

Upper Hunter Mining Dialogue

Final and Temporary Rehabilitation Principles and Commitments

2018 Results and Commentary

REPORT BY BHP
APRIL 2019



Final and Temporary Rehabilitation Principles and Commitments

Introduction

The nine coal producers of the Upper Hunter, through the Upper Hunter Mining Dialogue have agreed to this set of principles and commitments with regard to final and temporary rehabilitation. The Principles and Commitments have been developed with advice and guidance from the UHMD Joint Working Group – Land Management which is a stakeholder and industry group.

The Upper Hunter Mining Dialogue has two goals with regard to land management:

- *Goal 1 - To decrease the time that disturbed areas are left without final or temporary cover, recognising that different mining operations are at different points in rehabilitation.*
- *Goal 2 - Provide transparent and reliable information through the Rehabilitation Reporting Principles, and*
- *Goal 3 - To achieve a consistent level of best practice, quality, integrated rehabilitation – both within the industry and with future land uses - across the Upper Hunter and to be a responsible steward of the land.*

The primary focus of the Rehabilitation Principles and Commitments is to contribute to Goal 1. Several other projects are underway to progress Goal 1. The industry participants in the UHMD acknowledge the importance of clear goals for rehabilitation developed through consultation with community and regulators, continuing to improve rehabilitation techniques and sharing innovative and successful rehabilitation techniques within the industry. Projects under Goal 3 focus on continuous improvement of rehabilitation practices.

Principles and Commitments

The Upper Hunter coal producers will publicly report against the Principles and Commitments on an annual basis. The reporting will be aggregated by the NSW Minerals Council and shared with the community. Table 1 sets out the six principles and provides a description of how each will be reported against. Contextual information is also sought from industry regarding variations in their annual reporting, as well as an opportunity to provide commentary on their future rehabilitation targets for the years ahead.

Table 1 – Principles and Commitments

Principle	Reporting
<p>Principle 1 – Include rehabilitation planning in mine planning</p>	<p><i>Narrative</i> – how has this been done in the last period</p>
<p><i>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.</i></p>	<p>Final landform design is described in the current Rehabilitation Strategy and MOP. All dumping is planned to meet final landform through the long term through to the short-term planning teams. Ongoing areas of the visual emplacements have been designed and rehabilitated with the Geofluc design during FY18. Mine rehabilitation in FY19 continued using Geofluc design. The support services team then implements the plan annually for shaping, topsoiling and seeding for all available areas. The Environment team then implements annual assessment of rehabilitation to identify maintenance and improvement opportunities. These then feed back into the mine planning process annually. The Rehabilitation Strategy and Mine operations Plan explain the process in detail.</p>
<p>Principle 2 – Undertake progressive rehabilitation</p>	<p><i>Narrative</i> – how has this been implemented in the last twelve months</p>
<p><i>Companies should undertake rehabilitation progressively, with the objective of ensuring that rehabilitation is as close as possible to active mining.</i></p>	<p>Dumping in FY18 and FY19 was prioritised to achieve final landform. Any dumps that had reached the final heights have been rehabilitated. All areas available for rehabilitation are rehabilitated within that year as shown in the Mine Operations Plan (MOP). Other disturbed areas that are not available for rehabilitation are treated with one of several dust reduction techniques (e.g. aerial seeding, watering) which are also identified in the MOP.</p>
<p>Principle 3 – Minimise time that disturbed areas are left without vegetation</p>	<p><i>Narrative</i> – how has this been implemented in the last twelve months</p>
<p><i>Companies should actively seek to minimise the time that land is left without cover during mining. This should include:</i></p> <ul style="list-style-type: none"> ▪ <i>Taking steps to ensure that rehabilitation is commenced within 12 months of land becoming available for rehabilitation</i> ▪ <i>Utilising methods of temporary rehabilitation¹, such as aerial seeding of over burden and other disturbed areas where permanent rehabilitation has not commenced.</i> 	<p>During the reporting period Mt Arthur Coal completed 35.1 hectares of rehabilitation across two areas as specified in the MOP. The rehabilitation result is in accordance with the total rehabilitation proposed in the current MOP for FY18, which was 32 hectares. Aerial seeding is completed most years, targeting disturbed areas that will not be available for rehabilitation and that can't easily be accessed by other dust control treatments.</p>

¹ Temporary rehabilitation describes reshaping, revegetation and other rehabilitation techniques that are used for purposes other than final rehabilitation. This includes such initiatives as seeding overburden emplacement areas to reduce erosion, which are only temporary.

Principle	Reporting
<p>Principle 4 – Prioritise areas of rehabilitation and temporary cover to reduce impacts</p>	<p><i>Narrative</i> – how has this been implemented in the last twelve months</p>
<p><i>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:</i></p> <ul style="list-style-type: none"> ▪ <i>Areas that have the greatest impact on visual amenity, such as areas that face townships, residences, or the highway</i> ▪ <i>Areas that have the potential to generate dust leaving the site</i> ▪ <i>Areas that are important for biodiversity, such as rehabilitation adjoining or providing connectivity to remnant vegetation.</i> 	<p>Areas that are visual are prioritised for rehabilitation across site in the planning process and or visual shielding such as trees and bunding are used as an interim measure. Assessment of landforms is done to understand the main areas that will be visual and by which stakeholders. These areas can then be targeted for rehabilitation and or temporary stabilisation where required.</p> <p>The rehabilitation of woodlands are aligned with the Hunter Synoptic Plan and provide corridors for fauna across the site and link conservation areas on and off site.</p> <p>Approximately 200ha of active mine dumps was aerially seeded in FY18. Dumping was prioritised for the MacLeans dumps in the north-eastern portion of the site. These dumps face externally to Muswellbrook and across Denman Road. This is the area Mt Arthur has been utilising the Geofluc design, to most closely mimic the natural landscape. The MacLeans dump is the location the Mt Arthur is re-creating the endangered Box Gum Woodland ecological community. This area also links with our onsite Thomas Mitchell Drive biodiversity offsets.</p>
<p>Principle 5 – Meet target for rehabilitation progress identified in the Mining Operations Plan</p>	<p><i>Quantitative</i> – report MOP target and actual rehabilitation</p> <p><i>Narrative</i> – explanation of performance</p>
<p><i>Each company should meet the annual target for rehabilitation quantity (area) set in the Mining Operations Plans for each of its mines.</i></p>	<p>The target for each year is presented in the MOP. Area for rehabilitation completed during FY18 was higher compared to the MOP target for the same year. The Rehabilitation figures can be found in the Mt Arthur Coal FY18 Annual Environmental Management Review available on the BHP website.</p> <p>Mt Arthur exceeded the FY18 rehabilitation target of 32 ha by rehabilitating 35.3 ha.</p>
<p>Principle 6 – Set quality targets for rehabilitation in the Mining Operations Plan and implement a monitoring program to measure performance</p>	<p><i>Narrative</i> – summary of quality targets for the various rehabilitation types; and summary of monitoring program scope and status.</p>

Principle	Reporting
<p><i>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.</i></p>	<p>Quality is a part of the rehabilitation plan (MOP) and monitoring program for MAC. The quality component of rehabilitation is written into the Rehabilitation Strategy and MOP and are shown as criteria. Leading indicators are used to measure the success of the rehabilitation quality and progression towards completion and relinquishment. Mt Arthur continued natural landform design rehabilitation. The design used analogue landforms to achieve similar landforms in stability and shape as those in the natural landscape.</p>

Contextual information

<p><i>This section provides an opportunity for each company to provide some commentary or contextual information regarding their reported results. Such information could include advice on:</i></p> <ul style="list-style-type: none"> - <i>Any material changes to the site (i.e. expansions, acquisitions, or divested assets); or</i> - <i>Why any figures may have changed since the last reporting period?</i> 	<p>N/A</p>
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Future rehabilitation priorities

<p><i>This section provides an opportunity for each company to provide details on rehabilitation activities at their site/s for the upcoming year.</i></p>	<p>Mt Arthur plans the continuation of natural landform design rehabilitation. Focus will be on improving the quality of rehabilitation of VD1 will continue in FY19 with the aim of establishing self-sustaining Box Gum woodland-based vegetation community as described in the MOP.</p>
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