



**MOUNT PLEASANT MINE
ENVIRONMENTAL IMPACT STATEMENT**

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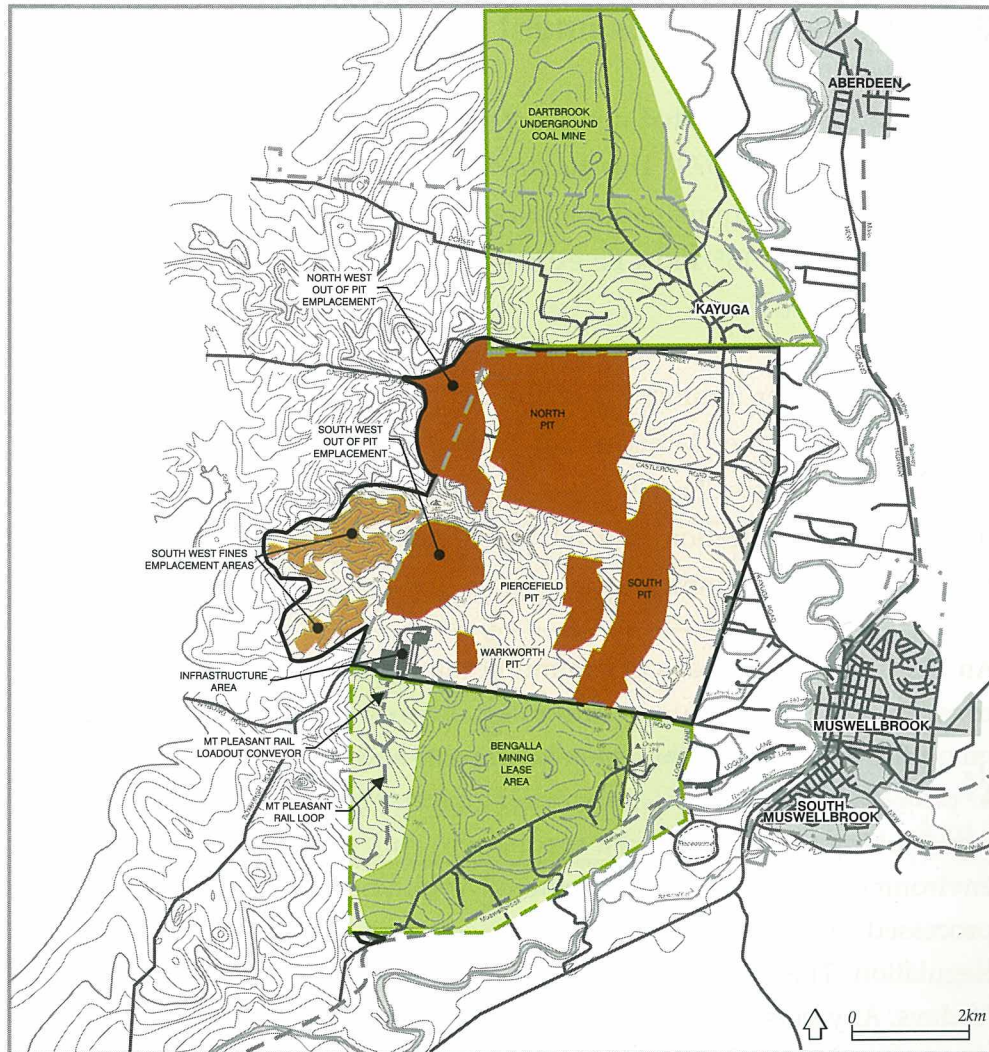
Background

Coal & Allied Operations Pty Limited (Coal & Allied) proposes developing a major open cut coal mine at Mount Pleasant, which is approximately three kilometres west of Muswellbrook in the Upper Hunter Valley of New South Wales (*Figure 1*).

Coal & Allied is one of Australia's leading producers and exporters of black coal and is part of the international Rio Tinto group. The mine will extract about 197 million tonnes of run-of-mine coal to produce about 142 million tonnes of saleable coal over a period of 21 years.

The Mount Pleasant site occupies 3,800 hectares on predominantly undulating to rolling country to the west of the Hunter River. The site is mainly used for grazing on native/natural pasture with some partly improved pasture along its eastern boundary. Surrounding land uses include pecan nut plantations, grape vines, horse and cattle studs, minor cultivation such as turf, flower and market gardens, and rural residential areas. Bengalla Mine adjoins the southern site boundary, with the proposed Kayuga Mine and surface facilities for the underground Dartbrook Mine to the north.

Run-of mine coal will be washed on site to produce a range of thermal coals. Product coal will be transported to the Port of Newcastle via a rail loop built to the south of the Mount Pleasant infrastructure area and connected by an overland conveyor.



- Mount Pleasant Site
- Mount Pleasant Survey Boundary
- Mount Pleasant Authorisation Boundary No.459
- Bengalla Study Area
- Proposed Kayuga Mine Authorisation Boundary No.256

Figure 1 SITE AND SURROUNDS

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Environmental Assessment Procedures

The project is a designated development under the *Environmental Planning and Assessment Act 1979*. This Environmental Impact Statement (EIS) will accompany a development application to Muswellbrook Shire Council for the proposal. The EIS must be exhibited publicly and affected landowners must be notified.

A direction under Section 101 of the Act means that the project must be determined by the Minister for Urban Affairs and Planning. As a consequence, Muswellbrook Shire Council will refer its assessment of the development application and all public submissions to the Minister for Urban Affairs and Planning.

An EIS is the main means of communication between a proponent and the consent authority, statutory authorities, interest groups and the public. It quantifies and assesses the potential impacts and documents the benefits of a project. The EIS also provides a permanent and public record of undertakings given by the proponent on matters relating to the environment. Once a Development Application (DA) is lodged, it is processed in accordance with the relevant provisions of the EPA Act and Regulation. This includes placing the EIS and DA on exhibition for at least 30 days. Any person may inspect the documents and make a submission on the project during the exhibition period.

This process is summarised in *Figure 2*.

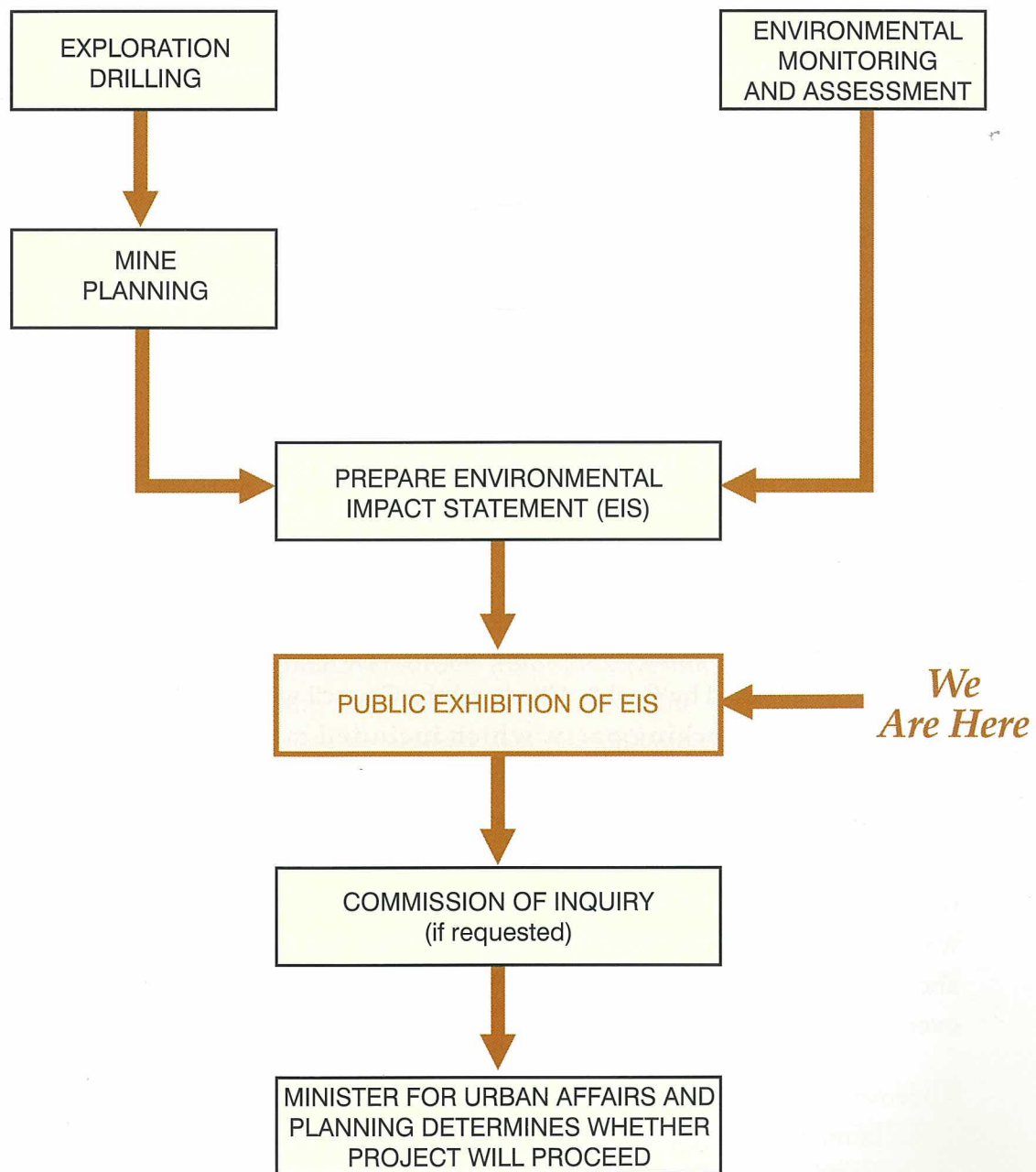


Figure 2

ENVIRONMENTAL ASSESSMENT PROCESS

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Options Development

Geological constraints mean that the Mount Pleasant resource can be most effectively mined by open-cut techniques. Open-cut coal mines start where the coal is shallowest and work down the coal seams until the excavation becomes too deep. At Mount Pleasant this required the mine to start in the east and work west.

A preliminary assessment examined 33 infrastructure layouts to service the mine, including three different locations and a number of options for transporting run-of-mine and product coal. Preference was given to options on the eastern boundary of the Authorisation. An initial Planning Focus meeting held in March 1995 gave control authorities a preliminary overview of the proposal and associated environmental issues. Mine planning and environmental impact assessment advanced during 1995 and early 1996.

Muswellbrook Shire Council then expressed reservations about having infrastructure on the eastern side of the mine. Consequently, a Joint Working Party was established by Coal & Allied and the Council with an independent facilitator. The working party, which included mine planners and infrastructure designers, sought to meet local community needs, while still ensuring the economic viability of the mine.

Other infrastructure locations and rail access options on the western side of the site were examined. One of these was a joint user facility with the Bengalla Mine, while another connected to the Bengalla Mine rail loop by overland conveyor.

Approval of the Bengalla project in 1996 paved the way for an immediate commencement of its infrastructure and rail loop. This meant that Bengalla could not commit to a joint user facility because Mount Pleasant could not be developed in time.

Coal & Allied therefore relocated its mining infrastructure to the southwest corner of the site. This was about twice as far from Muswellbrook residential areas as the original proposal. Relocating mine infrastructure to the southwest changed access to the pit and led to a rail loop to the south of the Mount Pleasant infrastructure area. This will be connected to the mine surface facilities by an overland conveyor.



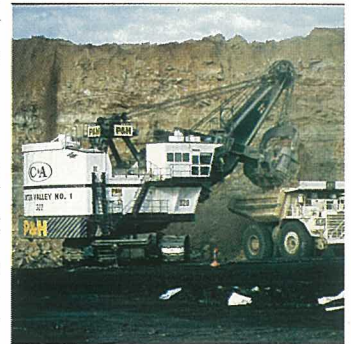
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The Proposal

The aims of developing a new mine at Mount Pleasant were to provide Coal & Allied with long term coal reserves whilst achieving a balance between impacts on the local environment, community needs and economic viability.

Coal will be extracted from eight seams in the Wittingham Coal Measures, commencing at the base of the Edderton seam in the east and working west down the dip in a series of parallel strips.

Most overlying rock will be fragmented by blasting and excavated with a dragline, two electric shovels and hydraulic excavator and a number of front-end loaders. A fleet of trucks will haul rock and coal from the mine to emplacement areas and coal preparation facilities, respectively.



Coal will initially be extracted from a small pit in the Warkworth seam adjacent to the coal preparation facilities whilst the permanent mine infrastructure is built. Overburden from this excavation will be used as fill for the coal handling facilities, haul roads and fine reject emplacements. Coal from this pit will be washed at a portable modular plant before the main washery is built.

Once coal handling and preparation facilities are completed, mining will start in the South Pit. At the same time, the Piercefield Pit will be opened. Overburden will be transported to the southwest out-of-pit emplacement and used to form the southern bund, which will screen mining operations and haul roads from Muswellbrook.

A dragline will be used in the North and South Pits with coal hauled to the infrastructure area in the southwest corner of the site. Mine infrastructure will include a coal preparation plant, coal stockpiles, maintenance workshop, staff amenities and administration building.

Run-of-mine coal will be transferred to the coal preparation plant via a hopper or stockpiled. Coarse reject from the washing process will be trucked to emplacements, while fine rejects will be pumped to a fines emplacement area in the west of the site. Product coal will be stockpiled in the infrastructure area and then conveyed to the rail loop.

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The mine will operate 24 hours per day, seven days a week. Construction of the coal preparation plant and facilities will take two years and employ up to 253 people. The average operational workforce will be 332, with a peak of 380 people.

The site will be accessed via a single controlled gate to the infrastructure area off Wybong Road. A part of Castlerock Road on the site will be closed, with a new section constructed linking Castlerock and Dorset Roads. Future closure of a section of Wybong Road will allow the area between Mount Pleasant and Bengalla to be mined. To facilitate community transport the closed section will be replaced by a link road in the west of the site.

Consultation

The local community and government authorities were consulted extensively during all phases of the project. Community consultation included individual briefings, interviews, public displays, media liaison, information brochures and day-to-day contact. Government authorities

were briefed on the proposal and environmental assessment at a number of planning focus meetings and technical consultation group presentations. Extensive discussions were also held with Muswellbrook Shire Council. These involved informal talks, briefings of Council staff, Councillors and community representatives, as well as forwarding information to various Council committees.

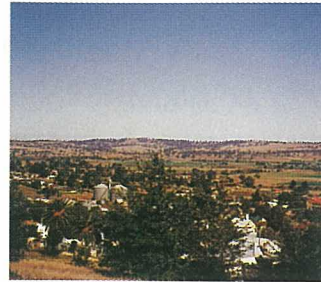


Environmental Assessment

The environmental issues associated with the proposal were identified from consultation with government authorities, discussions with the community, operating experience from Coal & Allied's other Hunter Valley mines and the experience of the study team preparing the EIS. No single environmental issue dominated, though a number of factors were considered in detail. Assessment findings are summarised on the following pages:

□ Visual

The post mining landform will change the local landscape. The final landform will emulate existing landforms and vegetation patterns. Progressive rehabilitation will limit the extent of visual disturbance during construction.



Cumulative landscape changes will be evident over a distance of up to 11 kilometres from the southern part of the Bengalla Mine to the northern part of Kayuga Mine. Assuming the three commence within 5 years the most evident cumulative effect will be the rapid development of emplacement formations, most of which would continue to grow throughout the life of each project until final rehabilitation.

A view of the mine from Muswellbrook in Year 20 is shown below in *Figure 3*.

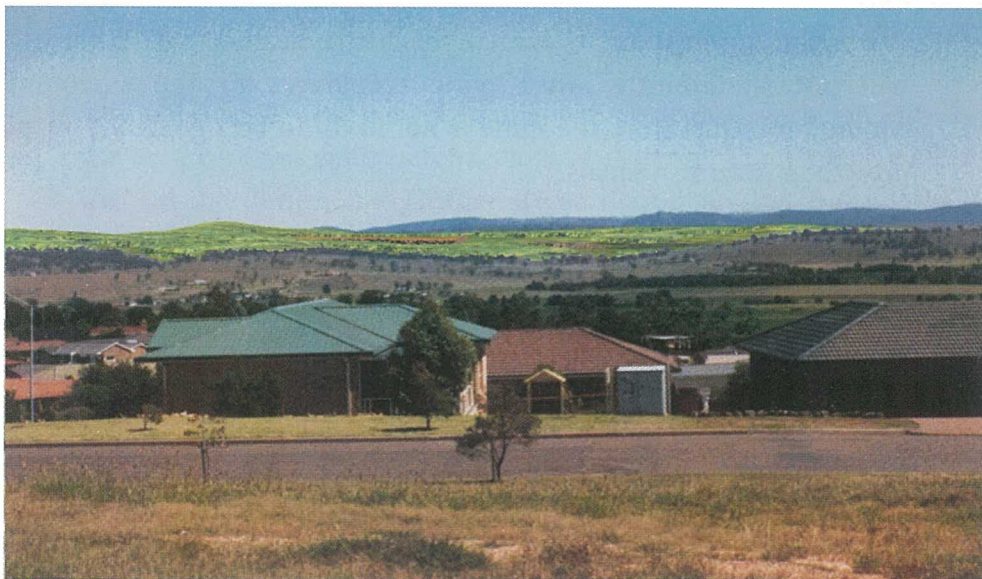


Figure 3

VIEW FROM MUSWELLBROOK - YEAR 20

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□ *Flora and Fauna*

Mount Pleasant, Bengalla and Kayuga Mines do not individually or cumulatively represent any significant link to surrounding larger vegetated areas or conservation reserves. None of the proposed mines will disturb any unique ecosystems or habitats of conservation significance.



Cumulative impacts resulting from vegetation clearance and habitat loss will be offset by habitat enhancement of proposed rehabilitation areas. Rehabilitation for Mount Pleasant Mine will include plantings of 40 per cent trees, subject to government authority approval, which will further minimise potential impacts. This will result in a more diverse ecosystem in the long-term.

□ *Air Quality*

Up to 65 non-company owned residences will receive more dust than the assessment criterion. The company will offer to buy these properties at a fair and equitable market value or to install ameliorative measures at each residence. Assessment of dust deposition in relation to human health indicates that the proposal will not significantly affect mine employees or the surrounding community. Dust from the mine is not likely to be significant for plant growth or grazing animals.

Cumulative predictions derived for the Mount Pleasant, Kayuga and Bengalla developments are conservative and therefore actual levels are expected to be lower than those predicted. Significant increases in cumulative dust levels will be confined to an area west of Muswellbrook.

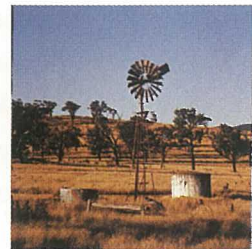
□ *Land Use*

Staged mine development will allow areas not affected by mining to remain available for continued agricultural enterprises. Land rehabilitation after mining will maintain the pre-mining land capability of agricultural lands.

□ *Water Quality*

Coal hardrock aquifers will be depressurised which will cause some borehole water levels to decline near the mine, but this may improve alluvial water quality for up to 80 years after mining.

All runoff from disturbed areas of the mine will be collected by the mine water management system. The mine will affect 30 to 70 per cent of drainage catchments on the eastern side of the site. The fine rejects emplacement will reduce runoff from catchments in the west. Where loss of yield causes economic hardship, water supplies will be replaced.



Potential groundwater seepage from the fine emplacements will be minimal because fine rejects have low permeability. Monitoring and management measures will be installed downstream of the emplacement area to contain seepage which could affect groundwater quality in the catchment. Seepage from overburden emplacements will affect water quality in localised areas of the floodplain alluvium, albeit at a very low rate.

□ *Heritage and Archaeology*

The site does not have a substantial archaeological resource. Most of the area contains sparse archaeological material. The eastern part of the site bordering the Hunter River floodplain has been largely disturbed by previous land uses. This limits its potential to provide specific information of past Aboriginal use. Less disturbed areas in the western part of the site are potentially more significant. A large concentration of artefacts in the fines emplacement area appears unique in local and regional context given the sparse archaeological material in surrounding areas. Recommendations are made for salvage excavation and collection of important sites.

Heritage items around the site could possibly be affected by vibration from blasting. Coal & Allied will protect those buildings, not already safeguarded by other mining developments.

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□ *Socio-Economic*

The mine will provide socio-economic benefits to the region, the State and Australia through employment income and output. Direct benefits will generate additional economic activity in other sectors.

Potential cumulative socio-economic impacts will provide an economic base capable of fostering community growth, development and expanded services. Associated with increases in employment opportunities will be a greater demand for rental accommodation, housing and community services.



□ *Noise and Blasting*

Up to 71 non-company owned residences will be affected by significant noise increases. The company will offer affected landowners a choice of either property purchase at a fair and equitable market value or the installation of noise abatement measures at affected residences.

One residence south west of the Mount Pleasant infrastructure area could be cumulatively affected by noise from the Mount Pleasant and Bengalla Mines. At other residences most likely to be affected by cumulative noise, calculated values are within the relevant criteria for a single mine. A number of residences in Kayuga Village will receive less than 40 dB(A) daytime noise from either the Mount Pleasant or Kayuga Mines alone, but more than this value for the two combined.

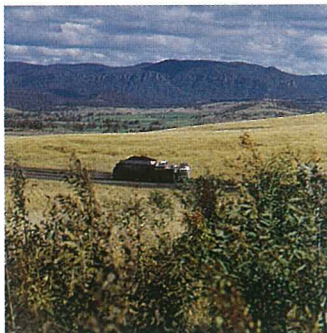
The area potentially affected by noise, blasting or dust from Mount Pleasant Mine and the adjacent Bengalla and Kayuga developments is shown on *Figure 4*.



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□ *Transport*

Cumulative traffic impacts from the Bengalla, Mount Pleasant and Kayuga Mines will be limited to significant increases on the future mine link roads, with minimal increases on existing roads. Dangerous goods such as explosives or fuel will generally be transported to the site via Thomas Mitchell Drive, effectively bypassing the town of Muswellbrook and other residential areas.



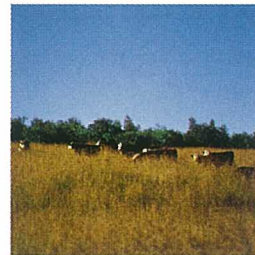
Future closure of part of Wybong Road adjacent to the mine will reduce traffic volumes on Kayuga Bridge. There will also be less local traffic because several rural properties will be acquired for mining. Mount Pleasant and Bengalla mines will generate little traffic on Kayuga Bridge. Kayuga Mine will contribute some traffic along this route but overall future traffic on the bridge will be generally less than half existing conditions.

Analysis of future rail operations has indicated that most sections of the Main Northern Rail Line from Muswellbrook to Newcastle have adequate spare capacity to accommodate additional coal train movements during both average and peak daily periods. However, future peak demand from the Bengalla, Mount Pleasant and Kayuga Mines is expected to exceed the current capacity of the Muswellbrook to Antienne section of the rail line, which is currently 11 or 12 allocated coal train paths in each direction daily. This may need to be increased by revised timetabling or other means to accommodate 13 coal trains in each direction daily at peak periods.

Structure of the EIS

More detailed information about the proposal is given in the Environmental Impact Statement (EIS). The EIS is made up of four volumes; the main report (Volume 1), figures and supplementary reports. Volume One is divided into four sections as follows:

- *Part A* has four chapters describing the project background, needs and objectives. The decision-making process and key issues resulting from community and government consultation are identified;
- *Part B* has two chapters outlining the review of alternatives and the proposal;
- *Part C* identifies interactions between the proposal and the environment. This part of the EIS contains nine chapters including a summary of measures proposed to mitigate environmental effects; and
- *Part D* presents a validation of the project. An analysis of the project's relation to the principles of ecologically sustainable development is given in this part of the EIS.



Figures and plans are given in Volume Two, while reports from external specialists are included in Volumes Three and Four.

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How to Read the EIS

If you are interested in all aspects of the proposal and its environmental interactions then it is suggested that you read the document as presented. If, however, you are interested in specific issues then you can save time by referring directly to the chapters where they are considered. It will be helpful if you read the mining proposal description in *Chapter Six* as it outlines:

- how the mine will be developed and operated; and
- where the mine infrastructure will be located.

After reviewing Chapter Six you can then refer to the *Table of Contents* to direct you to relevant subjects. Director's requirements and issues raised by government authorities are summarised in *Appendices A and B*.

For example, if you are specifically interested in air quality then you could adopt the following course of reading:

- first, read *Chapter Six* describing the mining proposal;
- then read *Chapter Eleven*. All chapters in the main volume have been written with a minimum of jargon so they can be analysed by people who may not have technical training in the particular issues. *Chapter Eleven* refers to four additional specialist studies which are presented as *Supplementary Reports 6, 7, 8 and 9*.
- finally, read any specialist studies of particular interest.
 - *Supplementary Report 6* gives the results air quality modelling.
 - *Supplementary Report 9* describes the effects of dust on human health.
 - *Supplementary Reports 7 and 8* assess the impact of coal dust on plant growth and grazing animals.

