

Executive Summary

INTRODUCTION

This Environmental Assessment has been prepared by R.W. Corkery & Co. Pty. Limited to accompany an application for planning approval by Ivanhoe Coal Pty Limited ("the Proponent") to develop and operate the Ivanhoe North Rehabilitation Project ("the project"). A project that would rehabilitate the abandoned Cullen Main West open cut and recover approximately 550 000 t of coal.

The area which is the subject of the project (the "Project Site") is located within Ben Bullen State Forest, off the Castlereagh Highway, approximately 2km south of the village of Cullen Bullen (see **Figure A**). The Project Site includes the abandoned Cullen Main West open cut, a sufficiently large area above the former open cut to allow for the progressive removal of the high wall and a buffer zone between the proposed area of disturbance and surrounding land.

PROJECT DESCRIPTION

The project, if approved, would involve the following activities:

- Construction of a site entrance on the Castlereagh Highway and the upgrading of an existing access road to the area of the proposed activities.
- Progressive shaping and rehabilitation of the former open cut area through the programmed removal and placement of overburden materials. The overburden would be obtained from between the high wall of the former open cut and the recently abandoned underground workings of Ivanhoe No.2 Colliery.
- Development of a small coal recovery operation to remove the coal exposed by the progressive removal and reshaping of overburden. The coal recovery area

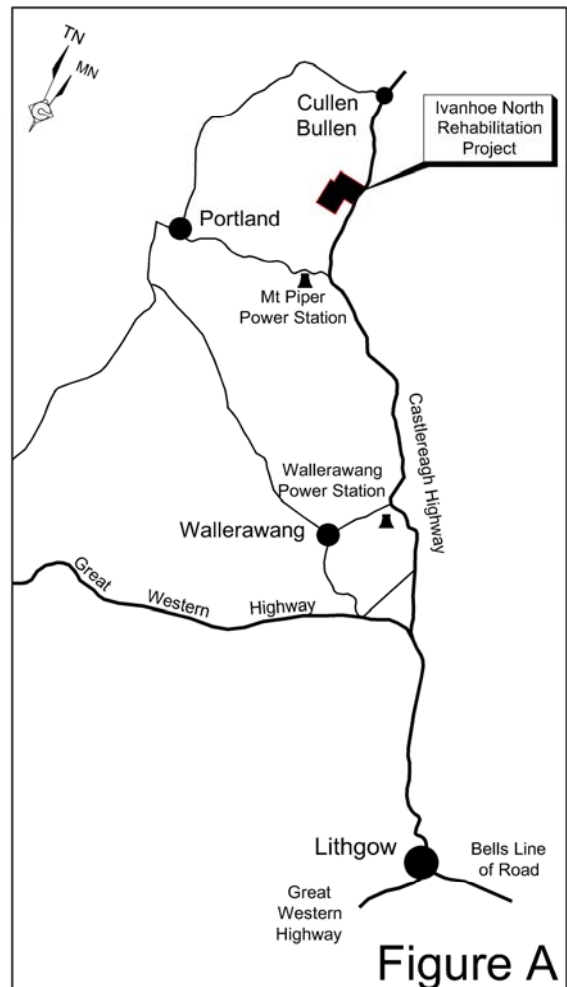


Figure A

has been defined by a review of economic, geological and environmental considerations and would recover an estimated 550 000t of coal.

- On-site crushing and temporary stockpiling of the recovered coal within a defined coal crushing area.
- Transportation of the recovered and crushed coal to local power stations, the Lidsdale Siding for rail transport to export markets and/or Western Main Colliery for coal washing.
- Installation of, and/or modification to, a range of services, structures and transportable buildings.
- Proposed hours of operation for the project would be between 7.00 am and 6.00 pm Monday to Saturday.



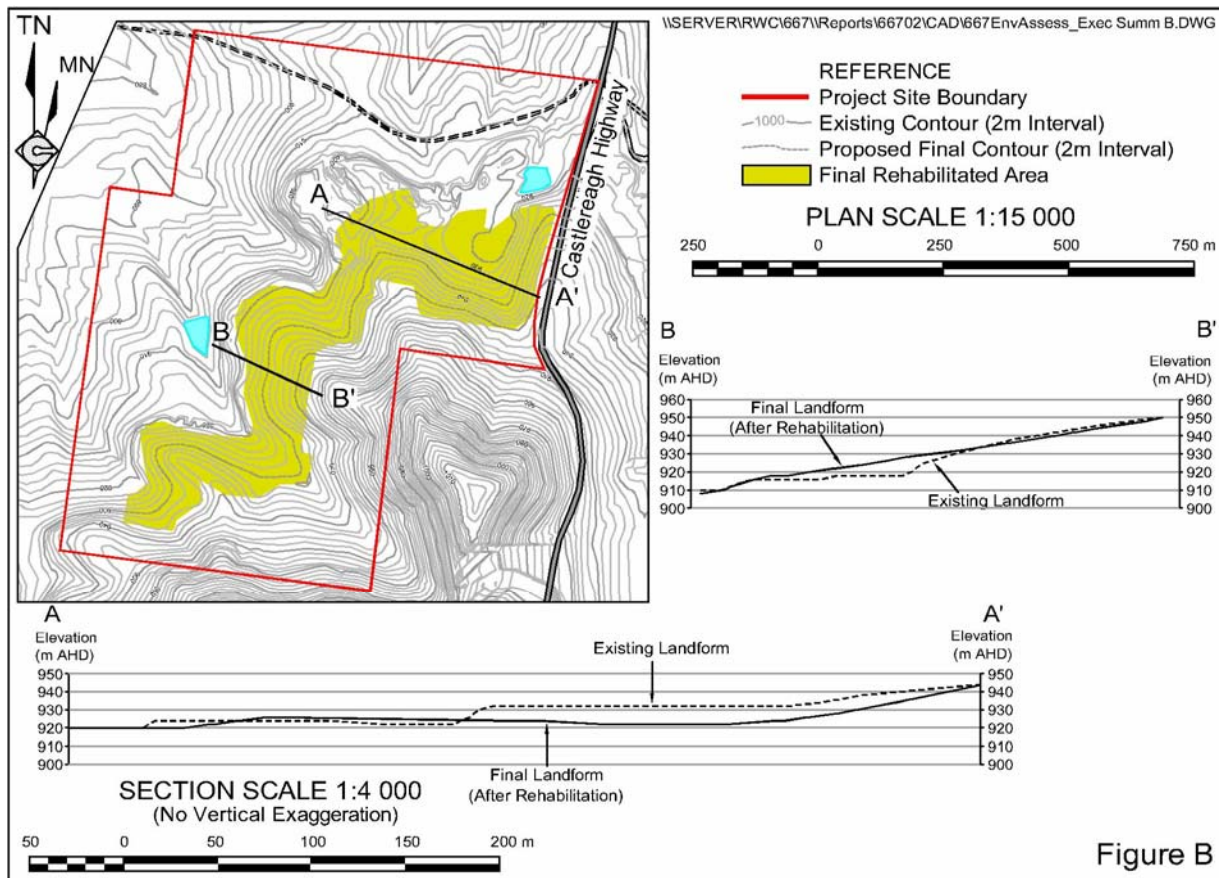


Figure B

The proposed operations, which would integrate the recovery of coal and progressive rehabilitation of the site, would commence in the southwest and progressively work northwards. It is not planned to disturb areas other than the former open cut floor and the area identified between the abandoned high wall and the limit of Ivanhoe Colliery underground workings. **Figure B** presents cross-sections of the existing and proposed rehabilitated landform.

It is anticipated that the entire project (with the exception of some minor ongoing rehabilitation maintenance activities) would be completed within approximately 2 years.

THE PROPONENT

Ivanhoe Coal Pty Limited is a wholly owned subsidiary of Centennial Coal Company Limited and currently operates the Ivanhoe Colliery, located to the immediate north of the Mt Piper Power Station.

BACKGROUND

The Cullen Main West open cut was a contour mining operation which operated shortly after World War II until the early 1950's when it was abandoned. With the approval of DPI (Mineral Resources), the Proponent has used approximately 20% (2.0ha) of the abandoned open cut (through Mining Purpose Lease (MPL) 79) for mine ventilation for the Ivanhoe Colliery and placement of coarse reject generated by the Ivanhoe and Invincible Collieries. The Proponent has rehabilitation obligations over this area. No party, however, has rehabilitation obligations over the remaining 80% (11.4ha) of the former open cut which remains largely unrehabilitated (although there has been significant tree regrowth on parts of the open cut floor and "out-of-pit" spoil dumps). A number of factors including availability of equipment and the currently buoyant coal price have combined to make the rehabilitation of the entire former open cut and concurrent recovery of the remaining coal, practically and economically feasible.

CONSULTATION AND KEY ISSUE IDENTIFICATION

The Director-General's Requirements, issued by the Department of Planning, identified eight environmental issues requiring assessment within the Environmental Assessment. One of these, "blasting" is not relevant to the project. The remaining seven issues are:

- Transport
- Noise
- Air
- Soil and Water
- Flora and Fauna
- Heritage
- Visual

In addition, consultation with local and government stakeholder identified the following additional issues.

- Property values
- Rehabilitation and final landform
- Contaminated lands
- Bushfire
- Spontaneous combustion

A risk assessment was then undertaken to identify those issues which would present the greatest risk of environmental impact. This considered both the consequence and likelihood of impact and confirmed those issues identified within the Director-General's Requirements present the greatest potential for environmental impact. An assessment of impacts was then undertaken based on the potential risk(s) associated with each issue.

ENVIRONMENTAL SAFEGUARDS AND IMPACTS

Following an assessment of the environmental setting, project design and the operational safeguards proposed by the Proponent, the following residual impacts were identified.

Traffic

- Heavy vehicles would enter and exit the Project Site from an upgraded intersection with the Castlereagh Highway, however, this is unlikely to increase the number of heavy vehicles using this section of road given the

predicted reduction in production at the nearby Cullen Valley Colliery.

- The movement of heavy vehicles along the proposed transport route would be unlikely to effect traffic flows but under a worst case scenario may slightly accelerate pavement deterioration.

Noise

- When operations are focussed in the northern operational blocks, a marginal exceedance of noise criteria (1dB(A)) is predicted at the residence of B. Muenzer to the north.
- Traffic noise would be marginally increased ($\leq 1.1\text{dB(A)}$), but within DEC nominated criteria.
- The project would not contribute to cumulative noise impacts associated with the concurrent operation of the project and the proposed recommencement of open cut mining at the Invincible Colliery.

Surface Water Resources and Erosion

- If managed in accordance with the proposed safeguards, erosion would be prevented and impacts on surface water would be limited to temporary alterations to the drainage of the Project Site as follows.
 - Four clean water dams would be constructed upstream of the operational areas to prevent flooding.
 - Two sediment dams would also be constructed downstream of the operational areas to allow for the settlement of suspended settlement prior to discharge from the Project Site.

Visual Amenity

- Over the life of the project, activities would be visible from several residences and public vantage points, especially to the west and northwest. Ultimately however, the proposed rehabilitation of the Project Site would improve the visual aesthetic through removal of the largely unvegetated high wall.



Air Quality

- The project would result in a slight incremental increase in dust and sub-10µm particulate matter. This would be within DEC nominated air quality criteria at surrounding residences.

Flora and Fauna

- The project would result in disturbance to native vegetation and fauna habitat but would not result in an increased threat to species, populations or communities of conservation significance.

Rehabilitation and Final Landform

- The project would result in temporary disturbance to the existing landform, however, the project would ultimately provide a final landform better suited to the current dual land use of the Project Site for nature conservation and forestry.

Soils

- The project would result in the temporary disturbance to Project Site soils, although if managed in accordance with the proposed safeguards, there would be no long term degradation of soil quality.

Aboriginal Heritage

- The project would not impact on any Aboriginal sites or artefacts.

Property Values

- A short term decrease in property values, or extended sale period, may occur as a consequence of the project. However, as the project life is restricted to 2 years any minor impact would be of similarly limited duration.

Spontaneous Combustion

- No occurrences of spontaneous combustion are expected.

Bushfire

- Given the project would be of short duration, with fire suppression equipment readily available and the appropriate work instructions implemented, the risk of bushfire would not be significantly increased.

Groundwater

- No impact on groundwater is expected.

Contaminated Lands

- The project would not lead to contamination of lands.

CONCLUSIONS

The proposed Ivanhoe North Rehabilitation Project provides for the rehabilitation of an area previously disturbed by open cut mining activities and the recovery of a remnant coal resource. If approved, it would release the NSW Government from its responsibility for the rehabilitation of the abandoned open cut mine.

The project would be developed and operated in compliance with a statement of commitments presented within the Environmental Assessment, itself developed from the design features, operational safeguards and management measures proposed to minimise the impact of the project on the local environment and community. The Environmental Assessment, prepared following the review of seven specialist consultant studies, has identified that the project should proceed because it would:

- (i) provide for the rehabilitation of the Cullen Main West open cut and an improved environmental and public safety outcome;
- (ii) be operated in accordance with the environmental safeguards that are detailed throughout the Environmental Assessment and have been developed with respect to the principles of ecologically sustainable development; and
- (iii) have minimal impact on most aspects of the biophysical environment whilst allowing for the recovery of a coal resource in a previously disturbed area. Where a predicted impact has been identified, all reasonable and feasible safeguards have been implemented by the Proponent in an effort to minimise the identified impact.

