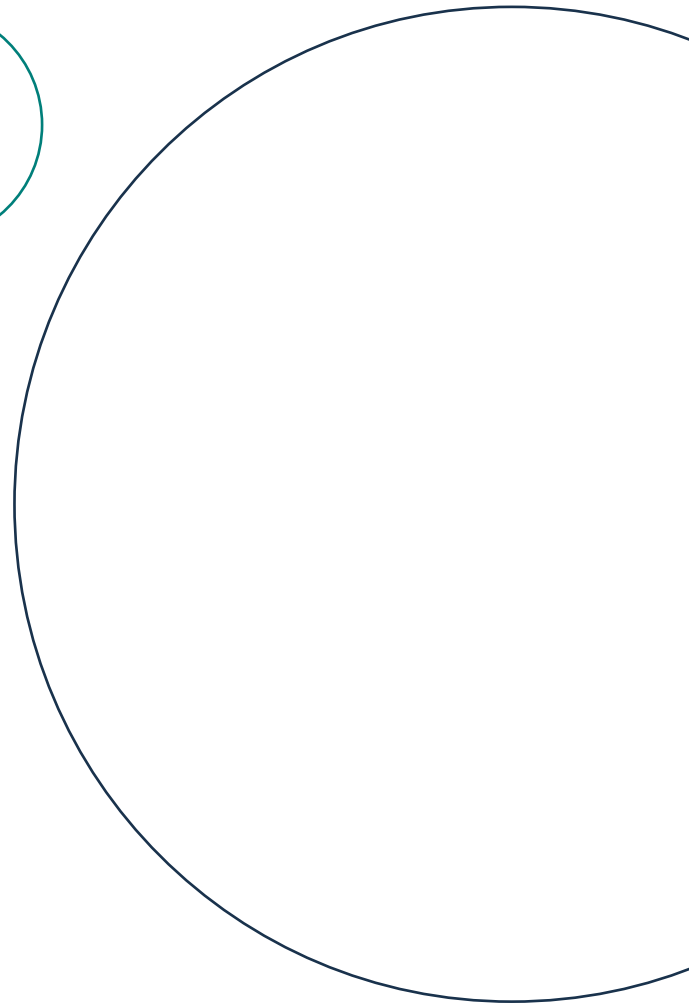
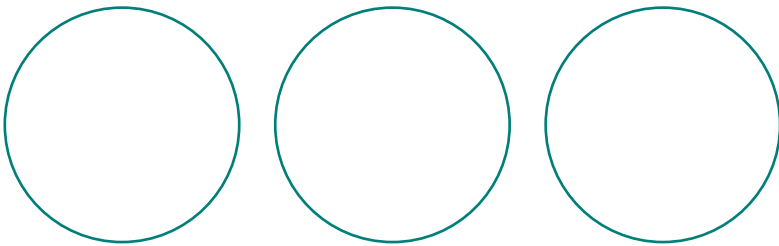


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GUIDE TO TERMS OF REFERENCE



GUIDE TO TERMS OF REFERENCE

A copy of the final Terms of Reference is included in Appendix L of the Ensham Central Project Environmental Impact Statement. The table below cross references specific items of the Terms of Reference to the relevant section of the Supplementary Report and the Ensham Central Project Environmental Impact Statement. The Supplementary Report provides a description of the Revised Central Area Mining Methodology and provides assessments and comparisons, where relevant, of any environmental impacts that are different to those presented in the Ensham Central Project Environmental Impact Statement. The Supplementary Report does not repeat information from the Ensham Central Project Environmental Impact Statement that has not changed as a result of the Revised Central Area Mining Methodology. Therefore specific items listed in the Terms of Reference can be found in both the Supplementary Report and the Ensham Central Project Environmental Impact Statement or solely in the Ensham Central Project Environmental Impact Statement as noted in the table below.

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>Executive Summary</p> <p>The executive summary should convey the most important aspects of the EIS to the reader in a concise and readable form. It should use plain English and avoid the use of acronyms, jargon and esoteric terms. The structure of the executive summary should follow that of the EIS and focus strongly on the key issues.</p>	Executive Summary	Executive Summary
<p>1.0 Introduction</p> <p>The introduction should explain the purpose of the EIS. It should also define the audience to whom it is directed, and contain an overview of the structure of the document. Factual information contained in the document should be referenced where possible.</p>	Section 1.3.1 Purpose Section 1.3.2 Structure	Section 1.4.1 Purpose Section 1.4.2 Structure
<p>1.1 Project proponent</p> <p>This section should provide details of the project proponent, including details of any joint venture partners.</p> <p>A summary of the environmental performance of the existing Ensham project over the past five years should be provided.</p>	See ECP EIS section See ECP EIS section	Section 1.2 The Proponent Section 3.1.2 Environmental Performance
<p>1.2 Project description</p> <p>A brief description of the key elements of the project should be provided and illustrated. Any major associated infrastructure requirements should also be summarised. The relationship and interactions with the existing approved Ensham mining operations should also be described.</p>	Section 3 The Proposal Section 3.1.8 Infrastructure	Section 3 The Proposal Section 3.2.5 Infrastructure

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>A brief description should be provided of studies or surveys that have already been undertaken for the purposes of developing the project and preparing the EIS. This should include reference to relevant baseline studies or investigations undertaken previously.</p>	<p>Discussed in all relevant sections</p>	<p>Discussed in all relevant sections</p>
<p>1.3 Project objectives and scope</p> <p>This section should provide a broad statement of the objectives that have led to the development of the proposal, and a brief outline of the events leading up to the proposal's formulation, including envisaged time scale for implementation and project life, and actions already undertaken within the project area.</p>	<p>See ECP EIS section See ECP EIS section See ECP EIS section</p>	<p>Section 1.3.2 Project Objectives Section 1.3. Project Need and Objectives Section 3.2.1 Introduction</p>
<p>1.4 The EIS process</p> <p>This section should state the objectives of the environmental impact assessment under the <i>Environmental Protection Act 1994</i> (EP Act). This section should provide a description of the impact assessment process steps, timing and decisions to be made for relevant stages of the project. This section should also describe the mechanisms for public input to the approval process.</p>	<p>Section 1.3.1 Purpose Section 2.5.1 EIS and SR Processes</p>	<p>Section 1.4.1 Purpose Section 2.5.1 EIS Process</p>
<p>1.4.1 Objectives of the EIS</p> <p>This section should provide a statement of the objectives of the EIS. The structure of the EIS can then be outlined as an explanation of how the EIS will meet its objectives.</p> <p>The purpose of the EIS is to:</p> <ul style="list-style-type: none"> • provide public information on the need for and likely effects of the project; • set out acceptable standards and levels of impacts (both beneficial and adverse) on environmental values; and • demonstrate how environmental impacts can be managed. 	<p>Section 1.3 Supplementary Report</p>	<p>Section 1.4 EIS Document</p>
<p>1.4.2 Submissions</p> <p>The reader should be informed as to how and when public submissions on the draft EIS can be made and how any submissions will be taken into account in the EPA's decision-making process.</p>	<p>Section 1.3.4 Supplementary Report Submissions Section 2.5.1 EIS and SR Processes</p>	<p>Section 1.4.4 EIS Submissions Section 2.5.1 EIS Process</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>1.5 Public consultation process</p> <p>This section should outline the methodology adopted for stakeholder consultation. Information about the consultation that has taken place and the results of such consultation should be provided. This should include a list of stakeholders consulted, including all affected and interested persons, as well as a summary of the consultation process, stakeholder issues identified and description of how stakeholder issues were addressed.</p> <p>An overview of the proposed stakeholder consultation strategy for the future stages of the project should also be provided.</p>	<p>Section 4 Consultation</p>	<p>Section 4 Consultation</p>
<p>1.6 Project regulatory approvals</p> <p>1.6.1 Local and State government approvals</p> <p>This section should explain the legislation and policies controlling the approvals process, including all relevant local and State government approval requirements. Reference should be made to the Queensland EP Act, <i>Integrated Planning Act 1997</i> and other relevant Queensland laws and State planning policies. Relevant local government planning controls, local laws and policies applying to the development should also be described.</p> <p>A list of the approvals required for the project and the expected program for approval of applications should also be provided.</p> <p>This section should discuss the project's consistency with existing land uses or long-term policy framework for the area (e.g. as reflected in local and regional plans), and with legislation, standards, codes or guidelines available to monitor and control operations on site.</p> <p>The requirement for involvement of the Commonwealth's Department of Environment and Heritage (DEH) in the project approval process in relation to any impacts on matters of national environmental significance (NES) as defined by the Commonwealth's <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) should be discussed in this section. The discussion should include any reference to specific sections of the EIS where impacts on matters of NES are addressed.</p>	<p>Section 2 Regulatory Framework See ECP EIS section</p> <p>Section 2.5.2 Key Approvals Required</p> <p>See ECP EIS section</p>	<p>Section 2.0 Regulatory Framework. Regional and local planning requirements are described in:</p> <ul style="list-style-type: none"> • Section 6.2 Regional Planning Framework; • Section 6.3 Local Planning Schemes; and • Section 6.4 Local Regulatory Requirements. <p>Section 2.5.1 Key Approvals Required</p> <p>Section 2.1.3 Environment Protection & Biodiversity Conservation Act</p>

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<p>1.6.2 Federal Government approvals</p> <p>DEH has declared the project a controlled action under the EPBC Act due to potential impacts on nationally listed threatened species and ecological communities. These species and communities are listed in the EPBC Act and are matters of NES.</p> <p>Assessment of the project under Part 1 of Chapter 3 of the EP Act falls within one of the classes of action covered by the Bilateral Agreement between the State of Queensland and the Commonwealth. Therefore, the State's EIS process under the EP Act will be used to assess both State and Commonwealth matters.</p> <p>This section should describe the DEH approval process under the EPBC Act and reference relevant sections of the EIS addressing the impact assessment for the nationally listed threatened species and ecological communities and any other matters of NES.</p>	<p>Section 2.5.1 EIS and SR Processes</p>	<p>Section 2.5.1 EIS Process</p>
<p>1.7 Project need and alternatives</p> <p>1.7.1 Project justification</p> <p>The justification for the project should be described, with particular reference made to the economic and social benefits, and the physical and environmental sensitivity of the project site. The status of the project should be discussed in a regional, state and national context.</p>	<p>Section 19 – Socio-Economics</p>	<p>Section 3.5.2 Project Justification</p>
<p>1.7.2 Alternatives to the project</p> <p>This section should describe feasible alternatives, including any conceptual, technological and locality alternatives to the project, and discussion of the consequences of not proceeding with the project. The discussion should include consideration of alternative coal reserves that the proponent could access from existing mining leases and mineral development licences. Alternatives should be discussed in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action and rejecting others. Reasons for selecting the preferred options should be explained in terms of relevant technical, commercial, social and natural environmental aspects.</p>	<p>Section 3.1 Revised Central Area Mining Methodology</p>	<p>Section 3.5 Project Alternatives and Justification</p>
<p>2.0 Project description</p> <p>The objective of this section is to describe the project through its lifetime of construction, operation and decommissioning. The section will allow further assessment of which approvals may be required and how they may be managed over the life of the proposal.</p>	<p>Section 3 The Proposal Section 2.5.2 Key Approvals Required</p>	<p>Section 3 The Proposal Section 2.5.2 Key Approvals Required</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>2.3 Mining operations</p> <p>This section should include a description of the proposed open-cut and underground mining operations. This should include:</p> <ul style="list-style-type: none"> open-cut and underground mine plans including the rationale for the preferred plans; open-cut and underground mine sequence and schedules; a description of open-cut and underground mining methods, including mining plant and equipment; integration of the project open-cut and underground mining operations with the existing approved Ensham open-cut mining operations; the location of any final void to be left at the cessation of mining; and <p>the identification of all site access points to, from and within the project, to assist in the assessment of emergency planning.</p>	<p>Section 3.1 Revised Central Area Mining Methodology</p>	<p>Section 3.2 Ensham Central Project</p>
<p>2.4 Mine infrastructure</p> <p>This section should provide descriptions, with concept and layout plans, of all infrastructure requirements for the project. This should include a description of all infrastructure associated with the project, including new infrastructure and upgrading of existing infrastructure.</p>	<p>Section 3.1.8 Infrastructure</p>	<p>Section 3.2.6 Infrastructure</p>
<p>2.4.1 Coal handling and transport</p> <p>A description, including concept and layout plans, should be provided for all coal handling and coal transport infrastructure on the mine site. Coal transport from the site should also be described. This should include description of the capacity of the coal handling, washery, stockpiling and transport systems and a washplant process chart showing inputs, products, wastes and recycle streams. The net effect of the proposal on coal rail freight demand should be explained and quantified. This should include a description of the number of trains and operating times for current mining production rates and also for future production rates.</p>	<p>Section 3.1.8 Infrastructure</p> <p>Section 9.3 Rail</p>	<p>Section 3.2.6 Infrastructure</p> <p>Section 9.3.2 Future Rail Volumes</p>
<p>2.4.2 Rejects and tailings disposal</p> <p>This section should describe the quantities and physical and chemical characteristics of coal rejects and tailings material. A description of the transport and disposal strategy for coal rejects and tailings should be provided, including plans for emplacement areas and associated environmental controls.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 3.2.6 Infrastructure</p> <p>Section 7.3.6 Tailings Dams</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>2.4.3 Flood protection, drainage and dewatering infrastructure</p> <p>Descriptions of proposed mine flood protection and drainage infrastructure, including infrastructure associated with mining in the Nogoia River floodplain, are to be provided. These are to include the location and distances from the high bank on either side of the Nogoia River, design criteria and construction requirements for flood protection levees and creek diversions. Information should also be provided on any infrastructure required to dewater the open-cut pits or underground mining areas.</p>	<p>See ECP EIS section</p>	<p>Section 3.2.6 Infrastructure</p>
<p>2.4.4 Transport</p> <p>This section should describe arrangements for the transport of plant, equipment, wastes and personnel during the construction, operation and decommissioning phases of the project. The description should address the use of existing facilities and all requirements for the construction, upgrading or relocation of any transport related infrastructure, including any new roads, road realignments, proposed road closures, mining haul roads, access roads and any resultant property fragmentation.</p> <p>The information provided should include any proposed new or upgraded crossings over the Nogoia River as such works require authorisation under the <i>Water Act 2000</i>.</p>	<p>Section 9.2 Roads</p> <p>No new or upgraded Nogoia River crossings are proposed as part of the project.</p>	<p>Section 9.2 Roads</p> <p>No new or upgraded Nogoia River crossings are proposed as part of the project.</p>
<p>2.4.5 Energy</p> <p>This section should describe all energy requirements, including electricity, natural gas, and/or solid and liquid fuel requirements for the construction and operation of the proposal. The locations of any easements should be shown on the infrastructure plan. Energy conservation should be briefly described in the context of any relevant Federal, State and local government policies.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 3.2.6 Infrastructure</p> <p>Section 6.9 Infrastructure</p>
<p>2.4.6 Water supply and storage</p> <p>This section should provide information on water usage by the project and the proposed water supply sources. Details of the project's water demand (including any temporary demands during construction), quality, supply source, and any on-site storage and treatment should also be described.</p> <p>Details of existing approvals for water supply and storage infrastructure (including facilities such as pumps) for the current Ensham mine operations and the Ensham Central Project should be provided.</p>	<p>Section 11 Mine Water Management</p> <p>See ECP EIS section</p> <p>Section 11.3 Project Water Balance</p> <p>See ECP EIS section</p>	<p>Section 3.2.6 Infrastructure</p> <p>Section 11.Mine Water Management</p> <p>Section 11.4 Project Water Balance</p> <p>Section 11.2 Existing Ensham Mine Water Management System</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>The following specific information with respect to water usage and proposed water supply sources should be provided:</p> <ul style="list-style-type: none"> • details of existing water entitlements that the proponent proposes to use for the project (i.e. water allocations and water licences); • whether or not any additional water will be required for the project; and • should additional water be required, potential sources of that water should be identified, including proposals to take or divert overland flow (if the additional water is to be sourced from groundwater, a hydrological study may be required). <p>Consideration should be given to the Water Allocation and Management Plan (Fitzroy Basin) 1999 and the Fitzroy Basin Resource Operations Plan 2004 in relation to proposals to utilise any sources of surface water and the disposal of excess water.</p>	<p>See ECP EIS section</p> <p>Section 11.3 Project Water Balance</p> <p>The water requirements of the project can be met using the existing water allocation.</p> <p>Section 11.1.2 Mine Water Supply</p>	<p>Section 11.2 Existing Ensham Mine Water Management System</p> <p>Section 11.4 Project Water Balance</p> <p>The water requirements of the project can be met using the existing water allocation.</p> <p>Section 11.2 Existing Ensham Mine Water Management System</p>
<p>2.4.7 Sewerage</p> <p>This section should describe, in general terms, the sewerage infrastructure required by the project.</p>	<p>See ECP EIS section</p>	<p>Section 8.1 Waste</p>
<p>2.4.8 Other infrastructure</p> <p>A description should be provided of any other infrastructure directly related to the project not described in other sections, such as:</p> <ul style="list-style-type: none"> • workforce camps; • fuel storage areas; • equipment hardstand and maintenance areas; and • workshops and other buildings. 	<p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 3.2.6 Infrastructure</p> <p>Section 3.2.5 Underground Mining</p>
<p>2.5 Rehabilitation and decommissioning</p> <p>The strategies and methods for progressive and final rehabilitation of the environment disturbed by the mining activities should be described in the context of the expected final landforms for nominated final land uses consistent with the requirements of the QDME Technical Guidelines for Environmental Management of Exploration and Mining in Queensland 1995 and other rehabilitation best practice guidelines. The final topography of voids, overburden emplacements, rejects and tailings disposal areas, waste dumps and land affected by surface subsidence should be described and shown using diagrams as necessary. The post mining land suitability of the various land disturbance types should be described in terms of the physical and chemical characteristics of the relevant materials and specified final landform.</p>	<p>Section 7 Rehabilitation</p> <p>Figure 7-2</p> <p>See ECP EIS section</p>	<p>Section 7 Rehabilitation</p> <p>Figure 7-1</p> <p>Post-mining land suitability is addressed in Section 6 of Appendix B Terrain, Soils and Land Capability Assessment</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>The means of decommissioning the project, in terms of removal of plant, equipment, structures and buildings, should be described. The methods proposed for the stabilisation and rehabilitation of the affected areas should be specified. Management of any residual contaminated land and other land management issues should be discussed.</p>	<p>Section 7.4 Mine Decommissioning</p>	<p>Section 7.4 Mine Decommissioning</p>
<p>2.6 Construction phase</p> <p>The extent and nature of the project's construction phase/s should be described. The description should include the type and methods of construction, the construction equipment to be used and the items of plant to be transported onto the site for construction. Any staging of the proposal should be described including development sequencing and timeframes.</p>	<p>Section 3.2 Construction Section 9.2 Roads</p>	<p>Section 3.3 Construction Section 9.2.3 Forecast Construction Traffic Volumes</p>
<p>2.7 Workforce requirements</p> <p>A schedule of total workforce numbers (including contractors) to be employed in the facility's operations during its various phases (construction, commissioning, operation and decommissioning) should be provided. The number of workers employed at the current mining operation should also be detailed.</p> <p>A brief description of the accommodation requirements for the workforce and how they will be transported to the site should be provided. Comment should be made on the anticipated basis of employment (permanent, contract, etc).</p>	<p>Section 19.2.1 Workforce Numbers Section 19.2.2 Socio-Economic Impacts Section 19.2.1 Workforce Numbers</p>	<p>Section 19.2.2 Workforce Numbers Section 19.2.3 Workforce Accommodation Section 19.2.2 Workforce Numbers</p>
<p>3.0 Environmental values and management of impacts</p> <p>The functions of this section are: to describe the existing environmental values of the area which may be affected by the proposal. Environmental values are defined in section 9 of the EP Act, environmental protection policies and other documents such as the Australian and New Zealand Environment and Conservation Council (ANZECC) National Water Quality Management Strategy, Australian Water Quality Guidelines for Fresh and Marine Waters (2000) (ANZECC Guidelines 2000), Central Highlands Natural Resource Management Plan 2003 and the Central Queensland Strategy for Sustainability – 2004 and Beyond. Environmental values should be described by reference to background information and studies, which may be included as appendices to the EIS.</p>	<p>These general requirements are addressed throughout the EIS in all relevant sections.</p>	<p>These general requirements are addressed throughout the EIS in all relevant sections.</p>

<p style="text-align: center;">Terms of Reference</p>	<p style="text-align: center;">Supplementary Report Section Reference/Comments</p>	<p style="text-align: center;">Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments</p>
<ul style="list-style-type: none"> • to describe the potential adverse and beneficial impacts of the proposal on the identified environmental values. Any likely environmental harm on the environmental values should be described. Include analysis of any cumulative impacts caused by or contributed to by the proposal. • to present environmental protection objectives and the standards and measurable indicators to be achieved. Environmental protection objectives may be derived from legislative requirements and planning frameworks which apply to the proposal including Commonwealth strategies, state planning policies, local authority strategic plans, environmental protection policies under the EP Act, and any catchment management plans prepared by local water boards or catchment groups. Special attention should be given to those mitigation strategies designed to protect the values of any sensitive areas and any identified ecosystems of high conservation value within areas of proposed impact. • to examine viable alternative strategies for managing impacts. These alternatives should be presented and compared in view of the stated objectives and standards to be achieved. Available techniques, including best practice, to control and manage these impacts to the nominated objectives should be discussed. This section should comment on the suitability of environmental protection measures incorporated in the planning, construction, operations, decommissioning, rehabilitation and associated works for the proposal. Measures should minimize environmental harm and maximize socio-economic and environmental benefits of the proposal. Preferred measures should be identified and described in more detail than alternatives. <p>This section should address all elements of the environment (i.e. land, water, air, waste, noise, nature conservation, cultural heritage, social and community, health and safety, economy, and hazards and risk) in a way that is comprehensive and clear. To achieve this, the topics to be addressed for each element are:</p> <ul style="list-style-type: none"> • Environmental values affected: describe the existing environmental values of the area to be affected, including areas that may be affected by any cumulative impacts (refer to any background studies in appendices). 		

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<ul style="list-style-type: none"> • Impact on environmental values: quantitatively describe the likely impact of the proposal on the identified environmental values of the area. The cumulative impacts of the proposal must be considered over time or in combination with other (all) impacts in the dimensions of scale, intensity, duration or frequency of the impacts. In particular, the requirements and recommendations of relevant State planning policies, environmental protection policies, national environmental protection measures and integrated catchment management plans should be addressed. • Environmental protection objectives: describe qualitatively and quantitatively the proposed objectives for enhancing or protecting each environmental value. Where relevant, include proposed indicators to be monitored to demonstrate the extent of achievement of the objective as well as the numerical standard that defines the achievement of the objective (this standard must be auditable). • Control strategies to achieve the objectives: describe the control principals, proposed actions and technologies to be implemented that are likely to achieve the environmental protection objectives. • Monitoring programs: describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals. • Auditing programs: describe how progress towards achievement of the objectives will be measured, reported and whether external auditors will be employed. • Management strategies: describe the strategies to be used to ensure the environmental protection objectives are achieved and control strategies implemented. 		

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<p>3.1 Land</p> <p>3.1.1 Description of environmental values</p> <p>3.1.1.1 Land use</p> <p>The EIS should provide a description of current land tenures and land-uses in the project proposal area, with particular mention of land with special purposes. Areas covered by native title claims should be identified.</p> <p>A map at a suitable scale showing existing land-uses and tenures, and the proposed mine and plant locations should be provided for the entire project proposal area and surrounding land that could be affected by the development. The location of existing dwellings, and the zoning of all affected lands according to any existing town or strategic plan should be included.</p>	Section 6 Land Use	Section 6 Land Use
<p>3.1.1.2 Sensitive environmental areas</p> <p>The EIS should identify whether areas that are environmentally sensitive could be affected, directly and indirectly, by the project proposal. Also, areas sensitive to environmental harm caused by the project proposal can be determined through site specific environmental impact assessment processes.</p>	See ECP EIS section	Section 6.8 Sensitive Environmental Areas
<p>The provisions of the EPBC Act should be addressed, in particular, relevant matters of national environmental significance (i.e. nationally listed threatened species and ecological communities).</p> <p>The proximity of the project elements to any of these areas should be identified.</p>	Section 16.3 Matters of Commonwealth Significance See ECP EIS section	Section 16.6 Matters of Commonwealth Significance Section 6.8 Sensitive Environmental Areas
<p>3.1.1.3 Infrastructure</p> <p>The location and owner/custodians of all tenures, reserves, roads and road reserves, rail corridor land and stock routes covering the affected land should be shown. Indicate locations of power lines and any other easements.</p> <p>Details should be provided of the impacts on environmental values of any road works associated with the project.</p>	Section 3.1.3 Site and Surrounds Section 6.2.1 Mining Tenure Section 9.2 Roads Section 9.2 Roads	Section 3.2.2 Site and Surrounds Sections 6.7.1 Mining Tenure and 6.9 Infrastructure Section 9.2 Roads Section 9.2 Roads
<p>3.1.1.4 Topography/geomorphology</p> <p>The contour information for the project proposal site should be detailed at suitable increments, with levels shown with respect to Australian Height Datum (AHD).</p>	Figure 3-8	Figure 3-9
<p>3.1.1.5 Geology</p> <p>The EIS should provide a description, map and a series of cross-sections of the geology of the proposal area, with particular reference to the physical and chemical properties of surface and sub-surface materials and geological structures within the proposed areas of disturbance. Properties that may influence stability,</p>	Section 3.1.4 Geology See ECP EIS section	Section 3.2.3 Geology Appendix A Geochemical Characterisation of Overburden and Coal Reject Material Assessment

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>occupational health and safety, rehabilitation programs, or the quality of wastewater leaving any area disturbed by the proposal, should be described.</p> <p>Information should also be provided on the geology underlying the proposed infrastructure corridors for any overland conveyer, road, electricity easement, pipeline easement and other mining plant infrastructure. Of particular interest is any other coal, petroleum, gas or other mineral resources that may be impacted or sterilised by the infrastructure.</p>	Section 3.1.4 Geology	Section 3.2.3 Geology
<p>3.1.1.6 Soils</p> <p>A soil survey of the project proposal sites should be conducted, with particular reference to the physical and chemical properties of the materials which will influence erosion potential, storm water run-off quality, rehabilitation and agricultural productivity of the land (e.g. for dryland cropping, irrigated agriculture or grazing uses). Information should also be provided on soil stability and suitability for construction of proposal facilities.</p> <p>Soil profiles should be mapped at a suitable scale and described according to accepted standards (e.g. the Australian Soil and Land Survey Field Handbook (McDonald <i>et al.</i> 1990), the Australian Soil Classification (Isabell, 1996) or the Land Resource Assessment of the Windeyers Hill Area (Burgess 2003)). It should be noted that the soil mapping scale used in the Land Resource Assessment of the Windeyers Hill Area (Burgess 2003) is not appropriate for the project area and a more detailed scale is required as per the QDME Technical Guidelines for Environmental Management of Exploration and Mining in Queensland 1991. An appraisal of the depth and quality of useable soil should be undertaken. The results should be presented according to established standards that generally follow the procedures adopted for the Windeyers Hill Area (Burgess 2003) and/or other land resource assessments undertaken in the region. Information should be presented according to the standards required in the <i>Planning Guidelines: The Identification of Good Quality Agricultural Land</i> (DPI, DHLGP, 1993), and the <i>State Planning Policy 1/92: Development and the Conservation of Agricultural Land</i>.</p> <p>The description of soils and overburden at the project proposal site should include:</p> <ul style="list-style-type: none"> • profile description, including stability, soil structure and texture, erodibility, dispersivity and rockiness; • salinity and sodicity; • nutrient status, including Cation Exchange 	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Appendix B Terrain, Soils and Land Capability Assessment</p> <p>Geotechnical assessments will be conducted for the design of all future infrastructure.</p> <p>Appendix B Terrain, Soils and Land Capability Assessment (Section 3.4.2)</p> <p>Appendix B Terrain, Soils and Land Capability Assessment (Section 4)</p> <p>Appendix B Terrain, Soils and Land Capability Assessment</p>

Terms of Reference	Supplementary Report Section Reference/Comments	Ensham Central Project (ECP) Environmental Impact Statement (EIS) Section Reference/Comments
<p>Capacity; and</p> <ul style="list-style-type: none"> pH. <p>This information should then be used to:</p> <ul style="list-style-type: none"> describe the present land suitability of soils on the site; prepare a land suitability map of the proposed mining lease area, prepared in accordance with the <i>QDME Technical Guidelines for Environmental Management of Exploration and Mining in Queensland 1995</i>, specifically Section 6.1 Land suitability assessment techniques. These guidelines recommend that disturbed areas be mapped more intensively than non-disturbed areas and provide guidance on acceptable mapping scale and site intensity. Land suitability assessments should be completed for rainfed cropping, irrigated agriculture and grazing covering all disturbed and undisturbed areas within the proposed mining lease areas. This assessment will set out soil and landform limitation subclasses assigned to soil mapping units in order to derive land suitability classes; 	<p>Section 7.4.3 Post Mining Land Use See ECP EIS section</p>	<p>Section 7.4.3 Post Mining Land Use Appendix B Terrain, Soils and Land Capability Assessment (Section 6)</p>
<ul style="list-style-type: none"> prepare a map of good quality agricultural land based on the land suitability assessments prepared in accordance with the above requirement; and characterise the overburden stripped ahead of coal extraction. <p>Provision should also be made for the ongoing characterisation of spoil material as mining progresses to maximise the suitability of the replaced soils for the nominated final land-use.</p> <p>Discuss constraints of final landform soil profile characteristics (physical and chemical) on nominated post-mining land-uses. Particular regard should be given to management and maintenance inputs required to sustain final landform stability and productivity when compared to similar undisturbed landforms.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 7.3.4 Rehabilitation Monitoring and Maintenance</p> <p>Section 7.3 Revised Central Area Mining Methodology Rehabilitation</p> <p>Section 7.4 Mine Decommissioning</p>	<p>Appendix B Terrain, Soils and Land Capability Assessment (Figure 4)</p> <p>Appendix A Overburden and Rejects Geochemistry Assessment</p> <p>Section 7.3.7 Rehabilitation Monitoring and Maintenance</p> <p>Section 7.3 Ensham Central Project Rehabilitation</p> <p>Section 7.4 Post Mining Land Use</p>
<p>3.1.1.7 Scenic values</p> <p>This section should include an assessment of the visual impact in terms of the extent and significance of the changed skyline as viewed from sensitive locations, during all stages of the project proposal.</p> <p>The assessment should address the local visual impacts of the project proposal structures and associated infrastructure during construction, operation and post-mining, including final landform.</p>	<p>See ECP EIS section</p>	<p>Section 18 Scenic Values</p>

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<p>site.</p> <p>The potential impact on adjacent agricultural land, urban and recreational areas should be described, and any constraints on future developments in the mining area outlined.</p> <p>The land suitability assessment and nominated post-mining land use options should be consistent with the requirements of the <i>QDME Technical Guidelines for Environmental Management of Exploration and Mining in Queensland 1995</i> and other best practice management guidelines.</p> <p>Topsoil management commitments should be described, and summarised in the environmental management plan in Section 4.</p>	<p>See ECP EIS section</p> <p>Section 7.4.3 Post Mining Land Use</p>	<p>Section 6.10 Potential Impacts on Land Use</p> <p>Section 7.4.3 Post Mining Land Use</p>
<p>3.1.2.2 Land disturbance</p> <p>The extent of areas disturbed and the nature of the disturbance should be described and a strategy developed with a view to minimising the amount of land disturbed at any one time. The strategic approach to progressive and final decommissioning should be described.</p> <p>The methods to be used for the project proposal, including backfilling, covering, re-contouring, topsoil handling and revegetation, should be described. A description of the proposed final landform/s post-mining (including dimensions) should also be provided.</p> <p>Where dams, levee banks, roads and other infrastructure are to be constructed, proposals for the management of these structures after the completion of the project proposal should be given. A contour map of the area should be provided at a suitable scale. Also, the final drainage and seepage control systems and any long term monitoring and remediation plans should be described.</p> <p>Proposed decommissioning should be described, including consolidation, revegetation, fencing, and monitoring. Post-mine, long-term management of levee banks and other flood control infrastructure on the Nogoia River floodplain should be discussed.</p> <p>A description of topsoil management should outline how the utilisation of soil suitable for rehabilitation purposes will be maximised. Erosion and sediment control measures should be described, particularly in relation to the management of acidic, sodic and saline overburden material.</p>	<p>Section 7.3 Revised Central Area Mining Methodology Rehabilitation</p> <p>Section 7.4 Mine Decommissioning Figure 7-2</p> <p>Erosion and Sediment Control measures are described in Section 11.2.3 Runoff From Disturbed Areas</p>	<p>Section 7.3 Ensham Central Project Rehabilitation</p> <p>Section 7.4 Mine Decommissioning Figure 7-1</p> <p>Section 7.3.2 Topsoil Management Erosion and Sediment Control measures are described in Section 11.3.4 Runoff from Disturbed Areas</p>

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<p>3.1.2.3 Surface subsidence</p> <p>The EIS should provide subsidence predictions as a result of underground mining and a description of all potential areas of subsidence, degree of subsidence, effects of subsidence and proposed management and rehabilitation measures. The EIS should consider subsidence effects on surface drainage, including overland flow and infiltration, groundwater, land use and land capability. A description of the methodology used to generate subsidence predictions should be provided.</p>	<p>Section 7.3.1 Underground Mining</p>	<p>Section 7.5 Surface Subsidence Areas</p>
<p>3.1.2.4 Land contamination</p> <p>The EIS should describe the possible contamination of land from aspects of the project proposal including waste material (including waste rock dumps), tailings and reject product generated from washing and processing coal at the coal handling and processing plant, and spills at chemical and fuel storage areas.</p> <p>The means of preventing land contamination (within the meaning of the EP Act) should be addressed. Methods proposed for preventing, recording, containing and remediating any contaminated land should be outlined. Intentions should be stated concerning the classification (in terms of the Queensland Contaminated Land Register) of land contamination on the land, processing plant site and product storage areas after project completion.</p> <p>The potential acid forming characteristics of mine waste should be estimated and presented in the EIS. This assessment should incorporate potential impacts on soil quality, void water quality, groundwater and surface waters. The rationale for sampling frequencies and testing methodologies used should be provided based on industry best practice. If any mine waste is identified as being potentially acid forming, management strategies for that waste should also be described in the EIS. If any mine waste is identified as being potentially acid forming, management strategies to prevent acid formation, seepage and contamination should also be described in the EIS.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 8.2.4 Contamination Prevention and Control</p> <p>Appendix A Overburden and Rejects Geochemistry</p> <p>No potentially acid forming mine wastes have been identified</p>
<p>3.1.2.5 Transport</p> <p>The EIS should explain how the State-controlled, local government road networks respectively, will be affected using Main Roads' <i>Guidelines for Assessment of Road Impacts of Development Proposals</i>, with reference to the road planning and design manual. The EIS should include analysis of the potential impacts on the roads from construction and operational traffic associated with the project proposal.</p>	<p>Section 9.2 Roads</p>	<p>Section 9.2 Roads</p>

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<p>The assessment of potential impacts should include:</p> <ul style="list-style-type: none"> • calculation of project related traffic volumes (road and rail); • safety and efficiency impacts on roads; • intersections from additional traffic associated with the project; • a pavement impact assessment (if required); • a potential need for increased road maintenance from hauling construction materials and components away; • any extension of roads over railway; and • proposed ways of dealing with any significant road impacts that are identified. <p>Information should also be provided on the anticipated timing of the delivery of the coal product to the Port of Gladstone, the anticipated amount of throughput per annum, the number of years and whether discussions have been commenced with the Central Queensland Port Authority.</p> <p>Information should also be provided on proposed emergency vehicle access to the project site.</p>	<p>Section 9.2 Roads</p> <p>Section 9.3 Rail</p> <p>Section 9.2.4 Capricorn Highway / Duckponds Road Intersection</p> <p>See ECP EIS section</p> <p>Section 9.4 Port</p> <p>See ECP EIS section</p>	<p>Sections 9.2 Roads, 9.3 Rail</p> <p>The small increase in heavy vehicle traffic on Duckponds Road and the Capricorn Highway during construction of the project may result in the potential need for increased road maintenance</p> <p>No extension of roads over railways are required for the project</p> <p>Section 9.4 Port</p> <p>Section 20.11.1 Emergency Response</p>
<p>3.1.2.6 Climate</p> <p>The EIS should describe the air temperatures, humidity, wind (direction and speed) and any other special factors (e.g. temperature inversions) likely to affect air quality within the environs of the project proposal. Rainfall patterns, including magnitude and seasonal variability of rainfall, must be considered. Extremes of climate (droughts, floods, cyclones, etc) should also be discussed with particular reference to water management at the project proposal site. The vulnerability of the area to natural or induced hazards, such as floods, bushfires and earthquakes should also be addressed. The relative frequency, magnitude and risk of these events should be considered</p>	<p>See ECP EIS section</p>	<p>Section 5.0 Climate</p>

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<p>3.2 Water resources</p> <p>3.2.1 Description of environmental values</p> <p>3.2.1.1 Surface water</p> <p>A description should be given of the surface water resources, including waterways, lakes, dams, waterholes and wetlands and their quality and quantity in the area affected by the project, with an outline of the significance of these waters to the river catchment system in which they occur. Details provided should include a description of existing surface drainage patterns and flows in major streams. A map or maps should be provided at a suitable scale depicting the nature of any aquatic features within and adjacent to the project site including wetlands, waterways, drainage channels, intermittent water features, dams, and man-made channels.</p> <p>Maps should illustrate the width and extent of the Nogoia River meander belt, as evidenced by the existing river channel, existing anabranch channels, buried paleochannels, and the occurrence and distribution of deep riverine gravel beds underneath the existing agricultural land on the floodplain.</p> <p>Also provide details of the likelihood of flooding, history of flooding including extent, levels and frequency, and a description of present and potential water uses downstream of the areas affected by the project. Flood studies should include a range of annual exceedance probabilities for affected waterways, where data permits.</p> <p>Describe the environmental values of the surface waterways of the affected area in terms of:</p> <ul style="list-style-type: none"> • values identified in the <i>Environmental Protection (Water) Policy 1997 (EPP Water)</i> and the <i>Central Queensland Strategy for Sustainability – 2004 and Beyond</i> and the <i>Nogoia River Floodplain Management Plan 1997</i>; • sustainability, including both quality and quantity; • physical integrity, fluvial processes and morphology of watercourses, including riparian zone vegetation and form; and • any water resource plans, land and water management plans relevant to the affected catchments. <p>Provide details on any stream gauging stations established and operated by the Department of Natural Resources and Mines likely to be affected by the project, in particular, describing the functions of those stations for water</p>	<p>Section 11.1 Existing Ensham Mine Water Management System Figures 11-1, 11-2 See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 11.1.1 Water Management See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 11.1 Existing Ensham Mine Water Management System See ECP EIS section</p>	<p>Section 11.1 Existing Surface Water Environment Section 11 – Figures 11-1, 11-2, 11-3 Appendix I Ecology(Section 5.3)</p> <p>Section 12.7.4 Geomorphologic Impacts & Appendix E Nogoia River Audit The extent of the Nogoia River alluvial floodplain is shown in Appendix C Groundwater (Drawing No.3). Section 11.1.1 Project Setting Section 12.5 Flood Hydrology</p> <p>Section 11.1 Existing Surface Water Environment Section 11.2 Existing Ensham Mine Water Management System</p> <p>Section 12.7.4 Geomorphologic Impacts & Appendix E Nogoia River Audit Section 11.2 Existing Ensham Mine Water Management System</p> <p>Section 12.8.3 Duckponds Stream Gauging Station</p>

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management in the Fairbairn Dam – Nogoa Mackenzie water management area and their regional importance for biological monitoring and surface water assessment.		
<p>3.2.1.2 Groundwater</p> <p>The EIS should review the quality and quantity of both the regional groundwater aquifer and alluvial groundwater aquifer resources in the project proposal area, and outline the scale and significance of groundwater resources potentially affected by the project.</p> <p>The review should include a survey of existing groundwater supply facilities such as bores, wells, or excavations.</p> <p>A description of existing groundwater usage, based on consultation with surrounding landholders, should be provided and should include details and location of surrounding residents using groundwater for drinking, stock watering or irrigation purposes.</p> <p>Describe the environmental values of the underground waters of the affected area in terms of:</p> <ul style="list-style-type: none"> • values identified in the EPP Water; • sustainability, including both quality and quantity; and • physical-chemical characteristics. 	<p>Section 10 Groundwater Resources</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 10.2 Impact of 2008 Flood Event on Aquifer Systems</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 10 Groundwater Resources & Appendix C (Sections 6.2.1 and 6.2.2)</p> <p>Section 10.2.4 Groundwater Usage & Appendix C (Section 7.0)</p> <p>Section 10.2.4 Groundwater Usage & Appendix C (Section 7.0)</p> <p>Section 10.2.3 Groundwater Quality & Appendix C (Sections 6.2.1 and 6.2.2)</p> <p>Section 10 Groundwater Resources & Appendix C</p> <p>Section 10 Groundwater Resources & Appendix C (Section 6.0)</p> <p>Section 10.2.3 Groundwater Quality & Appendix C (Section 6.0)</p>
<p>3.2.2 Potential impacts and mitigation measures</p> <p>3.2.2.1 Surface water</p> <p>The EIS should include an assessment of the potential impact of the project on the flow and quality of surface waters, including details of the assessment. The assessment on flow of surface waters should include:</p> <ul style="list-style-type: none"> • a discussion of the likely impacts of surface water flows on any existing infrastructure including access roads to the project site, waterway barriers in any affected watercourse or flood protection infrastructure, including levee banks adjacent to any affected watercourse with reference to the <i>Water Act 2000</i>; • an assessment of the impacts of planned and existing works, including access roads, levee banks and waterways barriers on flood inundation levels on adjacent and nearby properties and transport infrastructure both upstream and downstream of the project; 	<p>Section 12 Surface Water</p> <p>See ECP EIS Section</p> <p>See ECP EIS Section</p>	<p>Section 12 Surface Water</p> <p>Section 12.8 Infrastructure Impacts</p> <p>Section 12.7.2 Flood Level Impacts</p> <p>There is no impact on transport infrastructure upstream or downstream of the project affected by flooding</p>

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<ul style="list-style-type: none"> • the potential impacts of the proposed project on the flow regime, integrity and stability of watercourses, including the Nogoia River and anabranch and any watercourses to be diverted or mined beneath; • an analysis of past patterns of meander movements within the meander belt of the Nogoia River, and a description of the means proposed to prevent the Nogoia River from meandering laterally across the floodplain, away from the present channel location during mining and post mining. The types of works proposed, and the scale and extent of proposed works should be detailed in drawings and sketches that clearly convey in the EIS the impact of such works on the riverine environment (e.g. riparian vegetation and aquatic ecosystems); • the impacts on floodplain morphology; • the impacts of flood protection infrastructure on local catchment hydrology, including water availability to downstream water users, and impacts on riparian vegetation and wetland ecology in the floodplain within the project area. Specific information should be provided on the consequences of any alteration in the frequency, duration and magnitude of flow; • the potential for, and quantity and duration of losses of surface water flows, post-mining, from the Nogoia River channel into the mined out and backfilled artificial groundwater aquifer on either side of the Nogoia River channel. Similar information should be provided for infiltration of surface water flows from other creeks and watercourses that traverse the proposed project area; • an estimate of the volume of water that may be permanently retained and/or discharged from the interstitial voids between the overburden and stripping material which has been used to backfill the open-cut pits creating the artificial groundwater aquifers on either side of the Nogoia River channel. An estimate should also be made of the volumes of water which may infiltrate and be retained in other backfilled pits throughout the project area; 	<p>Section 12.5 Flood Mine Impact Assessment Section 7 Rehabilitation</p> <p>Section 12.5.5 Geomorphologic Impacts Appendix C Flood Assessment Report</p> <p>Section 12.5.5 Geomorphologic Impacts Appendix C Flood Assessment Report</p> <p>Section 12 Surface Water</p> <p>Section 10 Groundwater Resources See ECP EIS section</p> <p>Section 10 Groundwater Resources</p>	<p>Section 12.7 Mine Flood Impact Assessment Section 7 Rehabilitation</p> <p>Section 12.7.4 Geomorphologic Impacts Appendix E Nogoia River Audit Appendix D Surface Water Study</p> <p>Section 12.7.4 Geomorphologic Impacts & Appendix D – Surface Water Study, Section 8</p> <p>Section 12 Surface Water</p> <p>Section 10.3.2 Groundwater & Surface Water Interaction Appendix C Groundwater Study (Sections 5.4.2 and 13.5)</p> <p>Appendix C Groundwater Study (Section 13.4)</p>

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<ul style="list-style-type: none"> • the impacts of the project proposal on erosion of agricultural land and erosion of the post-mining landform under the proposed post-mining land-use; • the impacts of levee construction on erosion and waterway realignment; • any changes to sediment transport and deposition both in waterways and on the floodplain due to any proposed changes in flow; • any changes to flood water velocity; • changes to frequency and extent of flow events impacting on adjacent land-use; • velocity of flow events at sensitive locations on the floodplain; • an assessment of the stability of any proposed flood protection infrastructure, the risk of failure of flood protection infrastructure and potential impacts arising from such failure during and after the cessation of mining; • the impact of the final void landform/s on overland flow hydrology and associated impacts on riparian areas and aquatic ecosystems, both at the project site and downstream of the project; and • an evaluation should be made of the quality of water that may be permanently retained and/or discharged from these interstitial voids. The possibility should be examined that these underground waters could, during some climatic events or controlled upstream releases, be forced to discharge back into the Nogoia River channel further downstream. The quality of such waters, and the potential in-stream and downstream effects of such discharges should be discussed. <p>The assessment of impacts on the flow and the quality of surface waters, both upstream and downstream of the project should be reported with particular reference to their affects on environmental values for water, including the biological integrity of the aquatic ecosystem and agricultural, industrial and recreational uses. Water quality impacts should be assessed with reference to relevant water quality standards.</p>	<p>Section 7 Rehabilitation Section 12.5 Mine Flood Impact Assessment</p> <p>Section 12 Surface Water</p> <p>Section 12.5.5 Geomorphologic Impacts Appendix B</p> <p>Section 12.5.5 Geomorphologic Impacts Appendix B</p> <p>Section 12.5.2 Flood Level Impacts</p> <p>Section 12.5.5 Geomorphologic Impacts Appendix B</p> <p>See ECP EIS Section</p> <p>Section 7.4 Mine Decommissioning</p> <p>Section 10.9 Groundwater Recovery – Spoil Aquifer and Final Voids</p> <p>Section 12.5 Mine Flood Impact Assessment</p>	<p>Section 7 Rehabilitation Section 12.7 Mine Flood Impact Assessment</p> <p>Section 12 Surface Water</p> <p>Section 12.7.4 Geomorphologic Impacts & Appendix D (Section 8.5)</p> <p>Section 12.7.3 Flow Velocity Impacts & Appendix D – Surface Water Study</p> <p>Section 12.7.2 Flood Level Impacts</p> <p>Section 12.7.3 Flow Velocity Impacts & Appendix D – Surface Water Study</p> <p>Section 12.2.2 Risk Assessment</p> <p>Section 7.4 Mine Decommissioning</p> <p>Section 10.3.6 Post Mining Effects & Appendix C Groundwater Assessment</p> <p>Section 12.7 Mine Flood Impact Assessment Section 11.3 Project Mine Water Management</p>

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<p>The EIS report should provide details of:</p> <ul style="list-style-type: none"> • flood potential and flood protection strategies based on flood modelling; • how the water management system will conform to the relevant regional <i>Water Resource Plan</i> (WRP); • changes to the flow regime of surface waters resulting from the alteration of drainage networks and the extraction of water, if required; • water management storage and treatment facilities, including their capacity and location. • proposed uses of water management systems, if required; • the effect of mining on surface runoff and any potential to reduce catchment yields; • the chemical and physical properties of any waste water at the potential discharge point/s to natural surface waters; • the effect of surface run-off, potentially containing elevated concentrations of suspended solids, and the effect of surface run-off potentially containing contaminants from hazardous material storage sites, on local aquatic and terrestrial ecosystems, neighbouring properties and the Nogoia River. The effect of surface runoff should be discussed in terms of the identified water quality values; • the way in which all works proposed on the floodplain are consistent with the <i>Interim Nogoia River Floodplain Management Plan</i>, where applicable. <p>The EIS should provide information in relation to flood hazard in accordance with the requirements of Section 6 of the <i>State Planning Policy 1/03 (Mitigating the Adverse Impacts of Flood, Bushfire and Landslide)</i>, as required for an area that is not declared a natural hazard management area under a planning scheme.</p> <p>Management strategies should be adequately detailed to demonstrate best practice management and that the environmental values of receiving waters will be protected. Evidence should be provided, where possible, that proposed management strategies have been demonstrated to be successful for other mining projects of a similar scale located on a riverine floodplain landscape.</p> <p>In relation to water supply and usage, and wastewater disposal, the EIS should discuss anticipated flows of water to and from the proposed project area. Where dams, weirs or</p>	<p>Section 12 Appendix B</p> <p>Section 11 Mine Water Management</p> <p>Section 12 Surface Water</p> <p>Section 11.1 Existing Ensham Mine Water Management System</p> <p>Sections 11.1 and 11.2 Project Mine Water Management</p> <p>Section 11.3.2 Project Water Supplies</p> <p>Sections 11.1 and 11.2 Project Mine Water Management</p> <p>Section 11.2.3 Runoff from Disturbed Areas</p> <p>See ECP EIS Section</p> <p>See ECP EIS Section</p> <p>Sections 11.1 and 11.2 Project Mine Water Management</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 11.2 Project Mine Water Management</p>	<p>Section 12 Surface Water & Appendix D – Surface Water Study</p> <p>Section 11.2.2 Mine Water Supply</p> <p>Section 12 Surface Water</p> <p>Section 11.2 Existing Ensham Mine Water Management System</p> <p>Sections 11.2 and 11.3 Mine Water Management</p> <p>Section 11.4.2 Project Water Supplies</p> <p>Section 11.2 and 11.3 Mine Water Management</p> <p>Section 11.3.4 Runoff from Disturbed Areas</p> <p>Section 12.8.5 Flood Protection Levee Approvals</p> <p>Section 12.8.4</p> <p>Section 11.2 and 11.3 Mine Water Management</p> <p>Section 12.2.3 Similar Mining Projects</p> <p>Section 7.3.4 Reinstated Floodplain Areas</p> <p>Section 11.3 Mine Water Management</p>

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<p>ponds are proposed, the EIS should investigate the effects of predictable climatic extremes (droughts or floods) upon the structural integrity of the containing walls; and the quality of water contained, and flows and quality of water discharged. The design of all water storage facilities should follow the technical guidelines on site water management. The EIS should detail whether any proposed works will result in changes to the quantity of overland flow, including the effect of any proposed diversion of overland flow in areas likely to be subject to surface subsidence.</p> <p>The need or otherwise for licensing of any dams (including referable dams) or creek diversions, under the <i>Water Act 2000</i> and the need or otherwise for approval to build waterway barrier works under the <i>Fisheries Act 1994</i>, including any requirements for a fishway should be discussed.</p> <p>In relation to any works such as stream diversions that may require licensing under the <i>Water Act 2000</i> subsequent to EIS approval, sufficient detail on the proposed design, operation, on-going maintenance and monitoring of the performance of such works should be provided.</p> <p>The EIS should describe any proposal to remove or divert the Nogoia River anabranch and should include management strategies associated with any such proposal.</p> <p>Water allocation and water sources should be established in consultation with Department of Natural Resources and Mines. The <i>ANZECC Guidelines 2000</i> and the EPP Water should be used as references for evaluating the effects of various levels of contamination.</p> <p>An assessment should be made of the potential impact of the project on the integrity and function of existing stream gauging stations established and operated by the Department of Natural Resources and Mines. The assessment should include any reduced functionality of gauging stations to operate as:</p> <ul style="list-style-type: none"> • nodes for the <i>Fitzroy Resource Operations Plan</i>; • to gauge flood harvesting entitlements and releases of water from Fairbairn Dam; and • to operate as part of the <i>Queensland Surface Water Assessment and Queensland Biological Monitoring Networks</i>. <p>Strategies should be adequately detailed in the EIS for any required re-rating or relocation of affected gauging stations and commitments given to indemnify the Department of Natural Resources and Mines for any costs involved in</p>	<p>See ECP EIS section</p> <p>Section 7.3.1 Underground Mining</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 12 Surface Water</p> <p>Section 11.3.2 Project Water Supplies</p> <p>See ECP EIS Section</p>	<p>Section 11.3.5 Water Storage</p> <p>Section 7.3.5 Surface Subsidence Areas</p> <p>Section 11.3.4 Runoff from Disturbed Areas</p> <p>Section 11.3.5 Water Storage Section 2.2.5 Fisheries Act</p> <p>Section 12 Surface Water</p> <p>Section 11.4.2 Project Water Supplies</p> <p>Section 12.8.3 Duckponds Stream Gauging Station</p>

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<p>A description of the existing ambient air quality should be provided having regard for particulate matter, gaseous and odorous compounds.</p> <p>The EIS should describe the air temperatures, wind (direction and speed) and any other special factors (e.g. temperature inversions) likely to affect air quality within the environs of the project proposal. Rainfall patterns including magnitude and seasonal variability of rainfall must be considered.</p>	<p>Section 13.4 Meteorology & Appendix C</p>	<p>Section 13.4 Meteorology & Appendix F</p>
<p>3.3.2 Management of impacts on environmental values</p> <p>The function of this section is to define and describe the objectives for protecting or enhancing environmental values for air, to describe how compliance with nominated quantitative standards and indicators may be achieved, and how the achievement of the objectives will be monitored, audited and managed. The EIS should describe the receiving environment potentially impacted by air quality impacts, including neighbouring townships, residences and land uses.</p> <p>The objectives for ambient air quality should be compared with the standards and goals contained in the EPP Air. Best practice management and minimisation techniques for reducing air emissions should be outlined, and summarised in the Environmental Management Plan in Section 4.</p> <p>The predicted ground level concentrations at dust sensitive receptors should be compared with the standards and goals contained in the EPP Air.</p> <p>The assessment of the project proposal's impact on air quality should consider the following matters:</p> <ul style="list-style-type: none"> • features of the project proposal designed to suppress or minimise emissions, including dust, should be detailed; and • the proposed levels of emissions of dust, fumes and odours should include emissions during normal and upset conditions. Consideration should be given to the range of potential upset condition scenarios, including the air emissions that may be generated as a result. The risk of nuisance to local inhabitants should be assessed. 	<p>Section 13 Air Quality & Appendix C</p> <p>Section 21 Environmental Management Plan</p> <p>Section 13.3 Regulatory Requirements & Appendix C</p> <p>Section 21 Environmental Management Plan & Appendix C</p> <p>Section 13.7 Impact Assessment & Appendix C</p> <p>Section 13.9 Mitigation Measures</p> <p>The air quality study has considered the range of meteorological and atmospheric conditions that could lead to elevated dust levels. The air quality study has also considered all sources of dust at the mine and quantified the emission rates of dust from each source using standard emission factors. Dispersion modelling was undertaken for various mining scenarios that are representative of times when dust impacts from mining are likely to be highest. Consequently, the results of</p>	<p>Section 13 Air Quality & Appendix F</p> <p>Section 21 Environmental Management Plan</p> <p>Section 13.3 Regulatory Requirements & Appendix F</p> <p>Section 21 EMP & Appendix F</p> <p>Section 13.7 Impact Assessment & Appendix F</p> <p>Section 13.9 Mitigation Measures</p> <p>The air quality study has considered the range of meteorological and atmospheric conditions that could lead to elevated dust levels. The air quality study has also considered all sources of dust at the mine and quantified the emission rates of dust from each source using standard emission factors. Dispersion modelling was undertaken for various mining scenarios that are representative of times when dust impacts from mining are likely to be highest. Consequently, the results of</p>

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<p>described.</p> <p>Provide an inventory of all wastes generated by the project during construction, mining and production processes. Information should be provided on the expected total volumes, variability, composition and generation rates of each waste generated at the mine site and processing plant.</p> <p>All other wastes, including regulated wastes, generated by the project e.g. tyres, packaging materials, etc. should be described.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 8.1.6 Waste Inventory</p> <p>Section 8.1.6 Waste Inventory</p>
<p>3.4.2 Potential impacts and mitigation measures</p> <p>The function of this section is to define and describe the objectives for protecting or enhancing environmental values from impacts by wastes, to describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives will be monitored, audited and managed.</p> <p>The EIS should describe how wastes are to be managed with reference to the waste management hierarchy, the national product stewardship arrangements for waste oil, national and state strategies for scrap tyres and the national packaging covenant. The discussion should include references to specific waste streams such as waste oils, waste chemicals and oil containers. Waste management issues should be identified for each phase of the project, including construction and operation.</p> <p>Proposals for off-site and on-site waste disposal should be described. The waste management strategies presented should have regard for the EPP Waste.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 8.1.4 Current Waste Program</p> <p>Section 8.1.5 Waste Minimisation and Management Section 8.1.6 Waste Inventory</p> <p>Section 8.1.5 Waste Minimisation and Management Section 8.1.6 Waste Inventory</p>
<p>3.5 Noise and vibration</p> <p>3.5.1 Description of environmental values</p> <p>The function of this section is to describe the existing environment values that may be affected by noise and vibration from mining activities in the context of environmental values as defined by the EP Act, the EPP Noise, and the <i>Environmental Protection Regulation 1998</i>.</p> <p>The results of any baseline monitoring of noise and vibration in the proposed vicinity of the project proposal should be described. Baseline monitoring should include a selection of any sensitive areas affected by the project proposal. Sufficient data should be gathered to provide a baseline for later studies.</p> <p>Monitoring methods should adhere to relevant Environmental Protection Agency guidelines and relevant Standards, and any relevant requirements of the EPP Noise.</p>	<p>Section 21 Environmental Management Plan</p> <p>See ECP EIS section</p>	<p>Section 21 Environmental Management Plan</p> <p>Section 14.3 Description of Existing Noise Environment & Appendix G</p>

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<ul style="list-style-type: none"> biological significance of water courses directly affected, upstream and downstream from the proposed works. <p>A discussion should be presented on the nature conservation values of the areas likely to be affected by the project proposal. The aquatic and terrestrial flora and fauna communities which are rare or threatened, environmentally sensitive localities, riparian zones, wilderness and habitat corridors should be described. The description should include a plant species list, a vegetation map at an appropriate scale and an assessment of the significance of native vegetation, from a local, regional and state perspective as identified in the <i>Biodiversity Planning Assessment for the Brigalow Belt North</i>.</p> <p>A map should be provided at an appropriate scale depicting the nature of any aquatic features within or adjacent to the project site including wetlands, waterways, drainage channels, intermittent water features, dams, man-made channels etc.</p> <p>The EIS should identify issues relevant to sensitive areas, or areas which may have low resilience to environmental change. Areas of special sensitivity include any significant habitat or relevant bird flight paths for migratory species, bat roosting and breeding areas, permanent or intermittent aquatic habitat and habitat of threatened plants, animals and communities. The project proposal's proximity to any biologically sensitive areas should be described.</p> <p>Reference should be made to both State and Federal endangered species legislation and the EPA's guidelines for <i>Fauna and Flora Assessment in EIA</i>.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Figure 16-1</p> <p>Section 16 Ecology</p> <p>See ECP EIS section</p> <p>Section 16 Ecology</p>	<p>Section 16 Ecology & Appendix I (Section 5)</p> <p>Section 16 Ecology & Appendix I (Section 6)</p> <p>Figure 16-1 and Figure 11-3</p> <p>Section 16 Ecology & Appendix I (Section 5)</p> <p>Section 16 Ecology & Appendix I (Section 7)</p> <p>Section 16 Ecology & Appendix I (Sections 3 and Section 4)</p>
<p>3.6.1.1 Terrestrial flora</p> <p>The terrestrial vegetation communities within the affected areas should be described at an appropriate scale with mapping produced from aerial photographs and ground truthing. Sensitive or important vegetation types should be highlighted, including their value as habitat for fauna and conservation of specific rare floral and faunal assemblages or community types. The existence of rare or threatened species should be specifically addressed. The surveys should include species structure, assemblage, diversity and abundance. Floristic information should also include:</p> <ul style="list-style-type: none"> location and extent of vegetation types with a description of each community using a standard system according to Specht (1970), or Walker and Hopkins (1990), or Webb (1978) if rainforest; 	<p>Section 16 Ecology</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section and 5.1).</p> <p>Section 16 Ecology & Appendix I (Sections 4.14 5.1.2) & Appendix 3</p>

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<ul style="list-style-type: none"> • classification of vegetation types in accordance with the Queensland Herbarium for the <i>Vegetation Management Act 1999</i> (VMA) with discussion of any differences; • comparison of site mapping with mapping produced by the Queensland Herbarium for the VMA with discussion of any differences; • assessment of the habitat value of vegetation communities; • assessment of the condition of vegetation communities and impacting or threatening processes; • identification of vegetation of conservation significance based on regional ecosystem status recognised by the EPA and status under the <i>Vegetation Management Regulation 2000</i> and the EPBC Act, occurrence of species listed as rare, vulnerable or endangered under the <i>Nature Conservation (Wildlife) Regulation 1994</i> and the EPBC Act, habitat value and condition; and • the occurrence of any significant pest plants (weeds), particularly declared plants under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> should be shown on a map at an appropriate scale. Subject to rainfall, any survey to identify the presence of such plants will need to occur after significant summer rainfall events to allow germination. <p>Flora survey methodology should be stated and should be consistent with current best practice. The existence of important local and regional weed species should also be discussed.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section 5.1.2)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.2 & Appendix 3)</p> <p>Section 16 Ecology & Appendix I (Section 5.2.6)</p> <p>Section 16 Ecology & Appendix I (Section 5.1)</p> <p>Section 16 Ecology & Appendix I (Sections 5.1.3 & 5.1.4)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.6)</p> <p>Section 16 Ecology & Appendix I (Section 4.1)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.6)</p>
<p>3.6.1.2 Terrestrial fauna</p> <p>The terrestrial fauna occurring in the areas affected by the project proposal should be described, noting the broad distribution patterns in relation to vegetation, topography and substrate. The conservation values of remnant vegetation and fauna habitat should be defined using principles consistent with methodology used by the EPA. Fauna survey methodology should be stated and should be consistent with current best practice. Fauna survey should be carried out in all identified habitat types for the range of vertebrate species potentially occurring. Survey intensity and period should be consistent with the difficulty of locating species listed as rare, vulnerable or endangered under the <i>Nature Conservation (Wildlife) Regulation 1994</i> or the EPBC Act that potentially occur in the area.</p>	<p>Section 16 Ecology</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section 5.2)</p> <p>Section 16 Ecology & Appendix I (Section 4.2)</p>

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<p>The description of the fauna present or likely to be present in the area should include</p> <ul style="list-style-type: none"> • species diversity (i.e. a species list) and abundance of animals, including amphibians, birds, reptiles, mammals and bats; • any species that are poorly known, but suspected of being rare or threatened; • habitat requirements and sensitivity to changes, including movement corridors and barriers to movement; • the existence of feral or exotic animals; and • use of the area by migratory birds, nomadic birds, and terrestrial fauna. <p>The EIS should indicate how well any affected communities are represented and protected elsewhere in the province where the site of the project proposal occurs.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Appendix 5)</p> <p>Section 16 Ecology & Appendix I (Sections 5.2.2, 5.2.3 and 5.2.4)</p> <p>Section 16 Ecology & Appendix I (Section 5.2.6)</p> <p>Section 16 Ecology & Appendix I (Section 5.2.5)</p> <p>Section 16 Ecology & Appendix I (Section 5.2)</p> <p>This is addressed through the conservation status of taxa, Section 16 Ecology & Appendix I (Sections 5.2.3 and 5.2.4)</p>
<p>3.6.1.3 Aquatic biology</p> <p>The aquatic flora and fauna occurring in the areas affected by the project proposal should be described, noting the patterns and distribution in the waterways. The description of the flora and fauna present, or likely to be present in the area, should include:</p> <ul style="list-style-type: none"> • fish species, mammals, reptiles, amphibians, crustaceans and aquatic invertebrates occurring in the waterways; • aquatic plants; • aquatic substrate and stream type; and • downstream and upstream aquatic habitat which is either permanent or ephemeral. <p>Outline the suitability and effectiveness of the proposed buffer widths (ecological buffer between development and aquatic features) in terms of filtration, water treatment, and amelioration of bordering impacts, in order to preserve water quality and habitat within and adjacent to aquatic features.</p> <p>Determine the fisheries values within the aquatic features both upstream and downstream of the project site.</p>	<p>Section 16 Ecology</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 16 Ecology</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Sections 5.1.5 and 5.3)</p> <p>Section 16 Ecology & Appendix I (Section 5.3)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.5)</p> <p>Section 16 Ecology & Appendix I (Section 5.3.1)</p> <p>Section 16 Ecology & Appendix I (Section 5.3)</p> <p>Section 16 Ecology & Appendix I (Section 7.2.3)</p> <p>Section 16 Ecology & Appendix I (Section 5.3.3)</p>

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<p>3.6.1.4 Matters of national environmental significance</p> <p>The project has been declared a controlled action under the EPBC Act due to the potential impacts on brigalow (<i>Acacia harpophylla</i>) communities. For these communities, the floristic information provided should include:</p> <ul style="list-style-type: none"> • location and extent of vegetation types with a description of each community; • classification of vegetation types in accordance with the Queensland Herbarium for the VMA with discussion of any differences; • comparison of site mapping with mapping produced by the Queensland Herbarium for the VMA with discussion of any differences; • assessment of the habitat value of vegetation communities; • assessment of the condition of vegetation communities and impacting or threatening processes. <p>Targeted surveys should be undertaken for other threatened species that may occur in the vicinity of the proposal. These include the star finch (<i>Neochimia ruficauda ruficauda</i>), the southern squatter pigeon (<i>Geophaps scripta scripta</i>), the yakka skink (<i>Egernia rugosa</i>), brigalow scaly foot (<i>Paradelma orientalis</i>), Dunmall's snake (<i>Furina dunmalli</i>) and the ornamental snake (<i>Denisonia maculata</i>). The results of the surveys should be provided.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section 5.1.4)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.4 & Appendix 3)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.4 & Appendix 3)</p> <p>Section 16 Ecology & Appendix I (Section 5.2.6)</p> <p>Section 16 Ecology & Appendix I (Section 5.1.4)</p> <p>Section 16 Ecology & Appendix I (Section 4.2 and, 5.2 & Appendix 9)</p>
<p>3.6.2 Potential impacts and mitigation measures</p> <p>This section should discuss all likely direct and indirect environmental impacts on flora and fauna, particularly sensitive areas and species, including their long and short-term resilience to environmental change through the imposition of a levee bank and any other associated changes in surface flow and quality, or other works associated with the project. The potential impact of the project on aquatic features including wetlands, waterways, drainage channels and intermittent water features should be described. Also provide possible alternatives to any disturbance to the aquatic features identified above.</p> <p>Details should be provided on the measures to be employed to avoid or mitigate damage occurring to riparian areas, including riverine corridors, aquatic features, including aquatic habitat provided by channel complexity, and remnant vegetation, including not of concern, of concern, and endangered regional ecosystems.</p>	<p>Section 16 Ecology</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section 7.0)</p> <p>Section 16 Ecology & Appendix I (Section 7.2.3)</p> <p>Project alternatives are detailed in Section 3.5 Project Alternatives and Justification</p> <p>Section 16 Ecology & Appendix I (Section 7.2)</p>

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<p>Measures to mitigate the environmental harm to habitat or the inhibition of normal fauna movement, propagation or feeding patterns, and change to food chains should be described. Specific management measures to minimise the impact of additional traffic on all road networks associated with the mining operations on fauna movement should be detailed.</p> <p>The provision of buffer zones and movement corridors, and strategies to minimise environmental harm on migratory, nomadic and aquatic animals should be discussed. Where relevant, reference should be made to the <i>Fisheries Guidelines for Fish Habitat Buffer Zones – Fish Habitat Guideline FHG003</i> and other best practice management guidelines.</p> <p>Weed control strategies aimed at containing existing weed species (e.g. parthenium and other noxious weeds) and ensuring no new invasive weeds are introduced to the area should be detailed in the EIS. Specific components of the weed control strategies should be outlined such as washdown procedures, education of on-site staff and reporting mechanisms during construction and operational phases.</p> <p>Feral animal management strategies should be addressed. The study should develop strategies to ensure that the project does not contribute to increased encroachment of a feral animal species. Reference should be made to any relevant local government Pest Management Plan when determining control strategies.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 16 Ecology</p> <p>Section 16 Ecology</p> <p>See ECP EIS section</p>	<p>Section 16 Ecology & Appendix I (Section 7.2.1)</p> <p>Section 16 Ecology & Appendix I (Section 7.3.4)</p> <p>Section 16 Ecology & Appendix I (Section 7.0)</p> <p>Section 16 Ecology & Appendix I (Section 7.3.3)</p> <p>Section 16 Ecology & Appendix I (Section 7.3.3)</p>
<p>3.6.2.1 Matters of national environmental significance</p> <p>This section should discuss all likely direct and indirect environmental impacts on the brigalow communities and on any other EPBC listed species and ecological communities and listed migratory species found in the project area. Details should be provided on the management strategies to be employed to avoid or mitigate the impacts on these species and communities.</p>	<p>Section 16 Ecology</p>	<p>Section 16 Ecology & Appendix I (Section 7.4)</p>
<p>3.7 Cultural heritage</p> <p>3.7.1 Description of environmental values</p> <p>The function of this section is to describe the existing environment values for cultural heritage that may be affected by the mining activities in the context of environmental values as defined by the EP Act and Environmental Protection Policies, the <i>Aboriginal Cultural Heritage Act 2003</i>, and the <i>Queensland Heritage Act 1992</i>.</p> <p>A cultural heritage study will be required to describe indigenous and non indigenous cultural heritage sites and places, and their values. The studies will be conducted in accordance with the specific requirements of the above legislation,</p>	<p>Section 17 Cultural Heritage</p>	<p>Section 17 Cultural Heritage</p>

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including the involvement of relevant Indigenous groups.		
<p>3.7.2 Potential impacts and mitigation measures</p> <p>Strategies to mitigate the potential impacts on any sites or places of cultural or heritage significance within the project site and its vicinity, should be detailed in the EIS. The potential environmental impacts on cultural heritage values of the site and area in the vicinity of the project should be managed under a Cultural Heritage Management Plan (CHMP) prepared in accordance with the provisions of the <i>Aboriginal Cultural Heritage Act 2003</i>.</p>	Section 17 Cultural Heritage	Section 17 Cultural Heritage
<p>3.8 Social</p> <p>3.8.1 Description of environmental values</p> <p>The function of this section is to describe the existing social values that may be affected by the mining activities.</p> <p>The amenity and use of the project site and adjacent areas for rural and agriculture purposes should be described.</p> <p>Consideration should be given to:</p> <ul style="list-style-type: none"> • the catchment area relevant to accommodation of the existing workforce; • social and community infrastructure and services, including health and education facilities, access and mobility; • population and demographics of the affected community; • local community values including the integrity of social conditions, amenity, livability, harmony, well-being and a sense of community; • current property markets, including housing availability for purchase and availability of rental accommodation, including housing, motels, caravan parks etc.; • any identified constraints and opportunities for new housing development in the catchment area; • recreational, cultural, leisure and sporting facilities and activities in the affected area; <p>number of properties directly affected by the project;</p> <ul style="list-style-type: none"> • number of families directly affected by the project, including property owners and families of workers either living on the property or workers where the property is their primary employment; and <ul style="list-style-type: none"> • land use in the vicinity of the project site. 	<p>Section 6 Land Use</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 6 Land Use</p>	<p>Section 6 Land Use</p> <p>Section 19.2.4 Workforce Catchment</p> <p>Section 19.3 Social Profile</p> <p>Section 19.3.2 Demographics & Social Assessment Appendix J</p> <p>Section 19.3.6 Local Community Values and Lifestyles</p> <p>Section 19.3.4 Accommodation & Social Assessment Appendix J</p> <p>There are no identified constraints to new housing development in the catchment</p> <p>Social Assessment Appendix J</p> <p>Section 19.4.7 Impacts on Landowners</p> <p>Section 19.4.7 Impacts on Landowners</p> <p>Section 6 Land Use</p>

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<p>Details should also be provided on the following:</p> <ul style="list-style-type: none"> accommodation arrangements for the existing mine workforce; the catchment area relevant to the accommodation of the project workforce; housing and accommodation requirements for the additional construction and operational workforce and the capacity of the existing accommodation to house the expanded operation; standard of accommodation i.e. houses, hostels, caravan parks, existing houses, private boardings; and timing for provision of accommodation. <p>Details of workforce housing and accommodation alternatives should be considered and the reasons for the preferred option should be detailed in the EIS. The proposed location of any additional housing (including temporary housing) and other accommodation facilities required for the project should be specified.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 19.2.3 Workforce Accommodation</p> <p>Section 19.2.4 Workforce Catchment</p> <p>Section 19.2.3 Workforce Accommodation</p> <p>Section 3.2.5 Underground Mining</p>
<p>3.8.2 Potential impacts and mitigation measures</p> <p>The function of this section is to define and describe the social impacts of the project. Through the public consultation and participation process, the EIS should identify both the positive and negative impacts (both direct and cumulative) of the project in its developmental and operational stages. These impacts should be considered both at the regional and local level. The profile of the affected communities should be based on quantitative data (readily available) and qualitative data (which can be gained through the consultation process).</p> <p>Attention should be paid to:</p> <ul style="list-style-type: none"> impacts on demographic, social, cultural and economic profiles; <p>impacts on local residents, current land-uses, property values and rental prices, and existing lifestyles and enterprises;</p> <ul style="list-style-type: none"> constraints and opportunities for new housing construction in the catchment area, including the capacity of the local land development and housing construction industries to provide new housing; 	<p>Section 19 Socio-Economics</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 19 Socio-Economics</p> <p>Section 19.4.2 Impacts on the Social Profile</p> <p>Section 19.4.4 Impacts on Housing Demand and Supply</p> <p>Section 6.10 Potential Impacts on Land Use</p> <p>There are no identified constraints to new housing development in the catchment area</p>

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<ul style="list-style-type: none"> • impacts on local and state labour markets, with regard to the source of the workforce. This information is to be presented according to occupational groupings of the workforce; • impacts on local residents' values and aspirations and community cohesion; • impact on existing services such as emergency services, recreational facilities and general human and community services; and • development of local community capacity initiatives in partnership with the local community. <p>The effects of the proposal on local and regional residents including land acquisition and relocation issues should be described.</p> <p>For identified impacts to social values, proposed mitigation, monitoring and enhancement strategies should be identified.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 19.2.2 Socio-Economic Impacts</p>	<p>Section 19.4.3 Impacts on Labour Force and Skilling</p> <p>Section 19.4.2 Impacts on the Social Profile</p> <p>Section 19.4.5 Impacts on Community Infrastructure and Services</p> <p>Sections 19.4.3 Impacts on Labour Force and Skilling, 19.4.4 Impacts on Housing Demand and Supply</p> <p>Section 19.4.7 Impacts on Landowners</p> <p>Section 19.5 Mitigation Measures</p>
<p>3.9 Economy</p> <p>3.9.1 Description of environmental values</p> <p>The function of this section is to describe the existing economic environment that may be affected by the mining activities.</p> <p>The character and basis of the local and regional economies should be described including:</p> <ul style="list-style-type: none"> • economic viability (including economic base and economic activity); and • existing housing market, particularly rental accommodation which may be available for the project workforce. 	<p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 19.6.1 Introduction</p> <p>Section 19.3.4 Accommodation</p>
<p>3.9.2 Potential impacts and mitigation measures</p> <p>The function of this section is to define and describe the economic impacts of the project.</p> <p>The analysis of general economic impacts of the project should include</p> <p>the relative significance of the project in the local and regional economic context;</p> <ul style="list-style-type: none"> • the direct long and short-term beneficial (e.g. job creation) and adverse (e.g. competition with local and small business) impacts that are likely to result from implementation of the proposed development; • implications for future development in the locality, including constraints on surrounding land-uses and existing industry; 	<p>Section 19.2.2 Socio-Economic Impacts</p> <p>See ECP EIS section</p>	<p>Section 19.6 Economic Impact Assessment</p> <p>Section 6.10 Potential Impacts on Land Use</p>

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<ul style="list-style-type: none"> • the value of any lost agricultural production in the project area and adjacent land as a result of the project; • the value of lost opportunities or gained opportunities for other economic activities anticipated in the future; and • impacts on local property values. <p>Attention should be focused on the long and short-term direct effects of the project, including mine closure, on the regional income and employment and the State economy.</p> <p>The effect on local labour markets should be discussed with regard to the source of the workforce. In relation to the source of the workforce, clarification is required as to whether the project proponents or contractors are likely to employ locally or through other means and whether there are initiatives for local employment opportunities. Comment should be made on how much service revenue and work from the project (e.g. provisioning, catering and site maintenance) would be likely to flow to existing communities in the area of the project, particularly if a fly-in, fly-out workforce is proposed.</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>Section 19.2.2 Socio-Economic Impacts</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>The proponent owns all land affected by the project. There will be no lost agricultural production on any adjacent land as a result of the project.</p> <p>Section 19.6 Economic Impact Assessment</p> <p>Section 19.4.4 Impacts on Housing Demand and Supply</p> <p>Section 19.6 Economic Impact Assessment</p> <p>Section 19.4.3 Impacts on Labour Force and Skilling</p> <p>Section 19.6 Economic Impact Assessment</p>
<p>3.10 Health and safety</p> <p>The function of this section is to define and describe the objectives for protecting or enhancing health and safety community values. It should detail any impacts of the project on the health and safety of the community, workforce, suppliers and other stakeholders, in terms of health, safety, and quality of life from factors such as air emissions, odour, dust, pests, noise, waste and water. It should include details of:</p> <ul style="list-style-type: none"> • compliance with relevant Health & Safety legislation (e.g. for the mine site – <i>Explosives Act 1999, Coal Mining Safety and Health Act 1999</i>); • security arrangements; • compliance with food hygiene legislation should food be supplied on-site (i.e. at construction camp); • emergency plans and safety management strategies, as well as corroboration of the effectiveness of such systems; • details of on-site emergency response capabilities (e.g. on-site paramedic or first-aid officer), for both the construction and operational phases of the project, which should include personnel trained for fire suppression and containment, rescue and 	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 20 Health and Safety</p> <p>Section 20.2 Ensham Health and Safety Management System and Section 20.3 Legislative Requirements</p> <p>Section 20.10 Security</p> <p>Section 20.5.6 Food Hygiene</p> <p>Section 20.11 Emergency Response and Planning</p> <p>Section 20.11 Emergency Response and Planning</p>

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<p>first aid; and</p> <ul style="list-style-type: none"> the risk assessment conclusions reached and the level of off-site risk from the proposed developments. <p>Measures to prevent combustion of in situ and stockpiled raw materials, products or process elements should be described. The need for any permit under the <i>Building Act 1975</i>, or any permit to store flammable and combustible liquids should be addressed. This section should provide a complete inventory for each class of substances listed in the <i>Australian Dangerous Goods Codes</i> to be held on-site. This information should be presented by classes and should contain:</p> <ul style="list-style-type: none"> chemical name; concentration in raw material chemicals; concentration in operation storage tank; U.N. number; packaging group; correct shipping name; and maximum inventory of each substance. <p>Details should be provided of safeguards proposed on the storage, use, handling and on-site movement of the materials to be stored on-site. The capacity and standard of bunds to be provided around the storage tanks for classified dangerous goods and other goods likely to adversely impact upon the environment in the event of an accident should be described. The procedures to prevent spillages, and the emergency plans to manage hazardous situations should be described.</p> <p>Any use of mining equipment, such as industrial gauges or soil/moisture density gauges, that are used or proposed to be used on the mine site and contain sealed radionuclide must be held under a licence issued under the <i>Radiation Safety Act 1999</i>.</p> <p>In addition to on-site risks, the external risks of the project should also be considered. Specifically, external risks to any bridge structures should be considered. External risks from natural hazards should be determined on the basis of <i>AS/NZA Risk Management Standard 4360:1999</i>.</p> <p>This section should present a hazard analysis for all aspects of the construction and operation of the project where appropriate, including the industrial and transport components. The transport of any dangerous goods should be specifically addressed. Risk assessment should include consideration of maximum accidental spillage or emission of toxic or environmentally</p>	<p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p> <p>See ECP EIS section</p>	<p>Section 20.12 Project Hazards and Risk Assessment</p> <p>Section 20.6.11 Spontaneous Combustion</p> <p>Section 20.3 Legislative Requirements</p> <p>Section 20.5.5 Chemicals</p> <p>Section 20.4 Dangerous Goods Management</p> <p>Sections 20.4 Dangerous Goods Management, 20.5.5 Chemicals, 20.6.5 Explosives, 20.6.7 Fuel Storage and Handling and 20.11 Emergency Response and Planning</p> <p>Section 20.6.2 Equipment</p> <p>Section 20.7 Public Roads</p> <p>Section 20.12 Project Hazards and Risk Assessment</p> <p>Section 20.12 Project Hazards and Risk Assessment</p> <p>Section 20.4 Dangerous Goods Management</p>

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<p>harmful material, potential impacts on human health and natural ecosystems, and appropriate management and mitigation strategies</p> <p>A preliminary hazard analysis should be conducted in accordance with the appropriate "Guidelines for Hazard Analysis". The assessment should outline the implications for, and the impact on, the surrounding land uses. The preliminary hazard analysis should incorporate:</p> <ul style="list-style-type: none"> • all relevant hazards (minor and major); • the possible frequency of potential hazards, accidents, spillages and abnormal events occurring; • indication of cumulative risk levels to surrounding land uses; • life of any identified hazards; • a list of all hazardous substances to be used, stored, processed or produced; • the rate of usage; and • description of processes, type of the machinery and equipment used. 	<p>See ECP EIS section</p>	<p>Section 20.12 Project Hazards and Risk Assessment</p>
<p>4.0 Draft environmental management plan</p> <p>The environmental management plan (EM Plan) should be developed from the mitigation measures detailed in section 3 of the EIS. Its purpose is to set out the proponents' commitments to environmental management, i.e. how environmental values will be protected and enhanced.</p> <p>The EM Plan is an integral part of the EIS, but should be capable of being read as a stand-alone document without reference to other parts of the EIS. The general contents of the EM Plan should comprise:</p> <ul style="list-style-type: none"> • the proponents' commitments to acceptable levels of environmental performance, including environmental objectives, i.e. levels of expected environmental harm, performance standards and associated measurable indicators, performance monitoring and reporting; • impact prevention or mitigation actions to implement the commitments; and • corrective actions to rectify any deviation from performance standards. <p>Through the EM Plan, the EIS's commitments to environmental performance can be used as regulatory controls through conditions to comply with those commitments. Therefore, the EM Plan is a relevant document for project approvals, environmental authorities and permits, and may be referenced by them.</p>	<p>Section 21 Environmental Management Plan</p> <p>Section 21 Environmental Management Plan</p>	<p>Section 21 Environmental Management Plan</p> <p>Section 21 Environmental Management Plan</p>

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For further information, see the EPA guideline <i>Preparing environmental management plans</i> .		
5.0 References The EIS should provide a list of all references consulted.	Section 22 References	Section 22 References
6.0 Recommended appendices A1. Final terms of reference for this EIS A copy of the final TOR should be included in the EIS. A summary, cross-referencing specific items of the TOR to the relevant section of the EIS should also be provided.	Section 26 Guide to the Terms of Reference	Section 26 Guide to the Terms of Reference
A2. Development approvals and permits A list of the development approvals required by the project should be presented.	Section 2.5.2 Key Approvals Required	Section 2.5.2 Key Approvals Required
A3. EIS study team The qualifications and experience of the study team and specialist sub-consultants and expert reviewers should be provided.	Section 25 Supplementary Report Study Team	Section 25 EIS Study Team
A4. Specialist studies All reports generated on specialist studies undertaken as part of the EIS are to be included as appendices.	Appendices A-C	Appendices A-J
A5. Glossary of terms A glossary of technical terms, acronyms and abbreviations should be provided.	Section 23 Glossary and Section 24 List of Abbreviations	Section 23 Glossary and Section 24 List of Abbreviations