Appendix 1 – Conditions and Recommendations

Contents

Appendix 1

Schedule 1

Coordinator-General's imposed conditions

These conditions are **imposed** by the Coordinator-General on the project under section 54B of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and apply to project elements that are not the subject of an environmental authority (mining activity) (EA) and associated environmentally relevant activities (ERAs) under the *Environmental Protection Act 1994* (EP Act), for the Caval Ridge Mine. Conditions applicable to the EA, including ERAs, for the construction and operation of the CRM are provided in Schedule 3 of Appendix 1 of this report.

All of the conditions stated in this Schedule 1 take effect from the date of this Coordinator-General's Report.

These conditions do not relieve the proponent of the obligation to obtain all other approvals and licences from all relevant authorities required under any other Act.

In accordance with section 54B(3) of the SDPWO Act, the Coordinator-General has **nominated** entities to have jurisdiction for a number of conditions in this schedule. Schedule 2 describes which entity has jurisdiction for the conditions and the entities that should be consulted by the proponent in regards to each condition ('Consultative Bodies').

In accordance with section 54D of the SDPWO Act, these conditions apply to anyone who undertakes the project, including, for example the proponent and an agent, contractor, subcontractor or licensee of the proponent and public utility providers undertaking public utility works.

To simplify presentation, this Schedule 1 is divided into four parts as follows:

- **Part 1: General conditions** for the CRM (which applies to both the construction and operation and maintenance stages of the CRM, unless otherwise specified).
- **Part 2: Construction stage of the CRM** (which applies to all activities from commissioning, including site preparation, demolition and material deliveries, construction activities and decommissioning and rehabilitation of worksites).
- **Part 3: Operation stage of the CRM** (which applies to the project from the time the CRM coal handling and preparation plant (CHPP) exceeds the 250,000 tonne of coal output point).
- **Part 4: New conditions applicable to the Daunia Mine** (which arise from the cumulative impacts of BMA's Bowen Basin Coal Growth (BBCG) project).

Note however that some conditions in each part could also have some relevance to the other parts.

Part 1: General conditions

1. General conditions

(a) The project must be carried out generally in accordance with the Caval Ridge Coal Mine Project Environmental Impact Statement (EIS) (July 2009) for the project, and the Caval Ridge Coal Mine Project EIS Supplementary Report (SEIS) for the project (November 2009), and Appendices 2–5 of this report.

(b) The proponent must notify the Coordinator-General and all nominated entities in writing of the commencement of the construction stage of the Caval Ridge Mine (CRM) and the commencement of the operation stage of the CRM at least four weeks prior to the relevant commencement date.

(c) Within three months of advertising the draft Environmental Authority (EA) for CRM, the proponent must provide a copy of the final commitments register for the CRM to the Coordinator-General including all Social Impact Mitigation Plan (SIMP) commitments (refer to Conditions 10 and 11).

2. Mine Water Management

Water supply

(a) The proponent must develop, implement and maintain a water supply strategy and emergency plan which demonstrates water supply to the CRM for at least the next 12 months of operation and report annually to the Department of Environment and Resource Management (DERM) on performance against that plan and any new measures required to ensure future supply of water to the CRM.

Water releases

(b) Prior to the EA for the CRM being granted for the CRM component of the Bowen Basin Coal Growth Project, the proponent will prepare a report to DERM. The report shall include additional information about the water balance model including:

(i) details of all the assumptions used in the water balance model

(ii) an explanation of how water quality predictions were derived, and

(iii) a demonstration that contaminated run-off and pump out of pits for an AEP 0.05 wet season can be contained within the storages provided.

(c) Prior to the EA for the CRM being granted, DERM must review and endorse for inclusion in the EM plan any design changes to water supply, storage and transfer components of the CRM MWMS required to ensure compliance with (b).

Flooding

(d) Prior to the EA for the CRM being granted, DERM must review and endorse for inclusion in the EM plan any design of the CRM operational flood protection levees to be sure that those structures can be adequately accommodated within the available space of the CRM mining lease.

3. Flora and Fauna

(a) The proponent must provide an 'Offset Strategy' for approval by DERM and the Coordinator-General and the Commonwealth Department of Environment, Water Heritage and the Arts (DEWHA) before the commencement of mining operations. The Strategy must provide for and include, but not necessarily be limited to the following:

(i) the minimum area of each Regional Ecosystem (RE) to be secured by the proponent in offset arrangements for the CRM as shown in Table 3.1, but the Commonwealth Department of Environment Water Heritage and the Arts (DEWHA) may specify larger

areas of each of these Endangered Ecological Communities (EECs) offsets and DERM may specify larger areas of each 'endangered' or 'of concern' RE offsets where their respective statutory authorities allow this

Table 3.1. Minimum offset areas for the CRM

RE	RE number	EPBC Act status	VM Act status	Biodiversity status	Area requiring offset (ha)	Minimum offset required (ha)
Poplar box	11.3.2	N/A	of concern	of concern	108.3	225.6
	11.4.2	N/A	of concern	of concern	4.5	
Brigalow	11.4.8	Endangered	endangered	endangered	8.2	61.8
	11.4.9	Endangered	endangered	endangered	12.4	
Natural grasslands	11.8.11	Endangered	of concern	of concern	124.6	373.8
Forest red gum / river red gum	11.3.25	N/A	least concern	of concern	31.5	63.0
Total not EPBC listed					144.3	288.6
Total EPBC listed					145.2	435.6
TOTAL					289.5	724.2

(ii) all proposed offset lands for the CRM shown on maps which, to avoid the risk of double-counting, delineate areas of vegetation in each proposed offset area attributable to each phase of the BBCG project

(iii) an assessment of the extent and condition of the native vegetation proposed to be used as offset areas based upon ground truthing

(iv) the management of offset lands to exclude grazing or other development, except when required by law to provide access to resource tenure holders

(v) the management of offset lands so as to encourage regeneration and regrowth of the relevant native vegetation to attain remnant or other protected status within 20 years or prior to the surrender of the EA for the CRM, whichever is sooner

(vi) annual reporting to DERM, by a suitably qualified third party acceptable to DERM, on activities at the offset area and its progress towards remnant or other protected area status

(vii) a commitment that If at any time before the EA for the CRM is surrendered, any of the offset lands are to be cleared, or if the proponent relinquishes management of the offset lands or applies to surrender the EA for the CRM before the offset attains remnant status, the proponent must:

A establish an alternative offset of equal or greater size and quality and of the same or similar REs

B if alternative offset lands cannot be found before clearing takes place or within six months of the proponent ceasing to manage the land or the date of the surrender application, the proponent will provide a monetary contribution to Ecofund Queensland's environmental trust or equivalent offset broker that could be used to purchase land to be added to the protected estate and which will include any ongoing management costs until the environmental authority for the CRM is surrendered

C make payment for any residual risk of rehabilitation of the offset area at the time of surrender, with the amount of the monetary contribution, management costs and residual risk determined by DERM in consultation with the offset broker.

(viii) the offset of the 31.5 hectares of forest red gum / river red gum: *Eucalyptus tereticornis* or *E. camaldulensis* woodland (RE 11.3.25) cleared for the CRM to a ratio of not less than 1:2 by:

A protecting and managing the 'major vegetation group' (MVG) on the proposed Blackwater offset area, comprising three REs 11.3.2/11.3.25/11.3.4, which includes approximately 115.8 hectares of RE 11.3.25, or

B replanting 63 hectares of land on or adjacent to the CRM site with plant species consistent with this RE prior to the commencement of operation of the CRM, and subsequently ensuring the subsequent survival of those plantings; protecting the replanted land through a legally binding mechanism; and managing that replanted land with the aim of it attaining remnant status within 20 years of replanting, or

C use the services of an offset broker such as Ecofund Queensland or other third party to establish an alternative planting to meet the same requirements as under (vii)A on a different site to be approved by DERM.

(b) The proponent must prepare to the satisfaction of DERM and DEWHA a 'Threatened Flora and Fauna Species and Ecological Communities Management Plan' that:

(i) ensures the impacts to these species and communities are minimised

(ii) contributes to the survival of these species in the wild, and

(iii) achieves conservation benefits for these species and communities where practicable.

(c) As a minimum, the plan in (b) should include:

(i) affected species listed as endangered, vulnerable or rare under the *Nature Conservation Act 1994*

(ii) affected species listed by DERM on its 'Back on Track' systems that are identified as in decline and have a good potential for recovery

(iii) management measures addressing the threatened species listed in the 'controlling provisions' for the CRM under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

(iv) the proponent's commitments to implement management measures to further mitigate the impacts of mining activities on ecological values

(v) the additional and ongoing management activities to mitigate impacts to native vegetation communities outlined in chapter 8 of the CRM EIS and section 5.4 of the 'EPBC Matters Report' in Appendix C2 of the CRM EIS

(vi) how the proponent will satisfy the requirements of section 322 of the *Nature Conservation (Wildlife Management) Regulation 2006* relating to tampering with animal breeding places

(vii) a commitment to provide information on flora and fauna management actions for significant species for inclusion in DERMs 'Recovery Actions Database' when that framework is finalised and becomes operational.

(d) The plan in (b) should be provided to DERM and DEWHA for review at least 28 days prior to commencement of any mining construction activity, for the CRM project other than early road works.

4. Audit reports

(a) Compliance with the Coordinator-General's imposed (Schedule 1) conditions of this report must be audited by an appropriately qualified and experienced third party auditor or auditors relevant to the matters being audited, nominated by the proponent and accepted by the Coordinator-General within six months of commencement of construction of the CRM, then annually until the second year of operation of the CRM, and then biennially thereafter until six years of operation of the CRM has occurred.

(b) The proponent must submit the third party audit report(s) to the Coordinator-General within 60 days of the end of the relevant period.

(c) The audit report must identify the conditions that were activated during the period, and a compliance/non-compliance table. A description of the evidence to support the compliance table must be provided. The audit report must also contain recommendations on any non-compliance or other matter to improve compliance. The third party auditor must certify the findings of the audit report.

(d) The financial cost of the third party audit is borne by the proponent.

(e) The proponent must immediately act upon any recommendations arising from the audit report and:

  (i) investigate any non-compliance issues identified, and

  (ii) as soon as practicable, implement measures or take necessary action to ensure compliance with this authority.

(f) Subject to (a), and not more than one month following the submission of the audit report, the proponent must provide written advice to the Coordinator-General addressing the:

  (i) actions taken by the proponent promptly and routinely to ensure compliance with the Coordinator-General's imposed conditions, and

  (ii) actions taken to routinely prevent a recurrence of any non-compliance issues.

5. General communication obligations

(a) Prior to the commencement of CRM construction works, and then at six-monthly intervals until the completion of construction, the proponent shall advertise in relevant local newspapers, the nature of construction works impacting on public areas proposed for the forthcoming six months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.

(b) The proponent shall undertake early and on-going engagement with owners and occupants of sensitive places adjacent to or predicted to be impacted by the proposed construction and operational works, and works associated with impact mitigation measures. The consultation shall include the provision of clear information about the scale, timing, duration, location, intensity and potential effects of construction and operational works and, where required by Schedule 1 or Schedule 3 conditions, the mitigation measures available to the owner or occupant.

(c) The proponent shall ensure that the local community and businesses are kept informed (by appropriate means such as: local newsletters, leaflets, newspaper advertisements, community notice boards and an internet page, to be established in accordance with (d)), of the progress of the CRM, including any traffic disruptions and controls, and construction of temporary detours, not less than 48 hours prior to such works being undertaken.

(d) The proponent shall establish a CRM internet site at least three months prior to the commencement of construction works and maintain an internet page until at least 24 months after commencement of operation of the CRM or as long as required for updating operational air quality results. The internet page shall, as a minimum, contain quarterly work progress and consultation activities updates, including but not limited to:

(i) a list of environmental management reports that are publicly available and the executive summaries of those reports

(ii) minutes from BMA's Moranbah Community Network meetings (refer Condition 6)

(iii) quarterly newsletters consistent with (c)

(iv) 24 hour per day toll-free complaints contact telephone number, established in accordance with Condition 7(a)(iii)

(v) a means of asking questions or providing feedback.

6. Moranbah BMA Community Network (Moranbah BCN)

(a) The proponent shall establish an appropriate representative Moranbah BMA Community Network (Moranbah BCN) to the satisfaction of the Coordinator-General and in accordance with the community communication strategy required under Condition 7, which would have the following functions:

(i) **Community liaison** on the Daunia Mine, CRM and future BBCG project expansion components, specifically to:

A assist the proponent to understand community views

B work with the proponent to determine potential impacts and mitigation strategies associated with its mining activities, including consideration of the CRM air quality monitoring program required under section 5.5 of this report

C assist BMA to monitor and measure the effectiveness and appropriateness of its community communications strategy and priority projects for its local communities

D provide advice to the Sustainable Resource Communities (SRC) Partnership Group and the SRC Bowen Basin Leadership Group when requested

E at the proponent's discretion, undertake liaison on matters relevant to other BMA mines outside of the scope of the BBCG project.

(ii) With respect to the social impact management plan (**SIMP**) **stakeholder engagement strategy** requirements (refer to Condition 10:

A provide advice about and input to issues relating to the implementation of social impact mitigation and management strategies that have been identified in the EIS process and documented in the SIMP

B receive and consider progress reports on the implementation of the SIMP

C play a key role in the design for collection of qualitative and quantitative data pertinent to monitoring SIMP mitigation and management strategies.

(b) With respect to its functions under (a)(i), the Moranbah BCN must include local membership representation from the following:

(i) a Moranbah business owner - 1 representative

(ii) an employee of an education institution or childcare centre - 1 representative

(iii) Moranbah and District Support Services - 1 representative

(iv) a youth member of the community or youth worker - 1 representative

(v) an employee of the health or medical sector - 1 representative

(vi) Isaac Regional Council - 2 representatives

(vii) a partner of a BMA employee working on the Daunia or Caval Ridge Mines - 1 representative

(viii) representation as agreed through the proponent's indigenous stakeholder engagement strategy

(ix) a workforce representative from each of the Daunia and Caval Ridge Mines - 2 representatives

(x) the lead construction contractor from each of the Daunia and Caval Ridge Mines (if the lead construction entity is not the proponent) - 2 representatives

(xi) representative from a General Manager (or equivalent) from either of the Daunia Mine or CRM for the duration of the construction phase of each mine, with membership rotating between BMA's Moranbah site General Managers during the operations phase - 1 representative

(xii) the proponent's Environmental Management Representative (refer to Condition 8) or equivalent from each of the Daunia and Caval Ridge Mines - 2 representatives

(xiii) the proponent's Manager (Communities) - 1 representative

(xiv) a State Government agencies representative approved by the Coordinator-General in consultation with the Mackay Regional Managers Coordination Network - 1 representative

(c) With respect to its SIMP functions under (a)(ii):

(i) membership of the Moranbah BCN should not include representation from groups listed in (b)(iv), (b)(vii) and (b)(x) or the Daunia Mine representatives in (b)(ix), (b)(xi) and (b)(xii).

(ii) representatives from other relevant state agencies will be invited to participate, but not with any voting or decision making authority.

(d) The membership of the Moranbah BCN under (b) or (c) may be varied if approved by the Coordinator-General.

(e) The proponent shall:

(i) appoint an independent Chair of the Moranbah BCN approved by the Coordinator-General

(ii) ensure that the Moranbah BCN has a clear Terms of Reference developed in consultation with stakeholders and approved by the Coordinator-General, which as a minimum includes a description of how decisions are made by the BCN (e.g. by majority vote), and a meeting frequency:

A for Community Liaison ((a)(i)) functions of at least every three months after its first meeting during the construction phase of the CRM and then at least every six months during the operation phase of the CRM

B for SIMP ((a)(ii)) functions of at least monthly during the development of the draft SIMP, then at least every second month during the first year implementation period of the first approved SIMP, and thereafter integrated into the regular Moranbah BCN meeting schedule defined in A.

(iii) provide adequate resources for the establishment and work of the BCN, including:

A costs of time and travel of the Chair involved with the BCN

B meeting facilities

C secretariat support.

(iv) ensure that the first meeting of the Moranbah BCN is held within three months of the date of advertising of the EA for the CRM and that this first meeting consider the interrelationship of the Moranbah BCN with any existing community liaison or consultative groups of adjoining or interrelated developments

(v) provide to the Moranbah BCN regular information on the progress of work on the Daunia and Caval Ridge Mines and monitoring results

(vi) promptly provide to the Moranbah BCN such other information as the Chair may reasonably request concerning the environmental performance of the CRM

(vii) allow the Moranbah BCN to make comment/s about the:

A construction progress and implementation

B EM plan and SIMP

C compliance with the conditions of this Coordinator-General's report, and

D other matters relevant to the construction and operation of the Daunia and Caval Ridge Mine.

(viii) ensure that the Moranbah BCN has access to reasonable and sufficient information to fulfil its purpose

(ix) invite representatives from relevant government agencies or other individuals to attend meetings as reasonably required by the Chair

(x) provide access for Daunia and Caval Ridge Mine site inspections by the Moranbah BCN at times that are mutually acceptable to the proponent and the Moranbah BCN members

(xi) consider the recommendations and comments of the Moranbah BCN and provide a response to the Moranbah BCN

(xii) take minutes for each meeting and seek the agreement of the Moranbah BCN members to those minutes within 14 days of that meeting

(xiii) for Community Liaison ((a)(i) functions of the Moranbah BCN, make BCN minutes available for public inspection on the CRM web page within 14 days of their endorsement by the Chair

(xiv) for the SIMP ((a)(ii) functions of the Moranbah BCN, make quarterly update reports available for public inspection on the CRM web page within 30 days of their endorsement by the Chair

(xv) at least six months prior to the commencement of operation of the CRM, expand the Moranbah BCN to include a representative of the CRM operator (if that operator is not the proponent)

(xvi) six months after the commencement of operation of the CRM, remove the representative of the CRM lead construction contractor from the Moranbah BCN

(xvii) decommission the Moranbah BCN when the CRM ceases operation.

(f) In the circumstance of any unresolved disagreement between Moranbah BCN members about the operation of a Moranbah BCN or the responsibilities of its members, including the proponent, the Coordinator-General shall adjudicate and make the final decision.

7. Community communication strategy

(a) Notwithstanding the requirements of Condition 5, the proponent must prepare a community communication strategy for the construction period, to be initiated prior to the commencement of construction. The strategy must set out the community consultation procedures for the CRM, which shall comply with the obligations under these conditions, other approvals, licences and permits. It will also include:

(i) identification of stakeholders likely to be affected by the CRM, including identification of sensitive places, businesses and other sensitive land uses

(ii) establishment of procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the proponent or environmental management representative (refer to Condition 8) in relation to the environmental management and construction and operation of the CRM

(iii) procedures and mechanisms through which the proponent can respond to any enquiries or feedback from the community stakeholders in relation to the environmental management construction and operation of the CRM

(iv) procedures and mechanisms to be implemented to respond to any matters not resolved by the proponent response under Condition 7(a)(iii) on the matters relating to environmental management and the CRM construction and operation

(v) a complaints process as specified in Condition 9(c)

(vi) where required, special procedures to respond to complaints, issues or incidents, such as face-to-face meetings and on-going communications with affected parties and a documented process for issues resolution

(vii) procedures for informing affected road network users of planned traffic arrangements including temporary traffic arrangement changes during construction or operation of the CRM

(viii) the provision of relevant training for all employees and sub-contractors on the requirements of the community communication strategy.

(b) The proponent must prepare and implement a community notification strategy to provide information to road users, including motorists, on the timing of the implementation of CRM elements impacting upon road use or road condition.

8. Environmental management representative

At least two months prior to commencement of construction, the proponent shall nominate a suitably qualified and experienced Environmental Management Representative(s) with the authority within the proponent management structure to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts. The proponent shall employ the environmental management representative(s) for the duration of construction and operation of the CRM. The representative(s) shall:

(a) be the principal point of advice for the proponent in relation to all questions and complaints concerning the environmental performance of the CRM

(b) certify that the EM plan for the CRM meets the conditions within this Coordinator-General's Report relevant to the provisions of the EP Act

(c) manage the implementation of all EM plan, and monitoring programs and advise the proponent with respect to the achievement of all CRM environmental outcomes

(d) review and approve the CRM induction and training program related to environmental matters for all persons involved in construction and operation activities and monitor implementation

(e) periodically monitor the proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of construction and operation conditions, including carrying out site inspections at least monthly at all active CRM sites

(f) have responsibility for considering and advising the proponent on matters specified in these conditions and all other licences and approval related to the environmental performance and impacts of the CRM

(g) notwithstanding the requirement that the proponent implement the actions outlined in the EM plan to prevent environmental impacts, be given the authority and independence to advise reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and in the event of non-compliance with any condition of Schedule 1, to advise the proponent and DERM that relevant actions be taken or ceased to achieve compliance with the condition

(h) shall be available for contact 8.00am – 4.00pm Monday to Friday if CRM construction or operation activities are being undertaken.

9. Consultation, review, complaints and non-conformance

(a) **Consultation** procedures must include the stakeholder engagement measures described in Conditions 5-8 as a minimum, and meet the following requirements:

(i) consultation with owners and occupants of properties around the CRM as well as the wider community, must be conducted for the duration of the construction and operation of the CRM

(ii) consultation must commence well in advance of the commencement of construction and operation works

(iii) consultation with owners and occupants of affected properties must be conducted with confidentiality where requested by the owners or occupiers of premises and at a level of detail sufficient to address specific construction impacts and mitigation requirements.

(b) **A review process** must provide for further or alternative mitigation measures to be implemented as soon as practicable in response to monitoring results where non-compliance is identified and in accordance with the agreed outcomes of community consultation.

(c) **Complaints** — as an extension of the consultation process, there must be a formal process for receiving and dealing quickly and effectively with complaints about CRM construction and operation issues. This process must be established before the commencement of construction works and should adopt a consultative and negotiated basis rather than an adversarial basis. The complaints procedure must be easy to use, with information about its implementation provided on the CRM webpage and through the visitors' information service. As a minimum, the complaints process must include the following elements:

(i) established in accordance with the *ICMM good practice guideline (Handling and Resolving Local Level Concerns and Grievances, October, 2009)* and the *MCA Enduring Value Guidance for Implementation (July, 2005)*

(ii) a protocol establishing the responsibility for receiving and addressing complaints, and the means of notifying the community of this protocol (e.g. publication of a complaints telephone service, webpage advice, and address for notices and other correspondence) prior to commencement of construction

(iii) establishment of a toll-free telephone line with a live operator (not a message service) that is open 7.00am-7.00pm 7 days a week during the construction phase of the CRM and 8.00am - 4.00pm Monday to Friday during the operation phase of the CRM. The aim of the hotline is to enable any member of the general public to reach a person who

can arrange appropriate response/corrective action to complaints within 48 business hours

(iv) identification of the complainant, the identity of the person who received the complaint, the manner in which the complaint was made, the time and date on which the complaint was made, and the matter to which the complaint relates

(v) a process wherein, upon receipt of a complaint, an investigation commences forthwith into the cause of the complaint and where necessary mitigation is required, take any actions reasonably required to address the complaint. At least a verbal response on the action(s) to be taken is provided to the complainant within 48 business hours (unless the complainant agrees otherwise) and a detailed written response within ten business days of the receipt of the complaint. Information on all complaints received and response times shall be made available to the environmental management representative weekly

(vi) a database for tracking complaints, issues, the subject of complaints, responses and corrective actions taken

(vii) a means of reporting each complaint, such as a complaints register, must include identification of the entity responsible for addressing the complaint, the time and date on which the complaint was addressed and closed out, a brief summary of any action taken to address the complaint, and a notation as to the satisfaction or dissatisfaction of the complainant with the outcome

(viii) quarterly reporting of a summary of complaints as part of an overall performance and compliance report posted on the CRM webpage.

(d) **Non-conformance** — A process for dealing with circumstances where Schedule 1 requirements are not met during CRM construction or operation activities must be established prior to the commencement of construction works. This process must establish a mechanism for reporting, taking corrective action where required, and indicating responsibilities and timing for such action.

10. Social Impact Management Plan (SIMP)

(a) Within three months of advertising of the draft Environmental Authority (EA) for the CRM, the proponent must submit a draft Social Impact Management Plan (SIMP) consistent with the *Social Impact Assessment (SIA) Unit, DIP draft guidelines and template requirements (2010)*, for review by the Coordinator-General prior to release. The SIMP must include:

(i) a monitoring program for mitigation and management strategies designed to address social impacts

(ii) a Stakeholder Engagement Strategy (refer to Condition 6(a)(ii)) which contains a list of key stakeholders and describes their interest in the project, actions, outcomes and mechanisms, to support a regular review of the effectiveness of the stakeholder engagement strategy

(iii) a dispute resolution mechanism established in accordance with the *ICMM good practice guideline (Handling and Resolving Local Level Concerns and Grievances, October, 2009)* and the *MCA Enduring Value Guidance for Implementation (July, 2005)*.

Specification for release of draft SIMP for consultation

(b) With respect to the draft SIMP, the proponent must:

(i) prepare a consultation plan and consultation schedule to provide opportunities for input from key stakeholders to discuss actions to partner in delivery of the SIMP

(ii) provide opportunities for input to the draft SIMP from those who are most affected by the Caval Ridge Mine (CRM)

(iii) take into consideration any increased demands and cumulative effects placed on stakeholders and the community to participate in consultative processes in the region

(iv) consult directly with State and local governments, in particular the Department of Communities and other relevant State government agencies identified in the draft SIMP; and all local governments affected by the CRM

(v) the abovementioned government entities shall be considered key stakeholders

(vi) record stakeholder feedback and provide a consultation report on outcomes of the release of the draft SIMP

(vii) discuss and seek agreement on the content of the draft SIMP including the key responsibilities, timeframes and resource implications for the local governments affected by the CRM.

(c) After consultation with the Coordinator-General on the draft SIMP and not more than 6 months after commencement of construction of the CRM, the proponent must submit the final draft SIMP for the Coordinator-General's assessment and final approval.

(d) The proponent must not commence operation of the CRM unless a final SIMP has been approved by the Coordinator-General.

(e) The final SIMP must be implemented in conjunction with other social impact conditions specified in Schedule 1, Appendix 1 of the Coordinator-General's Report.

SIMP Monitoring

(f) The proponent must develop a SIMP monitoring plan which includes the following components:

(i) list of impacts and issues to be monitored

(ii) targets and outcomes sought

(iii) a monitoring strategy, including how management of the impact will be monitored

(iv) responsibilities for implementation of each monitoring strategy

(v) timing and frequency of how often monitoring of the impact should take place

(vi) key performance indicators that are informative, relevant, measurable, useful, widely recognised, simple to report, and easily understood.

SIMP reporting, review and auditing arrangements

(g) With respect to the SIMP, the proponent must:

(i) submit an annual progress report, on a date to be mutually agreed by the proponent and the SIA Unit of DIP

(ii) undertake an external audit:

A at the completion of the construction stage of the CRM

B periodically every three years after the commencement of the operational stage

C during the decommissioning phase of the CRM.

(iii) prepare and submit a report on each audit's findings to the Coordinator-General

(iv) all annual, periodical, and audit reports are to be submitted to the Coordinator-General within 60 days of completion of the relevant period.

(h) The proponent may also elect to conduct additional internal reviews of the SIMP.

Amendments and termination of the SIMP

(i) A SIMP may be altered, re-structured, re-scoped or terminated through agreement by both government and the proponent, following consultation with key stakeholders. Any proposal to terminate the SIMP must be formally agreed with the Coordinator General.

(j) A process to facilitate any amendments must be identified and agreed by the proponent and the SIA unit of DIP. If necessary, the stakeholder engagement strategy undertaken by the Moranbah BCN (refer to Condition 6) should be updated to describe how stakeholders will be engaged in any change process at the time.

(k) Should the proponent wish to amend or update the SIMP, it must advise the Coordinator-General which of the following circumstances apply:

(i) strategies and actions no longer meet the desired outcomes

(ii) need to improve effectiveness of strategies and actions

(iii) changes in government policy

(iv) significant changes to company operations or mine plan

(v) significant changes to national or international best-practice management approaches or frameworks.

(l) A process to facilitate any amendments must be identified and agreed by the proponent and the SIA unit of DIP. If necessary, the stakeholder engagement strategy undertaken by the Moranbah BCN (refer to Condition 6(a)(ii)) should be updated to describe how stakeholders will be engaged in any change process at the time.

11. Proponent specific measures for managing social impact

SIMP initiative documents

(a) The proponent must:

(i) submit copies of the following BMA documents to the Coordinator-General for consideration before the release of the draft SIMP:

A Community Development Program

B Landmark Projects

C Skills for Growth

D CRM Local Site Initiatives

E Five Year Communities Strategy

F Workforce and Community Cohesion Strategy

G Indigenous Engagement Strategy for the CRM

H Final TOR for the Moranbah BCN

(ii) ensure that the documents in (i) are incorporated into the CRM SIMP submitted to the Coordinator-General for final approval.

(iii) Provide copies of the CRM Road Impact Assessment and CRM Road-Use Management Plan (RMP), submitted to or approved by TMR in accordance with Condition 15 Schedule 1, Appendix 1, to the Coordinator-General for consideration before the release of the draft SIMP.

Queensland Police Service (QPS) requirements

(b) The proponent must:

(i) engage constructively in consultation with QPS on:

A a road safety education campaign extending to all of the BMA communities

B a good order code of conduct for BMA controlled accommodation villages

C the development, implementation and monitoring of fatigue and journey management policies

D planning and responses associated with impacts of the CRM, including potential increased demand on police service delivery issues listed in section 5.11.5.1 of this Coordinator-General's report.

(ii) include collaborative strategies to monitor and address those matters in the CRM SIMP over which BMA has control.

Department of Community Safety (DCS) requirements

(c) The proponent must:

(i) complete a "*CRM Emergency Management Queensland Procedure*", which will include the disaster management plan, prior to construction work beginning on the CRM site and provide a copy to Emergency Management Queensland regional office

(ii) include strategies to monitor and review the Plan in (i) with the relevant parts of DCS.

Workforce management requirements

(d) The proponent must ensure that the *One-BMA* Standard regarding the behaviour of BMA employees and contractors and the proposed *Workforce and Community Cohesion Program*, which extends that consideration to employee and contractor interactions with the community, will be developed as part of *BMA Draft Five Year Communities Strategy for the Bowen Basin*, and the *BMA Diversity Strategy* and be incorporated into the CRM SIMP.

Indigenous engagement requirements

(e) The proponent must include its Indigenous Engagement Strategy and specific details about its commitment to Indigenous employment, business/enterprise, and training opportunities, including any school-based education, assistance and support programs, business/enterprise, and training opportunities in the SIMP.

12. Greenhouse gas emissions

(a) The proponent must develop and implement a 'Greenhouse Gas Management Plan in relation to the Scope 1 and Scope 2 emissions' of the CRM.

(b) The plan in (a) must include, but not be limited to:

(i) The proponent's policy on greenhouse gas emissions

(ii) regular monitoring of emissions from the construction and operation phases of the CRM

(iii) an Energy Management Plan, incorporating the identification and evaluation of opportunities for continuous improvement in energy efficiency and emissions control

(iv) a fugitive gas management plan, incorporating the identification and evaluation of opportunities to reduce fugitive emissions of methane gas.

(c) The plan in (a) must be submitted to the Coordinator-General for approval within three months of the granting of ML70403.

Part 2: Construction phase

13. Mineral waste

(a) Prior to the EA for the CRM being granted, the proponent must provide DERM with:

(i) sufficient evidence to justify the effectiveness and reliability of the proposed belt press filter technology (e.g. processing results from a statistically relevant sample of material that would be representative of the tailings to be produced at the CRM)

(ii) report the most recent results and analysis of the testing of the belt filter press pilot plant at the Peak Downs mine

(b) If DERM is not satisfied that the evidence provided by the proponent in (a) adequately demonstrates that the proposed belt press filter will operate as DERM requires, then prior to the EA for the CRM being granted, the proponent must also provide DERM with sufficient evidence, in the form of design details, maps and associated documentation prepared by a suitably qualified and experienced person to establish to DERM's satisfaction the location, layout, design and capacity of a tailings storage facility that could accommodate tailings if the proposed belt filter press equipment produce cake with a shear strength of less than 1000 Pascals.

14. Accommodation

Construction workers living in Moranbah

(a) From the commencement of construction of the CRM, and then at 12-monthly intervals thereafter until the completion of construction of the CRM, the proponent must report to the Coordinator-General in the CRM SIMP the accommodation arrangements for the CRM construction workforce.

(b) If at any point during the construction of the CRM the number of CRM construction workers, who are working full time and are not already residing in Moranbah whilst working on the project exceeds 12, then the proponent must provide new dwellings in Moranbah for those additional construction personnel and provide evidence of those dwellings in the SIMP reports required under (a).

(c) Following completion of construction of the CRM, any new dwellings provided in Moranbah in accordance with (b) may be absorbed within BMA's broader accommodation program and reporting obligations on those dwellings shall cease.

Assessment of new worker village proposals

(d) Assessment of any new accommodation village for the CRM should be undertaken in accordance with the existing Terms of Reference (TOR) for the BBCG project as part of the overall EIS process for this 'significant project' under Part 4 of the SDPWO Act.

Provision of construction camp accommodation

(e) Notwithstanding the proponent's obligations under (b), the proponent must also endeavour to provide sufficient construction camp units at each stage of the CRM development to accommodate the CRM construction workforce at either the approved 'Denham Village' or at another location.

Intersection of Denham Village access road and Moranbah Access Road

(f) With respect to the intersection of the 'Denham Village' access road with the Moranbah Access Road, the proponent must:

(i) fund the full design, construction and maintenance costs of that intersection, and

(ii) complete construction of that intersection upgrade within three months of commencement of use of the Denham Village site for accommodation purposes.

15. Traffic management

(a) Within three months of appointing a construction contractor for the CRM, and no later than six months prior to the commencement of any significant construction works on the CRM, the proponent must, in consultation with the Manager of the Department of Transport and Main Roads (TMR) Mackay Regional Office and the Isaac Regional Council (IRC), undertake the following:

(i) Review and finalise a CRM **Road Impact Assessment** that includes details of all CRM transport impacts on the safety and efficiency of state-controlled roads in accordance with the *Department of Main Roads Guidelines for Assessment of Road Impacts of Developments (2006)* and the methodology outlined in the *Notes for Contribution Calculations* prepared by the former Department of Main Roads Central District.

(ii) Submit the Road Impact Assessment to the Manager of the TMR Mackay Regional Office for review and approval.

(iii) Prepare, for TMR approval and IRC consultation, a CRM **road-use management plan (RMP)** for all public roads for each phase of the CRM which includes:

A detailed projections of traffic volumes

B proposed transport routes and schedules

C required road pavement and other infrastructure maintenance and/or upgrades to mitigate road impacts

D proposals about access and/or connection to public roads

E dust control and road safety proposals (including driver fatigue management)

F arrangements to ensure compliance with the management of workforce movements, including strategies to ensure that bus patronage levels proposed in the EIS for transport of workers between the CRM and accommodation villages and between Mackay and the accommodation villages, are met within three years of commencement of operation of the CRM

G provision for the proponent, TMR and IRC to coordinate upgrading works at the Peak Downs Highway / Moranbah Access Road intersection to address the cumulative impacts of the BBCG project

H measures to be implemented by the proponent to limit workforce use of the Peak Downs Highway to those levels forecast in the CRM EIS and in the projections in A.

(b) The proponent must implement the RMP approved by TMR.

(c) Prior to the commencement of any construction work related to the CRM on State-Controlled Roads, the proponent must liaise with TMR Mackay Regional Office and must conclude a **State-Controlled Road Infrastructure Agreement (Number 1)** with TMR which includes:

(i) the provision by the proponent of a haul road, service road and conveyor underpass of the Peak Downs Highway prior to the commencement of operation of the CRM, including the vertical realignment of that section of the highway and the provision of a diversion road while the vertical realignment is being undertaken.

(ii) the provision by the proponent, within 12 months of commencement of construction of the CRM, of:

A one intersection on the north side of the Peak Downs Highway, 3.6 kilometres southwest of the Winchester Road intersection, which provides access to the CRM site for the construction phase only (except for the delivery of oversize material during CRM operation) and

B one intersection on the south side of the Peak Downs Highway, 5.1 kilometres southwest of the Winchester Road intersection, which provides access to the CRM site for the construction phase only

(iii) the provision by the proponent prior to the commencement of operation of the CRM, of one intersection on the south side of the Peak Downs Highway, approximately 5.8km southwest of the Winchester Road intersection, which provides operational phase access to the CRM

(iv) the provision of a practical and safe stock route access to the Peak Downs Highway.

(d) Prior to the commencement of operation of the CRM, the proponent must liaise with TMR Mackay Regional Office and must conclude a **State-Controlled Road Infrastructure Agreement (Number 2)** with TMR which includes:

(i) proponent-funded upgrades of the Moranbah Access Road and Winchester Road intersections with the Peak Downs Highway to include:

A 'seagull form' treatments at both intersections

B left turn channels on the Peak Downs Highway at the Moranbah Access Road, with extensions to the acceleration lanes that meet TMR requirements and

C any other necessary road maintenance and upgrades identified in the final RMP for these two intersections to ameliorate any adverse impacts of the road use by the CRM to the assets of TMR.

(ii) maintenance contributions associated with the CRM traffic as calculated in the Road Impact Assessment and agreed upon with the TMR Mackay Regional Office.

(e) If the State-Controlled Road Infrastructure Agreements in (c) or (d) are not concluded within six months of submission of an advanced draft of those documents to TMR, the proponent or TMR mayl refer the matter to the Coordinator-General for mediation.

(f) Prior to the commencement of construction of any construction work related to the CRM on local roads controlled within the Isaac Region, the proponent must conclude an **IRC Road Infrastructure Agreement** approved by the IRC which includes:

(i) within six months of commencement of construction, the provision by the proponent of an access road from the Moranbah Access Road to the Denham Village accommodation camp

(ii) within six months of commencement of construction, the provision by the proponent of an intersection on the west side of the Moranbah Access Road, which provides access to the Denham Village accommodation camp:

(iii) maintenance contributions associated with the CRM traffic as calculated and agreed upon with the IRC.

(g) If the IRC Infrastructure Agreement is not concluded within two months of submission of the RMP to IRC for the CRM, the proponent or the IRC may refer the matter to the Coordinator-General for mediation.

(h) Prior to the commencement of any construction works on public roads, the proponent must prepare detailed drawings and a Traffic Management Plan (TMP) for each construction activity in a public road corridor which:

(i) has taken account of reviews of drafts of these documents by TMR, the Queensland Police Service (QPS) and IRC

(ii) incorporates a provision that, prior to commencement of any program of oversized transport movements that may be required for the construction of the project, the proponent will consult with TMR, QPS and IRC.

(i) The proponent must implement each TMP during construction and commissioning of the CRM.

(j) The proponent must consult with TMR, QPS and the IRC before obtaining the necessary permits for excess mass or over-dimension loads associated with the CRM as required under the *Transport Operations (Road Use Management) Act 1995*.

Part 3: Operation phase

16. Air quality

(a) If 'Option 2', Conditions B1-B11, Schedule 3, Appendix 1 apply, then the proponent must conduct a review after 24 months operation of the CRM in consultation with DERM, Queensland Health, the IRC, DEEDI and the Coordinator-General.

(b) The terms of reference for the review in (a) must be approved by DERM and Queensland Health.

(c) The review in (a) must aim to determine whether the approach is effectively managing air particulate emissions with respect to the 50 $\mu g/m^3$ goal for PM_{10}.

(d) The review in (a) must be submitted to DERM and Queensland Health within 28 months of commencement of operation of the CRM.

(e) With reference to advice from DERM and Queensland Health, following its consideration of the review document, the Coordinator-General will decide whether:

(i) 'Option 2', Conditions B1-B11, Schedule 3, Appendix 1 continue to apply to the CRM without further formal review

(ii) 'Option 2', Conditions B1-B11, Schedule 3, Appendix 1 continue to apply to the CRM subject to further formal review(s) to be conducted according to a schedule specified by the Coordinator General, or

(iii) 'Option 2', Conditions B1-B11, Schedule 3, Appendix 1 is replaced with 'Option 1', Conditions B1-B7, Schedule 3, Appendix 1.

(f) The principal consideration with respect to the Coordinator-General's decision under (e) will be adherence of the CRM with the objectives of the air particulate provisions of the EPP (Air).

17. Cumulative impacts study

The proponent must:

(a) participate in the study of cumulative social impacts of mining in the Isaac Region local government area described in Recommendation 8, Schedule 5, Appendix 1 of this report

(b) contribute information about all of its operations in the Isaac region

(c) contribute $150 000 to the cost of the study

(d) collaborate with the state and local government agencies and other resource industry stakeholders in the study and in the development of cumulative social impact mitigation and management strategies in line with the findings of the study and the outcomes of the Whitsunday Hinterland and Mackay (WHAM) statutory plan

(e) ensure that the CRM SIMP includes BMA's commitment to participate in the study.

18. Accommodation

Worker accommodation

(a) From the commencement of operation of the CRM, and then at yearly intervals for the following 20 years, the proponent must report to the Coordinator-General in the SIMP the accommodation arrangements for the CRM operational workforce, including the average number of workers residing in accommodation villages at the commencement of operation of the CRM and for each 12-month period thereafter.

(b) The proponent must not accommodate more than approximately 70% of its total CRM operational workforce in operational accommodation village(s) or other fly-in-fly-out (FIFO), bus-in-bus-out (BIBO), drive-in-drive-out (DIDO) arrangements.

(c) The proponent must provide new dwellings in the Isaac Region local government area to accommodate at least approximately 30% of the CRM operational personnel and their accompanying immediate family members.

(d) The number of new dwellings required under (c) may be reduced for each CRM operational worker that has existing permanent accommodation within the Isaac Region local government area if that accommodation is owned by the proponent or the CRM worker, (and this should be documented in the SIMP).

(e) Notwithstanding the proponent's obligations under (b)-(d), the proponent must also provide sufficient accommodation village units at each stage of the CRM development to accommodate at least 60 per cent of the CRM operational workforce.

BBCG project housing impacts study

(f) The proponent must engage the Office of Economic and Statistical Research (OESR) to undertake the *"BBCG Project Housing Impacts Study"* (including the CRM and Daunia Mine) which will provide an analysis of the impacts of each component of the BBCG project on the housing market in Moranbah or surrounding areas. This study must provide:

(i) detailed demographic analysis including:

A resident population estimates and age-sex population projections

B dwelling and household projections

C place of work / place of residence analysis

D customised statistical local area and locality-level profiles utilising unpublished data from the 2006 Census, as well as OESR's housing sales and rents databases

E housing and accommodation – housing tenure, dwelling stock, sales volumes and prices

(ii) housing demand and housing need by low and moderate income key workers

(iii) a description and analysis of BMA's current full suite of accommodation arrangements for all of its entire personnel (both direct employees and contractors engaged in all BMA business activities, including non-BBCG project activities) in the Whitsunday Hinterland and Mackay (WHAM) planning region, including existing and proposed FIFO/DIDO/BIBO arrangements

(iv) the likely impact of the BBCG project components on the housing market and on housing demand

(v) a description of the currently available options through the proponent for the provision of accommodation

(vi) a framework which enables the proponent to develop a more detailed strategy for accommodating workers as well as for developing mitigation strategies in relation to housing impacts on non-resource key workers of each of the CRM project components.

(g) The Terms of Reference for the study in (f) must be developed in consultation with the Moranbah BCN and approved by the Coordinator-General.

(h) The report for the study in (f) must be presented to the Coordinator-General before the EA for the CRM is granted.

(i) If the Coordinator-General determines that the final study report in (h) does not meet the Terms of Reference approved under (g), then the report must be subsequently amended and presented to the Coordinator-General for approval before the EA for the CRM is granted.

(j) The results of the study in (f) must be made publicly available and be considered in future revisions of the CRM SIMP, with intellectual property rights of the data collected:

(i) shared between BMA and OESR for data supplied by BMA; and

(ii) retained by OESR for all other data.

BBCG Project Housing Impact Plan

(k) The results of the study in (f) must guide the proponent's development of a *"BBCG Project Housing Impact Plan"*. Housing impact mitigation and management strategies included in the Plan must address the following issues:

(i) accommodation provision for the proponent's workforce that are not housed in any project specific worker accommodation by a range of means including (but not limited to) direct supply of housing/units and facilitating joint ventures for construction of dwellings

(ii) support for investment in non-resource worker housing

(iii) accommodation advice services for workers and families wishing to settle in the BBCG project area

(iv) specific recommendations on contributions to non-resource worker housing required to be made by the proponent to specifically mitigate the impacts of each of the BBCG project components

(v) monitoring of the effect of any provision of affordable non-resource worker housing,

(vi) proposed worker accommodation village, FIFO / DIDO / BIBO arrangements for all BBCG project components, and

(vii) a requirement for performance review of the success of the workforce housing supply elements of the Plan.

(l) The Terms of Reference for the plan in (k) must be developed in consultation with the Moranbah BCN and approved by the Coordinator-General.

(m) A final draft of the plan in (k) must be presented to the Moranbah BCN for review and input and the proponent must take into account any feedback on or suggested amendments to the plan provided by the BCN in the finalisation of the plan report.

(n) The final draft of the plan in (k) must be presented to the Coordinator-General within four months of grant of the EA, unless otherwise agreed by the Coordinator-General.

(o) If the Coordinator-General determines that the final draft of the plan presented under (n) does not meet the Terms of Reference approved under (l), then the report must be subsequently amended and presented to the Coordinator-General for approval within six months of the grant of the EA, unless otherwise agreed by the Coordinator-General.

(p) Operation of the CRM cannot commence unless the Coordinator-General approves the final plan

(q) Housing impact mitigation and management strategies recommended in the final plan approved by the Coordinator-General must be included in future revisions of the CRM SIMP.

(r) The Coordinator-General may specify implementation of the recommended management strategies contained in the final plan to cover any or all of the components of the BBCG project in:

A the imposed conditions of the EIS Assessment Report for the Goonyella-Riverside Expansion component of the BBCG project; and/or

B any relevant Change Report for any component of the BBCG project prepared in accordance with section 35I of the SDPWO Act.

Part 4: New conditions applicable to the Daunia Mine—which arise from the cumulative impacts of BMA's BBCG project

19. Construction workers living in Moranbah or Nebo

(a) From the commencement of construction of the DM, and then at 12-monthly intervals thereafter until the completion of construction of the DM, the proponent must report to the Coordinator-General the accommodation arrangements for the Daunia Mine construction workforce.

(b) If at any point during the construction of the Daunia Mine the number of Daunia Mine construction workers, who are working full time and are not already residing in the towns of Moranbah or Nebo whilst working on the project exceeds five, then the proponent must provide new dwellings in the towns of Moranbah or Nebo for those additional construction personnel and provide evidence of those dwellings in the reports required under (a).

(c) Following completion of construction of the Daunia Mine, any new dwellings provided in Moranbah or Nebo in accordance with (b) may be absorbed within BMA's broader accommodation program and reporting obligations on those dwellings shall cease.

Schedule 2

Jurisdiction for Coordinator-General's conditions

Condition number	Condition short title	Entity with jurisdiction	Consultative bodies
Part 1: General conditions			
Condition 1	General conditions	Coordinator-General (CG)	Department of Environment and Resource Management (DERM), Department of Employment, Economic Development and Innovation (DEEDI)
Condition 2	Mine water management	DERM	CG
Condition 3	Flora and Fauna	DERM	Commonwealth Department of Environment Water Heritage and the Arts (DEWHA)
Condition 4	Audit reports	CG	DERM, DEEDI, Isaac Regional Council (IRC), Department of Communities (DoC), Moranbah BMA Community Network (Moranbah BCN), Department of Transport and Main Roads (TMR)
Condition 5	General communication obligations	CG	IRC
Condition 6	Moranbah BCN	CG	IRC, DEEDI, Department of Infrastructure and Planning (DIP)
Condition 7	Community communication strategy	CG	IRC, Moranbah BCN
Condition 8	Environmental management representative	CG	DERM, IRC
Condition 9	Consultation, review, complaints and non-conformance	CG	DIP, IRC, Moranbah BCN
Condition 10	Social Impact Management Plan (SIMP)	CG	DIP, IRC, Moranbah BCN
Condition 11	Proponent specific measures for managing social impact	CG	SIMP initiative documents: 11(a) - DIP, IRC, Moranbah BCN
			Queensland Police Service (QPS) requirements: 11(b) - QPS
			Department of Community Safety (DCS) requirements: 11(c) – DCS
			Workforce management requirements: 11(d) – DIP
			Indigenous engagement requirements: 11(e) - DIP
Condition 12	Greenhouse gas emissions	CG	DERM

Part 2: Construction phase			
Condition 13	Mineral waste	DERM	DEEDI
Condition 14	Accommodation	CG	Construction workers living in Moranbah: 14(a)-(c) – DIP, IRC
			Assessment of new worker village proposals 14(d) – DIP, IRC Urban Land Development Authority (ULDA)
			Provision of construction camp accommodation 14(e) - IRC
		IRC	Intersection of Denham Village access road and Moranbah Access Road 14(f) - nil
Condition 15	Traffic management	TMR for state controlled roads	IRC, DERM (where road corridor and MLs overlap), QPS (for 15(h) and (j)), Moranbah BCN
		IRC for local roads	TMR, QPS(15(h) and (j)), Moranbah BCN
Part 3: Operation phase			
Condition 16	Air quality	CG	DERM, Queensland Health, IRC, DEEDI, Moranbah BCN
Condition 17	Cumulative impacts study	DIP	IRC, MacKay Regional Council, Moranbah BCN
Condition 18	Accommodation	CG	Worker accommodation: 18(a)–(e) - IRC, Moranbah BCN
		CG	BBCG project housing impacts study: 18(f)-(j) - Office of Economic and Statistical Research (OESR) in Queensland Treasury, DIP, IRC, Moranbah BCN, ULDA, DoC
		CG	BBCG project housing impacts plan: 18(k)-(p) – DIP, IRC, Moranbah BCN, ULDA, DoC and OESR,
		CG	Conditions 18(q)-(r) - DIP, IRC, Moranbah BCN, ULDA and DoC
Part 4: New conditions applicable to the Daunia Mine			
Condition 19	Construction workers living in Moranbah or Nebo	CG	DIP, IRC

Schedule 3

Stated conditions for mine environmental authorities under the *Environmental Protection Act 1994*

Departmental Interest: General environment

A1 **Financial assurance**

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)

A2 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.

A3 **Maintenance of measures, plant and equipment**

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;
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.

A4 **Monitoring**

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.

A5 Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

A6 Storage and handling of flammable and combustible materials

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 5.8 of *AS 1940—Storage and Handling of Flammable and Combustible Liquids of 2004*.

A7 Definitions

Words and phrases used throughout the environmental authority are defined in the **Definitions** section at the end of the Environmental Authority. Where a definition for a term used in the environmental authority is sought and the term is not defined within the environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

A8 Notification of emergencies, incidents and exceptions

All reasonable actions are to be taken to minimise environmental harm, or the risk thereof, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.

A9 As soon as practicable after becoming aware of any emergency, incident or information about circumstances which result or may result in environmental harm not in accordance with the conditions of this environmental authority, the administering authority must be notified in writing.

A10 Not more than ten (10) business days following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, written advice must be provided to the administering authority in relation to:

a) proposed actions to prevent a recurrence of the emergency or incident;
b) the outcomes of actions taken at the time to prevent or minimise environmental harm; and
c) proposed actions to respond to the information about circumstances which result or may result in environmental harm.

A11 As soon as practicable, but not more than six (6) weeks following the conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.

Option 1 - Air conditions

Department Interest: Air

B1 When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring must be undertaken, and the results thereof notified to the

administering authority within **fourteen (14) days** following completion of monitoring. Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place. Dust and particulate matter must not exceed the following levels when measured at any sensitive or commercial place:

a) Dust deposition of 120 milligrams per square metre per day based on a monthly average, when monitored in accordance with Australian Standard AS 3580.10.1:2003 (or more recent editions); and

b) A concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with Australian/New Zealand Standard
AS/NZS 3580.9.3:2003 (or the most recent editions); and

c) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive or commercial place in proximity to the site, when monitored in accordance with:

   i. Australian Standard AS 3580.9.6:2003 (or more recent editions) Ambient air - Particulate matter - Determination of suspended particulate PM_{10} high-volume sampler with size-selective inlet - Gravimetric method; or

   ii. any alternative method of monitoring PM_{10} which may be permitted by the Air Quality Sampling Manual as published from time to time by the administering authority.

Background dust and particulate matter monitoring

B2 The holder of the environmental authority must develop and implement a background dust and particulate matter monitoring program. The program must be able to detect a significant change to dust levels to sensitive receptors due to activities that are part of this mining project.

B3 The program must include, but not be limited to, the details as specified in Table 1 – Background dust and particulate matter monitoring.

B4 The holder of the environmental authority must report the results and analysis of dust and particulate matter monitoring to the administering authority on request.

Table 1 (Background dust and particulate matter monitoring)

Air quality determination	Monitoring point location (GDA94)	Monitoring point description
A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere over a 24 hour averaging time	(To be provided by proponent)	(To be provided by proponent)
	(To be provided by proponent)	(To be provided by proponent)
Concentration of particulate matter suspended in the atmosphere in micrograms per cubic metre over a 24 hr averaging time	(To be provided by proponent)	(To be provided by proponent)
Deposited dust	(To be provided by proponent)	(To be provided by proponent)
Meteorological data (including but not limited to wind speed and direction, humidity, temperature and precipitation)	(To be provided by proponent)	(To be provided by proponent)
Siting of monitoring equipment	(To be provided by proponent)	(To be provided by proponent)

Note: *Details necessary to complete all tables to be provided by the proponent prior to issue of this Environmental Authority.*

Odour nuisance

B5 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.

B6 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 **fourteen (14)** days to the administering authority following completion of monitoring.

B7 If the administering authority determines the odour released to constitute an environmental nuisance, then the environmental authority holder must:

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

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

Option 2 - Air conditions

Department Interest: Air

B1 The release of noxious or offensive odours, or any other noxious or offensive airborne contaminants resulting from the activities to which this environmental authority relates, must not cause a nuisance at any sensitive or commercial place.

B2 The holder must implement and maintain best practice environmental management dust control procedures that incorporate a program for continuous improvement for the management of dust resulting from the mining activities with respect to, but not limited to equipment selection, mine planning, engineering design and operation, and staff training.

B3 Dust generated by the mining activities must not cause any of the following air quality objectives to be exceeded at a sensitive or commercial place:

a) a level of deposited dust of 120 milligrams per square metre per day based on a monthly average, and
b) a concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time.

B4 The holder must take all reasonable and practical measures to limit the concentration of particulate matter generated by the mining activities with an aerodynamic diameter of less than 10 micrometres (PM_{10}), to 50 micrograms per cubic metre (50 $\mu g/m^3$) suspended in the atmosphere over a 24 hour averaging time with not more than 5 exceedences recorded over 12 months at any sensitive or commercial place.

Dust and particulate matter monitoring, control and reporting

B5 The holder of the environmental authority must develop and implement a dust and particulate matter monitoring and control program.

B6 The program must include:

a) the collection of air quality and meteorological data at locations specified in Table B1b and using the combination of monitoring methods described in Table B1a specified by the administering authority for each of the locations and included in the Plan of Operations for operational activities,
b) a system to identify adverse meteorological conditions likely to produce elevated levels of PM_{10} at a sensitive or commercial place due to the mining activities, and
c) a dust control strategy that would activate the timely implementation of high management dust control actions (listed in Table B2 Dust and particulate control action options) in addition to the best practice environmental management dust control measures during periods identified in (b).

B7 The dust and particulate matter monitoring and control program must be submitted to the administering authority with the Plan of Operations for operational activities.

B8 Where monitoring identifies instances where the concentration specified in Condition B4 is exceeded, the holder should report to the administering authority within 14 days:

a) the concentration of PM_{10} particulates at the sensitive or commercial site

b) a description of meteorological conditions recorded in accordance with Table B1a (Dust and particulate matter monitoring) occurring at the time
c) the concentration of PM_{10} particulates upwind of the mining activities (if known), and
d) measures taken to reduce dust generated by the mining activities.

B9 Notwithstanding condition B6, if requested by the administering authority, dust and particulate monitoring must be undertaken for a stated period at a specified sensitive or commercial place, and the results provided to the administering authority within **fourteen (14)** days following completion of monitoring.

B10 If the monitoring required by condition B9 is undertaken for over one month, then monthly interim reports should be provided to the administering authority.

B11 The holder of the environmental authority must report annually to the administering authority:

a) the results and an analysis of dust and particulate matter monitoring, including consideration of the relevant meteorological data
b) details of the use of high management control measures including the dust and atmospheric conditions that triggered the action, when, where and what action was applied, and the effectiveness of the action meeting the requirements of conditions B3 and B4
c) identification of any trends that should be considered in management of the mining activities and dust management practices, and
d) any changes to the dust and particulate control actions and monitoring resulting from an analysis of (a), (b) and (c).

Table B1a Dust and particulate matter monitoring

Air quality determination	Monitoring method to be used
Concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere over a 24 hour averaging time	Real-time monitoring of the 24 hour average. Australian Standard AS 3580.9.8:2008 *Determination of suspended PM_{10} continuous direct mass method using a tapered element oscillating microbalance analyser* (or the most recent version), or any alternative method of monitoring PM_{10} that may be permitted by the Air Quality Sampling Manual as published from time to time by the administering authority.
Concentration of particulate matter suspended in the atmosphere in micrograms per cubic metre over a 24 hr averaging time	AS/NZS 3580.9.3:2003 *Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method* (or the most recent version)
Deposited dust	Australian Standard AS 3580.10.1:2003 (or the most recent version);
Meteorological data (including but not limited to wind speed and direction, humidity, temperature and precipitation)	AS 2923:1987: *Guideline for measurement of horizontal wind for air quality applications* or as approved by the administering authority.
Siting of monitoring equipment	AS/NZS 3580.1.1:2007 Guide to siting air monitoring equipment

Table B1b Dust and particulate matter monitoring locations

Monitoring location	Receiving area on the receiving areas plan	Relevant upwind location	Monitoring point location (GDA94)	Monitoring point description
(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)
(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)	(To be provided by proponent)

Note: *Details necessary to complete all tables to be provided by the proponent prior to notification of the draft Environmental Authority.*

Table B2 Dust and particulate control actions

Activity options	High management control actions
Dragline operations - overburden	(To be provided by proponent)
Bulldozing of overburden	(To be provided by proponent)
Truck dumping of overburden	(To be provided by proponent)
ROM - erosion active stockpile	(To be provided by proponent)
Blasting - coal and overburden	(To be provided by proponent)
Drilling of overburden	(To be provided by proponent)
Haul roads management	(To be provided by proponent)
Grader	(To be provided by proponent)

Note: *Final response activity controls to be developed in consultation with the proponent prior to the notification of the draft Environmental Authority.*

Department Interest: Water

W1 **Contaminant release**

Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.

W2 The release of contaminants to waters must only occur from the release points specified in Table W1 and depicted in Figure 1 attached to this environmental authority.

Table W1 (Contaminant Release Points, Sources and Receiving Waters)

Release point (RP)	Longitude (GDA94)	Latitude (GDA94)	Contaminant source and location	Monitoring point	Receiving waters description
Discharge Point 1	612072*	7550199	12N Dam	Discharge Point	Cherwell Creek

Note (*) location to be confirmed after detailed design of the dam outlet

W3 The release of contaminants to waters must not exceed the release limits stated in Table W2 when measured at the monitoring points specified in Table W1 for each quality characteristic.

Table W2 (Contaminant release limits)

Quality characteristic	Release limits	Monitoring frequency
Electrical conductivity (µS/cm)	1000	Daily during release (the first sample must be taken within 2 hours of commencement of release)
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Turbidity (NTU)	NA*	Daily during release* (first sample within 2 hours of commencement of release)
Suspended Solids (mg/L)	200	Daily during release* (first sample within 2 hours of commencement of release)
Sulfate (SO_4^{2-}) (mg/L)	1000	Daily during release* (first sample within 2 hours of commencement of release)

*Note NA – not available, * local trigger values need to be developed*

W4 The release of contaminants to waters from the release points must be monitored at the locations specified in Table W1 for each quality characteristics and at the frequency specified in Table W2 and Table W3.

Table W3 (Release contaminant trigger investigation levels)

Quality characteristic	Trigger levels (µg/L)	Comment on trigger level	Monitoring frequency
Aluminium	55	*For aquatic ecosystem protection, based on LOR for ICPMS*	Commencement of release and thereafter weekly during release
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	

Note:
1. All metal and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The list of quality characteristics required to be monitored as per table W3 will be reviewed once the results of the monitoring data is gathered for the interim period until 31 December 2011 or an earlier date if the data is, or becomes, available and if it is determined that there is no need to monitor for certain individual characteristics these can be removed from Table W3.
3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC and ARMCANZ (2000)
4. *LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.*

W5 If quality characteristics of the release exceed any of the trigger levels specified in Table W3 during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table W3 and:

1. where the trigger values are not exceeded then no action is to be taken, or
2. where the downstream results exceed the trigger values specified in Table 3 for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and
   a) if the result is less than the background monitoring site data, then no action is to be taken, or
   b) if the result is greater than the background monitoring site data, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
      (i) details of the investigations carried out, and
      (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W5(2)(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

W6 If an exceedance in accordance with condition W5(2)(b) is identified, the environmental authority holder must notify the administering authority within fourteen (14) days of receiving the result.

W7 **Contaminant release events**

The environmental authority holder must install, operate and maintain a stream flow gauging station to determine and record stream flows at the locations upstream of each Release Point as specified in Table W4 for any receiving water into which a release occurs.

W8 Notwithstanding any other condition of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified as minimum flow in Table W4 for the contaminant release point(s) specified in Table W1.

Table W4 (Contaminant Release during Flow Events)

Receiving water description	Release point	Gauging station description	Longitude (GDA94)	Latitude (GDA94)	Minimum flow in receiving water required for a release event	Flow recording frequency
Upstream Cherwell Creek	12N Dam	Upper Cherwell Creek	609610	7547809	≥0.5m^3/s	Daily during discharge

W9 Contaminant release flow rate must not exceed **20%** of receiving water flow rate.

W10 The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table W1.

W11 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build up of sediment in such waters.

W12 Notification of release event

The environmental authority holder must notify the administering authority as soon as practicable (no later than **six (6) hours** of having commenced releasing mine affected water to the receiving environment). Notification must include the submission of written verification to the administering authority of the following information:

a) release commencement date/time
b) expected release cessation date/time
c) release point/s
d) release volume (estimated)
e) receiving water/s including the natural flow rate, and
f) any details (including available data) regarding likely impacts on the receiving water(s).

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local administering authority via email or facsimile.

W13 The environmental authority holder must notify the administering authority as soon as practicable, (nominally within twenty-four (24) hours after of cessation of a release) of the cessation of a release notified under condition W12 and within twenty-eight (28) days provide the following information in writing:

a) release cessation date/time
b) natural flow volume in receiving water
c) volume of water released
d) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume)
e) all in-situ water quality monitoring results, and
f) any other matters pertinent to the water release event.

W14 Notification of release event exceedance

If the release limits defined in Table W2 are exceeded, the environmental authority holder must notify the administering authority within twenty-four (24) hours of receiving the results.

W15 The environmental authority holder must, within twenty-eight (28) days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing:

a) the reason for the release
b) the location of the release
c) all water quality monitoring results
d) any general observations
e) all calculations, and

f) any other matters pertinent to the water release event.

W16 Monitoring of water storage quality

Water storages stated in Table W5, which are associated with the release points, must be monitored for the water quality characteristics specified in Table W6 at the monitoring locations and at the monitoring frequency specified in Table W5.

Table W5 (Water storage monitoring)

Water storage description	Longitude (GDA94)(*)	Latitude (GDA94)(*)	Monitoring location(*)	Frequency of monitoring(*)
12N Dam			Discharge Point 1	Monthly
Sed Dam N3				
Sed Dam N2				
Sed Dam N1				
Sed Dam S3				
Sed Dam S2				
Sed Dam S1				
Catchment Dam North				
Catchment Dam South				
Mine Water Dam N3				
Mine Water Dam N2				
Mine Water Dam N1				
Mine Water Dam S1				
Mine Water Dam 5				
Mine Water Dam 4				
Mine Water Dam 4a				
Mine Water Dam 3				
Mine Water Dam 2				
Mine Water Dam 1				

Note (*) Water monitoring locations and frequency to be provided by proponent.

W17 In the event that water storages defined in Table W5 exceed the contaminant limits defined in Table W6, the environmental authority holder must implement measures to prevent access to waters by all livestock.

Table W6 (Onsite water storage contaminant limits)

Quality characteristic	Test value	Contaminant limit
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulfate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L)	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]

Notes: [1]Contaminant limit based on ANZECC and ARMCANZ (2000) stock water quality guidelines;
[2] Page 4.2-15 of ANZECC and ARMCANZ (2000) 'Soil and animal health will not generally be affected by water with pH in the range of 4-9'
[3]Total measurements (unfiltered) must be taken and analysed

W18 Receiving environment monitoring and contaminant trigger levels

The quality of the receiving waters must be monitored at the locations specified in Table W8 for each quality characteristic and at the monitoring frequency stated in Table W7.

Table W7 (Receiving waters contaminant trigger levels)

Quality characteristic	Trigger level	Monitoring frequency
pH	6.5 – 8.0	Daily during the release
Electrical Conductivity (µS/cm)	1000	
Suspended solids (mg/L)	N/A	
Sulfate (SO_4^{2-}) (mg/L)	1000 (Protection of irrigation value)	

Note N/A denotes local trigger value to be determined by the proponent based on 80 percentile of upstream reference site.

Table W8 (Receiving water upstream background sites and down stream monitoring points)

Monitoring points	Receiving waters location description	Latitude (GDA94)	Longitude (GDA94)	Monitoring frequency
Upstream background monitoring points				
Upstream Cherwell Creek	Cherwell Creek at upstream gauging station	609610	7547809	Daily during controlled releases from 12N Dam and Daily during natural flow event in Cherwell Creek
Upstream of Horse Creek Diversion	Upstream of Horse Creek Diversion	To be provided by proponent	To be provided by proponent	Daily during natural flow event in Horse Creek Diversion
Upstream Harrow Creek	Harrow Creek upstream of Peak Downs Mine 10 North Dam	614412	7543440	Daily during natural flow event in Harrow Creek
Downstream monitoring points				
Downstream Cherwell Creek	Cherwell Creek at downstream gauging station	612309	7550588	Daily during controlled releases from 12N Dam and Daily during natural flow event in Cherwell Creek
Downstream Horse Creek	Downstream Horse Creek	609846	7560358	Daily during natural flow event in Horse Creek Diversion
Downstream Harrow Creek	Downstream Harrow Creek	616815	7547919	Daily during natural flow event in Harrow Creek

W19 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table W7 during a release event, the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:

1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken, or
2. where the downstream results exceed the upstream results, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:
   (i) details of the investigations carried out, and
   (ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with W19(2)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

W20 **Receiving Environment Monitoring Program (REMP)**

A REMP must be implemented by **(3 months from the date of issue)** to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water.

For the purposes of the REMP, the receiving environment is the waters of the Cherwell Creek and connected waterways within **ten (10) kilometres** downstream of the release.

W21 The REMP report must address (but not necessarily be limited to) the following:

a) description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality)
b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the *Environmental Protection (Water) Policy 2009)*
c) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed
d) water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP
e) monitoring for any potential adverse environmental impacts caused by the release
f) monitoring of stream flow and hydrology
g) monitoring of toxicants should consider the indicators specified in Table W3 to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ (2000) guidelines for slightly to moderately disturbed ecosystems
h) monitoring of physical chemical parameters specified in Table W2 (Contaminant Release Limits) and dissolved oxygen saturation and temperature
i) monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ (2000), BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) for permanent, semi-permanent water holes and water storages
j) the locations of monitoring points (including the locations specified in Table W8 which are background and downstream impacted sites for each release point)
k) the frequency or scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the *Queensland Water Quality Guidelines* 2009. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges
l) specify sampling and analysis methods and quality assurance and control
m) any historical datasets to be relied upon

n) description of the statistical basis on which conclusions are drawn, and

o) any spatial and temporal controls to exclude potential confounding factors.

W22 The REMP report must be prepared and submitted in writing to the administering authority by **(date to be negotiated)**.

W23 Water Reuse

Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying stock water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with the quality release limits specified in Table W9.

Table W9 (Stock water release limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	5000

Note: Any additional parameter by third party agreement

W24 Water contaminated by mining activity may be piped or trucked or transferred by some other means that does not contravene the conditions of this authority during periods of dry weather for the purpose of supplying irrigation water to properties directly adjoining properties owned by the environmental authority holder or a third party and subject to compliance with quality release limits in Table W10.

Table W10 (Irrigation water release limits)

Quality characteristic	Units	Minimum	Maximum
pH	pH units	6.5	8.5
Electrical Conductivity	µS/cm	N/A	Site specific value to be determined in accordance with ANZECC & ARMCANZ (2000) Irrigation Guidelines and provided through an amendment process

Note: Any additional parameter by third party agreement

W25 Water contaminated by mining activity may be piped or trucked off the mining lease for the purpose of supplying water to a third party for purpose of construction and/or road maintenance in accordance with the conditions of this environmental authority.

W26 Water contaminated by mining activity may be piped or trucked for the purpose of supplying water to Peak Downs Mine in accordance with the conditions of this environmental authority. The volume, pH and electrical conductivity of water transferred to Peak Downs Mine must be monitored and recorded.

W27 If the responsibility of water contaminated by mining activities (the water) is given or transferred to another person in accordance with conditions W23, W24, W25 or W26**:**

a) the responsibility of the water must only be given or transferred in accordance with a written agreement (the third party agreement), and
b) include in the third party agreement a commitment from the person utilising the water to use water in such a way as to prevent environmental harm or public health incidences and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994,* environmental sustainability of the water disposal and protection of environmental values of waters.

W28 **Water General**

All determinations of water quality must be:

a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements
b) made in accordance with methods prescribed in the latest edition of the administering authority's *Water Quality Sampling Manual*

Note: Condition W28 requires the Water Quality Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

c) collected from the monitoring locations identified within this environmental authority, within ten (10) hours of each other where possible
d) carried out on representative samples, and
e) laboratory testing must be undertaken using a laboratory accredited (e.g NATA) for the method of analysis being used.

W29 The release of contaminants directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters, and
b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

W30 Annual Water Monitoring Reporting

The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

a) the date on which the sample was taken
b) the time at which the sample was taken
c) the monitoring point at which the sample was taken
d) the measured or estimated daily quantity of the contaminants released from all release points
e) the release flow rate at the time of sampling for each release point
f) the results of all monitoring and details of any exceedances with the conditions of this environmental authority, and
g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

W31 Temporary Interference with waterways

Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the administering authority's *Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

W32 Water Management Plan

A Water Management Plan must be developed and implemented by **(3 months from the date of issue)** that provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

W33 The Water Management Plan must be developed in accordance with the administering authority's *Guideline for Preparation of Water Management Plans for Mining Activities 2009* or any updates that become available from time to time and must include at least the following components:

a) Contaminant Source Study
b) Site Water Balance and Model
c) Water Management System
d) Saline Drainage Prevention and Management Measures
e) Acid Rock Drainage Prevention and Management Measures (if applicable)
f) Emergency and Contingency Planning, and
g) Monitoring and Review.

W34 Each year the environmental authority holder must undertake a review of the Water Management Plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following year) to ensure that proper and effective measures, practices or

procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

W35 A copy of the Water Management Plan and/or a review of the Water Management Plan must be provided to the administering authority on request.

W36 Saline Drainage

The environmental authority holder must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

W37 Acid Rock Drainage

The environmental authority holder must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.

W38 Stormwater and Water sediment controls

An Erosion and Sediment Control Plan must be developed by a suitably qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to water and contamination of storm water.

W39 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any waters without appropriate treatment.

W40 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or waters.

W41 Fitzroy River Basin Study

The administering authority and the environmental authority holder both acknowledge that the conditions for release of contaminants to the Isaac River in this environmental authority have been calculated without the benefit of the findings of projects proposed to be undertaken as per recommendations 2 and 3 of the *Study of cumulative impacts on water quality of mining activities in the Fitzroy River Basin* (April 2009). The administering authority may, based on the information provided in the study report when it becomes available, all relevant information available at the time and the regulatory framework applicable at that time, consult with the environmental authority holder about the conditions in the environmental authority concerning the treatment and disposal of waste water.

The aim of the consultation shall be the meaningful review of the contaminant release limits imposed in this authority having regard to:

a) the study results
b) near field monitoring results
c) QLD Water Quality Guidelines, and

d) best practice environmental management.

If this review leads to a change in the requirements on this environmental authority holder, this shall be advanced by way of an authority amendment or a Transitional Environmental Program and as is necessary or desirable.

W42 Stream sediment contaminant levels

All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the movement of sediment, including:

a) all clean waters, from undisturbed areas, kept separate from dirty waters from disturbed areas
b) water from disturbed catchments diverted into the mine water management system and sedimentation dams
c) new sedimentation dams designed to capture the sediment volume calculated for the catchment area for a 24 hour 10 year annual recurrence interval (ARI) storm event, and
d) sediment shall be excavated from sediment dams as required to maintain design capacity.

W43 Interfering with waterways

The environmental authority holder is permitted to destroy vegetation, excavate and fill watercourses to establish temporary crossings when there is no flow. Works shall remain in place for no longer than four (4) weeks.

W44 Mine Water Management System (MMWS)

The environmental authority holder must prepare, to the satisfaction of the administering authority, an integrated mine water management system (MWMS) which shall as a minimum address:

a) runoff from all mine areas and catchments draining into the MWMS, including runoff into mine pits;
b) transfer of mine water between storages;
c) mine water demands, including the reuse of mine water in plant operations and dust suppression;
d) all mine water process inputs and losses, including evaporation losses and losses or recycling of extracted water from belt filter press;
e) water quality;
f) design storage allowance for the adequate containment of contaminated runoff and pump-out of pits during wet seasons;
g) controlled discharges to remain compliant with all environmental authority conditions;
h) uncontrolled discharges from the MWMS to the receiving environment; and
i) annual updating of the water balance model with mine monitoring data including:
    I. rainfall;
    II. actual dam volumes;
    III. raw water demand;
    IV. water quality;
    V. actual storage capacity of dams;

VI. mine water transfer operations;
VII. controlled releases; and
VIII. quality and quantity of uncontrolled releases.

W45 The holder of the environmental authority must ensure that the probability of an uncontrolled discharge from any dam listed in Table W5 is limited to the AEP probabilities specified in Table G3. The probability of uncontrolled discharges must be managed by ensuring adequate design storage capacity, transfer capacity, and operations, and contingency measures of the integrated mine water management system (MWMS).

W46 The environmental authority holder must develop, calibrate, and maintain a complete mine water balance model (with coupled contaminant balance model) that adequately represents all sources of mine water contributing to all dams that comprise the integrated mine water system, mine pits, and operations of the MWMS including controlled releases (where applicable). All key assumptions and input parameters of the mine water balance model must be documented and be available for auditing.

W47 The environmental authority holder must undertake system risk failure assessments on the MWMS and submit to the administering authority system failure contingency plans which ensure that:

a) there is no increase in the frequency of uncontrolled discharges from the storage components of the MWMS, and
b) controlled discharges remain compliant with all environmental authority conditions.

W48 All key assumptions for mine water operations in the mine water balance model must be documented in Standard Operating Procedures and the MWMS must be operated in accordance with the procedures.

W49 Assessments utilising the mine water balance model to evaluate water management system capacity and operations in response to rainfall must be undertaken by competent personnel.

W50 The environmental authority holder must implement and maintain monitoring of actual mine water quantity and quality within the mine water management system to demonstrate, and continually improve the mine water balance model calibration.

W51 On 1 November each year, the environmental authority holder shall review the mine catchments, storage capacity, current storage volumes, system transfer capacity, and Standard Operating Procedures of all key infrastructure elements of the mine water management system and update the mine water balance model. An assessment of the mine water balance model must be undertaken to ensure that the mine water management system has sufficient storage capacity,

transfer capacity, and transfer operations to ensure that the frequency of uncontrolled discharges of mine water is less than or equal to the specified AEP in Table G3.

The assessment must be undertaken with an appropriate period of climate data that includes representation of wet season rainfall events up to the AEP specified in Table G3. The assessment results must be documented and be available for auditing.

W52 The environmental authority holder must notify the administering authority within fourteen (14) days, if the assessment of the mine water management system shows that probability of uncontrolled discharge from any dam within the integrated mine water system is greater than the specified AEP in Table G3.

W53 In the event of failure of any component, or series of components, of the mine water management system, The holder of the environmental authority must utilise the mine water balance model to reassess the performance of the mine water management system in its failed state, and notify the administering authority if the assessment of the mine water management system shows that the probability of uncontrolled discharge would be greater than the AEP specified in Table G3.

W54 Notwithstanding the provisions for *Mandatory Report Levels in Department Interest: Dams*, the environmental authority holder must not allow any uncontrolled discharge to be caused by either failure to:

a) stop transferring water to a dam where the transfer into that dam contributes in part, or full, to the overflow (uncontrolled discharge) of that dam, or
b) start and continue transferring water from a mine water dam, where the Standard Operation Procedures require the water transfer from the dam to prevent overflow (uncontrolled discharges).

W55 Monitoring and Reporting in the event of uncontrolled release

In the event of an uncontrolled release from any component of the integrated mine water system to the receiving environment, the environmental authority holder shall:

a) sample and monitor the uncontrolled release waters during or as immediately practical after the event (recognising that uncontrolled discharges should only occur during extreme rainfall and site may not be accessible) to determine quality characteristics of the uncontrolled release for parameters specified in Table W2, and Table W3.
b) sample and monitor the receiving environment monitoring sites listed in Table W8 for sites relevant to the uncontrolled release location.
c) estimate the quantity of uncontrolled release waters, by a suitably qualified and experienced person.
d) provide a written report to the administering authority within fourteen (14) days of the uncontrolled release event, which shall include as a minimum:
    i. the time and dates of the uncontrolled release event

ii. the location of the uncontrolled release

iii. the monitoring quality of the uncontrolled release waters, or if not available due to site access constraints in wet weather during the event, the quality of waters in the dam that contributed to the uncontrolled release before the event (from monitoring undertaken as part of condition W16) and quality in that dam after the release events

iv. the estimated quantity of uncontrolled release

v. downstream receiving water monitoring results

vi. rainfall during, or that contributed to, the uncontrolled release event and dam levels prior to the rainfall event that caused uncontrolled release

vii. a determination of whether uncontrolled release was solely caused by rainfall exceeding the design AEP events specified in Table G3

viii. a determination of whether the uncontrolled release was caused in part of fully by failure to operate the integrated mine water system in accordance with Standard Operating Procedures for the integrated mine water system, or physical failure of one or more components of the integrated mine water system

ix. a determination of whether the uncontrolled release caused environmental harm, and

x. if determined that the uncontrolled release could have been reasonably prevented, actions that will be taken to ensure uncontrolled releases comply in all respects with this environmental authority.

W56 Sewage Treatment

When required, the treated wastewater from the sewage treatment plant may be used to irrigate defined areas described as gardens and lawns within the confines of the Plant Site or for dust suppression, industrial reuse, evaporated or any other use consistent with Class A+ under the Administering Authority's guideline titled 'Queensland Water Recycling Guidelines', dated December 2005. Sewage effluent from sewage treatment facilities must not be directly or indirectly released from the sewage treatment plant to any waters, stormwater drain or drainage line.

W57 Quantity of Contaminated Water Released to Land

The rate of application of water from the sewage treatment plant to gardens, lawns or other irrigation areas must not exceed the sustainable capacity of the land to assimilate the effluent.

W58 Quality of Contaminated Water Released to Land

Sewage must be treated to comply with each of the release limits specified in Table W11 for each quality characteristic before any release of the effluent to land or other reuse.

W59 The quality of treated sewage must be monitored in accordance the requirements of Table W11 and records kept of the results.

Table W11 (Treated sewage release quality characteristic limits)

Quality characteristics	Unit	Release limit	Limit type	Minimum monitoring frequency
5-day Biochemical Oxygen Demand	mg/L	20	Maximum	Weekly
Suspended Solids	mg/L	30	Maximum	Weekly
pH	pH units	6 – 8.5	Range	Weekly
Turbidity (measured before disinfection)	NTU	2	Median	Continuous
		5	Maximum	
Total dissolved solids	mg/L	1000	Maximum	Weekly
E-coli	cfu/100 mL	1	Median	Weekly (with three replicates) in for at least first year. Then if verified as complying with these limits, monthly (with three replicates)
		10	95th percentile	
Clostridium perfringens	cfu/100 mL	1	Median	
		10	95th percentile	
F-RNA Bacteriophage	pfu/100 mL	1	Median	
		10	95th percentile	
Somatic coliphage	pfu/100 mL	1	Median	
		10	95th percentile	

W60 When weather or land conditions, prevent the irrigation of treated effluent, alternative measures must be taken to store or use the treated effluent.

W61 The irrigation and reuse on land of treated wastewater to land, taken as from the edge of the wetted area, must not be carried out

a) within twenty (20) metres of any boundary of the mining lease, public road or stormwater drain, except in the case of advanced disinfected effluent applied by either small drip irrigation, subsurface irrigation or small surface sprays with a spray plume not exceeding a diameter of 1.0 metres or 0.3 metres in height in which case the separation distance is reduced to 2 metres
b) in a manner likely to cause effluent runoff or surface ponding
c) within one-hundred (100) metres of any water supply bore
d) in any manner or quantity that causes spray to drift beyond the boundaries of the mining lease or any runoff of contaminants to any waters or stormwater drain
e) in any manner or quantity that adversely affects soil, vegetation or groundwater quality
f) in any manner likely to adversely affect public health, and
g) such as to cause any exceedance of the Environmental Investigation Thresholds listed in Appendix 9 of the *Guidelines for Assessment and Management of Contaminated Land in Queensland*.

Groundwater

W62 The holder of the 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 and any discharge to surface waters) due to activities that are part of this mining project.

Background groundwater monitoring program

W63 A background groundwater monitoring program must be developed to include bore(s) that are located an appropriate distance from potential sources of impact from mining activities to provide the following:

a) representative groundwater samples from the aquifers potentially affected by mining activities

b) at least twelve (12) sampling events, no more than two (2) months apart over a 2 year period, to determine background groundwater quality as far as practicable

c) background groundwater quality in hydraulically isolated background bore(s) that have not been affected by any mining activities, and

d) final groundwater contaminant trigger levels and limits required in condition W63.

W64 Groundwater contaminant trigger levels as per Table W13 (Groundwater contaminant trigger levels) must be finalised based on a background groundwater monitoring program defined in condition W62 and submitted to the administering authority no more than **24 months from the date of issue** of this environmental authority.

W65 The groundwater monitoring data must be reviewed on an annual basis by a suitably qualified and experienced hydrogeologist. The review must include the assessment of groundwater levels and quality data, and the suitability of the monitoring network. The assessment must be submitted to the administering authority within twenty-eight (28) days of receiving the report.

W66 Groundwater must be monitored in conjunction with condition W62 and at least at the locations and frequency defined in Table W12 (Groundwater monitoring locations and frequency).

Table W12 (Groundwater monitoring locations and frequency)

Monitoring point	Description	Latitude (GDA 94)	Longitude (GDA94)	Monitoring frequency
Monitoring Point X				At least every two (2) months
Monitoring Point X				
Monitoring Point X				
Monitoring Point X				
Monitoring Point X				
Monitoring Point X	(To be provided by proponent)			
Monitoring Point X				
Monitoring Point X				
Monitoring Point X				
Monitoring Point X				

W67 The holder of the environmental authority must report the results and analysis of groundwater monitoring to the administering authority on request.

W68 Subject to condition W62 groundwater levels must be monitored and recorded and groundwater draw down fluctuations in excess of two (2) metres per year, not resulting from the pumping of licensed bores, must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.

W69 The method of water sampling required by the environmental authority must comply with that set out in the current edition of the Department of Environment and Resource Management's Water Quality Sampling Manual, or subsequent updated versions. The following information must also be recorded in relation to all groundwater water sampling:

a) the date on which the sample was taken
b) the time at which the sample was taken
c) the monitoring point at which the sample was taken, and
d) the results of all monitoring.

W70 If the groundwater contaminant trigger levels defined in Table W13 (Groundwater contaminant trigger levels) are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within **twenty-eight (28) days** of receiving the analysis results.

Table W13 (Groundwater contaminant trigger levels)

Parameter	Unit	Trigger levels	Limit type
pH	pH Units	6.5 - 8.5	Minimum/Maximum
Electrical Conductivity	µS/cm		Maximum
Total Dissolved Solids	mg/L		
Calcium	µg/L		
Magnesium	µg/L		
Sodium	µg/L		
Potassium	µg/L		
Chlorine	µg/L		
SO_4	µg/L		
CO_3	µg/L	(To be provided by the proponent after 2 years of background quality monitoring in accordance with condition W66)	
HCO_3	µg/L		
Iron	µg/L		
Aluminium	µg/L		
Silver	µg/L		
Arsenic	µg/L		
Mercury	µg/L		
Antimony	µg/L		
Molybdenum	µg/L		
Selenium	µg/L		
Total Petroleum Hydrocarbons	µg/L		

Departmental Interest: Noise and vibration

D1 **Noise nuisance**

Noise from the mining activity must not cause a noise nuisance at any sensitive place.

D2 All noise from the mining activity must not exceed the levels specified in Table D1 at any sensitive place.

D3 Noise is not considered to be a nuisance under condition D1 if monitoring shows that noise from the mining activity does not exceed the following levels in the time periods specified in Table D1.

Table D1 Noise limits (sensitive place)

Noise Level [dB(A)] at a 'Sensitive Place' expressed as	Monday to Sunday		
	7am – 6pm	6pm – 10pm	10pm – 7am
LAeq,adj,15 mins[1]	RBL_3 + 5	RBL_3 + 5	RBL_3 + 5
LA_1,15 mins[2]	45	45	45

Note [1] External noise limit
Note [2] Internal noise limit
Note [3] Rated Background Level (RBL) as defined in the DERM's Ecoaccess *Planning for Noise Control* Guideline

D4 Noise monitoring

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 noise nuisance at any sensitive place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
Monitoring must include:

a) $L_{Aeq,adj,15\ mins}$ (external)
b) $L_{A1,15\ mins}$ (internal – or a measured external noise level and calculation of corresponding internal noise level)
c) the level and frequency of occurrence of impulsive or tonal noise
d) atmospheric conditions including wind speed and direction
e) effects due to extraneous factors such as traffic noise, and
f) location date and time of recording.

D5 The method of measurement and reporting of noise levels must comply with the current edition of the Department of Environment and Resource Management's *Noise Measurement Manual* and any subsequent versions.

D6 If monitoring indicates exceedance of the relevant limits in Table D1, then the environmental authority holder must:

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

D7 Vibration nuisance

Subject to conditions D8 and D9, vibration from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.

D8 If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D2 are not being exceeded then the holder is not in breach of condition D7.

D9 If monitoring indicates exceedance of the relevant limits in Table D2, then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required, and

b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

- **Table D2 Airblast overpressure and peak particle velocity levels**

Blast noise and vibration parameter	Monday to Sunday - 8am to 5pm
Airblast overpressure level (dB linear peak)	115 dB (linear peak) for 4 out of any 5 consecutive blasts regardless of the interval between blasts. Any single blast must not exceed 120 dB (linear peak).
Peak particle velocity (mm/s)	For vibrations of more than 35 Hz – no more than 25 mm/s ground vibration For vibrations of no more than 35 Hz – no more than 10 mm/s ground vibration

D10 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.

D11 The method of measurement and reporting of vibration levels must comply with Appendix J of AS 2187.2-2006.

D12 **Airblast overpressure nuisance**

Subject to Conditions D13 and D14, airblast overpressure level from blasting operations must not cause an environmental nuisance, at any sensitive or commercial place.

D13 If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D2 are not being exceeded then the holder is not in breach of condition D12.

D14 If monitoring indicates exceedance of the relevant limits in Table D2, then the environmental authority holder must:

a) address the complaint including the use of appropriate dispute resolution if required, and

b) immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity do not result in further environmental nuisance.

D15 When requested by the administering authority, airblast overpressure 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.

D16 Airblast overpressure monitoring must include the following descriptors, characteristics and conditions:

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

D17 The method of measurement and reporting of airblast overpressure levels must comply with Appendix J of AS 2187.2-2006.

Department Interest: Waste

E1 Storage of tyres

Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in stable stacks less than 3 m high, and at least 10 m from any other scrap tyre storage area, or combustible or flammable material, including vegetation.

E2 All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10 m radius of the scrap tyre storage area.

E3 Disposal of tyres

Disposing of scrap tyres resulting from the authorised activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable. A record must be kept of the number and location for tyres disposed.

E4 Waste Management

A Waste Management Plan, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be implemented and must cover:

a) how the environmental authority holder will recognise and apply the waste management hierarchy
b) identify characterisations of wastes generated from the project and general volume trends over the past five (5) years
d) waste commitments with auditable targets to reduce, reuse and recycle
e) waste management control strategies including:
    i. the type of wastes
    ii. segregation of the wastes
    iii. storage of the wastes
    iv. transport of the wastes

v. monitoring and reporting matters concerning the waste
vi. emergency response planning, and
vii. disposal, reused and recycling options

f) identify the potential adverse and beneficial impacts of the wastes generated

g) hazardous characteristics of the wastes generated including:
i. disposal procedures for hazardous wastes
ii. processes to be implemented to allow for continuous improvement of the waste management systems
iii. identification of responsible staff (positions) for implementing, managing and reporting the Waste Management Plan, and
iv. staff awareness and induction programs that encourage re-use and recycling.

E5 Records of trade and regulated wastes or material leaving the mining lease for recycling or disposal, including the final destination and method of treatment, must be in accordance with the *Environmental Protection (Waste Management) Policy 2000.*

E6 **Coal Handling and Preparation Plant Waste**

Waste from the Coal Handling and Preparation Plant must be disposed of in:

a) regulated dams in accordance with conditions in Department Interest: Dams of this environmental authority if the residual shear strength of the waste is less than 1000 Pascals prior to disposal, or

b) the Authorised Spoil Disposal Areas in accordance with conditions in Department Interest: Waste Table E1 (Location of Spoil Disposal Facility) if the residual shear strength of the waste is equal or more than 1000 Pascals prior to disposal.

E7 **Spoil disposal facility - certification and operation**

Authorised spoil disposal facilities, used for the disposal of waste are located within the control points defined in Table E1.

- **Table E1 (Location of spoil disposal facility)**

Name of spoil disposal facility	Control points	
	Longitude (GDA 94)	**Latitude (GDA 94)**
Caval Ridge Spoil Dumps	(A list of control points to be provided by the proponent)	(A list of control points to be provided by the proponent)

E8 Spoil disposal facility(s) shall be designed to prevent environmental harm arising from contaminants being generated in the facility, leachate and runoff from the facility or other sources.

E9 Authorised spoil disposal facility(s) must be constructed and maintained in accordance with certified design plans, submitted to the administering authority.

E10 Design plans for the authorised spoil disposal facility(s) must include performance indicators, such that:

a) during operations the spoil disposal facility(s) will be operated with minimal or no potential for adverse environmental harm resulting from collapse of any component of facility, and
b) the potential for leachate generation will be minimal or non existent, and
c) adequate drainage structures, erosion protection and storage are provided to manage seasonal and rare rainfall events with minimal or no environmental harm.

E11 Construction of any spoil disposal facility detailed in Table E1 must not commence unless:

a) the environmental authority holder has submitted to the administering authority two copies of a design plan, and
b) certification from a suitably qualified and experienced person that the design of the spoil disposal facility(s) will deliver the performance stated in that design plan and that it will be compliant in all other respects with this environmental authority, and
c) at least twenty (20) business days has passed since the receipt of those documents by the administering authority, or
d) the administering authority notifies the environmental authority holder that a design plan and certification, has been submitted for that disposal facility.

E12 Operational plan – Spoil disposal facility

An operational plan must be developed and maintained for the spoil disposal facility. The operational plan must include but not be limited to:

a) description of landform development stages of the spoil disposal facility
b) placement technique for spoil and waste material from the coal handling and processing plant on the Caval Ridge mine site
c) management of any containment structures within the spoil disposal facility designed to contain materials from the coal handling an processing plant on the Caval Ridge mine site
d) demonstration of how operations of the spoil disposal facility are consistent with the accepted design plan for the facility, and
e) decommissioning and rehabilitation strategies for the spoil disposal facility that demonstrate consistency with conditions of this environmental authority.

Departmental Interest: Land

F1 Preventing contaminant release to land

Contaminants must not be released to land in a manner which constitutes nuisance, material or serious environmental harm.

F2 Topsoil

Topsoil must be strategically stripped ahead of mining in accordance with a topsoil management plan.

F3 A topsoil inventory which identifies the topsoil requirements for the mining project and availability of suitable topsoil on site must be detailed in the Plan of Operations.

F4 **Rehabilitation landform criteria**

Progressive rehabilitation must commence within two (2) years of when areas become available within the operational land.

F5 **Residual void studies**

a) The holder of the environmental authority must prepare a revised residual void model for approval by the administering authority during the fifth year after commencement of operation.

b) The model in a) must be subject to review each subsequent five years while the mine continues to operate.

c) Any amendment to the approved residual void model that may arise from the reviews in a) or b) must be based on any significant changes to groundwater characteristics or other data considered relevant by the administering authority that becomes available from the groundwater monitoring program.

d) Notwithstanding obligations under a), b) and c), the holder of the environmental authority must undertake residual void water balance modelling during mine closure planning, in consultation with the administering authority, to ensure assumptions regarding surface water runoff and groundwater ingress are suitable for the site.

F6 **Residual void outcome**

Complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in conditions F4 and landform design criteria for Departmental review and comment. On acceptance of the criteria proposed in the residual void management plan, the criteria must be specified in the Environmental Authority.

The investigation must at a minimum include the following:

a) a study of options available for minimising final void area and volume

b) develop design criteria for rehabilitation of final voids

c) a void hydrology study, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term

d) a study of the measures to protect the residual voids, uncompacted overburden and workings from the 'probable maximum flood' level based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality

e) a pit wall stability study, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events

f) a study of void capability to support native flora and fauna, and

g) a proposal/s for end of mine void rehabilitation success criteria and final void areas and volumes.

These studies will be undertaken during the life of the mine, and will include detailed research and modelling.

F7 **Rehabilitation monitoring program**

Once rehabilitation has commenced, the environmental authority holder must conduct a Rehabilitation Monitoring Program on a two (2) yearly basis, which must include sufficient spatial and temporal replication to enable statistically valid conclusions as established under the rehabilitation program.

F8 The Rehabilitation Monitoring Program must be developed and implemented by a person possessing appropriate qualifications and experience in the field of rehabilitation management, nominated by the environmental authority holder.

F9 The Rehabilitation Monitoring Program must be included in the Plan of Operations and updated with each subsequent Plan of Operations, describing:

a) how the rehabilitation objectives will be achieved; and
b) verification of rehabilitation success.

F10 **Post closure management plan**

A Post Closure Management Plan for the site must be prepared at least **eighteen (18) months** prior to the final coal processing on site and implemented for a nominal period of:

a) at least thirty (30) years following final coal processing on site, or
b) a shorter period if the site is proven to be geotechnically and geochemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants from the site will result in environmental harm.

F11 The Post Closure Management Plan must include the following elements:

a) operation and maintenance of:
    i. wastewater collection and reticulation systems
    ii. wastewater treatment systems
    iii. the groundwater monitoring network
    iv. final cover systems, and
    v. vegetative cover.

b) monitoring of:
    i. surface water quality
    ii. groundwater quality
    iii. seepage rates
    iv. erosion rates
    v. the integrity and effectiveness of final cover systems, and

vi. the health and resilience of native vegetation cover.

F12 Mining waste management

A Mining Waste Management Plan together with the certification by an appropriately qualified person must be developed and implemented during the continuation of the environmental authority. The Mining Waste Management Plan must at a minimum include:

a) characterisation programs to ensure that all mining waste is progressively characterised during disposal for net acid producing potential, salinity and the following contaminants: pH, Electrical Conductivity (EC), Acid Neutralising Capacity (ANC), Net Acid Generation (NAG) (reporting NAG capacity and NAG pH after oxidation), Net Acid Producing Potential (NAPP), Total Sulfur (S), Chromium Reducible Sulfur (Scr), Boron (B) Cadmium (Cd), Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na), Zinc (Zn) and Sulfate (SO_4).

b) characterisation programs to ensure that the physical properties of the mining waste is progressively characterised during disposal

c) the availability or leachability of metals from the mining waste

d) quantity of potentially acid forming (PAF) mining waste

e) review potential impacts of PAF mining waste on the success of proposed rehabilitation methods

f) management actions for mining waste that has been identified as having a high availability or leachability of metals in accordance with condition F12

g) management actions for mining waste that has been defined as PAF

h) identification of environmental impacts and potential environmental impacts;

i) control measures for routine operations to minimise likelihood of environmental harm

j) contingency plans and emergency procedures for non-routine situations, and

k) periodic review of environmental performance and continual improvement.

F13 Acid mine drainage and leachate management

Subject to the release limits defined in Departmental Interest: Water, all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to the environment.

F14 Storage and handling of flammable and combustible liquids

All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version *of AS 1940 – Storage and Handling of Flammable and Combustible Liquids*.

F15 Spillage of all flammable and combustible liquids must be controlled in a manner that prevents environmental harm.

F16 Storage and handling of chemicals

All chemicals must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of the relevant Australian Standard.

F17 Spillage of all chemicals must be controlled in a manner that prevents environmental harm.

F18 Exploration

Disturbance due to exploration activities in areas not scheduled to be mined must be rehabilitated in accordance with provisions detailed in the administering authority's *Code of Environmental Compliance for Exploration and Mineral Development Projects.*

Department Interest: Dams

G1 All Dams

The hazard category of each dam must be determined by a suitably qualified and experienced person, prior to its construction and at least once every year thereafter.

G2 Construction of any dam determined to be in the significant or high hazard category (ie. a regulated dam) must not be commenced unless the location, basic details, and hydraulic performance of that dam are specifically referenced in this environmental authority.

G3 On cessation of operation of any dam, that dam must be maintained so as to avoid environmental harm until that dam is decommissioned.

G4 Prior to the cessation of the environmentally relevant activity, each dam must be decommissioned such that it either:

a) becomes a stable landform, that no longer contains flowable substances, or
b) is approved or authorised under relevant legislation for a beneficial use, or
c) is a void authorised by the administering authority to remain after decommissioning, and
d) is compliant with the rehabilitation requirements of this environmental authority.

Regulated Dams - Location

G5 The following regulated dams must be wholly located within the control points defined in Table G1.

Table G1 (Location of regulated dams)

Name of regulated dam	Longitude GDA 94(*)	Latitude GDA 94(*)
12 North Dam		
Mine Water Dam N1		
Mine Water Dam N2		
Mine Water Dam N3		
Mine Water Dam S1		

Note(*) Details to be provided by Proponent

G6 The following regulated dams must be consistent with the basic details in Table G2.

Table G2 (Basic details of regulated dams)

Regulated dam	Maximum surface area (ha) (*)	Maximum volume of dam (ML) (*)	Maximum depth of dam (m) (*)	Purpose of dam
12N Dam				Collection, storage and management of mine water including pit waters
Mine Water Dam N1				Collection and transfer of pit water
Mine Water Dam N2				Collection and transfer of pit water
Mine Water Dam N3				Collection and transfer of pit water
Mine Water Dam S1				Collection and transfer of pit water

Note(*) Details to be provided by Proponent

G7 The following regulated dams must meet the hydraulic performance criteria specified in Table G3.

Table G3 (Hydraulic performance criteria of regulated dams and integrated mine water management system dams)

Regulated dam	Hazard category for failure to contain	Uncontrolled discharge AEP	Hazard category for dambreak	Spillway critical design storm AEP	Mandatory reporting level
Regulated dams					
12N Dam	Significant	1: 100	Significant	1: 1000	1: 100 AEP 72 hour storm volume below spillway level OR 1:100 AEP wind wave height below spillway level.
Mine Water Dam N1	Significant	1: 100	Significant	1: 1000	
Mine Water Dam N2	Significant	1: 100	Significant	1: 1000	
Mine Water Dam N3	Significant	1: 100	Significant	1: 1000	
Mine Water Dam S1	Significant	1: 100	Significant	1: 1000	
Low hazard dams (not regulated) that form part of the integrated mine water system					
Sed Dam N1	Low	1:10	Significant	1: 1000	Not Applicable
Sed Dam N2	Low	1:10	Significant	1: 1000	
Sed Dam N3	Low	1:10	Significant	1: 1000	
Sed Dam S1	Low	1:10	Significant	1: 1000	
Sed Dam S2	Low	1:10	Significant	1: 1000	
Sed Dam S3	Low	1:10	Significant	1: 1000	
Catchment Dam North	Low	1:10	Significant	1: 1000	
Catchment Dam South	Low	1:10	Significant	1: 1000	
Mine Water Dam 1	Low	1:10	Significant	1: 1000	
Mine Water Dam 2	Low	1:10	Significant	1: 1000	
Mine Water Dam 3	Low	1:10	Significant	1: 1000	
Mine Water Dam 4	Low	1:10	Significant	1: 1000	
Mine Water Dam 4a	Low	1:10	Significant	1: 1000	
Mine Water Dam 5	Low	1:10	Significant	1: 1000	

G8 Regulated Dams - Certification and Operation

Every regulated dam must be constructed in accordance with a certified design plan that has been submitted to the administering authority, and such that the resulting dam will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority.

G9 Construction of a regulated dam must not be commenced unless:

a) the environmental authority holder has submitted to the administering authority two copies of a design plan, together with the certification of a suitably qualified and experienced person that the design of the regulated dam will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority, and

b) at least twenty (20) business days has passed since the receipt of those documents, or the administering authority notifies the environmental authority holder that a design plan and certification has been received.

G10 When construction of any regulated dam is complete and prior to commencing operation of that dam, the environmental authority holder must submit to the administering authority two (2) copies of a set of 'as constructed' drawings, together with the certification of a suitably qualified and experienced person that the dam 'as constructed' will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority.

G11 An operational plan must be kept current for each regulated dam.

G12 Where an operational plan covers decommissioning and rehabilitation, those operations are to be consistent with the design plan for the dam and the rehabilitation requirements of this environmental authority.

G13 The environmental authority holder must notify the administering authority within twenty-four (24) hours, of the level in any regulated dam reaching the mandatory reporting level (MRL) and must immediately act to prevent or minimize any actual or potential environmental harm.

G14 **Regulated Dams - Annual Inspection and Report**

Each regulated dam must be inspected annually by a suitably qualified and experienced person.

G15 At each annual inspection, the condition and adequacy of each regulated dam must be assessed for dam safety and against the necessary structural, geotechnical and hydraulic performance criteria.

G16 At each annual inspection, if a mandatory reporting level is required, it must be determined and marked on each regulated dam.

G17 A final assessment of adequacy of available storage in each regulated dam must be based on a dam level observed within the month of October and result in an estimate of the level in that dam as at 1 November.

G18 For each annual inspection, two (2) copies of a report on the condition and adequacy of each regulated dam, certified by the suitably qualified and experienced person and including any recommended actions to be taken to ensure the integrity of each regulated dam; must be provided to the administering authority by 1 December.

G19 The environmental authority holder must, within one week of receipt of the annual inspection report, consider the report and its recommendations; and as soon as possible, but within one month of receipt of the annual inspection report, formulate and implement actions to ensure that each regulated dam safely performs its intended functions.

Departmental Interest: Flora and Fauna

H1 A qualified spotter catcher is to be engaged to work ahead of the site clearing works at the commencement of the vegetation clearing activity.

H2 The environmental authority holder must develop and implement a 'Watercourse Revegetation Plan' for all creek diversions including but not limited to:

a) the establishment of benchmarks for vegetation condition in watercourses and riparian areas,
b) a description of how and when the revegetation objectives will be achieved,
c) an aquatic ecology monitoring program to ensure that the aquatic ecology values are maintained or enhanced,
d) a description of performance monitoring and reporting arrangements, and
e) contingency actions should stated performance objectives not be achieved.

H3 The Watercourse Revegetation Plan must be submitted to the approving authority prior to the commencement of any creek diversions.

Environmental Authority Definitions

Words and phrases used throughout this Environmental Authority are defined below except where identified in the *Environmental Protection Act 1994* or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

'acceptance criteria' means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly disturbed by the environmentally relevant activities. Acceptance criteria may include information regarding:

- stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage
- control of geochemical and contaminant transport processes
- quality of runoff waters and potential impact on receiving environment
- 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.

'acid mine drainage (AMD)' means any contaminated discharge emanating from a mining operation formed through a series of chemical and biological reaction, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining operations.

'acid rock drainage' means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activities.

'administering authority' means the Department of Environment and Resource Management or its successor.

'Annual Exceedance Probability' or **'AEP'** means the probability that at least one event in excess of a particular magnitude will occur in any given year.

'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 (dBL).

'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.

'ANZECC & ARMCANZ' means the Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) 2000, Australian and New Zealand Guidelines for Fresh Marine Water Quality.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

'assess' by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

a) exactly what has been assessed and the precise nature of that assessment
b) the relevant legislative, regulatory and technical criteria on which the assessment has been based
c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts, and
d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'associated works' in relation to a dam, means:

a) operations of any kind and all things constructed, erected or installed for that dam, and
b) any land used for those operations.

'authority' means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

'bed and banks' for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

'beneficial use' in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

a) of benefit to that owner in that it adds real value to their business or to the general community
b) in accordance with relevant provisions of the Environmental Protection Act 1994
c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
d) the transfer and use have been approved or authorised under any relevant legislation.

'biosolids' means the treated and stabilised solids from sewage.

'blasting' means the use of explosive materials to fracture:

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

'bunded' means within bunding consistent with Australian Standard 1940.

'certification', 'certifying' or **'certified'** by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

(a) exactly what is being certified and the precise nature of that certification

(b) the relevant legislative, regulatory and technical criteria on which the certification has been based

(c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts, and

(d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

'chemical' means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth), or

b) a dangerous good under the dangerous goods code, or

c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997, or

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth, or

e) any substance used as, or intended for use as:
   i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or
   ii. a surface active agent, including, for example, soap or related detergent, or
   iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or
   iv. a fertiliser for agricultural, horticultural or garden use, or

f) a substance used for, or intended for use for:
   i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or
   ii. manufacture of plastic or synthetic rubber.

'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.

'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.

'construction' or **'constructed'** in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for purposes of preparing a design plan.

'contaminate' means to render impure by contact or mixture.

'contaminated' means the substance has come into contact with a contaminant.

‘**contaminant’** A contaminant can be:

a) a gas, liquid or solid, or
b) an odour, or
c) an organism (whether alive or dead), including a virus, or
d) energy, including noise, heat, radioactivity and electromagnetic radiation, or
e) a combination of contaminants.

‘control measure’ means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

‘cover material’ means any soil or rock suitable as a germination medium or landform armouring.

‘dam’ means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does *not* mean a fabricated or manufactured tank or container designed to an Australian Standard that deals with strength and structural integrity of that tank or container.

‘design plan’ is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include all investigation and design reports, plans and specifications sufficient to hand to a contractor for construction, and planned decommissioning and rehabilitation outcomes; so as to address all hazard scenarios that would be identified by a properly conducted hazard assessment for the structure. Documentation must be such that a ‘suitable qualified and experience person’ could conduct an independent review without seeking further information from the designer.

‘design storage allowance’ or **‘DSA’** means an available volume, estimated in accordance with the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995), that must be provided in a dam as at the first of November each year in order to prevent a discharge from that dam to a probability (AEP) specified in that guideline. The DSA is estimated based on 100% runoff of wet season rainfall at the relevant AEP, taking account of process inputs during that wet season, with no allowance for evaporation.

‘development approval’ means a development approval under the *Integrated Planning Act 1997* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

‘domestic waste’ means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

‘dwelling’ means any of the following structures or vehicles that is principally used as a residence:

a) a house, unit, motel, nursing homer or other building or part of a building, or
b) a caravan, mobile home or other vehicle or structure on land, or
c) a water craft in a marina.

‘effluent’ treated waste water discharged from sewage treatment plants.

'end-of-pipe' means the location at which water is released to waters or land.

'environmental authority' means an environmental authority under Chapter 5 of the *Environmental Protection Act 1994.*

'environmental authority holder' means the holder of this environmental authority.

'environmentally relevant activity' means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 1 of the *Environmental Protection Regulation 1998.*

'financial assurance' means a security required under the *Environmental Protection Act 1994* by the Administering Authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

'floodwater' means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

'flowable substance' means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

'foreseeable future' is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

'general waste' means waste other than regulated waste.

'hazard' in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

'hazard category' means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

'hazardous waste' means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm.

'hydraulic performance' means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

'infrastructure' means water storage dams, roads and tracks, buildings and other structures built for the purpose and duration of the conduct of the environmentally relevant activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams, waste dumps,

voids, or stockpiles and assets, that have been decommissioned, rehabilitated, and lawfully recognised as being subject to subsequent transfer with ownership of the land.

'LA 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.

'LA 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.

'LA, 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.

'LAr,1 hour' means the rating level, equal to LAeq,adj,1 hour.

'lake' includes:

a) lagoon, swamp or other natural collection of water, whether permanent or intermittent, and
b) the bed and banks and any other element confining or containing the water.

'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.

'landfill' means land used as a waste disposal site for lawfully putting solid waste on the land.

'levee', 'dyke' or 'bund' means a long embankment that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.

'mandatory reporting level' or **'MRL'** means a warning and reporting level determined in accordance with the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995). An MRL is the lowest level required in a regulated dam to allow either of the following to be retained:

a) the runoff from a 72 hour duration storm at the AEP specified in the Table 5, or
b) a wave allowance at that AEP as estimated using a recognised engineering method.

'mg/L' means milligrams per litre.

'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:

a) clay if mined for use for its ceramic properties, kaolin and bentonite
b) foundry sand
c) 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 therefrom
d) limestone if mined for use for its chemical properties
e) marble
f) mineral oil or gas extracted or produced from shale or coal by in situ processes
g) peat
h) salt including brine
i) shale from which mineral oil may be extracted or produced
j) silica, including silica sand, if mined for use for its chemical properties
k) rock mined in block or slab form for building or monumental purposes

But does *not* include:

a) living matter
b) petroleum within the meaning of the Petroleum Act 1923
c) 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
d) water.

'mine water' means process water and contaminated storm water.

'natural flow' means the flow of water through waters caused by nature.

'nature' includes:

a) ecosystems and their constituent parts, and
b) all natural and physical resources, and
c) natural dynamic processes.

'noxious' means harmful or injurious to health or physical well being.

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

'operational land' means the land associated with the project for which this environmental authority has been granted.

'operational plan' means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

'palletised' means stored on a movable platform on which batteries are placed for storage or transportation.

'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) a protected area under the *Nature Conservation Act 1992*, or

b) a marine park under the *Marine Parks Act 1992*, or

c) a World Heritage Area.

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

'process water' means water used or produced during the mineral development activities.

'receiving environment' means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

'receiving waters' means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

'recycled water' means appropriately treated effluent and urban stormwater suitable for further use.

'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.

'regulated dam' means any dam in the significant or high hazard category as assessed using the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

'regulated waste' means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 1998* (whether or not it has been treated or immobilised), and includes:

a) for an element – any chemical compound containing the element, and
b) anything that has contained the waste.

'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.

'saline drainage' means the movement of waters, contaminated with salt(s), as a result of the mining activity.

'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) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises, or
b) a motel, hotel or hostel, or
c) an educational institution, or
d) a medical center or hospital, or
e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area, or
f) a public park or gardens.

'sewage' means the used water of person's to be treated at a sewage treatment plant.

'spillway' means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges form the dam, normally under flood conditions or in anticipation of flood conditions.

'stable' in relation to land, means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

'stormwater' means all surface water runoff from rainfall.

'suitably qualified and experienced person' in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Engineers Act 1988, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams, and
b) a total of five years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and
c) a total of five years of suitable experience and demonstrated expertise each, in three of the following categories:
    - Investigation and design of dams.
    - Construction, operation and maintenance of dams.
    - Hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
    - Hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
    - Hydrogeology with particular reference to seepage, groundwater.
    - Solute transport processes and monitoring thereof.
    - Dam safety.

'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.

'tolerable limits' means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

'void' means any constructed, open excavation in the ground.

'waste' as defined in section 13 of the *Environmental Protection Act 1994*.

'waste management hierarchy' has the meaning given by the Environmental Protection (Waste Management) Policy 2000.

'waste management principles' has the meaning given by the Environmental Protection (Waste Management) Policy 2000.

'waste water' means used water from the activity, process water or contaminated storm water.

'water quality' means the chemical, physical and biological condition of water.

'waters' includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

'µg/L' means micrograms per litre.

'µs.cm-1' means microsiemens per centimetre.

Schedule 4

Recommended conditions for other approvals

1. Aboriginal cultural heritage

The proponent must develop and have approved under the *Aboriginal Cultural Heritage Act 2003*, a Cultural Heritage Management Plan (CHMP) prior to any excavation, construction or other activity that may cause harm to Aboriginal cultural heritage.

2. Connection to a state-controlled road

Approval must be obtained from the chief executive of the Department of Transport and Main Roads (TMR) under the *Transport Infrastructure Act 1994* for carrying out works for connections to any state-controlled road.

3. Interference with a railway

(a) Approval must be obtained from railway manager prior to any interference with a railway under the *Transport Infrastructure Act 1994*.

(b) If any project works are likely to interfere with the operation of railway services, consultation must be undertaken with the railway manager to identify and implement actions which will minimise disruption to railway operations.

4. Explosives

Any use, storage and transport of explosives off a mining lease required for the project must be approved in accordance with the *Explosives Act 1999*.

5. Traffic management and road-use plans and associated infrastructure agreements

(a) Prior to undertaking any works, the proponent must obtain relevant licences and permits under the *Transport Infrastructure Act 1994* for works within the state-controlled road corridor.

6. Waterway diversions under the *Water Act 2000*

In accordance with s52 of the SDPWO Act, I recommend to the Minister responsible for administration of the *Water Act* 2000 that the following conditions be attached to any licence, permit or approval required by the proponent to undertake waterway diversions for the Caval Ridge Mine (CRM):

Prior to the issuing of the environmental authority under the *Environmental Protection Act 1994* (EP Act) for the CRM, the proponent must submit to the Department of Environment and Resource Management (DERM)

(a) a design of the proposed Caval Creek diversion that incorporates a slight meander

(b) a plan that provides for increased monitoring and vegetation management that will allow Caval Creek to develop physical integrity characteristics similar to the existing watercourse, and

(c) an independent written analysis by an appropriately qualified professional that the final designs of all CRM creek diversions will not cause significant downstream environmental harm as a result of altered flow and flood patterns of those creeks.

7. Potential groundwater impacts

In accordance with s52 of the SDPWO Act, I recommend to the Minister responsible for administration of the *Water Act* 2000 that the following conditions be attached to any licence, permit or approvals required by the proponent associated with groundwater impacts of the CRM:

(a) Mechanisms should be implemented to ensure that the proposed CRM does not result in an undue adverse impact on the availability and quality of groundwater supplies to neighbouring landholders.

(b) 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.

(c) Prior to the surrender of mining leases, post-mining, pursuant to the *Minerals Resources Act 1989* and the 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 the relevant regulators.

(d) To remove any doubt, (a) to (c) apply regardless of whether any potential impact of the CRM on groundwater results from activities on ML70403 or ML1775.

Schedule 5

Coordinator-General's other recommendations

1. Visual amenity

I recommend that:

(a) the results of the proposed visual impact mitigation strategies outlined in the draft Environmental Management (EM) plan be monitored by the proponent in consultation with the Isaac Regional Council (IRC) throughout the life of the Caval Ridge Mine (CRM), and those strategies be enhanced wherever they are considered to have insufficiently reduced the visual contrasts between the major CRM components, as seen from key viewpoints on the Peak Downs Highway, the Moranbah Access Road and Moranbah.

(b) notwithstanding other obligations on the proponent to provide a satisfactory level of mine site and spoil rehabilitation, that the proponent, in consultation with the Department of Environment and Resource Management (DERM) and IRC, achieves a minimum average of 30 per cent revegetation foliage coverage of all elevated spoil areas (excluding tourist lookouts established as part of the project) that are visible from key viewpoints on the Peak Downs Highway, the Moranbah Access Road and Moranbah within three years of completion of placement of spoil in each of those areas.

2. Strategic cropping land

I recommend that the proponent, either directly or through the Queensland Resources Council, participate in industry consultation on the proposed policy and planning framework for strategic cropping land being conducted by the Department of Infrastructure and Planning.

3. Rehabilitation of previous failure of existing Cherwell Creek diversion

I recommend that DERM ensures that any of its remaining environmental protection requirements for the rehabilitation of the failed existing Cherwell Creek diversion on ML1775 for the Peak Downs Mine be transferred to the CRM operations and be added to the CRM environmental authority.

4. Provision of additional information on mine tailings and water management

I recommend that:

(a) DERM should not issue the environmental authority for the CRM to BMA until DERM has endorsed for inclusion in the EM plan the plans for the matters specified in Schedule 1, Appendix 1 in Condition 2(b) (with respect to water management), Condition 2(d) (with respect to flood protection) and Condition 13(c) (with respect to tailings management)

(b) the methodologies outlined in the "*Final model water conditions for coal mines in the Fitzroy Basin" (July 2009)* and "*Conditions for Coal Mines in the Fitzroy Basin – approach to Discharge Licensing*" (Version 10 June 2009), be followed by DERM and the proponent to review the discharge limit proposed by the proponent of 1500 microsiemens per centimetre (µS/cm) electrical conductivity for water released from the CRM mine site (currently 1000 µS/cm in Table W2, Schedule 3, Appendix 1) and as otherwise controlled by draft EA conditions W1-W22 in Schedule 3, Appendix 1 of this report

(c) any consideration by DERM of a water electrical conductivity limit above 1500 µS/cm be possible only following submission by BMA of a very detailed technical business case.

5. Consideration of the BMA Biodiversity Offset Strategy in Appendix 2 of this report

I recommend that in their consideration of the BMA Biodiversity Offset Strategy for the CRM in Appendix 2 of this report, DERM and DEWHA consider:

(a) that I regard the general scope of the offset proposal for brigalow at Norwich Park to be acceptable

(b) that subject to verification of sufficient integrity of the proposed offset vegetation, I consider that an offset of poplar box vegetation at Blackwater of at least 450 hectares would be acceptable

(c) that subject to the provision of more detailed information, I consider that the offset proposal for natural grasslands at Gregory Crinum appears to be insufficient for EPBC-listed EECs without further augmentation

(d) to avoid the risk of double-counting, the proponent delineates and quantifies in the Biodiversity Offset Strategy the areas of vegetation in each proposed offset area attributable to each phase of the Bowen Basin Coal Growth (BBCG) project

(e) my observations in section 7.3.6.3 of this report in relation to BMA's offset proposals.

6. Moranbah town air quality monitoring

(a) **I recommend that** following an appropriate period of data and equipment calibration and verification, the proponent publicly reports the results of its Moranbah town air quality monitoring at least monthly and no later than 20 days after collection of data for the last day of each calendar month.

(b) **I recommend that** the proponent work with the IRC, DERM and other resource companies with quarries or mines in the vicinity of Moranbah with the objective of creating an integrated air quality monitoring system in the town of Moranbah which:

(i) establishes a voluntary communication network between the IRC and environmental officers on mine sites to share information in confidence about meteorological and air quality conditions in the town and at the respective mine sites aimed at jointly improving air quality management knowledge and practices in the area, and

(ii) following an appropriate period of data and equipment calibration and verification, progress to more frequent reporting of results on a publicly accessible webpage than the approximate quarterly reporting currently proposed by the proponent.

7. BMA's financial contribution to social impact mitigation

I recommend that:

(a) as part of the assessment process for the EIS for the Goonyella-Riverside expansion component of the BBCG project, the proponent and DIP jointly review the total scale of BMA's spending on programs which are aimed at mitigating the social impacts of its mining operations in the Bowen Basin (currently grouped largely under BMA's Community Partnership Program.

(b) the evaluation in (a) consider:

(i) the scale of such spending by other resource companies in this region and other comparable regions (where known), and

(ii) with respect to the scale of the *Community Partnerships Program*, the relative increase in the scale of BMA's business activities and relative impacts in the Bowen Basin resulting from the BBCG project is a relevant factor.

8. Study on the cumulative social impacts of mining in the Isaac Region local government area

(a) the IRC and DIP jointly lead a study to identify the:

(i) cumulative social impacts of mining in the Isaac Region local government area and

(ii) mitigation measures and social infrastructure required to address those impacts

(b) the study be conducted during 2010-2011 as a component of both the statutory IRC Community Planning process and the Whitsunday Hinterland Mackay (WHAM) statutory regional planning process

(c) DIP provide planning and technical resource support for the study and participate in the project management arrangements

(d) contributions to the cost of the study be sought from other coal industry participants with operations located within the Isaac Region local government area.

9. Accommodation of visiting maintenance and overhaul personnel

I recommend that capacity planning for operational worker villages for the BBCG project allow for the periodic accommodation needs of visiting maintenance personnel (such as the large dragline overhaul crews) in addition to operational personnel.

10. Decommissioning of Denham Village

On the basis that the proponent proposes to use Denham Village for accommodation for only construction personnel for the CRM, I recommend that within 12 months of commencement of operation of the CRM, the Denham Village be decommissioned, all camp buildings removed and the site rehabilitated in accordance with any requirements of the EM Plan for the CRM.

11. Other Social Impact Management Plan (SIMP) recommendations

I recommend that:

(a) the community health, safety and wellbeing concerns raised in the EIS and SEIS and submissions be addressed comprehensively through the development and implementation of the social infrastructure section of the CRM SIMP in consultation with key stakeholders and the community as described in section 5.115 of this report.

(b) with respect to social infrastructure needs of the WHAM planning region:

(i) the proponent works closely with the Moranbah BMA Community Network (refer to Condition 6), the Sustainable Resource Communities Local Leadership Group and the Queensland Government Central Queensland Regional Managers Coordination Network to prioritise social infrastructure needs in the CRM study area, and

(ii) strategies to address these priorities, as related to the CRM, are detailed in the CRM SIMP.

(c) the proponent engage with state and local government and non-government organisations (e.g. QPS, DoC, the IRC, Moranbah District Support Services) to ensure that community safety mitigation strategies included in the *BMA Draft Five Year Communities Strategy for the Bowen Basin* focus on and reflect local priorities and concerns

(d) engagement processes to progress workforce and community programs be incorporated into the BMA Stakeholder Engagement Strategy as part of the CRM SIMP

(e) any outcomes of the proponent's audit of operation sites and accommodation villages to determine its existing practices with regard to buying and investing locally and supporting local businesses which identify new opportunities for local business:

(i) be the subject of consultation with members of the Moranbah BCN to determine how local businesses and residents can take advantage of these opportunities

(ii) ensure that any strategies devised are incorporated in the SIMP

(f) during the development of this strategy, the proponent discuss with Indigenous parties opportunities for the provision of additional support for Indigenous students to strengthen pathways from schooling to employment.

Schedule 6

Glossary, acronyms and abbreviations

The following terms have been used in this report:

'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 (dBL).

'Ambient (or total) noise' at a place, means the level of noise at the place from all sources (near and far), measured as the Leqan appropriate acoustic parameter/s (e.g. Leq, L10, Lmax) depending on the requirements of the investigation, and for an appropriate time interval.

'Background' for noise levels means background noise level measured in accordance with the Queensland Government's Noise Measurement Manual.

'Construction Areas' means the construction worksites, construction car parks, and any areas licensed for construction or on which Construction Works are carried out, including without limitation, the Peak Down Highway corridor and any sites off the mining leases.

'Construction Works' means all works necessary for the construction of the Project, including demolition of existing buildings and structures, site preparation, Public Utility Works and associated road works.

'Construction EM plan' means an environmental management plan or plans, including any sub-plans, for the construction phase of the Project.

'Green Power' means electricity sourced from a renewable energy source accredited by National GreenPower Accreditation Program that meets the criteria of the Australian Government's Renewable Energy Target.

'LA 1, adj, 150 mins' means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 150-minute measurement period, using Fast response.

'LA eq, adj, 15 mins' means the A-weighted equivalent continuous (or 'average') sound pressure level, (adjusted for tonal character and impulsiveness of the sound) for any 15-minute measurement period, using Fast response

'LA 90, 15 mins' means the A-weighted sound pressure level, exceeded for 90% of any 15-minute measurement period, using Fast response. This parameter is used in Ecoaccess Planning for Noise Control to determine the Rating Background Level (refer Table D1)

'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).

'Proponent' means the entity responsible for the procurement, construction and operation of the BBCG project and Caval Ridge Mine, i.e. BMA.

'**Public Utility Works**' means

a) the replacement, modification or relocation of public utilities required as a consequence of the project, and

b) the construction of new utility infrastructure required for the project.

'**Sensitive Place**' means any of the following places:

a) a dwelling

b) a library, child-care centre, kindergarten, school, college, university or other educational institution

c) a hospital, surgery or other medical institution, or

d) a commercial premises relying on calibrated equipment or computers sensitive to vibration greater than the guide values set out in Table 13 of Schedule 3 of these Conditions.

'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), any underground water and any part-thereof (*Water Act 2000)*.

The following acronyms and abbreviations have been used in this report:

ACARP	Australian Coal Association Research Program
ACH Act	*Aboriginal Cultural Heritage Act 2000*
AEP	annual exceedance probability
ARI	average recurrence interval (i.e. for flood or rainfall event frequency)
BB	BaradaBarna (Native Title claimants)
BBCG	Bowen Basin Coal Growth project – defined in section 2.2.1 of this report
BBKY	BaradaBarna Kabalbara and Yetimarla #4 group (Native Title claimants)
BIBO	bus-in-bus-out transportation of workers to work sites and/or accommodation facilities who have a permanent place of residence outside of the project area
BMA	BHP Billiton Mitsubishi Alliance Coal Operations Pty Ltd – the proponent, as manager and agent on behalf of the CQCA
BMC	BHP Billiton Mitsui Coal Pty Ltd
CG	Coordinator-General of the State of Queensland – constituted under the SDPWO Act
CHMP	cultural heritage management plan (under the ACH Act)
CHPP	coal handling and preparation plant
CHR	Construction Hazard and Risk (EM plan sub-plan)
CLR	Contaminated Land Register (under the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland 1998*)
CO2-e	carbon dioxide equivalent – internationally recognised measure that allows for the comparison of different greenhouse gases in terms of their global warming potential
CPP	community partnerships program
CQCA	Central Queensland Coal Associates Joint Venture between BHP Billiton and Mitsubishi Corporation – which is managed by BMA
CRG	community reference group
CRM	Caval Ridge Mine – as defined in the EIS, SEIS and section 2.2.2 of this report, part of BMA's Bowen Basin Coal Growth project.
Cwth	Commonwealth of Australia
dBA	acceptable decibels (unit of noise measurement)
DCS	Department of Community Safety
DEEDI	Department of Employment, Economic Development and Innovation
DERM	Department of Environment and Resource Management
DEWHA	Department of Environment, Water, Heritage and the Arts (Commonwealth)
DIDO	drive-in-drive-out transportation of workers to work sites and/or accommodation facilities who have a permanent place of residence outside of the project area

DIP	Department of Infrastructure and Planning
DoC	Department of Communities
DSQ	Disability Services Queensland in DOC
EA	environmental authority (under the EP Act)
EC	electrical conductivity (measure of salinity)
EEC	endangered ecological communities (EPBC Act, MNES)
EIA	environmental impact assessment
EIS	environmental impact statement – for the Bowen Basin Coal Growth Project, Caval Ridge Mine (July 2009) prepared by BMA
EM plan	environmental management plan – under the EP Act
EMR	Environmental Management Register (under the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland 1998*)
EMS	environmental management system
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EPP	Environmental Protection Policy
EPP (Air)	*Environmental Protection (Air) Policy 2008*
EPP (Noise)	*Environmental Protection (Noise) Policy 2008*
EPP (Waste)	*Environmental Protection (Waste Management) Policy 2000*
EPP (Water)	*Environmental Protection (Water) Policy 2009*
EP Reg	*Environmental Protection Regulation 1998*
ERA	environmentally relevant activity (EP Act)
ESCP	Erosion and Sediment Control Plan
FIFO	fly-in-fly-out transportation of workers to work sites and/or accommodation facilities who have a permanent place of residence outside of the project area
GHG	greenhouse gas.
GQAL	good quality agricultural land
Hz	hertz
IAS	initial advice statement
ICMM	International Council on Mining and Metals
IDAS	Integrated Development Assessment System (under SPA)
IPA	*Integrated Planning Act 1997*
IRC	Isaac Regional Council – formed on 15 March 2008 following the amalgamation of the former Belyando, Nebo and Broadsound Shire Councils
kV	kilovolt
Leq	average noise level
LGAQ	Local Government Association of Queensland
Lmax	maximum noise level
L90	steady-state noise level (i.e. noise levels that are exceeded for 90% of each sample period)
LoS	level of service

LOX	limit of oxidation
MDL	mineral development licence (MRA)
MDLA	mineral development licence application
MIA	mine industrial area
MCIG	Moranbah Cumulative Impacts Group
MNES	matters of national environmental significance (under the EPBC Act)
MRA	*Mineral Resources Act 1989*
ML (1)	Mining Lease (MRA)
ML (2)	megalitre (one million litres)
MLA	Mining Lease Application
Moranbah BCN	Moranbah BMA Community Network, defined by Schedule 1, Condition 6 of this Coordinator General's Report.
m^3/s	cubic metres per second (flow rate)
µm	micrometres
µS/cm	microsiemens per centimetre (measure of electrical conductivity (EC), i.e. salinity)
Mtpa	million tonnes per annum
MWMS	mine water management system
NAF	non-acid forming
NC Act	*Nature Conservation Act 1992*
NEPC	National Environmental Protection Council
NEPM	National Environment Protection Measures made under the *National Environment Protection Council Act 1994* (Cth).
NNTT	National Native Title Tribunal
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen, which includes NO_2
NRA	Nature Refuge Agreement (under the NC Act)
OESR	Office of Economic and Statistical Research (of Queensland Treasury)
Pa	Pascals (unit of force)
PIFU	Planning Information Forecasting Unit (of OESR)
$PM_{2.5}$	particulate matter with equivalent aerodynamic diameter less than 2.5 µm
PM_{10}	particulate matter with equivalent aerodynamic diameter less than 10 µm
PMF	probable maximum flood
QPIF	Queensland Primary Industries and Fisheries (part of DEEDI)
QPS	Queensland Police Service
QRC	Queensland Resources Council
RE	regional ecosystem – under the VM Act
REMP	receiving environment monitoring program
RMP	road-use management plan (TIA)
ROM	run-of-mine
SDPWO Act	*State Development and Public Works Organisation Act 1971*

SEIS	supplementary environmental impact statement – for the Caval Ridge Mine of the Bowen Basin Coal Growth Project (November 2009) prepared by BMA
SEQ	South East Queensland
SIMP	social impact management plan – for the CRM to be prepared by BMA for approval by the Coordinator-General
SPA	*Sustainable Planning Act 200*
SPP	State Planning Policy
SPQ	single persons quarters
SPR	*Sustainable Planning Regulation 2009*
SRC policy	Sustainable Resource Communities policy of the Queensland Government released in September 2008
TAPM	The Air Pollution Model, version 4, CSIRO (2008) – meteorological model
TEOM	Tapered element oscillating microbalance analyser (air quality monitor)
TIA	*Transport Infrastructure Act 1994*
TLO	train load-out
TOR	terms of reference – for the EIS for the BBCG project which covers all four components of the project
TMP	Traffic Management Plan – defined by the *Transport Infrastructure Act 1994* and the *Transport Planning and Coordination Act 1994*
TMR	Department of Transport and Main Roads
TSP	total suspended particles
UDA	Urban Development Area
ULDA	Urban Land Development Authority – constituted under the *Urban Land Development Authority Act 2007*
VM Act	*Vegetation Management Act 1999*
WHAM	Whitsunday Hinterland and Mackay