

# *Part C*

## *Issue Identification, Consultation and Environmental Risk Analysis*

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### *Preamble*

*This section of the Environmental Assessment provides information outlining the steps undertaken to identify and prioritise the relevant environmental issues that should be addressed to allow the overall project to be assessed.*

*The steps undertaken to identify environmental issues include:*

- *consultation with the local community;*
- *consultation with State and local government authorities; and*
- *a review of relevant State legislation, policies and guidelines.*

*An environmental risk analysis of the unmitigated risks associated with the Project is also provided.*



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## **C1 INTRODUCTION**

In order to undertake a comprehensive *Environmental Assessment* of the proposed Glennies Creek Open Cut Coal Mine, appropriate emphasis needs to be placed on those issues likely to be of greatest significance to the local environment, neighbouring landowners and the wider community. To ensure this has occurred, a program of community and government consultation, preliminary environmental studies and a review of the literature was undertaken to identify relevant environmental issues and potential impacts. This was followed by an analysis of the environmental risks arising from the potential impacts which was used to prioritise the assessment of the identified environmental issues within this *Environmental Assessment*.

## **C2 ISSUE IDENTIFICATION**

Identification of environmental issues relevant to the development and operation of the Glennies Creek Open Cut Coal Mine involved a combination of consultation, background investigations and research, including:

- consultation with surrounding landowners and the wider community (see Part C2.1);
- consultation with State and local government agencies (see Part C2.2);
- reference to relevant NSW government guidelines and policies (see Part C2.3); and
- a review of a number of relevant environmental studies conducted by Specialist Consultants for the Proponent (see Part C2.4).

### **C2.1 Community Consultation**

#### **C2.1.1 Introduction**

Community consultation is considered critical to the issue identification process for the following reasons.

- The proposed open cut would operate in comparatively close proximity to a number of neighbouring residences. In addition, more distant residents are likely to be able to see and/or hear one or more of the proposed activities.
- The intensity of coal mining activity in the Hunter Valley has led to increased community interest in the coal industry generally. It is important that issues arising from this increased level of interest are addressed.
- The Proponent is conscious of maintaining an open and honest relationship with the surrounding community.

The community consultation undertaken and the issues arising from this program are summarised in Parts C2.1.2 to C2.1.5.



### C2.1.2 Initial Community Newsletter

The initial Community Newsletter was published in February 2005 and distributed by letterbox drop to surrounding landholders, together with an accompanying feedback form. The feedback form enabled interested parties to:

- provide their contact details;
- comment on the Project;
- request that the Proponent contact them personally to discuss the Project;
- request to be notified of the date of proposed community forums;
- request to be sent a digital copy of the *Environmental Assessment* and Specialist Consultant Studies Compendium; and
- request to be sent a hard copy of the Executive Summary of the *Environmental Assessment*.

The availability of the Newsletter and the feedback form was advertised in the *Singleton Argus* Public Notices on 11 February 2005 in which interested parties were invited to request a copy. Copies were mailed to each of the individuals or groups who made a request. Through a review of the Mt Owen Environmental Impact Statement, and discussions with the Glennies Creek Colliery Community Consultative Committee, a further list of interested stakeholders and interest groups was developed and the Community Newsletter was also mailed to those individuals and groups. Feedback forms were received from 25 residents living in the vicinity of the Project Site.

The issues that were identified from the feedback form are summarised in **Table C2** and presented in their entirety in **Appendix 3**.

### C2.1.3 Community Forum and Information Sessions

The initial community forum was held on 22 March 2005 at the Mt Olive Community Hall. Although conditions were not ideal for the forum (there was considerable roof noise from a rain event during much of the meeting), attendance was high and each attendee was provided with a hard copy of the presentation for their reference. The forum was attended by around 40 people. Issues raised during this event are also summarised in **Table C2** and presented in their entirety in **Appendix 3**.

The information and feedback received during the community forum and from the feedback forms was used during the Project design phase and to help focus the approach to the environmental studies. For example, one of the issues raised by the neighbouring residents was noise. Subsequent noise modelling indicated that noise levels at night (between 10.00pm and 7.00am) would potentially exceed the appropriate noise criteria. The hours of operation were therefore modified to exclude mining operations between 10.00pm and 7.00am.



Following the finalisation of the mine design and return of the preliminary results from the Specialist Consultants, a further community information evening was held in the foyer of the Singleton Council Chambers on 2 May 2006. The information was presented on display boards with representatives of R.W. Corkery & Co. Pty. Ltd and the Proponent available to answer questions and explain the predicted and/or likely impacts. The evening was attended by approximately 30 to 35 people. The concerns raised at this information evening are also summarised in **Table C2**.

#### **C2.1.4 Targeted Interviews**

Targeted interviews with specific interest groups were conducted on 6 and 7 April 2005 by the Allen Consulting Group as part of the Socio-economic Assessment of the Project. Principal issues of concern that arose from these interviews included a potential reduction in the number of teaching or administrative assistant positions, or the loss of a portable classroom at the Mt Pleasant Public School should enrolments fall. Other community services such as childcare, playgroup, public transport and emergency, public and health services were not considered to be matters of concern. A more detailed précis of these interviews is presented in Part D14.

#### **C2.1.5 Glennies Creek Colliery Community Consultative Committee**

The Glennies Creek Colliery Community Consultative Committee continued to meet on a six monthly basis throughout the project development and environmental assessment phases. The status of the ongoing planning for the proposed open cut, as well as the environmental studies being conducted, were discussed at each committee meeting.

Due to the number of sources of information used during the community consultation process, it is acknowledged that issues raised by particular individuals may have been recorded more than once, ie. at the initial Community Forum and later at the Community Information Session. No attempt has been made to remove such double entries as the fact that they have been raised on more than one occasion reflects the importance of an issue to the individual.

### **C2.2 Consultation with Government Agencies**

The Planning Focus Meeting for the Project was held at Glennies Creek Colliery on 5 December 2004 and was attended by representatives from the following Government agencies.

- The former Department of Infrastructure, Planning and Natural Resources (DIPNR) (now Department of Planning - DoP).
- Department of Primary Industries (DPI) (Agriculture).
- Department of Primary Industries - Mineral Resources (DPI - MR).
- Singleton Shire Council.
- Department of Environment and Conservation (Environment Protection Authority) (DEC (EPA)) (now Department of Environment and Climate Change).
- Hunter – Central Rivers Catchment Management Authority.



The meeting allowed the relevant government agencies the opportunity to visit the Project Site and obtain an understanding of the Project as it was then envisaged. Following the meeting, formal written requirements were received from all the relevant government agencies and compiled by the then DIPNR as the Director-General's requirements (DGRs). With the introduction of Part 3A of the *Environmental Planning and Assessment Act 1979* approval process, DGRs were re-requested under the new approval process and were re-issued, together with original or updated requirements from the relevant Government agencies. The DGRs were subsequently re-issued on 25 January 2007 incorporating an additional requirement to assess greenhouse gas-related impacts related to the Project. A summary of the most recent DGRs and requirements from the various Government agencies is provided in **Appendix 2**, together with a table which cross-references each requirement to the appropriate part(s) of the *Environmental Assessment*. The frequency that each issue was raised is presented in **Table C2**.

## **C2.3 State Planning and Environmental Guidelines and Policies**

The Project is identified as a Major Project under Paragraph 5 of Schedule 1 of the State Environment Planning Policy (Major Projects) 2005. Under Section 75D of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the Minister for Planning is the approval authority.

Section 75R(3) of the EP&A Act states that environmental planning instruments, other than State Environmental Planning Policies (SEPPs), do not apply to the carrying out of a Major Project. However, the zoning of the land is relevant in accordance with Section 75J(3)(b) of the EP&A Act, which states that the Minister cannot approve a project which is wholly prohibited.

Relevant SEPPs, the Singleton Shire Local Environment Plan 1996 and other relevant environmental policies are outlined below.

The NSW Government has released a number of State Policies that need to be taken into account during the planning and assessment of new projects such as the Glennies Creek Open Cut Coal Mine. All relevant policies are referred to throughout Part D of this document in the context of the discussion relating to the relevant environmental issue.

### **C2.3.1 State Planning Instruments**

#### **State Environmental Planning Policy (Major Projects) 2005**

This SEPP was gazetted on 25 May 2005 and applies to applications for all projects satisfying nominated criteria made following that date. The aims of this Policy are:

- “(a) to identify development of economic, social or environmental significance to the State or regions of the State so as to provide a consistent and comprehensive assessment and decision making process for that development;
- (b) to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant sites for the benefit of the State;



- (c) to facilitate service delivery outcomes for a range of public services and to provide for the development of major sites for a public purpose or redevelopment of major sites no longer appropriate or suitable for public purposes; and*
- (d) to rationalise and clarify the provisions making the Minister the consent authority for State significant development and State significant sites and to keep those provisions under review so that the consent powers are devolved to councils when the State planning objectives have been achieved.”*

Clause 6 of this SEPP states that development described in Schedule 1 of the SEPP is a Project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies. Schedule 1, paragraph 5(1)(a) identifies coal mining as an activity to which the SEPP applies. As a result, the application for project approval for the Project will be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979*.

### **State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries (Mining SEPP))**

This SEPP was gazetted and commenced on 16 February 2007. Clause 19 of the SEPP states that the policy does not apply to an application for an approval under Part 3A of the EP&A Act that was made but not determined before the commencement of this policy. The present application was made on 21 February 2006 and amended on 3 January 2007. As a result, this SEPP does not apply to the present application for project approval.

### **State Environmental Planning Policy No. 11 (SEPP 11) – Traffic Generating Developments**

Clause 7 of SEPP 11 requires that certain potentially traffic generating development applications be referred to the NSW Roads and Traffic Authority (RTA). Mining is listed under Schedule 1, paragraph (m) of this policy. Clause 5(2) of the Mining SEPP repeals this paragraph as it applies to proposals to which the Mining State Environmental Planning Policy applies. However, as the Mining SEPP does not apply to the present application and the application was made prior to gazettal of the Mining State Environmental Planning Policy, paragraph (m) does apply. As a result, this Project must be referred to the RTA.

### **State Environmental Planning Policy No. 33 – Hazardous and Offensive Development**

Hazardous and offensive industries, and potentially hazardous and offensive industries, relate to industries that, without the implementation of appropriate impact minimisation measures would, or potentially would, pose a significant risk to the locality, to human health, life or property, or to the biophysical environment.

Industries or projects determined to be hazardous or potentially hazardous would require the preparation of a Preliminary Hazard Analysis (PHA) in accordance with Clause 12 of SEPP 33. No further assessment under SEPP 33 is required for projects not considered potentially hazardous.



Hazardous materials are defined within DUAP (1997) as substances falling within the classification of the *Australian Code for Transportation of Dangerous Goods by Road and Rail* (Dangerous Goods Code). The quantities and locations of hazardous materials to be stored on the Project Site are summarised in **Table C1**.

**Table C1**  
**Hazardous Materials Storage Planned on the Project Site**

Hazardous Material	Classification	Description	Storage Quantity	Storage Location
Diesel Fuel	Class 3 C1	Combustible liquids: flashpoint above 61°C but not exceeding 150°C	2 x 50 000L storage tanks (<100m <sup>3</sup> )	Bunded fuel storage area within Open Cut Facilities Area (see <b>Figure B11</b> )
Lubricating oils and greases	Class 3 C2	Combustible liquids flashpoint above 150°C	Minor storage (<1 500L) (1.5m <sup>3</sup> )	Fuel storage area and adjacent workshop area (see <b>Figure B11</b> )

As diesel fuel (Class C1) and lubricating oils and greases (Class C2) are not stored adjacent to any other hazardous materials, DUAP (1997) does not require these to be considered further. As a result, the storage of these hazardous materials would not result in the Project being considered potentially hazardous under SEPP 33. As such, there is no requirement to undertake a PHA for the Project.

#### **State Environmental Planning Policy No. 44 (SEPP 44) - Koala Habitat Protection**

The Singleton Local Government Area (LGA) is listed under Schedule 1 of this SEPP. This requires an investigation be carried out to determine if “core” or “potential” Koala habitat is present on the Project Site and is likely to be disturbed. “Core Koala habitat” comprises land with an identified resident population of Koalas. “Potential Koala habitat” comprises land with known Koala feed trees listed under Schedule 2 constituting at least 15% of the total number of trees present on a site.

The Flora Assessment (see Part D5 of this document and Part 4 (Volume 1 of the *Specialist Consultant Studies Compendium*)) concluded that one species, the Forest Red Gum (*Eucalyptus tereticornis*), listed under Schedule 2 occurs within the Project Site. The abundance of this species may approach 15% of the total number of trees in areas of Narrow-leaf Ironbark – Spotted Gum – Grey Box Community. This community is discussed further in Part D5.3.1. This community occupies 117ha of the Open Cut Area, of which 73ha would be disturbed. As a result, areas of “potential Koala habitat” may be disturbed by the proposed open cut.

The Fauna Assessment (see Part D4 of this document and Part 3 (Volume 1 of the *Specialist Consultant Studies Compendium*)) did not identify any Koalas nor signs of Koalas within the Project Site. In addition, there are no records of Koala sightings within the Project Site and only two within 10km of the Project Site. Considering the patchy distribution of “potential Koala habitat”, the fact that no Koalas or signs of Koalas have been observed within the Project Site, and the replanting and regeneration of the Forest Red Gum that the Proponent would carry out within the Project Site and Biodiversity Offset Areas, no significant impact on Koala habitat is likely to occur. As a result, SEPP 44 is not relevant to this application for project approval.





### **State Environmental Planning Policy No. 55 – Remediation of Land**

No parts of the land within the Project Site are known to be contaminated, or have been identified as such. Hence this SEPP does not apply.

### **Draft State Environmental Planning Policy No. 66 – Integration of Land Use and Transport**

Draft SEPP 66 aims to ensure that development is designed to achieve a number of planning objectives including providing for the efficient movement of freight and supporting the viable and efficient operation of public transport. As this Project would not considerably increase traffic on the roads to the Project Site and all coal product would be despatched from the Camberwell CHPP and transported to Port Newcastle by train, the Project is considered to be consistent with the objectives of this policy.

### **C2.3.2 Singleton Local Environment Plan 1996**

The Project Site lies wholly within land zoned 1(a) under Singleton Local Environment Plan 1996. Part 3 of the plan identifies that “coal mining” on land zoned 1(a) is a permissible land use with development consent (or project approval) under the *Environmental Planning and Assessment Act 1979*

## **C2.4 Environmental Studies**

A series of specialist environmental studies was undertaken to assist in designing the Project and to ultimately assist in assessing the potential impact of the Proponent’s activities on each of the following aspects of the environment.

- Air quality.
- Noise and vibration.
- Fauna.
- Flora.
- Aboriginal heritage.
- Soils.
- Surface water.
- Groundwater.
- Socio-economic aspects.

A summary of the results of each of these studies is presented in Part D of this *Environmental Assessment* while the individual specialist consultant reports are included in the two volume *Specialist Consultant Studies Compendium* that accompanies this *Environmental Assessment*.

The above environmental studies highlighted that the Proponent’s activities could potentially impact upon the following aspects of the local environment.

- Air quality (particularly from dust).
- Noise.
- Vibration.
- Fauna.
- Aboriginal heritage.



## C2.5 Summary of Identified Issues

Table C2  
Identified Environmental Issues

Environmental Issue	Source and Frequency of Identification			
	Community Consultation <sup>1</sup>	Government Consultation <sup>2</sup>	Planning Policies & Guidelines	Preliminary Environmental Studies <sup>3</sup>
Air quality	10	21	1	1
Noise	19	10	1	1
Water (groundwater + surface water)	4	22	2	1
Flora and fauna	3	15	-	1
Rehabilitation, final landform	1	10	4	-
Traffic and transportation	5	5	1	-
Blasting and vibrations	8	1	-	1
Visual amenity	7	2	-	-
Socio-economic impacts	4	6	-	-
Aboriginal heritage	-	8	-	1
Waste management	-	10	-	-
Soils and land capability	-	1	-	-

Notes:  
1 – summarised from Newsletter feedback sheets, minutes from the community forum, issues raised during the information evening and targeted interviews with community organisations and service providers  
2 – summarised from Director-General's requirements and attached correspondence to DoP from Government Agencies (see **Appendix 2**). A number of the DGRs discussed the need to assess the cumulative impacts of the Project.  
3 – based on the environmental issues identified prior to detailed investigations.

## C3 ENVIRONMENTAL RISK ANALYSIS AND ISSUE PRIORITISATION

### C3.1 Introduction and Methodology

Environmental risk is the possibility of an unwanted environmental impact occurring. The Director-General's requirements (**Appendix 2**) specify that an environmental risk analysis of the potential impacts of the Project must be carried out. This section outlines how this risk analysis was conducted and how the specific environmental risks and issues associated with the proposed Glennies Creek Open Cut Coal Mine were prioritised.

The risk analysis used in this *Environmental Assessment* was based generally upon the methodology outlined in *Environmental Risk Management – Principles and Process* issued by Standards Australia.

Levels of risk for a given event are calculated based on the likelihood of occurrence and the maximum reasonable consequences of an unwanted event occurring. To ensure consistency of assessment, the potential consequence categories listed in **Table C3** were used.



**Table C3**  
**Qualitative Consequence Rating**

Level	Descriptor	Description
5	Catastrophic	<ul style="list-style-type: none"> <li>Massive and permanent detrimental impacts on the environment.</li> <li>Very large area of impact.</li> <li>Massive remediation costs.</li> <li>Reportable to government agencies.</li> <li>Large fines and prosecution resulting in potential closure of the operation.</li> </ul>
4	Major	<ul style="list-style-type: none"> <li>Extensive and/or permanent detrimental impacts on the environment.</li> <li>Large area of impact.</li> <li>Very large remediation costs.</li> <li>Reportable to government agencies.</li> <li>Possible prosecution and fine.</li> </ul>
3	Moderate	<ul style="list-style-type: none"> <li>Substantial temporary or minor long term detrimental impact to the environment.</li> <li>Moderately large area of impact.</li> <li>Moderate remediation costs.</li> <li>Reportable to government agencies.</li> <li>Further action may be requested by government agency.</li> </ul>
2	Minor	<ul style="list-style-type: none"> <li>Minor detrimental impact on the environment.</li> <li>Affects a small area.</li> <li>Minimal remediation costs.</li> <li>Reportable to internal management only.</li> <li>No operational constraints posed.</li> </ul>
1	Insignificant	<ul style="list-style-type: none"> <li>Negligible and temporary detrimental impact on the environment.</li> <li>Affects an isolated area.</li> <li>No remediation costs.</li> <li>Reportable to internal management only.</li> <li>No operational constraints posed.</li> </ul>

Source: Modified after Standards Australia - *Environmental Risk Management – Principles and Process* - Table 4(B)

The likelihood that a specific impact may occur was estimated according to the classification outlined in **Table C4**.

**Table C4**  
**Qualitative Likelihood Rating**

Level	Descriptor	Description
A	Almost Certain	Is expected to occur in most circumstances.
B	Likely	Will probably occur in most circumstances.
C	Possible	Could occur.
D	Unlikely	Could occur but not expected.
E	Rare	Occurs only in exceptional circumstances.

Source: Standards Australia - *Environmental Risk Management – Principles and Process* - Table 4(A)



It should be noted that the initial environmental risk analysis was undertaken without consideration of mitigating measures that the Proponent intends to adopt. This strategy was adopted to give an indication of the unmitigated risks associated with the Project, and to then help focus the environmental studies conducted for the Project.

The resulting consequence and likelihood estimates for a given potential impact were then combined using **Table C5** to give a qualitative risk rating of Low, Moderate, High or Extreme. These ratings are defined by Standards Australia as follows.

- “Low (L): requiring a basic assessment of proposed controls and residual impacts. Any residual impacts are unlikely to have any major impact on the local environment or stakeholders.*
- Moderate (M): requiring a medium level assessment of proposed controls and residual impacts. It is unlikely to preclude the development of the Project but may result in impacts deemed unacceptable to some local or government stakeholders.*
- High (H): requiring in-depth assessment and high level documentation of the proposed controls and mitigation measures. Ultimately, this level of risk may preclude the development of the Project.*
- Extreme (E): requiring in-depth assessment and high level documentation of the proposed controls and mitigation measures and possible preparation of a specialised management plan. Unless considered to be adequately managed by the controls and/or management plan, this level of risk is likely to preclude the development of the Project.”*

**Table C5**  
**Risk Matrix**

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (Almost Certain)	H	H	E	E	E
B (Likely)	M	H	H	E	E
C (Possible)	L	M	H	E	E
D (Unlikely)	L	L	M	H	E
E (Rare)	L	L	M	H	H

Note: Rating after Standards Australia - *Environmental Risk Management – Principles and Process* - Table 4(C)

## C3.2 Assessment of Environmental Risks

The initial assessment of **unmitigated** environmental risks associated with the proposed Glennies Creek Open Cut Coal Mine is presented in **Table C6**. An assessment of the **mitigated** environmental risks after the proposed design and management mitigation measures are taken into account is presented in **Table F6** in Part F of this document.



**Table C6**  
**Risk Sources and Risks of Potential Unmitigated Environmental Impacts**

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Environmental Issue	Risk Source/potential impact(s)	Potential Environmental Impact(s)	Potential Conseq.	Potential Likelihood	Unmitigated risk <sup>1</sup>
Water	• Discharge of dirty, saline or contaminated water to surface drainages or aquifers.	• Reduced water quality and impacts on downstream ecosystems, agriculture and groundwater quality.	3	D	M
	• Reduction in environmental flows through on-site capture of water.	• Reduced natural surface water flows and impacts on downstream ecosystems, agriculture and groundwater quality.	1	B	M
	• Pollution of groundwater by hydrocarbons, salinity and chemicals.	• Reduced groundwater quality and impacts on ecosystems and agriculture at and downstream from discharge point.	3	E	M
	• Reduction of groundwater levels due to mine in-flows.	• Reduction of groundwater levels and impacts on ecosystems and agriculture at and downstream from discharge point.	2	E	L
	• Altered flood regimes.	• Indirect impacts on native vegetation communities and ecosystems.	2	E	L
Air Quality	• Dust emissions from mine operations and vehicle movements.	• Nuisance / amenity impacts from dust deposition. Adverse health impacts if PM10 levels are excessive.	3	B	H
	• Greenhouse gas emissions from mining and transportation operations.	• Contribution to global greenhouse gas emissions.	1	B	M
	• Greenhouse gas emissions from burning of the product coal.	• Contribution to global greenhouse gas emissions.	1	B	M
	• Emission of odours, noxious gases (ie. NO <sub>2</sub> , SO <sub>2</sub> ).	• Nuisance/health impacts on residents.	2	E	L
Flora and Fauna	• Removal of native vegetation due to land clearing activities.	• Loss of, or alteration to, existing vegetation communities and habitats, as well as adverse impacts on fauna. Reduced biodiversity.	3	B	H
	• Disturbance to habitat as a result of project operations, eg. noise, dust, contaminated water etc.	• Direct adverse impact(s) on threatened species, populations or communities. Reduced biodiversity.	3	C	H
Noise and vibration	• Increased noise levels from mine and ancillary operations.	• Nuisance / amenity impacts, including sleep disturbance.	3	B	H
		• Reduced agricultural productivity from impacts on livestock	2	E	L
	• Increased levels of vibration from mine blasting.	• Structural damage to buildings and structures. Nuisance / amenity impacts on surrounding landowners / residents.	2	D	L
		• Reduced agricultural production.	1	E	L
Rehabilitation, Final Landform	• Modified / unstable landform on completion of the Project.	• Excessive erosion, modified water flows, safety issues, permanent scarring.	4	D	H
	• Reduced capability of final landform or failure of rehabilitation.	• Reduced biodiversity and/or agricultural production. Erosion, dust generation, permanent scarring.	3	C	H
Transportation	• Increased traffic levels due to movement of workforce and contractors.	• Increased traffic congestion. Elevated risk of accident/incident on local roads. Road pavement deterioration.	1	B	M
	• Temporary closure or other restriction on road network.	• Delayed journeys, unpredictable arrival times.	2	B	H



**Table C6 (Cont'd)**  
**Risk Sources and Risks of Potential Unmitigated Environmental Impacts**

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Environmental Issue	Risk Source/potential impact(s)	Potential Environmental Impact(s)	Potential Conseq.	Potential Likelihood	Unmitigated risk <sup>1</sup>
Transportation (Cont'd)	• Simultaneous closure of Stony Creek and Glennies Creek Roads.	• Closure of both main access routes to the Glennies Creek area.	2	C	M
Aboriginal Heritage	• Removal or destruction of Aboriginal sites and/or objects.	• Impact on Aboriginal cultural heritage.	3 <sup>2</sup>	B	H
Visual Amenity	• Changes in visual characteristics of the Project Site.	• Decreased visual amenity.	2	B	H
Socio-Economic Impacts <sup>3</sup>	• Potential changes in employment and infrastructure.	• Improved economic activity and related social impacts attributable to reduced unemployment.	NA		
	• Perceived or actual Impacts on amenity of neighbouring properties.	• Reduced quality of life (actual or perceived) and / or property values.	2	C	M
	• Reduced property values due to presence of mining operation.	• Reduced individual wealth.	2	C	M
Soil and Land Capability	• Reduction in soil quality through stripping and stockpiling.	• Erosion, reduced soil capability, biodiversity and / or agricultural productivity.	3	B	H
	• Increased erosion and soil loss through poor rehabilitation and / or surface water control.	• Reduced soil capability, agricultural productivity or biodiversity, permanent scarring.	3	B	H

**Notes**

- 1 – Note that these risks are unmitigated risks. **Table F6** presents the risks of Mitigated Potential Environmental Impacts.
- 2 – Potential consequence of destruction of Aboriginal objects can only be assessed by the local Aboriginal community. For the purpose of this environmental risk analysis, consequence is assumed to be Moderate.
- 3 – Other potential socio-economic impacts such as noise and dust have been analysed under those specific issues

### C3.3 Issue Prioritisation

The unmitigated environmental risk analysis has been used to prioritise the order for the presentation of the environmental assessment issues in Part D of this *Environmental Assessment*. These issues are presented in the following order.

- |                             |                           |
|-----------------------------|---------------------------|
| 1 Air Quality               | 7 Visibility              |
| 2 Noise and Vibration       | 8 Surface Water           |
| 3 Fauna                     | 9 Groundwater             |
| 4 Flora                     | 10 Transportation         |
| 5 Aboriginal Heritage       | 11 European Heritage      |
| 6 Soils and Land Capability | 12 Socio-economic Setting |

It is noted that the inclusion of “Socio-economic Setting” at No. 12 is not a direct consequence of the risk analysis. Rather, it is included at No. 12 to enable all other issues to be considered prior to the consideration of the socio-economic setting as this issue invariably is inter-related with many of the preceding issues.

