

WERRIS CREEK PROPOSAL

Develop an Open Cut Coal Mine
within E.L. 5993

WERRIS CREEK PROPOSAL

- Location
 - Four klms South of Werris Creek on the Quirindi road.

WERRIS CREEK PROPOSAL

- Tenement
 - Exploration Lease 5993 currently held by Creek Resources Pty Ltd, covers an area of over 531 hectares.
 - Exploration to date has identified an isolated outlier of coal-bearing strata preserved within a syncline about 2.5 km by 1 km wide.
 - North end of syncline previously mined by underground methods.

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- Ownership
 - Joint Venture between Creek Resources and an entity associated with AMCI.

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- Resource
 - Open cut coal reserves in nine separate seams; Black, A, B, C, D, E, F, F(r) & G
 - 9.8 million tonnes (Identified)
 - 6.5 million tonnes of indicated reserves.
 - 3.3 million tonnes of inferred reserves.
 - Independent from previously mined U/G area.

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Coal Reserves (Seam & Interburden Thickness)		
Black Seam	3.66 m (only one intersection)	
Interburden		45.00 m
'A' Seam	1.40 m	1.45 m
Interburden	37.45 m	41.00 m
'B' Seam	0.60 m	1.70 m
Interburden	0.78 m	17.00 m
'C' Seam	2.95 m	4.68 m
Interburden	4.95 m	20.70 m

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Coal Reserves (Seam & Interburden Thickness)

'D' Seam	0.40 m	1.92 m
Interburden	0.0 m	5.80 m
'E' Seam	2.65 m	4.65 m
Interburden	6.45 m	10.15 m
'F' Seam	3.15 m	4.25 m
Interburden	31.00 m	39.40 m
'G' Seam	5.90 m	8.00 m

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- Coal Quality
 - The Coal Resource consists of six major seams.
 - The Coal is Low Ash, Low Sulphur, Bituminous Thermal Coal.
 - Suitable to be mined as a Raw Coal for the export market.

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Coal Quality				
Seam	Ash	VM	Sulphur	Energy
'A'	N/A	N/A	N/A	N/A
'B'	12-15%	28-29%	0.25%	6,500
'C'	8-10%	30%	0.30%	6,900
'D'	13-18%	22%	0.25%	6,000
'E'	4-8%	30%	0.30%	7,100
'F'	8-10%	28%	0.30%	6,800
'G'	5-8%	31%	0.30%	7,050

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- Land Ownership
 - Mine operations will be contained on the “Narrawolga” property which is being purchased by the JV.
 - Processed coal will be transported across and stockpiled on an adjacent property owned by Tony Windsor – Federal MP. He is aware of the logistics of the project and is supportive.
 - A third property has a house within two kilometres of the operations. The JV will negotiate to purchase or lease. The two houses on this property are currently vacant.

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- Mining Method
 - Mining will be by Truck and Excavator.
 - Current Indicated and Inferred Reserves are contained within an area 800m by 700m and are up to 150 metres deep.

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- Coal Preparation
 - Coal will be Crushed and Screened on site to produce Raw Coal products.
 - No washplant is proposed.

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- Capacity
 - Projected Output Level will be 1.5 Mtpa.
 - Approval sought for 2.0 Mtpa to provide operating margin.

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- Transportation
 - Product Coal will be transported by road truck to a rail siding on the Windsor property.
 - Pacific National and Rail Access Corporation have confirmed suitability of the existing rail siding.
 - Private road transport will be confined to the Narrawolga and Windsor properties.

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- Environment - Flora
 - Geoff Cunningham Natural Resource Consultants Pty Ltd (GCNRC) has investigated and classified the vegetation in the project area.
 - The following three principal vegetation communities were identified.

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- Environment - Flora
 - Community (A) - White Box, Yellow Box, Blakely's Red Gum Woodland.
 - This community, listed as Endangered under the NSW Threatened Species Conservation Act 1995, is also identified as Endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (as the "Grassy White Box Woodland").

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- Environment - Flora (con't)
 - Community (A) - White Box, Yellow Box, Blakely's Red Gum Woodland.
 - An estimated 15 ha of this community lies within the mine footprint.
 - This community is not confined to the "Narrawolga" property, with more extensive occurrences in the district and regionally.

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- Environment - Flora
 - Community (B) - White Box / Rough-Barked Apple Community.
 - This community is Not Threatened.

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- Environment - Flora
 - Community (C) - Grassland / Cultivated Land Community.
 - This community is highly modified and invaded or planted with introduced species and is Not Threatened.
 - No listed Threatened Species were identified in the survey.

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- Environment - Flora
 - In recognition of the potential impact on Community (A), the JV and GCNRC have identified a number of potential environmental offsets for the area as follows:
 - Establishment of an on-site nursery to cultivate seedlings using local seed stock and soil.
 - Replanting partly or fully cleared areas,

WERRIS CREEK PROPOSAL

- Environment - Flora (con't)
 - In recognition of the potential impact on Community A, the JV and GCNRC have identified a number of potential environmental offset for the area as follows:
 - Establishment of corridors to link community remnants.
 - Exclusion of grazing to assist community re-generation and improvement.

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- Environment - Fauna
 - A preliminary fauna survey of the areas within and surrounding the project area was undertaken over three days in October 2003 by Countrywide Ecological Services
 - No Threatened Species have been identified.

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- Environment - Cultural Heritage
 - A survey of the project area was undertaken by Archaeological Services and Reports Pty Ltd in the company of representatives of the Nungaroo Local Aboriginal Land Council.
 - Two features identified as possible grinding grooves were located adjacent to and within the western limit of the proposed open cut. It is the Company's current intention to avoid disturbance of these "sites".

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- Environment - Residential Proximity and Noise
 - In addition to "Narrawolga", the following six residences are located in the vicinity of proposed open cut operations:
 - "Eurunderee" - 1.3 km south-west;
 - "Railway View" – 1.5 km north-east;
 - "Hillview" – 2.0 km north-north-east;
 - "Preston Park" – 2.0 km north;
 - Old Colliery residence – 2.0 km north; and
 - "Cintra" – 2.7 km north.

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- Environment - Residential Proximity and Noise
 - There are no other residences within 2 km of the proposed train loader or access road between the mine and the train loader.
 - "Narrawolga", a project-related residence, lies within the limit of the proposed open cut.

WERRIS CREEK PROPOSAL

- Environment - Blasting
 - Blasting, which will be required from the commencement of mining operations due to the competent nature of the majority of the overburden.
 - All blasts will be designed to satisfy ANZECC structural damage and human comfort criteria and an assessment of the likely impacts will be presented in the EIS.
 - Subject to landowner permission, structural and superficial inspections of surrounding residences will be undertaken prior to any blasting.

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- Environment - Blasting
 - Blasting will be undertaken to within approximately 350m of the Werris Creek to Quirindi Road, and Main Northern Railway Line.
 - Blast scheduling will be programmed to avoid interference to rail traffic.
 - Some short term interruptions to road traffic may occur when mining within 500m of the Quirindi Road.

WERRIS CREEK PROPOSAL

- Environment - Air Quality
 - The proposed development lies within an agricultural area with local air quality principally determined by seasonal conditions, and the nature of agricultural activities.
 - Other local influences on air quality include the Quirindi and Parry Shire Quarries on "Narrawolga", the Zeolite Australia Ltd plant and the Main Northern Railway and Quirindi Road.

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- Environment - Air Quality
 - In order to quantify likely emissions and design appropriate safeguards and ensure compliance with current EPA air quality goals, computer predictions will be undertaken to provide an assessment of air quality impacts and to ensure residential amenity is not adversely affected.

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- Environment - Ground Water Resources
 - A review of the former DLWC's Groundwater Database and other sources has identified three groundwater bores adjacent to the project.
 - One registered bore at the Old Colliery residence accesses the coal bearing strata at a depth of approximately 90m.
 - Another registered bore is located on "Preston Park" but no details are currently available.
 - An unregistered bore on the "Narrawolga" property is believed to access water within weathered basalt / alluvials.

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- Environment - Ground Water Resources
 - The next nearest non-project-related bore lies at a distance of approx 2.4 km to the north-west of the project, accessing water in fractured basalt at a depth of about 19 m.
 - Analyses from borehole samples has shown the groundwater to be brackish, ie $>1500 \mu\text{S}/\text{cm}$.
 - The JV will commission a groundwater assessment to examine the likely consequences of mine dewatering requirements, drawdown effects, flow regimes, water source structural integrity, and impacts on ecosystems and water users.

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- Environment - Surface Water and Drainage
 - The proposed open cut lies on the southern end of a north-west / south-east oriented ridgeline, with the mine area lying immediately to the south of a catchment divide which directs surface flows to the north to Werris Creek and to the south, to Quipolly Creek via intermittent watercourses and/or drainage lines.
 - Werris and Quipolly Creeks, 5 km north and 2.5 km south of the open cut respectively, are the nearest perennial watercourses to the site.

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- Environment - Soils and Land Capability
 - Preliminary observations suggest that the land capability within the proposed areas of disturbance comprises a mixture of Class IV to V with the open cut area graduating to Class II and III lands on the lower gradient peripheral areas.
 - The minimization / avoidance of disturbance of the White Box Yellow Box Blakely's Red Gum external to the proposed open cut will necessitate the utilization of higher capability lands for overburden disposal.

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- Environment - Visibility

- As the proposed mine development would commence at the southern end of a ridgeline, the proximity of the mine to both the Werris Creek town, Quirindi Road and Main Northern Railway Line and the proximity and elevation of the "Railway View" and "Hillview" residences, some mining related activities or disturbance will be visible at least for the initial years of operations.
- The Company will, to the extent practicable, undertake its activities in a manner which enables the progressive rehabilitation of visually exposed surfaces. The coal processing area and haulage road to the train loader will be positioned to the west of the ridgeline and, as such, will not be locally exposed visually to other than the "Eurunderee" residents.

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- Environment - Geochemistry
 - Based on the geological investigations undertaken to date and the knowledge from other operating or proposed mine developments within the Gunnedah Basin, it is considered unlikely that the overburden and/or interburden materials will exhibit a net acid producing potential and require any specialized management techniques.
 - Notwithstanding, laboratory analyses of representative core samples will be undertaken to determine pH after oxidation, APP, NAPP, NAG and ANC. Refinements to overburden / interburden management practices will be undertaken on the basis of these results.

WERRIS CREEK PROPOSAL

- Community Support
 - The JV has established strong support from Quirindi Council.
 - Community consultation with Tony Windsor, local land-owners and local community leaders has demonstrated strong project support from the Werris Creek area.

WERRIS CREEK PROPOSAL

- TIMETABLE
- Development Application and Mining Lease Application by June 04.
- Mining to commence prior to December 04.

WERRIS CREEK PROPOSAL

- Employment
 - Mine development is expected to generate direct employment of around 50 jobs.
 - Plus additional jobs within the local community from the usual add on effects.

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THE END