

Upper Hunter Mining Dialogue

Final and Temporary Rehabilitation Principles and Commitments 2016

Report by The Bloomfield Group - Rix's Creek

May 2017





Rix's Creek Lane
Singleton NSW 2330
AUSTRALIA

PO Box 4
East Maitland NSW 2323

T: 61 2 6578 8888
F: 61 2 6571 1066

ABN 25 003 824 244

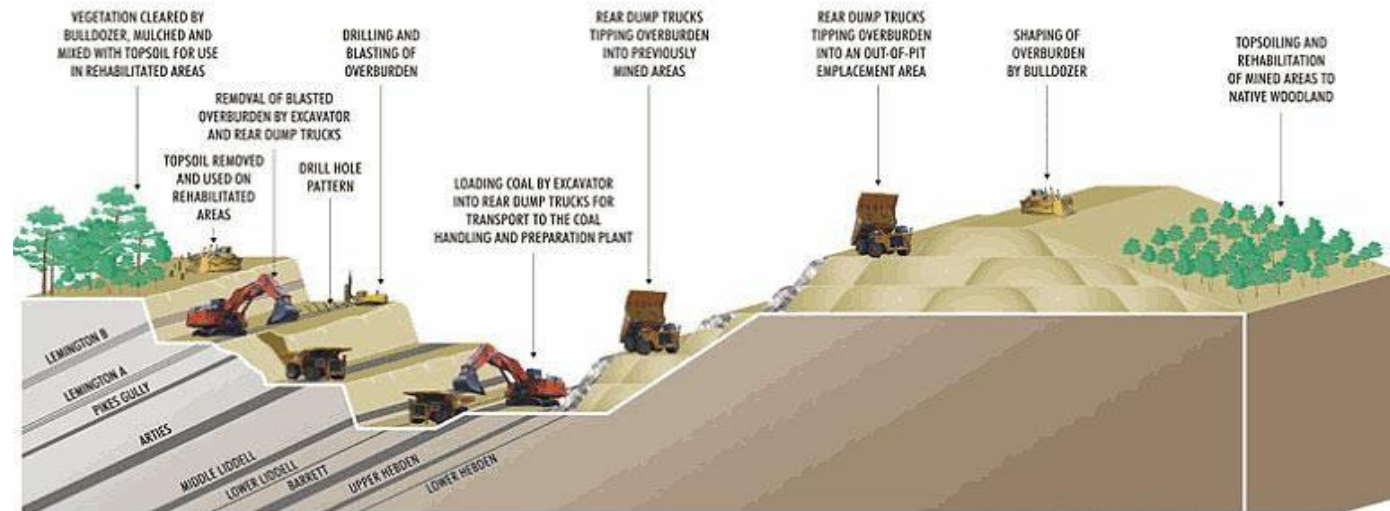
FINAL AND TEMPORARY REHABILITATION PRINCIPLES

BLOOMFIELD GROUP REPORT 2016 – Rix's Creek

Principle	2016 Reporting Update
Principle 1 – Include rehabilitation planning in mine planning	
Planning for rehabilitation should be integrated into the mine planning process and should include allocating adequate and dedicated resources to achieve the planned rehabilitation outcomes.	Rehabilitation is undertaken generally in line with the current MOP for the sites. This report covers both Rixs' Creek mining operations. On 18/12/2015 Bloomfield purchased from HV Coking Coal P/L (Glencore) the previous Integra Open Cut Operations. This operation was in care & maintenance and Bloomfield transitioned it back into operation with production recommencing in May 2016. This mining operation is now called Rixs Creek North (RCN). The original Rix's Creek Mine is now known as Rixs Creek South (RCS). RCN MOP commenced 4/1/2016 at a production level well below the approved development limit. The rehabilitation has been focused on areas visible to Stoney Creek Road through 2016. A legacy of the site is the rehabilitation is behind schedule and our focus over the next couple of years will be to get this back on track. RCS MOP commenced 15/3/2013 and rehabilitation has focused again on areas visible from the New England Highway for visual amenity. Along with the southwestern out of pit overburden dump visible from Maison Dieu.
Principle 2 – Undertake progressive rehabilitation	

Companies should undertake rehabilitation progressively, with the objective of ensuring that rehabilitation is as close as possible to active mining.

During 2016 rehabilitation was carried out to any area's shaped to final landform design – this ensured rehabilitation is as close as possible to the active mining areas. The integration of final GPS landform design into each overburden dump bulldozer assists this process. This will continue during 2016. A bench-style sequence of stripping/mining/dumping/shaping/rehabilitation maintains this.





RCN - Falbrook Pit – Stoney Creek Road batter rehabilitation facing west

Principle 3 – Minimise time that disturbed areas are left without vegetation

Companies should actively seek to minimise the time that land is left without cover during mining. This should include:

- * Taking steps to ensure that rehabilitation is commenced within 12 months of land becoming available for rehabilitation
- * Utilising methods of temporary rehabilitation, such as aerial seeding of overburden and other disturbed areas where permanent rehabilitation has not commenced.

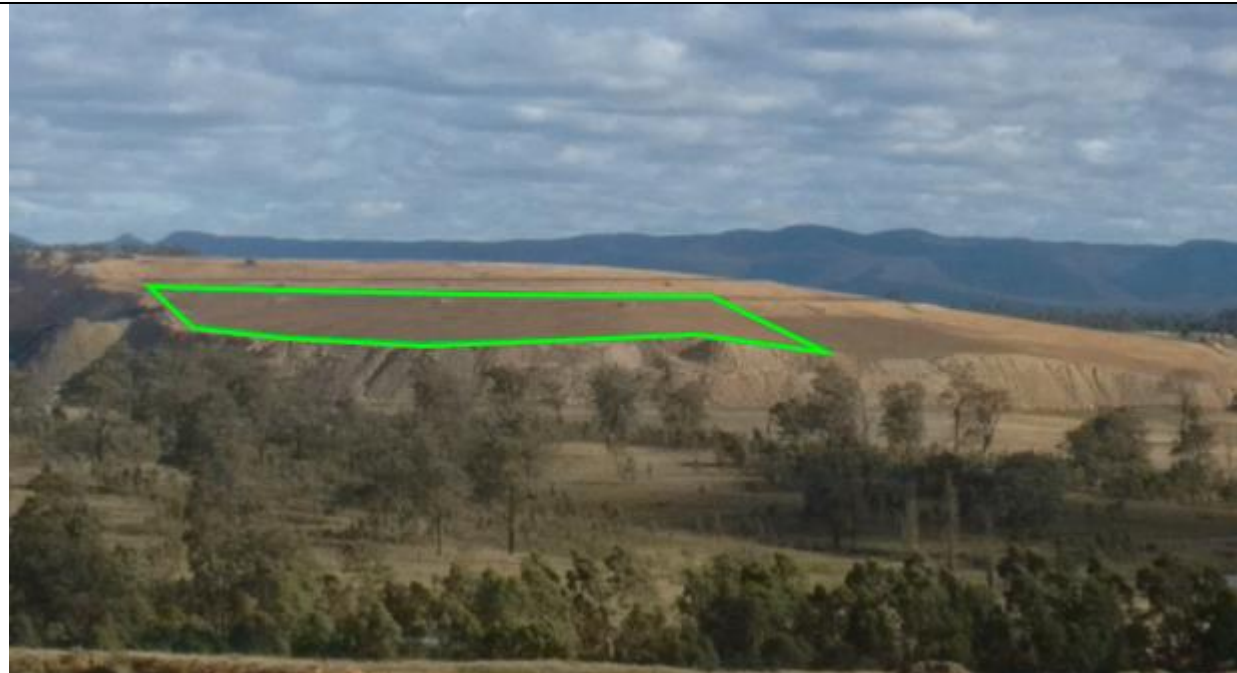
Rix's Creek having a full-time rehabilitation contractor ensures rehabilitation is commenced generally less than 3 months of becoming available, unless weather is unfavourable.



RCS - Arties Pit dump facing north-west – photo taken while spreading topsoil over subsoil

	<p>Rix's Creek has also undertaken the following temporary rehabilitation:</p> <ul style="list-style-type: none"> • 100 ha of aerial seeding took place on overburden batters (visual and dust minimisation) during 2012. These areas can be easily seen by motorists passing on the New England Highway. • Hydromulching of steep batters such as the ROM Pad noise bund. • Hand seeding of area's disturbed and inaccessible by conventional means along the New England Highway and infrastructure areas (temporary and permanent). <p>Temporary / permanent habitat:</p> <ul style="list-style-type: none"> • Installation of stag tree's / nest boxes on new rehab to provide wildlife habitat prior to tree's / tree hollows becoming available. This also includes rock / wood piles for ground-dwelling creatures. These techniques will be constantly reviewed when further temporary rehabilitation is required.
<p>Principle 4 – Prioritise areas of rehabilitation and temporary cover to reduce impacts</p>	
<p>Companies should prioritise rehabilitation and temporary cover in those areas where leaving land exposed will have the most impact. The following areas should be considered to have priority:</p> <ul style="list-style-type: none"> * Areas that have the greatest impact on visual amenity, such as areas that face townships, residences, or the highway * Areas that have the potential to generate dust leaving the site * Areas that are 	<p>Within the limits of the mine plan containing access to multiple work bench's (so machine work areas can be changed to allow for a variety of metrological conditions), the principle of completion of final landform as part of the production process, allows topsoiling and planting to maintain its priority within the production cycle.</p> <p>Rehabilitation and temporary cover is given the highest priority where the area is seen by the public every day. This includes tree screens/ bunds, strategic planting of overstorey species in areas to fit in with the existing landscape and habitat corridors (remnant or rehabilitation), overburden batters facing New England Highway/ main roads, overburden dumps that are designed to tie in with unmined surrounding landscapes as well as minimise offsite impacts such as noise/dust/water/etc.</p>

important for biodiversity, such as rehabilitation adjoining or providing connectivity to remnant vegetation.



RCS - West Pit out of pit dump (highway batter) facing south-west across New England Highway –June 2016



West Pit Out of Pit dump facing south-west across New England Highway – August 2016

Rehabilitation has been designed from nearest residences / townships and to move away aligned to production rates as discussed in Principle 1 – areas of priority are those closest to Singleton Heights / Retreat / Maison Dieu Industrial Estate and to move onto other area's as they progress away from the population. The priority for 2015 was the planting of additional tree's alongside the New England Highway improving visual amenity for passing motorists.

Principle 5 – Meet target for rehabilitation progress identified in the Mining Operations Plan

Each company should meet the annual target for rehabilitation quantity (area) set in the Mining Operations Plans for each of its

Rixs Creek Annual Review shows for RCN 18.7 ha was rehabilitated in 2016 giving RCN a cumulative area rehabilitated of 391.9 ha since 1990. This cumulative area is 30.3 ha behind the MOP cumulative total of 422.2 ha in 2016. This deficit has been inherited with the purchase of the operation and over the next couple of years rehabilitation efforts will be concentrated around getting the total rehabilitation back on track with the MOP.

RSC rehabilitated 27 ha during 2016 giving RSC a cumulative rehabilitated are of 423.1. This cumulative are is

mines.	22.9 ahead of the MOP cumulative total of 4.02 ha in 2016. This is a great outcome to date as RCS MOP is aligned to maximum production rates of 16.1 million BCM (Bank Cubic Metres) of material movement per year with Rix's Creek generally well below this level in all its previous years of operation.
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Principle 6 – Set quality targets for rehabilitation in the Mining Operations Plan and implement a monitoring program to measure performance

Each company should include quality targets for the various types of rehabilitation in the Mining Operations Plan for each of its mines. A monitoring program to measure the performance of rehabilitation areas against the quality targets should be implemented at each of its mines.	Rehabilitation areas are reviewed frequently after sowing for any maintenance required (regarding land stability / nutrients / weed and pest presence) with Landscape Function Analysis (LFA) rehabilitation monitoring carried out on a biannual basis. This includes commencing more monitoring sites as new rehabilitation sites are available. The species utilised and monitored from establishment through to total (sustainable) rehabilitation is aligned to Rix's Creek MOP. Rehabilitation monitoring was undertaken throughout the 2015 calendar year and is due again during 2017 and the results will be presented in the next report.
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