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### AB017352

## Rixs Creek coal mine : summary

# RIXS CREEK COAL MINE Environmental Impact Statement

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Prepared by CROFT & ASSOCIATES Environmental Consultants 92 Young St, Carrington Telephone (049) 616114

Prepared for BLOOMFIELD COLLIERIES PTY LIMITED East Maitland



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#### INTRODUCTION

Bloomfield Collieries Pty. Limited is an Australian owned family company currently operating opencut and underground coal mines at Bloomfield Colliery, East Maitland. A large proportion of the Company's mineable reserves consist of coals with a high sulphur content which do not satisfy new specifications for export coals with increasingly lower sulphur contents. In order to maintain its market share, existing operations and the employment of its workforce, the Company proposes to establish another mine at Rixs Creek near Singleton to produce coals to blend with those from East Maitland to supply markets for the lower sulphur coking and steaming coal types.

**Plate 1** shows the location of the proposed Rixs Creek coal mine. The land proposed for mining in the Lease Application Area is located several kilometres from the western limits of the Singleton Heights urban area. At its closest point, the proposed mine will be 1.5 km from the urban area. For the majority of the mine's life however, the mine will be further away from the Singleton Heights urban area. A prominent ridgeline and the Main Northern Railway separate the existing and proposed future residential area from the project site.

In accordance with Section 34 of the Coal Mining Act 1973, the Minister for Minerals & Energy formally invited Bloomfield Collieries Pty. Limited to make application for the grant of a Coal Lease. Coal Lease Application No. 185 was lodged by Bloomfield Collieries on the 18th March 1988. Under Section 91 of the Coal Mining Act, the Minister also requested the Company to apply to Singleton Shire Council for development consent for the project.

This summary document has been prepared to briefly outline the major features of the project, describe the design and operational safeguards proposed to minimise any adverse impacts, and define the project's environmental and socio-economic implications. Further details are provided in the Environmental Impact Statement which has been prepared to support the Development Application to Singleton Council.

#### THE PROJECT

Bloomfield Collieries Pty. Limited proposes to develop an opencut coal mine in two stages to produce 0.3 and 1.5 Mtpa of raw coal respectively. Figure 1 delineates the area proposed for surface mining and the mining blocks to be extracted in sequential order.

The project will have a life of 21 years. The Company's programme of exploration on Authorisation 89 delineated a coal resource of 122 Mt. The areas proposed for mining in the first 21 years contain an in-situ coal resource of 21.8 Mt of which 17.5 Mt will be available for sale after extraction and preparation.

Bloomfield Collieries Pty. Limited owns the freehold of much of the land required for surface mining. Portions of land to be affected by mining, which are not owned by Bloomfield Collieries, are currently under negotiation with the present owners. Following the granting of Development Consent and the award of a Coal Lease, the Company intends to acquire additional adjacent lands to establish a buffer area to minimise any impacts on adjoining properties.

Stage 1 (Years 1 to 5)

An initial average raw coal production rate of 0.3 Mtpy is proposed in Stage 1. Mining will commence adjacent to the northern side of the New England Highway close to the eastern side of the Lease Application Area. The mine will advance to the west in successive strips parallel to the strike of the coal seams.

Overburden will be ripped and removed by bulldozer and scraper combinations and hauled by scrapers on pit roads for dumping in backfill areas. In Stage 1 only minimal drilling and blasting will be required. Coal will be ripped and transported by scraper to a rotary breaker in the surface facilities area towards the northeastern corner of the Lease Application Area. The mined out and refilled areas will be progressively shaped, contoured and rehabilitated after preliminary settlement.

Coal mined in years 1 and 2 of Stage 1 will be transported by road to the coal preparation plant at Bloomfield Colliery, East Maitland while a balloon rail loop is being constructed at Rixs Creek. From year 3 coal will be transported by rail



PLATE 1 Site Location





to Thornton for transfer by road truck on the existing private road to the coal preparation plant. This plant has adequate washing capacity which is presently under-utilised.

Access and haulage roads, raw coal receival, crushing, handling and rail loading facilities and combined workshop, bath house and administration building will be all constructed for Stage 1. The Company will employ a workforce on the site of 13 in years 1 to 3 expanding to 22 in years 4 and 5. The mine will nominally work one 7-hour shift per day commencing at 6.00 a.m. five days per week for the first three years and then two 7-hour shifts per day for years 4 and 5. There will be no production at night in Stage 1.

Stage 2 (Years 6 to 21)

The initial raw coal production rate in Stage 1 will be increased to the design capacity for the project of an average of 1.5 Mtpy in years 6 and 7 of Stage 2.

The main mining operation will involve the establishment of a bench mine in the area to the north of the New England Highway. Hard overburden will be drilled and blasted from benches and loaded by shovel into rock trucks for in-pit haulage to backfill areas. Broken interburden will be loaded by front-end loader. Coal will be ripped by bulldozer and loaded into coal hauliers by rubber-tyred front-end loaders for transport to the rotary breaker for size reduction and discharge to the raw coal stockpile in the surface facilities area.

Mining will also commence in year 7 to the south of the highway in a small bulldozer and scraper operation similar to that proposed for Stage 1. Coal will be hauled to the rotary breaker on the main haulage road via an underpass beneath the New England Highway. The underpass will be constructed in association with the re-routing of a section of the highway which is planned by the Department of Main Roads to improve the alignment. Minimal blasting will be required in the southern pit.

A short section of Rixs Creek on the mine site is to be diverted to allow mining in the southern area in year 13.

The mined-out areas of both pits will be rehabilitated progressively.

A coal preparation plant will be constructed on the site with other surface facilities ready for Stage 2. The washing process will incorporate stages of heavy medium cyclones and froth flotation, and will be regulated for feeds from the different coal seams in the mines to prepare coking and steaming coal products.

The products from the plant will be conveyed to the coking and steaming coal stockpiles and reclaimed and conveyed to the load-out bin for discharge to the waggons of unit trains in accordance with loading schedules. An average of seven trains per week will transport coals to the Port of Newcastle.

The coal preparation plant will operate in closed circuit with a tailings water pond and tailings disposal dam and receive make-up water from clean water and minewater storages constructed on the site.

An additional workshop and amenities building will be constructed for Stage 2.

Electric power and potable water will be brought to the site.

The Company will employ a workforce of 115 in Stage 2 of the project.

Mining will be undertaken in three 7-hour shifts per day on five days per week. Similar times will be worked on production in the coal preparation plant.

#### SAFEGUARDS AND CONTROLS

Detailed design and operational safeguards are proposed for the Rixs Creek project. The safeguards will cover the management of water quality, the control of air and noise pollution, the rehabilitation of the site to a capability superior to the present and suitable for a range of post-mining land uses, and the construction of bunds and tree planting programmes to minimise the visual impact.

Programmes of ongoing environmental investigations, blasting and rehabilitation trials and the supervision of safeguards and monitoring will be administered by an Environmental Officer under direction from the Mine Manager. The Officer will also be directed by the Manager to assist in training operational and

management staff to achieve the levels of control necessary for the project, in liaising with residents, Council and Authorities and in implementing new and improved practices developed as a result of experience with the operations.

The controls on water pollution, noise and vibration, and air quality are described in detail in the Environmental Impact Statement. The landscaping and visual safeguards for the project and the objectives of the rehabilitation programme are also described.

#### ENVIRONMENTAL IMPACT

The Rixs Creek project has been the subject of detailed investigations to identify and consider each potential source of environmental impact. The main impacts of the project, after the design and operational safeguards proposed by the Company are taken into account, are summarised in the following sections.

#### Pollution Levels

Water: The project provides for the maximum use of site waters. Demands on external supplies will be restricted to potable requirements and possibly to makeup in drought times, if groundwater estimates are not realised. Sufficient water will remain in Rixs Creek during flow periods to ensure the supply for downstream users.

There will be no dry weather discharges from the site. Highly saline waters and waters carrying silt loads exceeding the requirements of the Clean Waters Act will not be released. There should be no deterioration in the downstream water quality in Rixs Creek or the Hunter River as a result of the project.

Air Quality: Considerable care has been taken in the project to identify the potential sources of dust generation and in the design of safeguards and control measures to restrict emissions to those levels which are unavoidable.

The predicted increases in dust deposition reported in the

Environmental Impact Statement have been based upon theoretical modelling calculations. Reference has also been made to measured levels of deposition in areas to the southeast of a large Upper Hunter Valley mine employing shovel and truck mining methods similar to those proposed for the Rixs Creek project.

With all safeguards in place, average dust deposition and concentrations of particles in suspension in the air exceeding amenity criteria such as 4  $g/m^2$ .mth and 90  $ug/m^3$  suggested by the State Pollution Control Commission will be restricted to the mine site and the area immediately adjacent to the Lease Application Area.

Residences and properties considered to be affected by the project are described in a later section.

Noise: The project provides for the incorporation of a range of safeguards to control the noise of operating plant including earth bunds along sections of the highway and Rixs Creek Lane.

Target criteria agreed to by the State Pollution Control Commission of 50 dB(A) day and 40 dB(A) night at neighbouring residences have been adopted as being realistic for the areas around the mine site already exposed to home, urban, industrial, road and rail noise sources.

Areas predicted to experience levels exceeding the State Pollution Control Commission criteria will be restricted to the mine site and a number of adjoining properties. Other areas likely to receive increases above background levels, which will be low by comparison, include some locations adjacent to Maison Dieu Road, particularly at its western end to the southwest of the Lease Application Area, along a small section of Bridgman Road and to the north.

Blasting practice at the mine will comply with the stringent specifications for comfort at the closest residences required by the State Pollution Control Commission.

**Visual:** The proposed mine will be in an exposed position visible from sections of the New England Highway, Maison Dieu Road, the Main Northern Railway and, from a number of residences in the valley of Rixs Creek. Only the top of the rail loadout bin will be seen from ground level in Singleton Heights and along Bridgman Road.

Locations with a view of the mine in the day will also see the floodlighting on the site at night. Lights will be restricted to those required for safety and security.

Protective bunds, tree and shrub screens and areas with mass tree and shrub plantings will be established to reduce and filter views and partly conceal the activities and facilities on the site. Plantings should start to become effective by Stage 2 of the project.

#### Existing and Future Land Use

Grazing and Agriculture: The proposed project will progressively reduce the opportunity for grazing on the site as the land is required for mining. In practical terms, with this exception, the project will have no meaningful impact on dairying, grazing or agricultural production on farms and hobby farms within the surrounding areas.

**Rural Residential:** Existing "rural residential" and "rural small holdings" areas are located around Maison Dieu Road and along Bridgman Road to the north of Singleton Heights. Low to negligible increases in noise and dust levels in some of these areas may contribute to perceptions of reduced environmental quality but the amenity criteria of the State Pollution Control Commission will not be exceeded and the impacts will be low.

Singleton North West Structure Plan Area: An area covered by the Plan is proposed by Singleton Shire Council for various rural residential, industrial and special purpose developments. The part of the area to be affected by noise and dust due to the project around Rixs Creek Lane is to be incorporated in a buffer zone and the impact on the remaining large balance of the area will be low to negligible.

Singleton Heights: Impacts due to noise, dust and visual pollution will be negligible in the existing areas of Singleton Heights, and in the areas to the north and east of Singleton Heights which are proposed and planned for residential and various rural residential subdivisions.

Any changes in the environment of Singleton Heights due to the Rixs Creek project will be of such low magnitude so as not to be detectable. Residents can expect greater changes due to increasing urban population and the additional local road, highway and rail traffic, which more people and expanded economic development in the Upper Hunter Valley will bring.

The implications of the project for land use relate mainly to the impact on the site and buffer area and to the fact that this land close to Singleton township will be unavailable for other uses until mining is completed. Current and proposed uses for the land outside the site and a buffer zone should not be seen to be prevented by the project.

#### Residents in Proximity

Residents within or in close proximity to the Lease Application Area are predicted to experience increases in dust levels under average conditions and in episodes, increased noise levels exceeding daytime and night time criteria and, have views of the operations on the site.

A number of privately owned residences in the centre of the Lease Application Area, near the junction of the highway and Middle Falbrook Road and around Rixs Creek Lane and its intersection with the highway, are predicted to be affected by the project. These residences, which are identified as numbers 57, 58, 60 to 65 and 66 to 68 on **Figure 1**, will be affected by increases in dust and/or noise levels resulting from the project.

The Company has acknowledged the potential for an impact on these residents and

has stated that it is prepared to purchase properties or negotiate mutually acceptable ameliorative measures with residents. The current status of negotiations with residents in proximity is reported in the Environmental Impact Statement.

While residents living in areas around Maison Dieu Road to the south and southwest of the site can expect small increases in noise and dust levels according to the positions of their houses, these increases will not exceed State Pollution Control Commission amenity criteria.

#### Physical Environment

Topography: Mining on the site will result in a new topography locally elevated by up to 25 m above the existing topography. The new landforms will be visually compatible with the existing surrounding landscape.

Drainage: The new rehabilitated landforms are to be provided with a new drainage network flowing to Rixs Creek. Post-mining cross-country runoff and flows in Rixs Creek will be similar to the pre-mining situation. The area is not affected by flooding and the proposed project has no implications for existing flooding patterns along lower sections of Rixs Creek.

**Soils:** The soils on the site are to be recovered for re-use. The project provides for the control of erosion by management practices superior to the present and for the conservation of the soil resource.

Land: It is proposed that the rehabilitation practices developed for the mined-out areas return a capability superior to the present and restore the physical integrity of the land for use in the future.

**Groundwaters:** The project will result in the unavoidable destruction of the bedrock groundwater aquifers. As there is no demand for the existing saline supply, its loss due to the project is not rated as significant.

#### Natural Environment

Flora and Fauna: There will be an unavoidable impact on the flora and fauna on the site. The project will lead to a further depletion in the remnants of this resource on the floor of the Upper Hunter Valley. The reinstatement of tree stands and wooded areas on the rehabilitated landforms may compensate in part for some of this loss in the future.

#### Socio-Economic Benefits

Approval of the Rixs Creek project will result in the creation of an average of between 13 and 22 new jobs in Stage 1 and 115 in Stage 2. Some 272 additional employment opportunities will be generated indirectly.

Capital expenditure and payments to the construction workforce will benefit the construction industry and local suppliers of goods and services who are able to offer competitive prices. The total capital investment (excluding land) for the Rixs Creek project is estimated at \$64.1M of which \$12.9M and \$51.2M will be spent in Stages 1 and 2 respectively. Apart from salaries and wages paid to the workforce during construction, the estimated annual payments to the direct workforce when the mine is operating will be \$0.663M and \$5.1M in Stages 1 and 2 respectively. These payments will represent direct additions to regional household incomes and a large proportion of this expenditure will flow to the regional economy.

Redistribution of construction workers' and permanent employees' incomes will help maintain the local business sector and provide a basis for further investment in improved facilities, services and amenities in the Singleton Shire.

All of these factors will lead to further benefits in the form of:

- i. Increased levels of economic activity in the Upper Hunter.
- ii. A potential for the expansion of the region's economic base.
- iii. A strengthening of employment and the creation of greater diversity in job opportunities.
- iv. Increased public sector revenue, a proportion of which will be

available locally.

#### CONCLUSION

The Environmental Impact Statement prepared for the project presents an assessment of the impact of the proposal to establish an opencut coal mine by Bloomfield Collieries Pty. Limited on the local residents and property, planning options and on the physical and natural environment of the Lease Application Area and the surrounding areas.

The Statement concludes that the residents and property owners living within the Lease Application Area and on Rixs Creek Lane and the New England Highway will be significantly affected by increased noise, dust and visual pollution. The Company has entered into negotiations with these people with the objective of acquiring and combining the properties for sale into a buffer area for the project.

Other residents within the valley of Rixs Creek will either not be affected, or only marginally affected by the project. Residents living beyond the eastern ridgeline of Rixs Creek valley in Singleton Heights will detect no meaningful difference from the present should the project be approved.

The mining proposal incorporates measures to conserve the soil, water and landscape resources, rehabilitate the surface to a superior capability to the present and return the site to a condition suitable for a range of post-mining uses. Account has been taken of the important location of the site and its potential for development in the Shire in the long term after the coal is extracted.

The modest level of impact predicted for the project is based upon the high levels of safeguards, pollution control management, landscaping and rehabilitation proposed for the design, construction and operation of the mine. The high standard of environmental control essential for the site can be achieved with existing technology, persistent supervision and monitoring and adherence at all times to good practice. In addition, the project will create a number of direct and indirect employment opportunities, contribute to the economic prosperity of the Upper Hunter Valley through capital expenditures and the payments of salaries and wages in the construction and operational phases and benefit the community in general and the region in particular, through revenue payments to all levels of government.

From the point of view of Bloomfield Collieries Pty. Limited, the project is essential to the Company's future. The Company is a long standing coal producer in the Hunter Valley and employs over 200 persons at East Maitland. The Rixs Creek coal is needed to blend with Bloomfield coal for the Company to retain its share of the market for coals with a lower sulphur content. Disapproval of the project will put at risk the Company's activities and the jobs of its workforce.

Over the years, Bloomfield Collieries Pty. Limited has demonstrated its ability to operate a small-scale opencut mine on a multi-seam coal deposit at East Maitland in a well conducted and efficient operation. The Company's experience with this mining operation has formed the basis for the mine plans and methods proposed for the Rixs Creek project. Bloomfield Collieries has acknowledged the environmental constraints imposed by the site and its surrounds, and is confident that it can implement and maintain successfully the standards and safeguards required for the mine which are described in the Environmental Impact Statement.

Bloomfield Collieries Pty. Limited fully recognises the environmental implications of this project and appreciates the concerns of residents. However, the Company has investigated all aspects of the proposal over a number of years and believes that it can operate the small-scale mine proposed for the Lease Application Area without adding to the assessed levels of impact. In fact, the Company is confident that with the assistance of local residents and Singleton Shire Council, it can reduce further any detrimental effects predicted. In view of the efforts it is making to assist persons likely to be affected and of the serious implications of the project not proceeding, the Company considers that it is justified in requesting that its proposal be approved.