

Mangoola

Modification to Project Approval – 500kV Transmission Line Relocation

Community information sheet
October 2009



Background

Xstrata Mangoola Pty Limited (Mangoola Coal) is currently seeking approval to relocate an existing 500kV electric transmission line (ETL) that bisects the site to enable a more efficient sequence of mining. This Project is referred to as the Mangoola Coal – 500kV ETL Relocation and Mine Plan Modification.

An initial Community Factsheet was presented at the Community Information Session held in April 2009 in Denman. This Factsheet provides a summary of the environmental assessments undertaken for the Project and explains the strategies Mangoola Coal will put in place to appropriately manage the environmental and community impacts of the Project.

The Project

Mangoola Coal currently has approval for an open cut coal mine with a maximum production rate of 10.5 million tonnes per annum (Mtpa) run-of-mine for a period of up to 21 years. Mangoola Coal is seeking approval to relocate an existing 500kV ETL, to enable reconfiguration of the currently approved mine plan, resulting in a more efficient mining sequence. The modification will also involve minor changes to ancillary infrastructure and work to facilitate transmission line relocation. The modification does not include an increase to the approved production rate or an increase to the approved mine life of 21 years.

The key features of the Project include:

- relocation of an existing 9km section of 500kV ETL and construction of an 11km

section on the western boundary of the approved mine disturbance boundary (construction is planned to be completed by 2012);

- modified mine plan to allow for improved resource recovery and efficiency;
- associated changes to ancillary activities including tailings and water management;
- minor modification (<12ha) to approved disturbance boundary to accommodate drainage features around the rail loop, raw water dam area and to allow for further resource recovery;
- minor design changes to coal handling infrastructure; and
- alteration to construction and operational employment numbers (additional 150 for peak construction and an additional 60 for operations).



Proposed Year 2 Plan



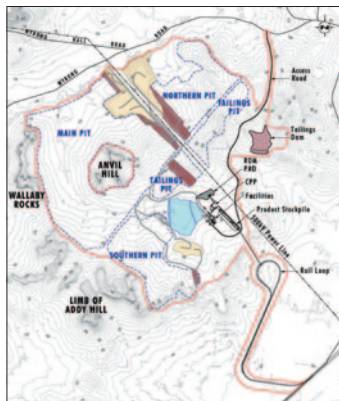
Proposed Year 5 Plan



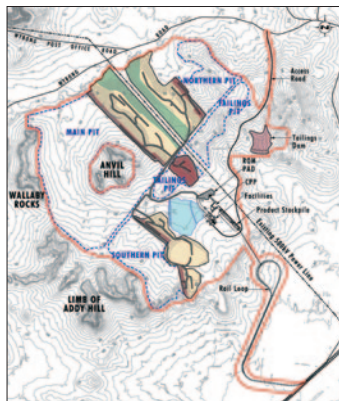
Proposed Year 10 Plan



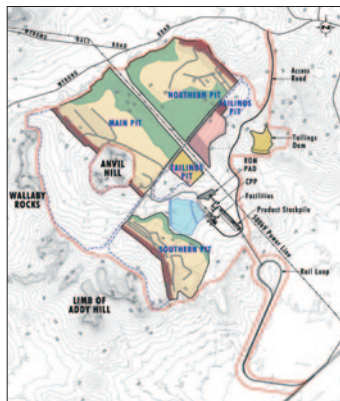
Proposed Year 15 Plan



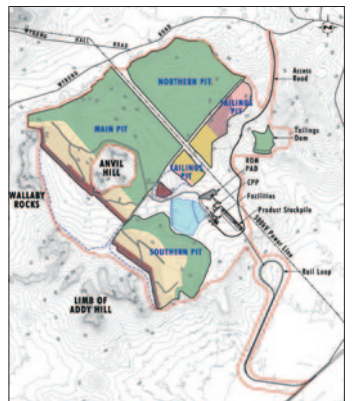
Approved Year 2 Plan



Approved Year 5 Plan



Approved Year 10 Plan



Approved Year 15 Plan

Legend – Proposed Plans

- Approved Mine Disturbance Boundary
- Temporary ROM Infrastructure
- Proposed Extension to Approved Mine Disturbance Boundary
- Proposed 500kV Transmission Line Easement
- Dump

- Pit
- Rehabilitation - in progress
- Rehabilitation - completed
- Haul Road

Legend – Approved Plans

- Proposed Disturbance Area
- Propose Mining area
- Haul Road
- Active Pit
- Active Overburden Emplacement
- Active Tailings
- Inactive Tailings
- Pit Floor
- Rehabilitation
- Main Dam

For further information contact **Evelina Hendry** Telephone 1800 014 339 Email mangoolaenquiries@xstratacoal.com.au

Community information sheet

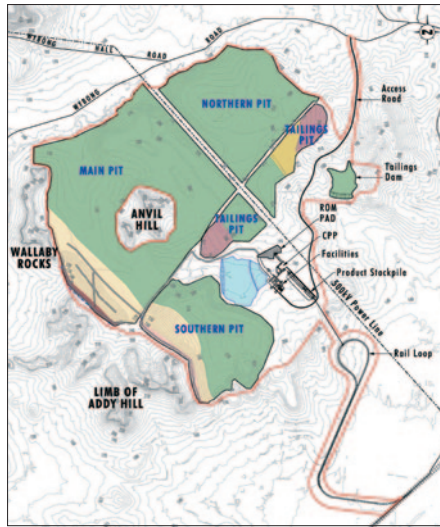
October 2009



Proposed Final Landform

Legend - Proposed Plans

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- Temporary ROM Infrastructure
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Approved Final Landform

Legend - Approved Plans

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Consultation

As part of the Mangoola Coal community consultation strategy for the Project, Mangoola Coal:

- held a Community Information Session in April 2009;
- has included the Project in presentations to the Community Consultative Committee (CCC);
- has included the Project in the quarterly Community Information Sessions; and
- has undertaken consultation with Aboriginal stakeholders.

During consultation undertaken to date, a number of issues and concerns in relation to the Project were identified. These issues and concerns included:

- ecological impacts associated with the Project;
- visual impacts associated with the Project; and
- electric and magnetic field (EMF) impacts associated with the Project.

To further assess these potential impacts, and other environmental aspects of the Project, Umwelt (Australia) Pty Limited is preparing a detailed environmental assessment. The key preliminary results and findings of the environmental studies to date are outlined in this Community Factsheet.

Key Findings of the Environmental Assessment

Ecology

An ecological assessment has been undertaken for both the impacts from the electricity transmission line and the mine modifications. The assessment has built on the previous extensive ecological work undertaken across the Project site. Initial



Diuris tricolor

project design focused on minimising potential ecological impacts, particularly in relation to relocation of the ETL. The ecological assessment for the mine modification area and the ETL has determined that there will be no significant impact on vegetation communities or fauna habitat. Recent flora surveys have found further occurrences of the threatened orchid *Diuris tricolor*. Planning has commenced to determine appropriate offsets for this species in order to mitigate impacts on the population.

Visual

A visual assessment has been undertaken for both the electricity transmission line and mine modification projects. The visual assessment of the mine modifications indicate that the proposed mine sequencing will generally not result in any additional significant impacts when compared to the approved mining sequence, and in some cases the visual impacts are significantly reduced (e.g. when viewing the mine from Wybong Road the approved mine plans resulted in the creation of an unnatural valley where the electricity transmission line is located, which is now able to be reshaped to a more natural landscape). The impacts to the visual amenity remain generally consistent with the approved project which is mainly due to the fact that the area proposed for mining has not changed significantly since the original assessment.

The electricity transmission line project will result in reduced visual impacts from public view points to the north of the mine, and slightly increased visual impacts at public view points to the south of the mine. In general, views of the ETL will be distant with limited middle ground views. One property to the south will have a high level of visibility of the proposed ETL towers. Detailed assessment of visual impacts will be included in the EA.

Electric and Magnetic Fields

An assessment of Electric and Magnetic Fields (EMF) is being undertaken to support the environmental assessment for the electricity transmission line. An *electric field* is a region where electric charges experience an invisible force. The strength of this force is related to the voltage, or pressure, which forces electricity along wires. A *magnetic field* is a region where magnetic materials experience an invisible force produced by the flow of electricity of the current (amps). Because magnetic fields are related to the current rather than the voltage, high voltage equipment is not the only source of magnetic fields and they are frequently encountered in everyday life (eg television and computer screens, electric blanket, hairdryer, refrigerator).

The assessment has found that electric field levels within the easement will be below the relevant guideline level, and in practice are likely to be lower than that assessed due to effects of shielding.

Similarly, the assessed magnetic field levels are below relevant guideline levels. That is, the EMF levels associated with the relocated ETL will not exceed the relevant guideline levels at any private residences located along the proposed ETL route, including the nearest private residence located approximately 200m from the relocated ETL. A specific assessment has been made of the potential impacts of EMF in relation to rock shelters in the Wallaby Rocks conservation area, the closest of which – AC38 – is approximately 67 metres from the transmission line. The effects of distance and shielding effects of the terrain and vegetation means that the electric field within all caves is expected to be virtually zero. Magnetic fields within the caves are below relevant guidelines.

Air Quality

An air quality assessment has been undertaken in relation to the mine modifications and also compares the air quality impacts between the proposed modifications and the approved mine. Dispersion modelling has been used to predict off-site dust concentration and dust deposition levels due to the dust generating activities associated with the modified mine activities for four stages which were chosen as representative for all years of mining.

The modelling also indicated that the air quality impacts for the modified mine would be similar to those predicted for the approved mine and, under the modified mine proposal, the predicted impacts would not extend over any private residences that were not already within the extent of impacts for the approved mine activities.

Noise and Blasting

One of the main contributors to noise emissions from the Mangoola Coal site will be noise associated with mechanical equipment located in the pits and dump areas. Therefore, additional noise modelling of the revised mine plans is being conducted to assess noise impact of the site operations on the surrounding residential and rural receivers.

Measures that are to be adopted to reduce noise emissions, where possible, are:

- **Splitting of Pits** – The proposed mine plan is to split the extraction operations between two pits rather than concentrate all equipment in one pit at a time. This approach has been adopted to minimise the noise exposure at surrounding residences by increasing the distance

between mine plant and any single receiver.

- **Equipment Noise Levels** – The noise modelling takes into account realistic equipment noise levels that may be further mitigated during extraction by the use of noise attenuated plant where feasible.
- **Mining Duration** – The relocation of the high voltage power line facilitates the extraction of coal over a shorter period. Therefore the duration of noise exposure at surrounding receivers will be reduced
- **Restricting Hours of Rehabilitation** – Equipment associated with rehabilitation works are usually located at an elevated position. As such, noise from this plant may not be acoustically shielded by the site topography. Therefore rehabilitation works will be restricted to daytime operation so that the night time acoustic amenity of surrounding residences is not adversely effected by this activity.
- **Modification of Night Time Operations** – Based on previous assessment the greatest noise impacts are predicted to occur during the night time period, it is appropriate to consider methods of controlling operations at night, where feasible. Noise impacts are dominated by noise from the operation of haul trucks around the site, and hence maximum benefit would be obtained by restricting their operation. Therefore, at night trucks will be restricted to operate below the maximum elevation of the overburden emplacement areas. Further, dozers involved in the distribution of overburden will also be restricted to the same working elevation.

Greenhouse and Energy

A greenhouse and energy assessment has been undertaken for the site. The proposed modifications to the mine plan have reduced the greenhouse intensity of emissions from the site compared to the currently approved project. This is due to further exploration enabling testing of methane emissions from actual seams, that confirms actual levels lower than those used as a factor in the original estimates. Greenhouse gas emissions vary on an annual basis due to the modified mine schedule but overall however, the total lifetime indirect emissions are lower than the original assessment.

Heritage – Aboriginal Cultural and European Heritage

An archaeological assessment has been undertaken to assess both the impacts from the electricity transmission line and the mine modifications. The survey for the assessment was undertaken in accordance with DECCW Guidelines (*Draft Guidelines for Archaeological Survey, 1997*) with the

participation of representatives of the Aboriginal community. The archaeology assessment for the electricity transmission line found 22 archaeological sites of which 13 were artefact scatters and 9 were isolated finds. The 22 archaeological sites contained a total of 166 stone artefacts.

For the electricity transmission line, the location of towers was chosen to minimise impacts on items of archaeological significance. Similarly, the removal of the existing towers once the line is decommissioned will be carefully managed in consultation with Aboriginal stakeholders to minimise impacts on sensitive areas such as Conservation Zones.

The archaeological assessment for the mine modification area identified a scarred tree of cultural origin close to the proposed disturbance area. Other items found include 3 artefact scatters containing a total of 13 artefacts. Planning has commenced to determine appropriate offsets in order to mitigate impacts of archaeological and cultural significance.

No additional items of European heritage significance have been identified as being affected by the proposed modification to the project or the ETL relocation.

Visual impacts of the ETL were discussed with registered Aboriginal stakeholder groups during the field survey. Their views and comments will be incorporated into the Environmental Assessment.

Water Management

A water assessment of the proposed modifications, which includes an assessment



Scar tree

of impacts on the downstream environment and site water management, is underway. It incorporates the water balance for the site which has been recently updated. A general principle for the management of water on site is the separation of clean and dirty water sources, and the reinstatement of drainage lines once the final landform is established post-mining. Water required for the operation of the mine will be pumped from the Hunter River through the pipeline approved in June 2009. Mangoola Coal holds appropriate water licences for this purpose.

The water management assessment will develop a conceptual management plan for the area. Following the completion of the Environmental Assessment, the existing management plans relating to water will be updated. These include a Site Water Management Plan which contains a Site Water Balance, Erosion and Sediment Control Plan, Surface Water Monitoring Plan, Groundwater Monitoring Program and a Surface and Groundwater Response Plan.

Construction Traffic

A Construction Traffic Management Plan has been developed to provide details on management measures for traffic accessing the site and general traffic management measures associated with the construction phase of the project. The management plan has outlined the signage required to effectively manage traffic conditions on roads surrounding the site, which include: the intersection of Wybong Road and the Northern Access Road (NAR) (the NAR is the main access point for the Mangoola site); the Wybong Road East work zone; the intersection of Bengalla Link Road and Denman Road; the intersection of the New Pipeline Access Road and Mangoola Road; and the intersections involving side roads. The traffic management plan also sets out measures to manage interactions with school buses (e.g. timing mine traffic arrivals outside of the known bus time tables, where practicable) and provides measures for traffic management in relation to emergencies and incidents.

This plan is currently being reviewed by Muswellbrook Shire Council.

Ongoing Community Consultation

Mangoola Coal will continue its Community Consultation which will include the following

- Face to Face consultation with key stakeholders
- Updated information to the CCC.

Where to From Here?

Now that environmental studies are nearing completion, Mangoola Coal will:

- continue with consultation strategies to further refine management processes; and
- on completion, will lodge the Environmental Assessment (EA) for the Department of Planning (DoP) to undertake an adequacy review in consultation with key agencies, prior to the EA being placed on public exhibition.

The EA Process – Progress to Date

The following flowchart provides a summary of the key steps involved in the EA process. The environmental consultants, Umwelt (Australia) Pty Limited, are currently completing the EA.



Feedback

We have enclosed a 'Feedback Form' to obtain any comments or additional feedback on the Project for consideration in completion of the EA. If you require further information, please contact Mangoola Coal via the Mangoola Coal Community Response Line or the Mangoola Coal enquiries email, as outlined below:

Mangoola Coal

- Community Response Line: 1800 014 339
- Mangoola Coal Email Inquiries: mangoolaenquiries@xstratacoal.com.au

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