



# MINE VOIDS

## NSW MINERALS COUNCIL FACT SHEET

### What is a mine void?

A mine void is a mined area, typically a pit, that remains as a residual depressed landform feature after rehabilitation of a mine is complete. A void may take various forms ranging from a shallow depression in the rehabilitated landscape to a landform feature that is more reflective of the mine pit at the end of mining.

Planning for successful mine closure occurs even before development of the mine commences and is a key driver in the mine design, planning and sequencing process. The need for and the acceptability of leaving a void in the rehabilitated post-mine landscape are carefully considered at this stage of the mine planning process. This enables the mine to be progressively rehabilitated toward a well understood and acceptable final landform and end use outcome.

Effective mine planning balances the efficient recovery of the mineral resource with rehabilitation and final landform and end use objectives.

This includes considering the economic, social and environmental costs and benefits of the need for a residual void in the rehabilitated post-mining landscape.

The mine closure objectives, including a residual void where appropriate, are commonly enshrined in the conditions of development consent, and reflect an agreed final landform and end use between the mine owner and the government. Where a void is approved in the final landform, mine planning will endeavour to minimise the scale of the void and actively integrate it into the final landform.

Many of the larger Upper Hunter mines were approved decades ago when issues involving final voids were less of a priority. Modern mining operations now include requirements for progressive rehabilitation as part of the regulatory and approval process, and there is an increasing focus on ensuring any final voids are as small as possible and incorporated into the local landscape.



There are many factors that determine why a void may need to be included in the final landform. This includes:

- There may be insufficient material available to fill the void;
- Moving and rehandling overburden may not be economically viable;
- Access to future resource extraction may be compromised thereby sterilising the mineral resource;
- The void may provide an alternative beneficial post-mine land use; or
- Environmental reasons.

Once a site's rehabilitation activities have been completed, mine voids will only make up a small proportion of the overall rehabilitated landscape. Any voids that remain in the final landscape will have been determined to be an acceptable outcome by the NSW government through the granting of approvals. Each mine void is unique and any post-mining land use opportunities are dependent on various environmental, safety, economic, and social factors, as well as consideration of the context of the area in which the void is located.

## NSW mining industry principles

The NSW mining industry works to minimise the number and scale of voids wherever economically and technically feasible, unless there is an agreed final end use or identified beneficial use. Should a specific need for a void arise, the void may be actively integrated into a final landform. The potential for a productive end use is considered by industry when assessing any modifications or material changes that occur throughout the life of the mine plan.

Where it is determined that voids will remain a part of the post-mining landscape, mine owners work to ensure that voids meet the agreed rehabilitation and closure criteria and enable the void to act as a safe and stable post-mining landform. Further details regarding these principles are outlined below:

- Voids are designed to integrate into the final land form to achieve the most productive post-mining end use as far as economically and technically practicable. Many voids are capable of supporting stabilising vegetation cover providing biodiversity or grazing benefits.

- Voids are designed to be as geotechnically and environmentally stable as possible, such that they pose a minimal safety risk to those who seek authorised access.
- Voids are designed to minimise the geochemical risk or water quality impact to nearby surrounding water systems and ecosystems. Where water filled voids are used for recreation, primary consideration will be paid to the safe access to and use of that water in the pit void.

## NSW mining industry actions

Actions that the NSW mining industry undertakes to address voids includes:

- **Researching the potential for beneficial reuse of voids** – The NSW mining industry is actively researching the potential for voids to be used beneficially and make positive contributions to communities as post-mining assets. The Upper Hunter Mining Dialogue's Beneficial Reuse of Voids project investigated several domestic and international examples and found a range of potential innovative beneficial land use opportunities, including agriculture, forestry, power generation, recreation and tourism, and water supply.
- **Stakeholder engagement** - The NSW mining industry works collaboratively with key government, business, and community stakeholders to provide relevant information on rehabilitation initiatives and research projects, and to ensure there is transparency about how industry operates.
- **Improving technical knowledge** - The NSW mining industry is committed to improving rehabilitation practices and sharing techniques and information across industry regarding future planning, rehabilitation and monitoring of voids. With continued investment, advances in technology and science, and growing community awareness, the NSW mining industry is increasingly focused on investigating post-mining land uses and the management of voids.

For more information please visit:  
[www.nswmining.com.au](http://www.nswmining.com.au)