the final void.

The diversion of Gowrie Creek is regulated under the *Water Act* and the *Integrated Planning Act 1997* (*IPA*). The application for works to interfere with the flow of waters related to the proposed diversion must include details of works associated with the construction of the proposed levees, as well as the long-term maintenance of the levees after decommissioning the mine. Specific measures in the design of the diversion to minimise adverse impacts associated with potential erosion, increased sediment loads and flooding are set down in s.3.4.5 of the Draft EMOS. Similarly, a qualitative monitoring and evaluation program to meet the requirements of DNRM in its submission on the EIS has been included in Schedule F5 of the draft EA (see Appendix A).

Apart from the conditions stated in the draft EA and commitments in the Draft EMOS, I find that there are no other matters associated with the diversion of Gowrie Creek that require further specific conditioning to mitigate associated adverse impacts. In particular, I am satisfied that diversion of Gowrie Creek as planned will not significantly increase the risks of flooding on adjacent properties to the east of the diversion.

Several respondents to the EIS raised concerns about the potential impacts of the release of surplus groundwater to the Gowrie Creek-Wolfang Creek-Sandy Creek drainage system, in particular impacts to flora and fauna from the streams having a semi-permanent flow during the life of the mine, as well as potential impacts on water users and the environment from any degradation in the water quality. In addition, there was a general concern about the wastage of this valuable water resource, particularly at a time when the region is experiencing serious and prolonged drought conditions.

RTCA revised its water balance model for the Project that was presented in the EIS, based on a refinement of the mine design plan. This has resulted in a significant change to the proposed water demand for operations with a consequent major reduction in the volume of surplus groundwater to be released from the mining leases. RTCA asserts in s.2.4.2 of the Supplementary Report that there would be no release of groundwater under median climatic conditions for an average of 5.7 months per annum after Production Year 2.

RTCA was also directed during the EIS process to investigate alternative beneficial uses for surplus groundwater during the life of the mine. Under the current proposal, surplus groundwater would be released to Gowrie Creek where it will flow downstream to Sandy Creek before being absorbed into the Sandy Creek alluvial aquifer. Consequently, the water would re-charge the currently stressed Sandy Creek aquifer, which has been used to supplement Clermont Township's water supply in the past. In effect, this is a beneficial use as it would increase the security of water supply for the Township, which is currently dependent on the Theresa Creek dam. DNRM has indicated that it is satisfied that the quality of water in this aquifer, which the Belyando Shire Council is licenced to take, will not be adversely affected by this re-charge.

I am satisfied that there are no viable or practicable alternative agricultural or industrial uses for this water at present, due to the irregular and unpredictable timing and volume of such water releases. However, I recommend that the Proponent should continue to pursue opportunities for alternative beneficial uses of surplus groundwater, particularly for agricultural purposes, for the life of the mine, as a commitment in the EM Plan (under s.3.4.5 of the Draft EMOS).

I also recommend that potential impacts on the aquatic ecology be monitored under terms set out in s.3.7.7 of the Draft EMOS, with monitoring scheduled to coincide with significant regional rainfall events, or at least annually. I further recommend that the EM Plan includes appropriate management plans, such as a Weed Management Plan, which should be developed and implemented prior to the commencement of construction activities.

Matters related to the quality of wastewater discharges from the mine water dam, including potential impacts on the receiving environment from contaminants, and the water quality in the final void post-mining, have been the subject of discussions with EPA and DNRM following the release of the EIS and Supplementary Report. The draft EA conditions set down in Schedule C (Appendix A) and ss.3.4.5-3.4.7 and s.3.6.10 of the Draft EMOS include specific conditions and commitments to meet the requirements of these Advisory Agencies. These include the following key points to minimise potential adverse impacts:

- Release of water from the mine water dam will only occur during times of flow in Wolfang and Gowrie Creeks and only if the resultant electrical conductivity and pH in Wolfang Creek does not exceed the defined criteria;
- Water quality parameters for the mine water dam and Wolfang Creek are set;
- End of pipe contaminant release limits are set;
- Real-time monitoring stations will be installed at the mine water dam and at the receiving water location in Wolfang Creek to measure electrical conductivity, pH and flow rates during release events;
- Implementation of an environmental impact monitoring program for the in-stream environment downstream of the mining lease, based on the *AUSRIVAS (DNRM 2001)* protocols and *Bio-assessment Program Scoring System (DNRM 2001)*; and
- Submission of a Final Void Water Quality Management Plan to the administering authority within three years of initial coal production that includes modelling of the long-term water quality, assessment of likely impacts, management measures to mitigate impacts and a monitoring program to assess the performance of management measures.

4.4 Land Resources

The following key matters in relation to the land resources were raised during the EIS process and in submissions from DNRM and EPA:

- Loss of Good Quality Agricultural Land (GQAL);
- Rehabilitation and post-mine land use;
- Characterisation and management of potential acid-forming (PAF) material exposed in waste rock dumps and mine reject storages and associated potential contamination of surface and groundwater; and
- Stability of overburden waste dumps and final void.

The Project would result in the loss of 1,260 ha of GQAL. State Planning Policy 1/92 – "Development and the Conservation of Agricultural Land", provides a framework for development to be assessed that considers the value of GQAL, unless there is an over-riding need for the development in terms of public benefit.

The Proponent proposes to establish a self-sustaining vegetation community using key species from the local ecosystems over GQAL that is lost as a consequence of the mining activities. Whilst this proposal does not allow for productive agricultural post-mine land uses, I am satisfied that there is an over-riding need for the Project in terms of public benefit that would accrue as a result of the employment, training, increased economic activity, taxes, royalties and other charges associated with development of the Clermont coal mine. I also find that the proposed rehabilitation strategy, which would result in a net increase of approximately 560 ha in the area of native woodland within the mining leases, would be an acceptable beneficial post-mining land use, subject to the specific conditions set down in Schedule F of the draft EA (see Appendix A) and summarised below:

- All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining native vegetation community in accordance with specific criteria set down in the draft EA conditions (Schedule F);
- The rehabilitation program must consider use of key dominant and understorey species from the major native woodland ecosystems in the area; and
- Provision of a Rehabilitation Report to the administering authority under the *EP Act* within five years of the commencement of mining that details the proposed rehabilitation acceptance criteria, remedial actions for areas not meeting the acceptance criteria and rehabilitation monitoring program.

EPA expressed concerns that the EIS presented inadequate information on the acid producing potential of waste rock and mine reject material to be assured that the proposed management measures would be able to prevent or minimise acid generation and the release of contaminants to surface and groundwater. Following discussions between RTCA and EPA after the release of the Supplementary Report, it was agreed that the Proponent would undertake further kinetic testing to provide sufficient information on the physical and chemical properties of surface and sub-surface materials within the areas to be disturbed by the proposed mining that is consistent with the current 'best practice' and guidelines issued by Environment Australia (1997) or the United States Environmental Protection Agency (1994).

In order to ensure that PAF material could be adequately managed, I have stated that the draft EA should include a condition that the Proponent must provide a Waste Rock Management Plan to the administering authority 25 business days prior to the removal of overburden that includes management protocols for the handling, storage and placement of any waste rock and coal process wastes identified as PAF and/or high salinity or sodicity in accordance with current *'best practise'* methods, as well as performance criteria and a monitoring program for measurement of success of the Plan (see Schedule F6 in the draft EA, Appendix A).

EPA also expressed concerns about the long-term stability of the proposed post-mining landform, including the final batter angles on the waste rock dumps and pit void. Based on further discussions between RTCA and EPA, following the release of the Supplementary Report, I have set specific conditions for inclusion in the draft EA (see Schedule F in Appendix A). In summary, these conditions include the following:

- Rehabilitated landform angles are not to exceed 17%, with the maximum distance between contour or graded banks conforming to specific values set out Schedule F, table 2;
- A Rehabilitation Report must be provided to the administering authority within 5 years of the commencement of mining that includes an erosivity assessment of rehabilitated landforms; and
- A Final Void Geotechnical Report, prepared by a suitably qualified and experienced professional, must be submitted to the administering authority 5 years prior to the establishment of a final void that includes the proposed slope criteria for pit walls with competent and incompetent rock.

4.5 Nature Conservation

Key issues raised by DNRM, EPA, DPIF and a landholder during the EIS process in relation to potential impacts to flora, fauna and ecosystems are summarised as follows:

- Loss of native vegetation and associated loss of habitat and impacts on native flora and fauna;
- Potential impacts on riparian vegetation from groundwater de-watering, Gowrie Creek diversion and discharge of surplus mine water;
- Potential impacts on aquatic biology from discharge of surplus groundwater and mine water into Gowrie Creek; and

- Potential impacts from weed infestation.

On the basis of the information provided in the EIS and Supplementary Report, I find that approximately 937 ha of remnant native vegetation will be disturbed by the Project. This includes 234 ha of Dawson Gum woodland and Brigalow community and 44 ha of Bluegrass community that are listed as endangered under the Commonwealth *EPBC Act* (see discussion in s.5.5) and Queensland *Vegetation Management Act 1999* (*VMA*), as well as 237 ha of coolabah (*Eucalyptus coolabah*) woodland and black tea-tree (*Melaleuca bracteata*) woodland with grassland understorey, listed as 'Of Concern' under the *VMA*.

Under the proposed mine rehabilitation plan, which is to establish a self-sustaining vegetation community using key dominant and understorey species from the disturbed regional ecosystems, approximately 1500 ha of native vegetation would be re-established. This would result in a net increase of approximately 560 ha in the area of native woodland within the mining leases. I have stated conditions that should attach to the draft EA (see Schedule F2 in Appendix A) to ensure that the proposed rehabilitation objectives are met.

Further, I am satisfied that the potential impacts to native fauna during construction and operation of the mine will be minimised by maintenance of a wildlife corridor in Wolfang Creek and the proximity of the Apsley State Forest as refuges for wildlife adjacent to the mining leases.

The largest known population of Belyando cobblers pegs (*Trioncinia retroflexa*), which is listed as 'Endangered' under the *Nature Conservation Act 1994*, occurs within the Project area. The Proponent has sought to minimise disturbance of this plant species through relocating infrastructure away from areas that it occurs. However, a total of one ha of Bluegrass community containing Belyando cobblers pegs would be lost as a result of the mine development. Before the Proponent can disturb habitat areas that contain this species, it must obtain a permit under the *Nature Conservation Act*. I recommend that the Proponent fence off the remnant population of *Trioncinia retroflexa* to exclude stock, machinery and people and thus to enhance protection of the species, as a commitment in the EM Plan (see s.3.7.7 of the Draft EMOS).

I am satisfied that the water quality objectives and release criteria presented in s.4.3 of this Report will minimise potential impacts on the riparian vegetation and aquatic biology, as well as licenced landholders extracting water downstream from the discharge point on the mining lease. To ensure that the existing environmental values are maintained, I have stated that the Draft EA must include a condition that the Proponent develops, implements and maintains an environmental impact monitoring program for the in-stream environment downstream of the mining lease (see Schedule C3 in the draft EA, Appendix A). The monitoring program must be designed so as to have at least an eighty percent chance of determining an environmental impact should one occur and should be based on the *AUSRIVAS (DNRM 2001) protocols* and *River Bioassessment Program scoring system (DNRM 2001).*

I note the concern expressed by DPIF about potential impacts to riparian vegetation that might be reliant on groundwater, due to groundwater drawdown associated with the mine dewatering program, and the related impacts on the aquatic ecology. Whilst there is no definitive information to confirm the dependence or otherwise of particular species on groundwater, the Proponent would be required to implement an approved environmental impact monitoring program (outlined above), which must include proposed remedial actions to minimise impacts to riparian vegetation.

I recommend that concerns about the introduction and/or spread of weed species associated with the construction and operation of the proposed mine and related changes to the aquatic ecology from discharge of surplus water from the mining leases that were raised by DNRM be managed under a Weed Management Plan as a commitment in the EM Plan (see s.3.7.7 of the Draft EMOS). The Plan, which must include management of all listed weeds of concern,

provision of wash-down points for earthmoving equipment entering and leaving the mining leases and strategies to control weeds in creeks downstream of the release point for surplus mine water, must be developed and implemented prior to the commencement of construction activities.

4.6 Air Quality

The principal matters of concern in relation to air quality that were raised during the EIS process all relate to the potential impacts of dust generated during the construction and operational stages of the proposed mine development. The key points made in formal submissions on the EIS by EPA, Department of Main Roads (DMR), Queensland Health, AgForce and several landholders can be summarised as follows:

- Justification for the proposed goals for levels of particulate matter;
- Potential impacts from dust on realigned state-controlled roads;
- Potential impacts of dust on cotton growth and associated economic impacts; and
- Potential impacts of dust on the amenity of neighbouring landholders, including potential contamination of tank rainwater.

RTCA presented revised predicted dust concentrations and deposition rates at nearby sensitive receptors (homesteads adjacent to the Project area), including with and without the possible mobile in-put crushing and conveying option for removal of overburden, in the Supplementary Report. The Supplementary Report also contains a comparison of the modelled results against the relevant goals for both the EPA *Environmental Protection (Air) Policy 1997* (EPP [Air]) and National Environmental Protection Measures (NEPM). All results are well below the relevant goal under the EPP (Air). However, several properties are predicted to experience total dust concentrations that exceed the NEPM goal for maximum 24-hour concentrations of PM_{10} of 50 mg/m^3 on several days per annum.

RTCA has argued that this NEPM goal is based on an assessment of health risks identified from epidemiological studies of PM_{10} exposure in large US cities and is not designed to be used as 'beyond-the-boundary' compliance criteria for specific developments and that exceedence of the 24-hour PM_{10} level of 50 mg/m^3 on more than 5 days per annum at two residences does not constitute a health risk. Queensland Health indicated that the Supplementary Report satisfactorily addressed its concerns. Similarly, EPA did not raise further concerns on this matter, based on the information provided in the Supplementary Report (see s.4.13 in this Report for further discussion).

DMR raised concerns about the potential for dust generated during construction and operation of the mine to affect road safety on state-controlled roads. In particular, DMR was concerned about potential dust generated from earthmoving activity and loading coal from the stockpile to the conveyor.

On the basis of information provided in the EIS and subsequent detailed information provided by RTCA, I am satisfied that the proposed location and operation of the coal loading facility and the design and operation of the overland conveyor does not constitute a potential source of dust emissions that could affect the safety of the state-controlled roads. However, I find that the proposed earthmoving activities and stockpiling of waste rock, particularly during the early years of operation of the mine, could result in dust generation that affects visibility and hence the level of safety on nearby public roads.

RTCA has provided specific dust control measures as commitments in the Draft EMOS presented in the Supplementary Report. In order to affectively manage the potential impacts to road safety from dust, I recommend that the EM Plan includes the following additional statement: *Dust levels near public roads will be visually monitored by the Proponent and if visible dust rises to unsafe levels and for unsafe durations of time due to mine-related activities,*

the dust will either be immediately suppressed using water or the activity ceased until suitable conditions return. Unsafe durations of time and levels of dust near a public road describe factors that result in the loss of ability for a driver or other road user to sight and react to vehicles or objects within a safe stopping time and distance (see s.3.3.5 of the Draft EMOS - Dust Monitoring).

In response to the concerns raised by landholders about the potential affects that dust pollution could have on the market price for cotton, RTCA stated in s.6 of the Supplementary Report (19.12) that the modelled dust deposition rates from the proposed development were well below rates at which studies indicated that any decrease in cotton yield could be detected. RTCA further stated that the predicted levels of dust deposition are well within the range of normal levels that currently occur in rural areas that produce cotton, and therefore the cotton quality is not expected to be adversely impacted. On the basis of the information available to me, I am satisfied that the development of the Project, as described in the EIS and Supplementary Report, should not adversely impact cotton production in the surrounding area.

Schedule B of the draft EA (Appendix A), includes conditions to manage potential dust nuisance at any sensitive or commercial place as a result of the construction or operation of the proposed mine. The conditions includes a requirement to monitor dust deposition at four potentially affected residences on a monthly basis for the life of the Project following the commencement of construction, as well as a requirement to immediately implement dust abatement measures if the limits set in the draft EA are exceeded so that emissions of dust from the activity do not cause further environmental nuisance. I am satisfied that these conditions will effectively mitigate potential impacts from dust emissions on neighbouring landholders.

4.7 Noise & Vibration

The following key issues, associated with noise and vibration attributed to the construction and/or operational activities for the proposed mine development, were raised in submissions on the EIS from EPA, AgForce and several landholders:

- Justification for noise limits and concerns that noise impacts on neighbouring landholders have been understated;
- Potential impacts of noise and vibration on the amenity of neighbouring landholders; and
- Potential damage to buildings and other landholder structures from blasting vibration.

Under the provisions of the *EP Act*, noise from the mining activities must not cause an environmental nuisance at any sensitive or commercial place. Information provided by RTCA in the EIS and Supplementary Report indicates that the predicted noise levels during construction phase will generally be below a background noise level of 30dB(A) at nearby residences. However, during mining operations, including with or without the in-pit crushing and conveying option of waste rock removal and the operation of the overland conveyor system, designed and operated as described in s.4.2 of the Supplementary Report, predicted noise levels of up to 37dB(A) will be experienced at several residences under typical worst-case weather conditions.

Subsequent to the Supplementary Report, RTCA provided additional noise modelling information based on full mobile plant equipment availability. This showed that a predicted peak noise level of 38dB(A) would occur at one residence under typical worse case weather conditions during daytime and evening. On the basis of the information available, I consider that the predicted noise emissions from the Project are within acceptable levels so as not to cause undue annoyance to the neighbouring residents.

RTCA acknowledged in s.6 (responses 19.14, 26.19) of the Supplementary Report that there are some situations that are worse than "typical worst-case" weather conditions, such as when light westerly or south-westerly winds are present that will result in higher noise levels at some

residences. Based on the meteorological information presented in the EIS, such weather conditions are quite uncommon and would therefore not be expected to cause an environmental nuisance.

On the basis of information provided in the EIS, I find that the predicted peak ground vibration at the nearest sensitive sites from blasts with the standard blasting specification loading set out in s.7.6.2 of the EIS is significantly below the limit set down in the *Environmental Protection Regulations 1998*. Therefore I am satisfied that the ground vibration due to blasting activity at the proposed mine will not adversely affect structures on neighbouring properties, including dwellings, other farm buildings, water tanks and pipelines. However, I recommend that the Proponent undertake an assessment of a potentially sensitive structure, an historic building on the "Fluers" property constructed out of dry stone pitch, before and after the commencement of initial blasting activities to determine whether there has been any degradation of the condition of this structure as a direct result of the mining activities and that if any such damage is observed, suitable remedial actions be undertaken.

Schedule D of the draft EA states conditions (see Appendix A) to manage potential noise and blast nuisance at any sensitive place as a result of the construction or operation of the proposed mine. These conditions include: a schedule of noise and blast limits, measured at a sensitive place for different periods of the day and days of the week; requirements to undertake noise and vibration monitoring in response to a complaint of environmental nuisance; and if this indicates exceedence of the limits, the holder of the EA must address the complaint or immediately implement abatement measures so that emissions of noise or vibration from the activity do not result in further environmental nuisance. I am satisfied that these conditions will effectively mitigate potential impacts from noise and vibration emissions on neighbouring landholders.

4.8 Visual Amenity

Submissions on the EIS received from AgForce and several landholders in the vicinity of the Project raised concerns that development of the physical infrastructure and light emanating from the mine site would reduce the visual amenity of properties adjacent to the mine.

On the basis of the information provided in the EIS, I find that a number of residences would experience changes to their current visual landscape due principally to the development of waste dumps and/or the proposed overland conveyor. In order to reduce potential adverse impacts on the scenic values, I recommend that the Proponent implement the commitments, set down in Appendix H, s.9 of the EIS.

In summary these commitments include:

- Retention of vegetation to form visual buffers and progressive rehabilitation;
- Vegetation of the Gowrie Creek diversion to progressively replace lost woodland;
- Locating night lighting, which is required for safety and security, to ensure lights are focussed on areas required and shielded to limit extraneous light; and
- Consultation with landholders to determine if impact mitigation is required and acceptable forms of mitigation.

4.9 Cultural Heritage

RTCA and the Wangan and Jangalingou Peoples (the native title claimants and the endorsed Aboriginal Parties) have prepared a Cultural Heritage Management Plan for the Project, which was executed on 1 November 2004. DNRM approved the Plan pursuant to s.107 of the *Aboriginal Cultural Heritage Act 2003* on 2 December 2004. Consequently, I find that there are no other matters in relation to Indigenous cultural heritage that require comment in this Report.

Whilst the EIS found that there are no sites of Non-Indigenous cultural heritage within the Project area on the Register of the National Heritage or the Queensland Heritage Register, three European features were identified within the Project area, as follows:

- The homestead complex of Wolfang Station;
- A dry stone enclosure/ stockyard/ cemetery; and
- A possible coach staging post.

EPA raised concerns that the EIS provided insufficient information to determine the cultural heritage significance of these features and that material environmental harm was not caused sites of Non-Indigenous cultural heritage due to Project activities.

Based on best practice cultural heritage management, I have resolved that this matter should be managed under conditions that I state must be included as Schedule H in the draft EA (Appendix A). In summary these conditions require the Proponent to undertake a study of the significance of Non-Indigenous cultural heritage to the satisfaction of EPA before initiating Project activities that could adversely impact any such features. This study must include:

- A detailed map and description of the features of potential Non-Indigenous cultural heritage significance and their location relative to areas of the proposed works;
- An assessment of the features significance, including a determination on whether the features are considered to be of State Significance using criteria in the *Queensland Heritage Act 1992*;
- A description of potential impacts from the proposed works; and
- Proposed management measures to mitigate unacceptable impacts, including, if appropriate, the size and nature of buffer areas around these features.

4.10 Infrastructure

Key issues that were raised in submissions on the EIS from DNRM, DMR, Queensland Transport and several landholders in relation to potential impacts of the Project on existing infrastructure include the following:

- Design and approval process for the proposed realignment of state-controlled roads;
- Potential impacts on road users from increased travel due to the re-location of state-controlled roads;
- Potential impacts of increased traffic on existing roads, including width constraints of the Apsley Creek Bridge; and
- Potential impacts of the overland conveyor on the existing railway line and its operation.

The part closure and realignment of affected state-controlled roads will be dealt with under a compensation agreement and infrastructure agreement between the Proponent and DMR. Under s.279 of the *MRA*, an applicant for the grant or renewal of a mining lease is required to negotiate a compensation agreement with all landowners before the lease is granted or renewed. The Proponent has reached agreement with DMR in relation to compensation for the proposed re-location of sections of the Peak Downs Highway, Gregory Highway and Gregory Developmental Road, as well as for the renewal existing mining leases.

I am advised that negotiations for an infrastructure agreement between the Proponent and DMR in relation to the design, cost and scheduling of the proposed realignment of sections of the state-controlled roads affected by the proposed mine are progressing well.

In response to an information request by DMR following release of the Supplementary Report, RTCA commissioned Sinclair Knight Merz (SKM) to examine the possible traffic impact of the proposed Clermont Coal Mine in more detail in relation to the width constraints of the Apsley

Creek Bridge and affect of the increased traffic on the incidence of accidents. The findings are reported in a technical note prepared by SKM, dated 1 March 2005.

In summary, the study found that the Apsley Creek Bridge is narrower than now considered desirable. However, the Project:

- Will not introduce new types of vehicle to the Gregory Highway;
- Will not significantly increase heavy vehicle volumes or total vehicle volumes in absolute terms, although the increase will be a significant proportion of the background traffic;
- Will not materially change the expected number of accidents on the existing Apsley Creek Bridge or bridge approaches and is unlikely to result in a single additional crash at this site over the ten year study period;
- Will not result in significantly higher social cost of crashes at the Apsley Creek Bridge over the ten year study period; and
- Will not significantly affect the bring-forward cost of replacing or widening the Apsley Creek Bridge.

DMR has considered the information provided in the SKM Report and has advised me that it is satisfied the Proponent has adequately addressed the queries raised in relation to the impacts of the proposed development on the Apsley Creek Bridge and floodway.

On the basis of the information provided in the EIS, I find that realignment of the Peak Downs Highway, Gregory Highway and Gregory Developmental Road is an unavoidable consequence of the development of the Project and, as such will result in increased travel for some landholders and others making trips along these roads. However, I note that the proposed design of the realignment and new intersection should improve the flood immunity and trafficability during flood events and the road safety performance.

Matters raised by Queensland Transport in relation to potential impacts of the construction and operation of the proposed overland conveyor on the railway line between Clermont and Blair Athol have been satisfactorily resolved in the Supplementary Report.

4.11 Housing & Accommodation

The key issues associated with potential housing and accommodation impacts related to the Project that were raised in submissions by the Belyando Shire Council (BSC), Department of Housing (DoH) and the Clermont Youth and Housing Association can be summarised as follows:

- Reliability of the estimated proportion of the operational workforce choosing to reside in Clermont, and the associated impact on the availability and affordability of housing and accommodation for existing residents;
- Impact of influx of construction workers not directly contracted to the mine on the housing and accommodation markets;
- Impacts of the Proponent's proposed employee housing and accommodation financial assistance on the current housing and rental accommodation market;
- Potential displacement of remote-area students from the current hostel related to development of a proposed single persons township village in Clermont; and
- Capacity of the regional housing construction sector to meet Project generated housing demands.

On the basis of the information presented in the EIS and Supplementary Report and submissions made on these documents, including advice from BSC and DoH, I find the following in relation to the housing and accommodation aspects of the Project:

- The construction workforce, including development of the box-cut would peak at 475 in 2008 and that the proposed fully self-contained single persons construction village located on the mine would accommodate all the Proponent and contractor employees with minimal impacts on the availability of existing housing in Clermont;
- The operational workforce would reach a total of 450 by 2009 and that there is a significant degree of uncertainty in the expected number of these employees who might choose to reside in Clermont, with associated potentially significant impacts on the housing market if the projected numbers in the EIS is underestimated;
- During the transition period covering the wind-down of mining operations at the Blair Athol mine and completion of construction activities and ramp-up of operations at the Project, total employment will peak in 2008 at 565, plus 175 still employed in the Blair Athol operations;
- The housing and accommodation market in Clermont will be directly affected by the development of the Project, with the general cost of housing and rental accommodation likely to increase significantly and the availability and affordability of housing for low income and welfare-dependent residents significantly reduced;
- The current availability of public housing in Clermont is very limited and further, the ability of Government to provide additional social housing assistance to community housing providers from existing programs is quite limited;
- Development of the existing Blair Athol single person quarters in Clermont for use as the proposed township village would significantly impact the current Council-supported student hostel; and
- Unlike many other regional centres in the Bowen Basin that are experiencing significant housing and accommodation demands related to the recent heightened activity associated with numerous coal mine developments, Clermont is likely to only service the one mine with a maximum life of 18 years, following the closure of Blair Athol. Consequently, establishment of long-term housing and associated infrastructure to accommodate all Project related residents would probably result in a long-term glut of empty houses and associated adverse social and economic impacts in Clermont.

In considering the practical and feasible mitigation measures, based on statements and commitments made in the EIS and Supplementary Report and discussions between RTCA, BSC and DoH, I recommend that the Proponent implement following actions:

- The proposed site construction village, with a capacity to accommodate at least 500 people, be kept operational until after the Blair Athol mine ceases production and bulk rehabilitation earthworks are complete, to alleviate pressure on the existing housing market during the transitional phase of the Project;
- The Proponent should cater for all employees who choose to reside outside the Clermont district by providing accommodation in the proposed single person village in the Clermont township;
- Development of the township village should occur early during the construction phase and be operational no later that the end of 2007 to alleviate pressure on the existing accommodation market from demand induced by the Project;
- The Proponent should monitor the demand for accommodation and implement options to ensure that demand for workforce accommodation is met and impacts on the Clermont housing market are minimised;
- The Proponent should provide to Belyando Shire Council, within 3 months of Project approval, a layout for a 100-lot housing subdivision, as a contingency to manage excessive demand for new housing beyond that predicted in the EIS, with the trigger for development of such a housing estate based current and projected housing demands for employees exceeding the availability of existing serviced lots; and
- If the proposed development of the township village results in the displacement of remote-area students using the current hostel, that the Proponent must provide alternative accommodation to a standard that is suitable for a student hostel, in agreement with, and at no additional cost to, the Belyando Shire Council.

4.12 Employment & Training

The only substantive issue that was raised in submissions on the EIS in relation to employment and training was concern that the potential loss of skilled tradesmen and other employees from local businesses to the mine workforce would have a significant adverse impact on the current level of service in the Clermont district.

On the basis of the information provided in the EIS and Supplementary Report I find the following, in relation to employment and training:

- Development of the Project would provide significant employment opportunities for local residents and others during the construction and operational phases of the Project for up to 20 years, whereas if the mine did not proceed it would result in a continual decline in employment prospects and associated reduction in existing services in the Clermont district;
- There is an existing skills shortage in the region that will be exacerbated by the proposed mine development; and
- There is an opportunity for the Proponent to provide training and up-skilling to local residents, including Indigenous people, through traineeships and apprenticeships, in conjunction with the Central Queensland TAFE and other training organisations.

I recommend that the commitments in relation to training, as set down in s.13 of Appendix H in the Supplementary Report, be implemented by the Proponent to mitigate the potential impacts of the Project on the availability of skilled tradesmen and other qualified people on local businesses and associated services to residents in the Clermont district. In summary these commitments are as follows. The Proponent would:

- Provide training to all employees, with opportunities for people to be trained under traineeships and apprenticeships either directly or through external providers;
- Encourage contactors engaged during both construction and operational phases to provide traineeships;
- Work with engineering companies in the region to support additional apprenticeships through financial support and site placements; and
- Develop a relationship with the Central Queensland TAFE and other training organisations to ensure that these agencies incorporate long-term training and up-skilling plans into their programs to meet the Project requirements.

4.13 Health & Safety

The main issues that were raised by the Department of Emergency Services (DES) and the Department of Health (Queensland Health) on the EIS are summarised as follows:

- Potential impacts from realignment of state-controlled roads on accessibility for emergency response vehicles during flood events;
- Management of potential impacts from flooding and fire; and
- Potential impacts of dust generated by Project activities on human health.

The State Planning Policy 1/03: "Mitigating the Adverse Impacts of Flood, Bushfire and Landslide" (SPP1/03) seeks to minimise the adverse impacts of these natural disasters on people, property, economic activity and the environment. The current transitional planning scheme for the Belyando Shire identifies special flooding zones, however these zones do not cover the Project area. Similarly, the Belyando Shire is not identified as an applicable local government area for landslide or bushfire natural hazards.

On the basis of the information provided in the EIS and response from DES, I find that the proposed mine development should meet the requirements of the SPP1/03. In particular, the proposed realignment of the state-controlled roads has been designed to have a one-in-10-year (Q10) flood immunity and be passable by car up to a Q20 flood event.

In order to satisfactorily manage the potential impacts of hazards and risks on the Project personnel and property and other stakeholders related to the construction and operation of the proposed mine, I recommend that the Proponent prepares an Emergency Response Plan, in consultation with the relevant emergency services agencies and lodge this with DES and BSC within three months of the Project approval. The Plan should encompass all of the elements set down in s.15.3.9 of the EIS that deals with the following: fire on mine site; vehicle collision; falls and impact incidents; spontaneous combustion; coal fire in conveyor system and mechanical and electrical failure.

Queensland Health (QH) raised concerns about the potential health impacts of dust on individuals living close to the proposed mine. In particular, QH noted that the EIS predicted 24-hour average values of PM_{10} would exceed the National Environment Protection Measure standard of greater than 50µg/m^3 on more than 5 days per annum at several residences. I have considered this matter on the basis of the information provided in the EIS, Supplementary Report and responses from QH and EPA and find that the predicted dust emissions associated with the development and operation of the mine should not constitute a health risk to individuals living in the area (see discussion in s.4.6 in this Report).

4.14 Social Services

Several key issues in relation potential impacts to existing community and support services in the Clermont district were raised in submissions by the BSC, DoH, QH and Clermont Youth and Housing Association. In summary, these agencies and this organisation expressed concerns that the expected increase in population in the Clermont district related to the development of the Project would have a consequent impact on the current level and availability of the following services: ambulance, police, schools, kindergarten, child care, health care, aged care, community housing and community care, including counselling and crisis intervention.

On the basis of the information provided in the EIS, and comments from Advisory Agencies, I find the following:

- There is a degree of uncertainty about the likely size of increase in the population in the Clermont district due development of the Project and following the closure of the Blair Athol mine, based on different estimates of the numbers of employees who might choose to work under rostered arrangements and not reside in the district;
- A number of the community and social services are currently at capacity or are experiencing pressure, including kindergarten, aged care facilities, community housing and human service delivery; and
- The Proponent has committed to provide counselling and other assistance services for all employees during the construction and operational stages of the Project.

However, in order to manage expected impacts to social services as a consequence of the Project proceeding and in accord with best practice, I recommend that the Proponent negotiate a Community Services Agreement with the Belyando Shire Council. The agreement should include terms for the contribution to a social infrastructure package to help off-set impacts to specific community and support services in Clermont. The agreement should be negotiated within six months of approval of the Project by the Proponent.

4.15 Property Values

Submissions on the EIS from landholders and AgForce on behalf of landholders, expressed serious concerns about the potential for development of the mine to adversely affect the value and marketability of the properties due to the following:

- Possible retardation of potential development based on water useage;
- Dust restricting opportunity crops such as cotton;
- Groundwater contamination;
- Structural damage to homesteads and other structures due to blasting vibration;
- Loss of amenity from noise and lighting; and
- Increased travel distance due to realignment of state-controlled roads.

Further, the landholders expressed concern that no proposals to compensate for the potential loss of property value were presented in the EIS.

I have discussed my findings in relation to potential impacts to the quality and supply of groundwater, as well as potential impacts from the Project on the amenity of neighbouring residents from dust, noise, vibration, lighting and infrastructure associated with the construction and operation of the proposed mine in previous sections of this Report. I am satisfied that the should the Project proceed, as described in the EIS, and subject to the specific conditions and recommendations set down in this Report, that these potential impacts would be minimal.

5. ASSESSMENT OF THE RELEVANT IMPACTS OF THE PROJECT ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

5.1 Introduction

This section addresses Part 5 of the *State Development and Public Works Organisation Regulation 1999* (*SDPWO Regulation*), which deals with the requirements of the Coordinator-General's Report for proposals that are:

- Declared as a significant project for which an EIS is required; and
- For which the Commonwealth has accredited assessment of the relevant impacts pursuant to the *State Development and Public Works Organisation Act 1971* (*SDPWO Act*).

5.2 The Project

The Clermont Joint Venture (the Proponent), which comprises Queensland Coal Pty Limited (50.1%); Mitsubishi Development Pty Limited (34.9%); and EPDC Australia Pty Limited (15%), proposes to develop an open cut coal mine to produce 10 to 15 million tonnes per annum (Mtpa) of thermal coal for the export market (the Project). The proposed mine is located 10km north of the township of Clermont and 234km southwest of Mackay in Central Queensland. The proposed mine is approximately 15km east of the existing Blair Athol coal mine.

Based on an average production of 12Mtpa from proven reserves in excess of 190Mt of coal, the life of the mine would be approximately 17 years. The total capital investment for the Project is estimated to be A$440 million. Employment is expected to peak at 565 jobs during the construction phase, with up to 450 direct jobs available during operations.

The proposed open pit would be approximately 290m deep and up to 2km wide. Waste rock dumps would be established outside the pit area during the early mine life, until in-pit disposal of waste rock is possible. An option to use an in-pit crushing and conveying system for the removal of part of the overburden is being considered as part of the detailed mine feasibility studies.

The Project would involve the development of a coal preparation plant for washing higher ash coal (estimated to be about 17% of the minable resource) and a coal washery waste disposal area. In addition, a 13km long overland conveyor will be built to transport the product coal from the mine to the existing coal handling facilities at the Blair Athol mine.

Development of the mine will necessitate the re-location of approximately 14km of the Peak Downs Highway, Gregory Highway and Gregory Developmental Road. It is proposed to realign these state-controlled roads to the north and west of the mine. The development will also require diversion of an 8.5km section of Gowrie Creek, an ephemeral stream, to a channel east of the proposed mine.

5.3 Places Affected by the Project

The places affected by the Project are as follows:

- The area within the current Clermont Coal mining leases (ML) 1884 and 1904 and ML application 70343 over a background tenure of freehold land parcels owned by the Proponent (Lot/Plan 33/10387 and 1/CP805053), Lands Lease in the name of the

Proponent (82/CLM514) and State Reserves for Stock Trucking (24/L4113) and state-controlled roads; and
- The area within the proposed infrastructure mining lease (ML application 70334) for the overland conveyor corridor, which includes background Lands Lease tenures (Lot/Plan 83/CLM806555, 84/CP901140 and 18/CLM628).

5.4 Controlling Provisions of the Project

The Commonwealth Minister for the Environment and Heritage determined, on 17 September 2003, that the proposal (Referral No. 2003/1167) constitutes a 'controlled action' pursuant to s.75 of *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*). The controlling provisions of Part 3, Division 1 of this Act were identified as sections 18 and 18A (Listed threatened species and communities).

Specifically, the following nationally environmentally significant ecological communities and species were identified as potentially affected by the proposed mine development:

- Dawson Gum (*Eucalyptus cambageana*) woodland with Brigalow (*Acacia harpophylla*), Regional Ecosystem (RE) 11.4.8 – listed as endangered;
- Brigalow (*Acacia harpophylla*) and Yellowwood (*Terminalia oblongata*) woodland, RE 11.4.9 – listed as endangered;
- Grassland dominated by Queensland Bluegrass (*Dichanthium sericeum*) within Brigalow Belt Bioregion (North), RE 11.8.11 – listed as endangered;
- King Bluegrass (*Dichanthum queenslandicum*) – listed as vulnerable; and
- Dunmall's Snake (*Furina dunmalli*) - listed as vulnerable.

Note that another species, the Northern Quoll (*Dasyurus hallucatus*), was added to the list of threatened species under s.178 of the *EPBC Act* on 12 April 2005, after release of the EIS and Supplementary Report. The Commonwealth Department of the Environment and Heritage (DEH) advised the Proponent that this species, which is listed as endangered, should also be considered as a matter of national environmental significance (NES) to be addressed in the EIS for the Project.

5.5 Summary of the Project's Relevant Impacts and Proposed Mitigation Measures

For the purposes of assessing the impacts of the Project on NES matters, this section describes the relevant impacts as identified by s.82 of the *EPBC Act*. The relevant impacts are those that the Project has, will have, or is likely to have, on the controlling provisions. The relevant impacts are described below.

AustralAsian Resource Consultants Pty Ltd undertook detailed studies of the flora, fauna and biodiversity within the proposed area of the Project using methodologies accepted by DEH and Queensland Environmental Protection Agency (EPA). The field survey methods and results of these studies are presented in s.5 and Appendix K of the EIS.

Under the revised mine layout plans presented in the Supplementary Report, the Project would result in a loss of the following areas of endangered ecological communities, expressed in total area to be cleared and as an approximate percentage of the total area remaining within these regional ecosystems:

- Dawson Gum woodland with Brigalow community – 234 hectares (ha), 0.29%;
- Brigalow and Yellowwood woodland – 3 ha, <0.01%; and
- Grassland dominated by Queensland Bluegrass – 44 ha, 0.02%.

In relation to the *EPBC Act* requirements, the following key issues were raised by DEH in response to the EIS and the Supplementary Report:

- Concern about the long-term conservation security of any compensatory plantings to offset the impact of construction and placement of infrastructure on the Bluegrass community and associated species and that options for the long-term conservation of the 44 ha planting must be implemented before the destruction of the existing endangered ecological community;
- No compensatory measures are proposed for the loss of the 237 ha of Brigalow community and the loss of this community through the proposed actions remains a significant impact on an *EPBC Act* listed endangered ecological community;
- The potential impacts of groundwater draw down caused by dewatering at the proposed mine, in particular the associated drop in water table and potential changes on soil moisture and impacts on vegetation and habitats, including *EPBC Act* listed species and communities (Bluegrass and Brigalow communities); and
- Additional information to support the assertion that Dunmall's Snake, a highly cryptic species, is unlikely to be found in the Project area due to the previous type and intensity of land use and other disturbance factors.

It should be noted that these comments are restricted to the adequacy of the information provided in the EIS and do not encompass DEH's assessment of the impacts of the actions.

The Proponent proposes to implement an off-set strategy for the loss of the Bluegrass community by the compensatory establishment of 44 ha of Bluegrass on *in situ* black soil land owned by the Proponent within ML 1884. The Proponent expects that such re-planting is likely to be adjacent to remnant Bluegrass in the existing highway reserve in the north-east of ML 1884 and/or along the new stock route to the east of the ML. The Proponent would seek to finalise the long-term protection of the proposed Bluegrass off-set planted areas under strategies such as a nature conservation agreement or other legal measure before the 44 ha of remnant Bluegrass is disturbed.

DEH has indicated that the information provided to date, regarding the proposed off-set strategy for the impacts to the Bluegrass community is adequate to enable a decision on approval of the 'controlled action' to be made.

I find that the commitments outlined in the s.3.7.7 of the Draft Environmental Management Overview Strategy (EMOS) for the replacement and protection of Bluegrass communities and species are satisfactory.

In response to the loss of 237 ha of Brigalow community, the Proponent has not proposed a like-for-like compensatory plan for this endangered ecological community because there is insufficient suitable land available within land that it currently owns or leases in the Project area. Instead, the Proponent has proposed to include key dominant and understorey species from this regional ecosystem in the seed mix for its proposed native woodland rehabilitation program. The Proponent estimates that the total area of rehabilitated mine land established as a self-sustaining woodland would be 1,500 ha, which would represent a net increase of approximately 560 ha of vegetation to that existing pre-mine development.

To complement the above plan as part of the proposed strategy to off-set the loss of this community, the Proponent has proposed a draft research proposal using the expertise and facilities of the Centre for Mined Land Rehabilitation at the University of Queensland. The proposal involves studies into the effect of storage on *Acacia harpophylla* seed viability and influences on germination rates in the glasshouse and in the field. The research would help resolve whether direct seeding of *Acacia harpophylla* is likely to be a practical and feasible method for establishment of Brigalow on disturbed land. Currently, the only feasible method for expanding the extent of remnant Brigalow is to protect and maintain existing regrowth.

I find that the loss of up to 237 ha of Brigalow community would be an unavoidable consequence of the mine's development and that this loss should be off-set in a manner that is acceptable to the Commonwealth Minster for the Environment and Heritage, under the *EPBC Act*. Whilst resolution of this issue remains a specific matter for the Proponent and DEH, I am satisfied that there is a reasonable likelihood that a negotiated compensatory plan that is acceptable to both parties can be achieved.

The potential impact of the drawdown of the water table (see s.4.2 of this Report) on vegetation communities is discussed in s.5.7.2 of the EIS. The EIS concludes that there is no evidence that any of the vegetation communities present in the Project area, including communities listed under the *EPBC Act* have a dependency on groundwater. The EIS further states that the soil moisture levels within the root zone, especially for Bluegrass and Brigalow species, are likely to be maintained above levels needed for plant life.

DEH has provided no further comment or response in relation to this matter. Consequently, I accept that this matter has been adequately addressed in the EIS and Supplementary Report and requires no further action.

Whilst Dunmall's snake has been reported in the Clermont region, there was no evidence for the presence of this listed threatened species within the Project area during any of the fauna surveys undertaken to date. Information, referred to in the EIS, from the Queensland Museum indicates that the snake's preferred habitat is black cracking soils of Brigalow communities. However, the snake does not appear to tolerate long-term disturbance from cropping or other intensive agricultural practices, such as that used over this land type within the Project area. Consequently, the Proponent believes that there is a very low likelihood the Dunmall's snake will be found within the mining leases.

DEH accepts that Dunmall's snake is extremely cryptic and notes that the best protection for the species is maintenance of its known habitat.

I find that past land use practices over the Dunmall's snake's preferred habitat are not conducive to its likely presence within the Project area. However, I recommend that the Proponent should include identification of the species in the Project's staff inductions and environmental awareness programs to ensure that any individuals that might be present in the Project area are identified and reported to the Environmental Manager for appropriate follow-up action.

In relation to the Northern Quoll, which was listed as a threatened species after the release of the Supplementary Report, the EIS included the following information:

- A dead Northern Quoll specimen was collected by the landholder within the Project area.
- The AustralAsian Resource Consultants' flora and fauna survey in 2001 found only one set of tracks to indicate the presence of the species on the Project site.
- The preferred habitat for the Northern Quoll within the Project area is the Dawson Gum community.
- Development of the proposed mine would result in the loss of 234 ha of Dawson Gum woodland, with associated potential impacts on any species of Northern Quoll that inhabit this area.

The Proponent has proposed the following to manage potential impacts to the Northern Quoll:

- Identify and mark trees with suitable hollows that could potentially be utilised by the Northern Quoll;
- Monitor the clearing of such trees by a suitably experienced Project officer;
- Recover any individuals found during clearing, where possible;

- Release individuals into suitable adjacent habitat that is not subject to clearing, including the adjacent Apsley State Forest; and
- Rehabilitate disturbed areas with key dominant and understorey species from the Dawson Gum woodland ecosystem that would enable potential future population of the Project site by Northern Quoll.

On the basis of the information available to me, I find that the clearing of Dawson Gum woodland, that is necessary for the Project to proceed, would result in a loss of potential habitat for the Northern Quoll. The EIS did not provide conclusive evidence for the presence of this species within the Project area. However, I consider that its presence within the Project area is possible on the basis of the information available, including the cryptic nature of the Northern Quoll. Whilst resolution of this issue remains a specific matter for the Proponent and DEH, I am satisfied that the proposed management strategy is a practical and feasible method to minimise impacts to this species.

5.6 Project Alternatives

The Proponent considered a number of alternative options in s.2.16 of the EIS, which could result in materially different impacts on NES matters. In summary these include the following, with a brief comment on the relevant impacts on these matters:

- No Project – No impact on NES matters, off-set against loss of market share and profitability for Proponent and lost potential socio-economic benefits to the region and State.
- Alternative Locations – The mine development is dictated by the location of the coal resource, which underlies land containing NES ecosystems and species.
- Stand Alone Project – Rather than integrate the proposed Clermont coal mine with the wind down of the Blair Athol coal mine, a stand alone development would require additional transportation infrastructure that would result in increased potential impacts on NES matters.
- Mining Methods – open-cut or underground mining options were considered, with the former preferred due to the relatively shallow depth of cover, thickness of the coal seam (up to 40m thick), higher resource recovery and cost effectiveness. The underground mining option would probably result in lesser impacts to NES matters.
- Waste Rock Dump Locations – alternative locations for out-of-pit waste rock dumps were considered, with the preferred options selected to minimise potential noise and dust impacts at sensitive receptors, to avoid a culturally sensitive site and for cost effectiveness. The preferred option has significant impacts to NES matters.
- Location of Dams – The location of the mine water dam was selected to minimise disturbance of NES matters (Bluegrass community). The locations of other dams are dictated by the location of waste rock dumps and other components of the Project and would contribute to disturbance of NES matters.
- Coal Preparation Plant – The EIS states that 17% of the mined coal needs to be washed to maximise its value. If the option not to include such a plant was adopted, the product coal would be of lower value and/or there would be a reduction in coal recovery. Development of the coal preparation plant and associated waste dam would result in impacts to NES matters.
- Conveyor Coal Handling System – Alternative options for the on site conveyor coal handling and alignment for the proposed overland conveyor were considered. The preferred options were selected to ensure that sufficient surge storage of coal is available to accommodate potential operational issues with the system, reduce impacts on the Blair Athol mine operations and reduce vegetation clearing. The preferred alignment of the conveyor would reduce potential impacts on NES matters. Note that alternative options to conveying the coal (eg road transport) were not evaluated as the Proponent considered these not to be commercially viable.

- Realignment of State-controlled Roads – Alternative options for the realignment of the Peak Downs Highway, Gregory Highway and Gregory Developmental Road, which is necessary for the Project to proceed, were considered. The preferred alignment and road intersection design were selected to minimise effects on properties not owned or controlled by the Proponent, minimise potential flooding impacts, avoid difficult ground conditions, increase road safety and simplify changes to existing stock routes. The preferred options would result in impacts to NES matters.
- Accommodation – Alternatives options to accommodate the construction workforce, which would peak at 565 people, were considered. The preferred option of a temporary construction village on the mine site was selected to optimise logistics and minimise potential impacts in the Clermont township. The preferred location of this option would result in an impact on NES matters, although the site would ultimately be incorporated into the proposed south-west waste rock dump.

5.7 Project Approvals

Apart from approval under s.133 of the *EPBC Act* to undertake a controlled action, other key approvals necessary for development of the Project are as follows:

- Grant of mining leases, under the *Mineral Resources Act 1989*, to allow for mining of the coal resource and for coal transport infrastructure, as well as an amendment to an existing mining lease at Blair Athol to enable handling coal from the proposed mine;
- Grant of an Environmental Authority (mining lease), under the *Environmental Protection Act 1994*, to enable Environmentally Relevant Activities associated with the development and operation of the proposed mine to occur;
- Grant of water licences, under the *Water Act 2000*, to take water from sub-artesian aquifers and to allow diversion of a stream (Gowrie Creek);
- Development approval, under the *Integrated Planning Act 1997*, for construction of groundwater bores, referable dams, stream diversion and proposed development outside the mining leases;
- A permit to clear vegetation, under the *Vegetation Management Act 1999*, for vegetation clearing outside the mining leases (eg associated with realignment of state-controlled roads);
- A permit to take or destroy listed flora and fauna species (eg *Trioncinia retroflexa*) under the *Nature Conservation Act 1992*;
- Approval, under the *Land Act 1994*, to open and close road reserves, stock routes and land dealings associated with the proposed development; and
- A permit, under the *Transport Infrastructure Act 1994*, to work in, or interfere with a state-controlled road, as well as approval for closure and diversion of sections of the Peak Downs Highway and Gregory Developmental Road.

5.8 Proposed Conditions to Address Impacts to Matters of National Environmental Significance

The following conditions to address identified impacts to NES matters are included in the draft Environmental Authority (mining lease), pursuant to s.49 of the *SDPWO Act* and s.209(2)(b) of the *Environmental Protection Act 1994* (*EP Act*), or recommendations for inclusion in the Environmental Management Plan (EM Plan), pursuant to s.201 of the *EP Act*. It should be noted that further to these conditions, the Proponent may also be subject to conditions attached to an approval granted by the Commonwealth Minister under the *EPBC Act* to protect NES matters for which the approval has effect.

Bluegrass Community

The Proponent should implement off-set strategies for the loss off 44 ha of the Bluegrass community by compensatory establishment of 44 ha of Bluegrass on *in situ* black soil in the north-east of mining lease 1884. The Proponent should consider strategies such as a nature conservation agreement or land covenant for the long-term protection of the proposed Bluegrass off-set planted areas. The Proponent should seek to finalise the long-term protection of the Bluegrass off-set area before the 44 ha of remnant Bluegrass is disturbed.

These Recommendations should be included in the schedule of commitments in the EM Plan.

Brigalow Community

The Proponent must implement a rehabilitation strategy to establish a self-sustaining vegetation community on stable landforms using key dominant and understorey species from the Dawson gum woodland with Brigalow regional ecosystem (RE 11.4.8). Progressive rehabilitation must commence within 18 months of when areas become available within the operational land.

A Rehabilitation Report must be provided to the administering authority that proposes rehabilitation acceptance criteria and details the rehabilitation monitoring program within five years of coal mining commencing. The report must consider the following:

- Use of key dominant and understorey species from the following Regional Ecosystems; 11.3.3 (Coolabah woodland); 11.4.8 (Dawson gum woodland); 11.5.3 (silver leafed ironbark); and 11.11.1 (narrow leafed ironbark woodland);
- Specific rehabilitation acceptance criteria in relation to floristic characteristics of the existing (pre-mining) regional ecosystems including composition, cover and species diversity;
- An erosivity assessment of rehabilitated landforms;
- A rehabilitation monitoring program designed to demonstrate progressive development of rehabilitated areas towards sustaining native species communities; and
- Proposed remedial actions for rehabilitation areas not meeting the required outcomes.

These conditions are set down in Schedule F2 of the draft Environmental Authority (see Appendix A).

Further, I have made the following recommendation for consideration by the Commonwealth Minister in making a decision on approval for the controlled action, pursuant to s.130 of the *EPBC Act*, in relation to a compensatory off-set for the loss of the Dawson gum woodland and Brigalow regional ecosystem:

- The Proponent should consider the use of topsoil from clearing land that includes Brigalow (*Acacia harpophylla*) rootstock for immediate use in rehabilitation of disturbed land and report on the effectiveness of this in re-establishing Brigalow.
- The Proponent should facilitate a research project into effective methods to regenerate Brigalow communities using the expertise and facilities of the Centre for Mined Land Rehabilitation at the University of Queensland.
- The research studies should consider the following matters:

    - the effect of storage on *Acacia harpophylla* seed viability and influences on germination rates in the glasshouse and in the field; and
    - the use of *Acacia harpophylla* root suckers as a propagation medium, germplasm and for large-scale revegetation of Brigalow ecological communities.

Dunmall's Snake

The Proponent should include identification of Dunmall's Snake (*Furina dunmalli*) in the Project's staff induction and environmental awareness programs to ensure that any individuals that might be present in the Project area are identified and reported to the Environmental Manager for appropriate follow-up action.

This recommendation should be included in the schedule of commitments in the EM Plan.

Northern Quoll

The Proponent should undertake an additional fauna survey to specifically seek the presence of Northern Quoll (*Dasyurus hallucatus*) within the Project area prior to any planned clearing of Dawson Gum woodland. The survey should also identify and mark trees with suitable hollows that could potentially be utilised by the Northern Quoll. All such clearing should be monitored by a suitably experienced project officer and, where possible, any individuals found should be recovered and released to suitable habitat that is not subject to clearing, including the adjacent Apsley State Forest.

This recommendation should be included in the schedule of commitments in the EM Plan.

6. REASONS PURSUANT TO S.49(2) OF THE *SDPWO ACT*

Pursuant to section 49(2) of the *SDPWO Act*, I am required to give the Minister for the Environment reasons for conditions that I state must attach to any draft environmental authority under the *EP Act* for the proposed Environmental Authority (mining lease). The following section sets out my reasons.

6.1 Evidence or Other Material Relied Upon

In forming my decision to state specific conditions for inclusion in the draft Environmental Authority (mining lease), I had regard to the following materials:

- Clermont Coal Mine Project, Environmental Impact Statement, August 2004, prepared by Rio Tinto Coal Australia;
- Clermont Coal Mine Project, Environmental Impact Statement Supplementary Report, January 2005, prepared by Rio Tinto Coal Australia;
- Summary of Groundwater Monitoring, Clermont Mining Leases. Report for Pacific Coal Pty Limited prepared by Matrix+ Consulting, October 2003;
- Review of Regional Groundwater Model – Clermont Coal Mine Project for Rio Tinto Coal Australia, by Dr N P Merrick, National Centre for Groundwater Management, University of Technology Sydney, Project No. C03/44/005, 23 August 2004;
- Annual Report to DNRM on the Taking of Groundwater (Water Licences 84527F & 84530F) During the Period of 1 July 2003 to 30 June 2004 – Clermont Coal Mine Project. Report prepared by Matrix Plus Consulting Pty Limited for Rio Tinto Coal Australia Pty Limited, November 2004;
- Technical Note: Clermont Coal EIS Information Request – Apsley Creek Bridge Width, J Patterson, Sinclair Knight Merz, Project No. QE06243.200, March 2005;
- Groundwater Resource Assessment: Potential Affects by Groundwater Extraction, Clermont Coal Mine Project. Report produced for Rio Tinto Coal Australia by Matrix Plus Consulting Pty Limited, March 2005;
- Properly made submissions on the EIS and Supplementary Report received from persons and Advisory Agencies;
- Written communications from Rio Tinto Coal Australia to the Department of State Development and Innovation in relation to the Project;
- Correspondence and notes from meetings with various Advisory Agencies; and
- Relevant Queensland and Commonwealth legislation and policies.

6.2 Findings on Material Questions of Fact

From the material to which I had regard, I made the following findings of fact:

- Dewatering of Tertiary aquifers overlying the coal deposit and the Permian coal measures in advance of mining is necessary for the safe development of the Clermont Coal Mine;
- Groundwater modelling undertaken by the Proponent is technically sound and able to be used with confidence to predict likely scenarios;
- The proposed mine dewatering will result in a drawdown of the regional aquifers;
- The groundwater modelling predicts that seven neighbouring properties will be affected by this groundwater drawdown during the life of the mine and for an extensive period post mining, with some pre-existing bores outside the mining leases permanently affected;
- An assessment of alternative groundwater resources on properties potentially affected by the proposed groundwater extraction, including drilling pilot bores and pump-testing

has identified suitable alternative groundwater supplies on each property to replace current and planned future water supplies should the existing bores become impacted by the dewatering;
- The Project would require the permanent diversion of an 8.5 km section of Gowrie Creek, an ephemeral stream, to the east of the proposed mining operations, with associated disturbance of riparian vegetation and potential impacts to flooding and long-term integrity of proposed diversion levees;
- Surplus groundwater from mine dewatering and surface mine water would be released into Gowrie Creek with the potential to impact on water quality and ecosystems in the drainage system downstream;
- The Project would result in a final void at the end of mining, which will fill with water. The quality of water in the final void would deteriorate over time;
- The proposed mine would result in significant out-of-pit waste rock dumps that have the potential to generate acid rock drainage;
- The proposed mine development would result in the disturbance of approximately 937 ha of remnant native vegetation, including 237 ha of Brigalow community and 44 ha of Bluegrass community that are listed as endangered under the Commonwealth *EPBC Act* and Queensland *Vegetation Management Act 1999* (*VMA*), as well as 237 ha of coolabah (*Eucalyptus coolabah*) woodland and black tea-tree (*Melaleuca bracteata*) woodland with grassland understorey, listed as 'Of Concern' under the *VMA*;
- The proposed mine development would result in the loss of 1,260 ha of Good Quality Agricultural Land, which would not be replaced under the proposed post-mine rehabilitation plan;
- The proposed mine rehabilitation plan, which is to establish a self-sustaining vegetation community using key dominant and understorey species from the disturbed regional ecosystems, would re-establish approximately 1,500 ha of native vegetation, or a net increase of approximately 560 ha in the area of native vegetation;
- The proposed rehabilitation strategy would be an acceptable beneficial post-mining land use;
- The construction and operation of the proposed mine has the potential to create environmental dust, noise and vibration nuisances at nearby sensitive places; and
- The proposed mine has the potential to disturb an area with Non-Indigenous cultural heritage sites.

6.3 Reasons

I decided to state that specific conditions must be included in the draft Environmental Authority (mining lease) for the following reasons:

- The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and disturbances that may result from environmentally relevant activities described in the EIS and Supplementary Report;
- The conditions are consistent with the information and commitments provided in the EIS and Supplementary Report;
- Implementation of a groundwater monitoring program would provide an early warning of likely impacts to the groundwater supply of neighbouring landholders due to the mine dewatering program and enable alternative "make good" provisions to be implemented in a timely manner that causes minimal or no disruption to the landholders;
- Release of surface water from the mining leases must be monitored to ensure that the water quality objectives of the receiving environment are met and there is no degradation of the aquatic and riparian ecosystems;
- A water management plan is required within three years of commencement of coal production to assess the water quality in the final void, identify potential impacts and monitor the effectiveness of measures to mitigate any adverse impacts;

- A waste rock management plan that includes management protocols for the handling, storage and placement of any waste rock and coal process wastes identified as potential acid-forming and/or high salinity or sodicity, as well as performance criteria and a monitoring program for measurement of success of the plan is required to manage potential contamination of surface water and the stability of these landforms;
- The success of the proposed rehabilitation plan should be measured against agreed criteria, with proposed remedial actions if rehabilitation does not meet the required outcomes;
- Sensitive sites should be monitored to ensure compliance with the limits for dust deposition, noise and vibration set in an environmental authority and to manage potential environmental nuisance related to these emissions; and
- A study of the significance of Non-Indigenous cultural heritage should be undertaken to the satisfaction of the administering authority to determine the cultural heritage significance of any such sites before any activities that could affect these sites can occur.

7. CONCLUSION

Having regard to the documentation and information provided during the EIS process for the proposed Clermont Coal Mine Project, I am satisfied that the requirements of the Queensland Government for impact assessment in accordance with the provisions of Part 4 of the *State Development and Public Works Organisation Act 1971* (*SDPWO Act*) and Part 5 of the *SDPWO Regulation, 1999* have been met. The EIS process has provided sufficient information to all stakeholders to allow for a careful evaluation of the potential environmental impacts that could be attributed to the Project.

On the basis of the information provided, including advice from Advisory Agencies, I am satisfied that the adverse environmental impacts associated with the Project are able to be addressed through:

- Meeting the conditions in the draft Environmental Authority (mining lease), issued pursuant to the *Environmental Protection Act 1994*, as presented in Appendix A of this Report;
- Implementation of commitments in the draft Environmental Management Overview Strategy (EMOS) (now called an Environmental Management Plan), as released in the EIS Supplementary Report and subsequently modified in consultation with Advisory Agencies; and
- Implementation of specific recommendations set down in Appendix B, some of which should be included as commitments in the Environmental Management Plan, pursuant to s.201 of the *Environmental Protection Act 1994*, and others for consideration by the Chief Executive for any water licence issued pursuant to the *Water Act 2000*.

I consider that on balance there is an over-riding need for the Project in terms of public benefits which would accrue as a result of the employment, training, increased economic activity, taxes, royalties and other charges directly associated with development of the Clermont Coal Mine. I therefore recommend that the Project, as described in detail in the EIS and Supplementary Report, and summarised in Section 2 of this Report, can proceed, subject to the qualifications above.

Pursuant to s.39(2) of the *SDPWO Act*, I state for the assessment manager for any development approval that is part of the Project and is a material change of use or requires impact assessment under the Integrated Development Assessment System of the *Integrated Planning Act 1997*, that there are no conditions for such development approval for the Project. Pursuant to s.49 of the *SDPWO Act*, I state that the conditions set down in Appendix A of this report must be included in a proposed environmental authority (mining lease) under the *EP Act*. A statement of reasons for these decisions is presented in s.6 of this report.

In the event of any inconsistencies, the conditions and recommendations in this Report prevail. The Proponent and its agents, lessees, successors and assigns, as the case may be, must implement the conditions and recommendations in this Report and all commitments presented in the EIS, Supplementary Report and Draft EMOS.

Copies of this Report will be issued to the following entities:

- Rio Tinto Coal Australia, on behalf of the Proponent, pursuant to s.35(5)(a) of *SDPWO Act;*
- The Queensland Minister for Natural Resources and Mines, pursuant to s.45(2)(b) of *SDPWO Act* in relation to a proposed mining lease under the *Mineral Resources Act 1989*;
- The Queensland Minister for the Environment, pursuant to s.49(2)(b) of *SDPWO Act* in relation to a proposed environmental authority (mining lease) under the *Environmental Protection Act 1994*;

- The Belyando Shire Council, as Assessment Manager, pursuant to s.40 of *SDPWO Act* for an application for development approval under the *Integrated Planning Act 1977*;
- The Commonwealth Minister for the Environment and Heritage, pursuant to s.17(2) of the *SDPWO Regulation*, to enable a decision on approval of the controlled action for this Project pursuant to s.133 of the *Environment Protection and Biodiversity Conservation Act 1999*; and
- The Chief Executive of the Department of Natural Resources and Mines, pursuant to s.53 of *SDPWO Act* in relation to any water liceneces under the *Water Act 2000*.

A copy of this Report will be provided to all Advisory Agencies and will also be made publicly available on the Department of State Development and Innovation's web site, at

www.sdi.qld.gov.au/eis

……
Paul Fennelly
Coordinator-General
Date: 17 June 2005

APPENDIX A

Draft Environmental Authority (Mining Lease)

Schedule A - General

Financial Assurance

(A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.
NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

(A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.
NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

(A2-1) The environmental authority holder must ensure that:
a) all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; and
b) such measures, plant and equipment are maintained in a proper condition; and
c) such measures, plant and equipment are operated in a proper manner.

Monitoring

(A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

(A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Plans

(A4-1) Where a report or plan is required as part of a condition under this Environmental Authority, to be submitted to the administering authority, the holder of the EA shall ensure that the Plan of Operations is consistent with the management protocols in the submitted document.

Storage and Handling of Flammable and Combustible Liquids

(A5-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.9 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 1993.

Definitions

(A6-1) Words and phrases used throughout this EA are defined in Attachment1 Definitions. Where a definition for a term used in this EA is sought and the term is not defined within this EA, the definitions in the Environmental Protection Act 1994, its Regulations and Environmental Protection Policies must be used.

Notification of Emergencies, Incidents and Exceptions

(A7-1) The holder of this environmental authority must, as soon as practicable after becoming aware of:

a) any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority; or

b) any monitoring result that indicates an exceedance of any environmental authority limit, notify the administering authority of the release by telephone or facsimile.

Schedule B - Air

Dust Nuisance

(B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.

(B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):

a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and

b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM_{10}) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with:

   i) Particulate matter - Determination of suspended particulate PM_{10} high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - $PM_{(sub)10}$ high volume sampler with size-selective inlet - Gravimetric method of 1990; or

   ii) Any alternative method of sampling PM_{10}, which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.

NOTE: The holder of this environmental authority must propose which monitoring method is appropriate in accordance with condition (B1-3) (a) or (b) or both.

(B2-1) Dust deposition monitoring must be carried out in accordance with Schedule B – Table 1 for the life of the project following the commencement of construction.

Schedule B – Table 1 (Dust Deposition Monitoring)

Air Quality Determination	Monitoring Points	Frequency
Particulate matter deposition rate in milligrams/square metre/day	Araluen residence Crillee residence Airport residence Glenmore residence	Monthly

(B2-2) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required; or

b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

(B3-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.

(B3-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

(B3-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required; or

b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

Schedule C - Water

Release to Waters

(C1-1) Waters receiving the release from the mining lease of process water or storm water or both must be monitored at the locations and frequencies defined in Schedule C - Table 1and comply with the contaminant limits during discharge defined in Schedule C - Table 2.

Schedule C - Table 1 (Receiving water monitoring locations and frequency)

Monitoring Point	Latitude (GDA 94)	Longitude (GDA 94)	Monitoring Frequency
Wolfang Creek at the Gregory Highway Bridge Crossing (site WCK30 Attachment 2)	22° 45' 53" S	147° 37' 49" E	Weekly when water is flowing and daily in the event of release to waters

NOTE: This does not apply to dams containing hazardous waste

Schedule C - Table 2 (Receiving water contaminant limits)

Parameter	Units	Minimum	Maximum
EC	µS / cm	N/A	1800, or background levels upstream in Wolfang or Gowrie Creek – whichever is higher
pH	pH Units	6.0, or background levels upstream in Wolfang or Gowrie Creek – whichever is lower	8.5, or background levels upstream in Wolfang or Gowrie Creek – whichever is higher

NOTE: This does not apply to dams containing hazardous waste.

(C1-2) Water released from the Mine Water Dam and Advanced Dewatering Dam must be monitored at the locations and frequencies defined in Schedule C - Table 3, including the water quality parameters defined in Schedule C - Table 4. Water released from the Mine Water Dam must comply with the contaminant limits defined in Schedule C – Table 5.

Schedule C - Table 3 (Water Quality Monitoring Locations and Frequency)

Monitoring point	Latitude (GDA 94)	Longitude (GDA 94)	Monitoring Frequency
Release point from Mine Water Dam	22º 44' 51" S	147º 38' 38" E	At the commencement of release to waters. Daily while release occurs.
Mine Water Dam	22º 44' 51" S	147º 38' 38" E	Monthly. Prior to the commencement of any release (only for Electrical Conductivity and pH).
Release point 1 from Advanced Dewatering Dam[1]	22º 43' 29" S	147º 38' 03" E	Quarterly
Wolfang Creek	22º 45' 53" S	147º 7' 49" E	Daily In the event of release to waters from the Mine Water Dam.

[1] This is the approximate position of the initial release point. The location of this dam, and therefore the release point, will change over time. The holder of the Environmental Authority will notify the administering authority when the location of this point changes.

Schedule C - Table 4 (Water Quality Parameters)

Monitoring point	Water Quality Parameter
Release point from Mine Water Dam	Electrical Conductivity, pH,
Mine Water Dam	Electrical Conductivity, pH, Total Suspended Solids, Sulfate, Arsenic, Cadmium, Copper, Manganese, Nickel, Zinc, Mercury, Selenium
Release point from Advanced Dewatering Dam	Electrical Conductivity, pH, Total Nitrogen, Ammonia, Total Phosphorus, Copper
Wolfang Creek	Electrical Conductivity, pH, Total Suspended Solids, Sulfate, Arsenic, Cadmium, Copper, Manganese, Nickel, Zinc, Mercury, Selenium

Schedule C - Table 5 (Mine Water Dam contaminant release limits at release point)

Parameter	Units	Minimum	Maximum
EC	µS / cm	N/A	4,500
pH	pH Units	5.5, or background levels upstream in Wolfang or Gowrie Creek, whichever is lower	9.0, or background levels upstream in Wolfang or Gowrie Creek, whichever is higher
Total Suspended Solids[1]	mg/L	N/A	700

[1] Based on results of monthly monitoring

(C1-3) All determinations of the quality of contaminants released to waters must be made in accordance with methods prescribed in the most recent version of the Environmental Protection Agency's Water Quality Sampling Manual.

(C1-5) If end of pipe contaminant release limits defined in Schedule C - Table 5 are exceeded then the environmental authority holder must notify the administering authority and complete an

investigation into the potential for environmental harm. This investigation is to be provided to the administering authority within 3 months of the notification.

Sediment

(C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.

(C2-2) Subject to Condition C2-1, the design of sediment control structures is to be consistent with the 'Soil Erosion and Sediment Control Guidelines for Queensland Construction Sites' 1996 published by the Institute of Engineers, Australia.

(C2-3) Sedimentation dams are to be designed to contain a 10 year ARI 24 hour rainfall event plus 20% for sediment storage, or designed to an alternative criterion that is acceptable to the administering authority.

Flow Events

(C3-1) Flow monitoring sites are to be established on the Gowrie Creek Diversion upstream of the Advanced De-watering Dam and Wolfang Creek upstream of the confluence with Gowrie Creek.

(C3-2) Monitoring must include frequency and duration of flows. The results of all flow monitoring, should be provided when requested by the administering authority.

(C3-3) The holder of this environmental authority must develop, implement and maintain an environmental impact monitoring program for the in-stream environment downstream of the mining lease, in accordance with requirements of conditions C3-4 and C3-5.

(C3-4) The monitoring program must be designed so as to have at least an eighty percent (80%) chance of determining an environmental impact should one occur. It should be based on the *AUSRIVAS (DNRM 2001) protocols* and *River Bioassessment Program scoring system (DNRM 2001).*

(C3-5) Any changes in the condition of the in-stream environment (as measured by the scores derived in C3-4) should be discussed, particularly in terms of possible impacts of the mining operations, and the results of the monitoring should be available to the administering authority on request.

(C3-6) The holder must submit a proposal for the environmental impact monitoring program to the administering authority for review and comment within two (2) months after the issue of the environmental authority.

(C3-7) The environmental impact monitoring program must commence within one (1) month of receiving comments from the administering authority.

Dams Containing Hazardous Waste

(C4-1) The holder of the environmental authority must design, construct and operate all high-hazard dams containing hazardous waste in accordance with the Code of Environmental Compliance for High Hazard Dams containing Hazardous Waste.

Low- hazard and Non-hazard Dams

(C5-1) The holder of the environmental authority must design, construct and operate all low-hazard dams and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code for Environmental Compliance for Mining Activities[1].

Sewage Effluent

[1] This code is currently being up-graded

(C6-1) All effluent released from the sewage treatment plant must be evaporated in an impervious pond or reused for process water.

(C6-2) Dried sewage sludge must be buried within waste rock emplacements.

Groundwater Quality

(C7-1) The holder of this environmental authority must develop and implement a groundwater monitoring program. The program must be able to detect a significant change to ground water quality values (consistent with the current suitability of the groundwater for domestic and agricultural use) due to activities that are part of this mining project.

(C7-2) The holder must submit the monitoring program to the administering authority at least twenty eight (28) days prior to the commencement of mine dewatering activities. If the administering authority gives to the holder of this approval any comment on the monitoring program within 21 days of receiving the document, the holder of this approval must have due regard to those comments when implementing the monitoring program.

(C7- 3) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Guidelines.

(C7-7) The holder must report the results and analysis of groundwater monitoring to the administering authority on request.

Schedule D - Noise and Vibration

Noise Nuisance

(D1-1) Subject to Conditions (D1-2) and (D1-3), noise from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.

(D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

(D1-3) If the environmental authority holder can provide evidence through monitoring that the limits, defined in Schedule D - Table 1 and 2 inclusive, are not being exceeded then the holder is not in breach of Condition (D1-1). Monitoring must include:

a) LA, max adj, T ; and
b) the level and frequency of occurrence of impulsive or tonal noise; and
c) atmospheric conditions including wind speed and direction; and
d) location, date and time of recording.

(D1-4) If monitoring indicates exceedence of the limits in Schedule D - Table 1 and 2, then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required; or
b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

(D1-6) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Schedule D - Table 1 (Noise limits).

Sound Pressure Level dB(A) measured as	Monday to Saturday			Sundays and Public Holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am
	Noise Measured at a 'Noise Sensitive Place'					
LAr, 1 hour	38	38	37	38	38	37
	Noise Measured at a 'Commercial Place'					
LAr, 1 hour	43	43	42	43	43	42

Note: The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Manuals.

Schedule D - Table 2 (Airblast Overpressure Level)

Location	Daylight Hours
Sensitive or commercial place	Air blast overpressure level of 115 dB (linear peak) for four (4) out of five (5) consecutive blasts initiated and not greater than 120 dB (linear peak) at any time.

Note: The method of measurement and reporting of over pressure levels must comply with the latest edition of the Environmental Protection Agency's vibration and air blast overpressure monitoring guideline.

Vibration Nuisance

(D2-1) Subject to Conditions (D2-2) and (D2-3), vibration from the mining activity must not cause environmental harm at any sensitive or commercial place.

(D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

(D2-3) If the environmental authority holder can provide evidence through monitoring that the limits defined in Schedule D - Table 3 are not being exceeded, then the holder is not in breach of (D2-1). Monitoring must include:

a) location of the blast(s) within the mining area (including which bench level); and
b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and
c) location, date and time of recording.

(D2-4) If monitoring indicates exceedence of the relevant limits in Schedule D - Table 3, then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required; or
b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Schedule D - Table 3 (Vibration Limits)

Location	Vibration Measured
	Daylight Hours
Sensitive or commercial place	For vibration greater than 35 Hz, no more than 25mm/s peak particle velocity; and for vibration less than or equal to 35 Hz, four (4) out of five (5) consecutive blasts not to exceed 5mm/s peak particle velocity and not greater than 10mm/s peak particle velocity at any time.

Note: The method of measurement and reporting of vibration levels must comply with the latest edition of the Environmental Protection Agency's Guideline, Noise and Vibration from blasting.

Schedule E - Waste

Storage of Tyres

(E1-1) Tyres stored awaiting disposal or transport for take-back and recycling or waste-to-energy options, should be stockpiled in volumes less than 3m in height and 200m^2 in area and at least 10m from any other tyre-storage area.

(E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre-storage area.

Disposal of Tyres

(E2-1) Disposing of scrap tyres and conveyor belting resulting from the mining activities in spoil emplacements is acceptable, provided the material is placed as deep in the spoil as reasonably practicable.

(E2-2) Scrap tyres and conveyor belting resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) Progressive rehabilitation must commence within eighteen (18) months of when areas become available within the operational land.

(F1-2) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining native vegetation community in accordance with Schedule F - Table 1.

Schedule F- Table 1 (Final Land Use and Rehabilitation Schedule)

Disturbance Type	Approx. Projected Surface Area (ha)	Post Mine Land Use	Post Mine Land Suitability for Grazing	Interim Cover Range (%)[1]
Final void	286	Void	5	N/A
North west waste dump	960	Native vegetation	5	50 - 70
South west waste dump	215	Native vegetation	5	50 - 70
Mine water dam	25	Native vegetation	3	50 - 70
Coal washery wastes	60	Native vegetation	5	50 - 70
Industrial area and roads	240	Native vegetation	3	50 - 70

[1] Range to be replaced by acceptance criteria developed as part of Rehabilitation Report.

(F1-3) The maximum distance between contour or graded banks on rehabilitated slopes must conform to the values set out in Schedule F – Table 2.

Schedule F- Table 2 (Maximum Vertical Intervals Between Banks)

Slope Angle	Maximum vertical interval between banks
<5%	20 m
5 – 10%	17.5 m
10 – 17%	15 m

Rehabilitation

(F2-1) Within five (5) years of coal mining commencing, a Rehabilitation Report must be provided to the administering authority that proposes rehabilitation acceptance criteria and details the rehabilitation monitoring program. The report must consider:

a) re-establishment of vegetation communities representative of pre-mining regional ecosystems including dominant and understorey species of the following Regional Ecosystems; 11.3.3 (Coolibah woodland); 11.4.8 (Dawson gum woodland); 11.5.3 (silver leafed ironbark); and 11.11.1 (narrow leafed ironbark woodland);
b) rehabilitation and stabilisation of the area disturbed for the construction of the Gowrie Creek diversion will include the establishment of coolibah open woodland with a grassy understorey;
c) specific rehabilitation acceptance criteria in relation to area, floristic characteristics of the existing (pre-mining) regional ecosystems including composition, cover and species diversity;
d) an erosivity assessment of rehabilitated landforms;
e) a rehabilitation monitoring program designed to demonstrate progressive development of rehabilitated areas towards sustaining native species communities; and
f) proposed remedial actions for rehabilitation areas not meeting the required outcomes.

(F2-2) A topsoil inventory that identifies the topsoil requirements for the Project and the availability of suitable topsoil on site must be detailed in the Plan of Operations.

(F2-3) Topsoil must be stripped ahead of mining and stockpiled if not able to be used immediately.

(F2-4) Rehabilitated landform slope angles are not to exceed 17%, except on rehabilitation trial sites.

(F2-5) Rehabilitation trial sites are limited to 5ha in total.

Residual Void Outcome

(F3-1) The final void will be of land suitability class 5. All other areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation community.

(F3-2) Final voids must not cause serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the harm constituted by the existence of the final void itself, and subject to any other conditions in this Environmental Authority.

(F3-3) Within 3 years of the first rail-out of coal the holder of this Environmental Authority must submit to the administering authority a Final Void Water Quality Management Plan that indicates how condition F3-2 will be achieved and include:

a) modelling and assessment of the quality of void water quality between cessation of mining and the post mining equilibrium level;
b) modelling and assessment of practicable management measures (including flushing) to mitigate salinity increases; and
c) a monitoring program both during and after mining, to assess the performance of any management measures required.

(F3-4) Five years prior to the establishment of a final void on the Mining Lease the holder of the Environmental Authority must submit a Final Void Geotechnical Report prepared by a suitably qualified and experienced professional to the administering authority that includes:

(a) proposed slope criteria for pit walls with competent and incompetent rock; and
(b) proposed final surface area of the void.

Monitoring of the Gowrie Creek Diversion

(F5-1) Upon completion of the construction phase of the proposed diversion a quantitative monitoring and evaluation program must be implemented to ensure that the diversion is working as intended.

(F5-2) The quantitative monitoring and evaluation program must be consistent with the principles and procedures outlined in the Australian Coal Association Research Program (ACARP) Project "Monitoring and Evaluation Program for Bowen Basin River Diversions" (ACARP 2001).

(F5-3) Results of the monitoring and evaluation program are to be made available for inspection upon request of the administering authority.

(F5-4) The monitoring and evaluation program shall include remedial actions that will be implemented should the results of condition F5-3 indicate the diversion is not working as intended.

Waste Rock

(F6-1) Twenty-Five (25) business days prior to the commencement of overburden removal, a Waste Rock Management Plan must be provided to the administering authority that includes:

a) a method for investigating the physical and chemical properties of surface and sub-surface materials in the geological structures within the proposed areas to be disturbed by mining, that is consistent with current 'best practice' and the guidelines issued by Environment Australia (1997) or the USEPA (1994);
b) management protocols for the handling, storage and placement of any waste rock and coal process wastes identified as Potentially Acid Forming (PAF) and/or high salinity or sodicity in accordance with current 'best practice' methods; and
c) performance criteria and a monitoring program for measurement of success of the Plan.

Schedule G - Community

Complaint Response

(G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

Schedule H - Cultural Heritage

Cultural Heritage

(H1-1) The holder of this Environmental Authority must not cause, by act or omission, any environmental harm to any environmental values of significance to Queensland's cultural heritage at the following sites:

a) The features of potential heritage value within the homestead complex of Wolfang Station at 566 750 mE and 7 488 545 mN (AGD 84);
b) A dry stone enclosure/stockyard/cemetery at 567 195 mE and 7 489 030 mN (AGD 84); and
c) A possible coach staging post at 567 200 mE and 7 489 080 mN (AGD 84).

Cultural Heritage Study

(H2-1) For the purpose of determining the presence and extent of environmental values and the environmental management measures necessary to ensure compliance with condition H1-1, a study of the cultural significance of the sites listed in condition H1-1 (and any other sites of non-Indigenous cultural heritage identified in the course of the study) must be effectively undertaken, including at least the following:

a) mapping and description of the location of all non-Indigenous cultural heritage features relative to the proposed mining and other works;
b) assessment of the significance of such features, including a determination on whether any of the buildings/features/landscape features of the Wolfang Homestead complex are considered to be of State Significance using criteria in the *Queensland Heritage Act 1992*;
c) description of all possible impacts from mining and related activities; and
d) detail of the proposed environmental management and mitigation measures, including if appropriate, the size and nature of buffer areas to be retained around these features to comply with condition H1-1.

(H2-2) The Cultural Heritage study must be undertaken by a person holding a permit to undertake an historical archaeological survey under s.44 of the *Queensland Heritage Act 1992.*

(H2-3) A copy of the Cultural Heritage Study must be provided to the administering authority within thirty (30) days of its completion. The holder must have due regard to any comments on the study provided by the administering authority.

Attachment 1

Definitions

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

"airblast overpressure" means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dB).

"ambient (or total) noise" at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.
"competent person" means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.
"authority" means environmental authority (mining activities) under the *Environmental Protection Act 1994*.
"blasting" means the use of explosive materials to fracture-

- rock, coal and other minerals for later recovery; or
- structural components or other items to facilitate removal from a site or for reuse.

"commercial place" means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.
"dam" means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.
"environmental authority holder" means the holder of this environmental authority.
"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.
"$L_{Ar,1\ hour}$" means the specific noise level plus any adjustment for the character of the noise (tonal and/or impulsive) determined over a period of one hour. $L_{Ar,1\ hour}$ is expressed in terms of $L_{Aeq,1\ hour}$.
"$L_{A\ 10,\ adj,\ 10\ mins}$" means the A-weighted sound pressure level, *(adjusted for tonal character and impulsiveness of the sound)* exceeded for 10% of any 10-minute measurement period, using Fast response.
"$L_{A\ 1,\ adj,\ 10\ mins}$" means the A-weighted sound pressure level, *(adjusted for tonal character and impulsiveness of the sound)* exceeded for 1% of any 10-minute measurement period, using Fast response
"$L_{A,\ max\ adj,\ T}$" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
"land" in the "land schedule" of this document means land excluding waters and the atmosphere.
"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.
"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.
"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.
"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).
"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes:

- clay if mined for use for its ceramic properties, kaolin and bentonite;
- foundry sand;
- hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from;
- limestone, if mined for use for its chemical properties;
- marble;
- mineral oil or gas extracted or produced from shale or coal by in situ processes;
- peat;
- salt including brine;
- shale from which mineral oil may be extracted or produced;
- silica, including silica sand, if mined for use for its chemical properties; and
- rock mined in block or slab form for building or monumental purposes;

but does not include:

- living matter;
- petroleum within the meaning of the *Petroleum Act 1923*;
- soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form; and
- water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.
"non-standard" means a mining operation that if in the opinion of the administering authority does not have a low risk of serious environmental harm and the activities can not comply with the criteria for

standard mining activities prescribed in schedule 1A of the *Environmental Protection Regulation 1998.* The standard mining activity trigger criteria are as follows:

a) the mining activities do not or will not cause more than 10 ha of land to be significantly disturbed at any one time;
b) the mining activities do not or will not cause more than 5 ha of land to be significantly disturbed at any one time:
   - in a riverine area;
   - because of mine workings;
c) the mining activities are not or will not be carried out in, or within 2 km of, a category A Environmentally Sensitive Area;
d) the mining activities are not or will not be carried out in, or within 1 km of, a category B Environmentally Sensitive Area;
e) the mining activities do not include a level 1 environmentally relevant activity; and
f) no more than 20 persons are carrying out or will, at any one time, carry out the mining activities.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means
- a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means:
- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical centre or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" includes land:
- if it is contaminated land; or
- it has been disturbed and human intervention is needed to rehabilitate it to a state required under the relevant environmental authority; or
- if the environmental authority does not require the land to be rehabilitated to a particular state, to its state immediately before the disturbance.

Some examples of disturbed land include:
- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil);
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"specific noise level" is the level of the component of the ambient (or total) noise that can be specifically identified by acoustical means and is associated with a specific noise.

"spillway" means passage or outlet from the dam through which surplus water flows.

"stable" means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than $5,000.

"watercourse" means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

a) continuous bed and banks;
b) an extended period of flow for some months after rain ceases, and
c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part-thereof.

APPENDIX B LIST OF RECOMMENDATIONS

The following section lists the recommendations made by the Coordinator-General in the Report evaluating the EIS for the Clermont Coal Mine Project to mitigate potential adverse impacts associated with specific components of the Project.

Appendix B1 Recommendations for Inclusion in EM Plan

Recommendations for inclusion as commitments in the Environmental Management Plan prepared by the Proponent, pursuant to s.201 of the *Environmental Protection Act 1994*.

Surface Water

- The Proponent should continue to pursue opportunities for alternative beneficial uses of surplus groundwater, which is proposed to be released to Gowrie Creek, particularly for agricultural purposes, for the life of the mine.

Nature Conservation

- The Proponent should fence off the remnant population of *Trioncinia retroflexa* (Belyando Cobblers Pegs) to exclude stock, machinery and people.
- The Proponent should develop and implement a Weed Management Plan prior to the commencement of construction activities. The Plan should include: management of all listed weeds of concern; provision of wash-down facilities for vehicles and plant entering or leaving the Project site during the construction phase; and strategies to control weeds in creeks downstream of the release of surplus mine and groundwater.

Air Quality

- Dust levels near public roads should be visually monitored by the Proponent and if visible dust rises to unsafe levels and for unsafe durations of time due to mine-related activities, the dust should either be immediately suppressed using water or the activity ceased until suitable conditions return. Unsafe durations of time and levels of dust near a public road describe factors that result in the loss of ability for a driver or other road user to sight and react to vehicles or objects within a safe stopping time and distance.

Noise & Vibration

- The Proponent should undertake an assessment of the historic building on the "Fluers" property that is constructed out of dry stone pitch before and after the commencement of initial blasting activities to determine whether there has been any degradation of the condition of this structure as a direct result of the mining activities and that if any such damage is observed, suitable remedial actions be undertaken.

Commonwealth Matters of National Environmental Significance

Recommendations for inclusion in the EM Plan and for consideration by the Commonwealth Minister for the Environment and Heritage in making a decision on approval of the 'controlled action', pursuant to the *Environment Protection and Biodiversity Conservation Act 1999*.

<u>Bluegrass Community</u>

- The Proponent should implement off-set strategies for the loss off 44 ha of the Bluegrass community by compensatory establishment of 44 ha of Bluegrass on *in situ* black soil in

the north-east of mining lease 1884. The Proponent should consider strategies such as a nature conservation agreement or other legal measure for the long-term protection of the proposed Bluegrass off-set planted areas. The Proponent should seek to finalise the long-term protection of the Bluegrass off-set area before the 44 ha of remnant Bluegrass is disturbed.

Brigalow Community

- The Proponent should consider the use of topsoil from clearing land that includes Brigalow (*Acacia harpophylla*) rootstock for immediate use in rehabilitation of disturbed land and report on the effectiveness of this in re-establishing Brigalow.

- The Proponent should facilitate a research project into effective methods to regenerate Brigalow (*Acacia harpophylla*) communities using the expertise and facilities of the Centre for Mined Land Rehabilitation at the University of Queensland. The research studies should consider the following matters:

  - the effect of storage on *Acacia harpophylla* seed viability and influences on germination rates in the glasshouse and in the field; and
  - the use of *Acacia harpophylla* root suckers as a propagation medium, germplasm and for large-scale revegetation of Brigalow ecological communities.

Dunmall's Snake

- The Proponent should include identification of Dunmall's Snake (*Furina dunmalli*) in the Project's staff induction and environmental awareness programs to ensure that any individuals that might be present in the Project area are identified and reported to the Environmental Manager for appropriate follow-up action.

Northern Quoll

- The Proponent should undertake an additional fauna survey to specifically seek the presence of Northern Quoll (*Dasyurus hallucatus*) within the Project area prior to any planned clearing of Dawson Gum woodland. The survey should also identify and mark trees with suitable hollows that could potentially be utilised by the Northern Quoll. All such clearing should be monitored by a suitably experienced project officer and, where possible, any individuals found should be recovered and released to suitable habitat that is not subject to clearing, including the adjacent Apsley State Forest.

Appendix B2 Recommendations for Inclusion in Water Licences

Recommendations for consideration by the Chief Executive for any water licence issued pursuant to the *Water Act 2000*.

- Mechanisms should be implemented to ensure that development of the proposed Clermont Coal Mine does not result in an undue adverse impact on the availability and quality of groundwater supplies to neighbouring landholders.
- The Proponent should reach mutually agreeable arrangements with landholders potentially affected by groundwater drawdown for the provision of alternative supplies throughout the mine life, and after mine closure. Alternative supplies should be put in place before supplies from relevant existing landholder bores are adversely affected and the costs associated with changes to landholder extraction of groundwater from bores on affected land should be covered by the Proponent.
- Prior to the surrender of mining leases post-mining, pursuant to the *Minerals Resources Act 1989* and *Environmental Protection Act 1994*, the conditions under which an

alternative supply of groundwater would be provided to any landholders potentially adversely affected by impacts to groundwater directly attributable to the mine dewatering program must be agreed to between the Proponent (and its successors and assigns) and the relevant regulators.

Appendix B3 Recommendations that do not Attach to a Statutory Approval

Visual Amenity

- The Proponent should implement the EIS commitments to reduce potential adverse impacts on the visual amenity of affected neighbouring landholders by:
  - retention of vegetation to form visual buffers and progressive rehabilitation;
  - vegetation of the Gowrie Creek diversion to progressively replace lost woodland;
  - locating night lighting, which is required for safety and security, to ensure lights are focussed on areas required and shielded to limit extraneous light; and
  - consulting with landholders to determine if impact mitigation is required and acceptable forms of mitigation.

Housing & Accommodation

- The proposed site construction village, with a capacity to accommodate at least 500 people should be kept operational until after the Blair Athol mine ceases production and bulk rehabilitation earthworks are complete, to alleviate pressure on the existing housing market during the transitional phase of the Project.
- The Proponent should cater for all employees who choose to reside outside the Clermont district by providing accommodation in the proposed single person village in the Clermont township.
- Development of the township village should occur early during the construction phase and be operational no later that the end of 2007 to alleviate pressure on the existing accommodation market from demand induced by the Project.
- The Proponent should monitor the demand for accommodation and implement options to ensure that demand for workforce accommodation is met and impacts on the Clermont housing market are minimised.
- The Proponent should provide to Belyando Shire Council, within 3 months of Project approval, a layout for a 100-lot housing subdivision, as a contingency to manage excessive demand for new housing beyond that predicted in the EIS, with the trigger for development of such a housing estate based current and projected housing demands for employees exceeding the availability of existing serviced lots.
- If the proposed development of the township village results in the displacement of remote-area students using the current hostel, that the Proponent should provide alternative accommodation to a standard that is suitable for a student hostel, in agreement with, and at no additional cost to, the Belyando Shire Council.

Employment & Training

- The Proponent should provide training to all employees, with opportunities for people to be trained under traineeships and apprenticeships either directly or through external providers.
- The Proponent should encourage contactors engaged during both construction and operational phases to provide traineeships.
- The Proponent should work with engineering companies in the region to support additional apprenticeships through financial support and site placements.
- The Proponent should develop a relationship with the Central Queensland TAFE and other training organisations to ensure that these agencies incorporate long-term training and up-skilling plans into their programs to meet the Project requirements.

Health & Safety

- The Proponent should prepare an Emergency Response Plan, in consultation with the relevant emergency services agencies and lodge this with the Department of Emergency Services and Belyando Shire Council within three months of Project approval by the Proponent. The Plan should encompass all of the elements set down in s.15.3.9 of the EIS that deals with the following: fire on mine site; vehicle collision; falls and impact incidents; spontaneous combustion; coal fire in conveyor system and mechanical and electrical failure.

Social Services

- The Proponent should negotiate a Community Services Agreement with the Belyando Shire Council. The agreement should include terms for the contribution to a social infrastructure package to help off-set impacts to specific community and support services in Clermont. The agreement should be negotiated within six months of approval of the Project by the Proponent.

APPENDIX C LIST OF ABBREVIATIONS

BSC	Belyando Shire Council
CoG	Coordinator-General
DEH	Commonwealth Department of the Environment and Heritage
DES	Queensland Department of Emergency Services
DMR	Queensland Department of Main Roads
DNRM	Queensland Department of Natural Resources and Mines
DoH	Queensland Department of Housing
DPIF	Queensland Department of Primary Industries and Fisheries
DSDI	Queensland Department of State Development and Innovation
EIS	Environmental Impact Statement (under part 4 of *SDPWO Act*)
EMOS	Environmental Management Overview Strategy
EM Plan	Environmental Management Plan (under s.201 of the *EP Act*)
EPA	Queensland Environmental Protection Agency
EP Act	*Environmental Protection Act 1994 (Qld)*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (C'th)*
EPP	Environmental Protection Policy (under the *EP Act*)
GQAL	Good Quality Agricultural Land
IAS	Initial Advice Statement (under part 4 of *SDPWO Act*)
IPA	*Integrated Planning Act 1997 (Qld)*
ML	Mining Lease
MRA	*Mineral Resources Act 1989 (Qld)*
Mtpa	Million tonnes per annum
NEPM	National Environmental Performance Measures
NES	Nationally Environmentally Significant (under the *EPBC Act*)
PAF	Potential Acid Forming
QH	Queensland Health (Department of Health)
QT	Queensland Transport (Department of Transport)
RTCA	Rio Tinto Coal Australia Pty Limited
SDPWO Act	*State Development and Public Works Organisation Act 1971 (Qld)*
SDPWO Regulation	*State Development and Public Works Organisation Regulation 1999 (Qld)*
SKM	Sinclair Knight Merz
SPP	State Planning Policy (Qld)
ToR	Terms of Reference (under part 4 of *SDPWO Act*)