BUMA

Rehabilitation and Closure Expertise

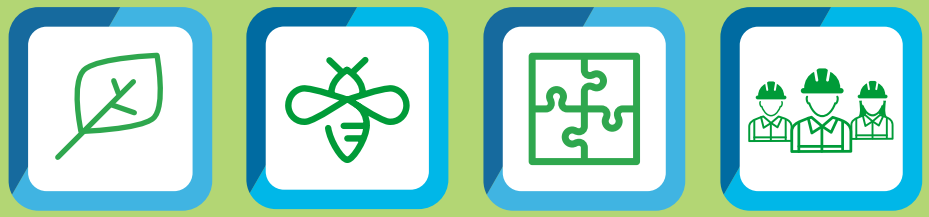
Experience the difference with BUMA
Your trusted rehabilitation and closure partner

Experience the difference with BUMA
Your trusted rehabilitation and closure partner

At BUMA, we understand the significance of delivering value through providing optimal mining service solutions. We are focused on delivering successful outcomes for our client's operations and organisations.

Our accomplished rehabilitation and closure professionals cover a spectrum of services, ensuring that BUMA stands as the ultimate solution for all your mining service's needs. Our experienced team ensures:

- **Maximised resource recovery:** BUMA excels in generating value by optimising resource recovery within your operations, whilst balancing your rehabilitation commitments.
- **Liabilities reduction:** We prioritise progressive reduction of liabilities, minimising additional closure liabilities whenever feasible.
- **Environmental excellence:** With environmental objectives at the forefront, we ensure compliance and minimise regulatory risks.
- **Confidence-building feedback:** BUMA establishes regular feedback loops to boost confidence in your rehabilitation and closure designs.
- **Enhanced reputation:** Our service maintains and enhances your organisational reputation on a local and global scale.
- **Low Carbon thinking:** We are fully aligned with the current market's focus on carbon emission reduction. BUMA actively supports clients in incorporating rehabilitation and closure activities into their decarbonisation strategies.



Guided by the **International Council on Mining and Metals (ICMM)** industry guidelines, BUMA offers a systematic approach to closure and progressive rehabilitation. Our expertise lies in seamlessly integrating progressive rehabilitation into our everyday services delivery. Across our sites, our teams have demonstrated experience with over two decades of rehabilitation and environmental project outcomes and completions, we are highly experienced in balancing production demands and rehabilitation.

Collaborative planning for success

Our in-house engineering and environmental teams consider final landform aspects in long, medium and short-term mine schedules. This ensures that rehabilitation and closure align with your objectives while staying adaptable to evolving regulatory requirements.

Bridging operations and rehabilitation

BUMA excels in bulk earthworks, including excavation, haulage, and bulk dozing across our projects. Our in-house capabilities extend to topsoil management, vegetation establishment and management. BUMA is committed to partnering with regional suppliers offering comprehensive solutions from seed supply to ensuring local ecosystems are re-established to irrigation installation. Our expertise in bulk earthworks guarantees long-term landform stability.

CERTIFIED
ISO 9001
ISO 14001
ISO 45001

BUREAU VERITAS

ISO 9001-2015	ISO 14001-2015	ISO 45001-2018
Quality	Environmental	Health & Safety

Championing quality assurance

Guided by ISO-certified quality and environmental management systems, our rehabilitation and closure offerings are underpinned by extensive contracting and personnel experience throughout Australia and internationally BUMA will tailor our services to your needs across the contract and mining life cycle of your project.

Unwavering values, exponential growth

BUMA's commitment to safety, integrity, and our values ensures a collaborative approach aligning with client's expectations for your projects. Our innovative thinking enhances operational excellence, ensuring efficiencies across our sites and elevating your reputation.

Proven expertise in active closure

With industries globally facing imminent active closure demands, BUMA is your partner in delivering high-standard closure outcomes, service includes but are not limited to:

- Navigating sudden closures, care and maintenance events, scheduled asset retirements, and post-rehabilitation maintenance and monitoring.
- Providing ongoing support, ensuring your projects meet evolving regulatory criteria.
- Tailored solutions for your site specific requirements.

Monitoring, measurement and beyond

Our teams are well-versed in providing diverse practices and tools for effective monitoring, measurement, inspections, and record-keeping. We ensure that monitoring, inspections, and records are maintained to ISO Environment and Quality standards. We are proactive and efficient in the ongoing review, management, and maintenance of rehabilitation project areas.

Discover a new standard with BUMA

Let BUMA elevate your rehabilitation and closure experience. Partner with us for results-driven solutions that uphold our commitment to excellence and innovation.

At BUMA Australia, we believe in returning mined land to sustainable landforms that support resilient ecosystems – the ultimate accomplishment for all mining projects.

Case study: Commodore

Commodore Mine is located in a sensitive agricultural region close to farms and the township of Millmerran.

We work closely with the community to operate a safe and environmentally responsible mining operation. Dust, noise and blasting restrictions are managed to ensure minimal impact. Special attention is placed on rehabilitation of the post-mine landform. The post-mine landform must be capable of supporting long-term primary industries, such as grazing, a primary industry in the Millmerran area.

Water management is achieved through the use of contour banks, sediment traps and dams, separating mine run-off water from clean water in accordance with the Site Water Management Plan.

Environmental sustainability solutions have been applied to all aspects of the mine's operations, including water recycling, waste management and rehabilitation. The project is self-sufficient in its water use and prioritises innovative rehabilitation practices that minimise disturbance and protect rare grass species.

Commodore Back Creek Diversion

The Back Creek Project is an earthworks civil construction designed as a 6 km meandering creek bed comprising floodplains, terraces, and a clay lined low flow channel. It is constructed within the overburden backfilled for rehabilitation of previously mined out coal seams.

The work involved excavation and localised placement of 30 ha of floodplain and terraces. The primary activity centred on excavation and then placement of a 3 m thick liner to form the Low Flow Channel. This was required to be placed, compacted and tested in 250 mm layers to +/-100 mm accuracy. The scope also required topsoiling, vegetation, installation of timber habitat and embankment construction for interim flood levies.

The project required a complete quality assurance program to ensure all statutory regulations and environmental requirements were achieved to the highest standard.

The Back Creek diversion attracted attention from a range of stakeholders including Indigenous heritage considerations, local community members and government departments.

The project was self-sufficient in its water use. Innovative rehabilitation practices were prioritised to rehabilitate disturbed areas, recreate the original landform and ensure strict adherence to reinstating original tree and grass species for the area.

Case study: Meandu

Rehabilitation activities at Meandu Mine begin as soon as areas become available with over 660 ha of native vegetation rehabilitation completed across site as of December 2022.

During 2022, BUMA Australia, on behalf of our client Stanwell Corporation completed 28.7 hectares of native vegetation rehabilitation at Meandu Mine. The 'native vegetation' rehabilitation areas (built to the final post-mining landform) are designed to be safe, stable, non-polluting and sustainable. Specific design requirements to ensure success and completion are measured against Government regulations and include specific gradients, cover material and drainage. Part of the project involved the design and construction of a series of rock lined drains to convey overland flow and reduce the potential for erosion. The rock lined drains use basalt rock recovered from the mine as part of our operations.

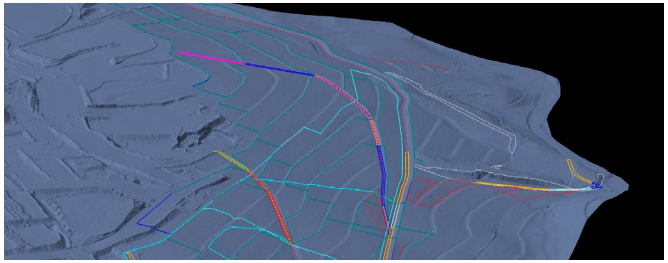
Topsoil was placed across the entire surface area and was sourced from onsite topsoil stockpiles that meet assessed qualities and perform well for native vegetation rehabilitation. The entire area was fertilised, ripped and seeded as a single pass to reduce compaction of the cover material. To complete the rehabilitation, we spread over 600 kg of seed including a mixture of species (trees, shrubs and grass) that resemble the local regional ecosystem. Meandu sourced 25 different native seeds from a supplier that collects from the local area, the seed mix also included grasses as a cover crop to help the native seed establish. Some of the species we planted include the Yarraman Ironbark (Eucalyptus crebra) a type of Eucalyptus native to the area, the Native Apricot (Pittosporum angustifolium) and the Brisbane Golden Wattle (Acacia fimbriata).

We are committed to conducting high quality, progressive rehabilitation across our projects.

Prior to our 2022 milestone, BUMA Australia assisted Stanwell in obtaining progressive rehabilitation certification of 153 ha of native ecosystem rehabilitation by the Department of Environment and Science (DES) under the Qld Environmental Protection Act (EPA) at Meandu Mine.

Progressive rehabilitation at Meandu Mine is a key leading practice to upholding the sites responsibility to its environmental, economic and social license to operate. The rehabilitation is planned as part of the mining process and progressively undertaken in accordance with the life of mine plan. Requirements for rehabilitation, including completion criteria and post mining land use, are determined in the Environmental Authority.

Annually, approximately 30 hectares available for rehabilitation are re-contoured to meet pre-defined landform design and drainage design. The resulting landform is spread with topsoil, ripped, and seeded with native trees, shrubs and pasture grasses. Meandu Mine achieves the completion criteria by designing and planting a composition to support a self-sustaining natural ecosystem for post mining land usage.



Rehabilitation monitoring is undertaken annually. The completion criteria is assessed against a bio-condition succession trajectory towards the analogue sites (undisturbed forest) and a self-sustaining ecosystem. Qualitative and quantitative monitoring includes biodiversity, ground cover and ecosystem structure. Where areas are not meeting the succession trajectory, intervention measures, such as erosion control and weed management, are enacted in accordance with the Meandu Mine Rehabilitation Plan.

BUMA Australia, in collaboration with Stanwell, routinely engages key stakeholders, such as Government and community, in post mining rehabilitation outcomes including through consultative committees and community tours of rehabilitation.

The successful rehabilitation of mined land to self-sustaining natural ecosystem is something that both BUMA Australia and Stanwell are immensely proud of.

Level 11, 199 Grey Street
South Brisbane QLD 4101

www.buma.com.au

BUMA