



SUSTAINABILITY REPORT
2019-20

Gulkula is a Gumatj Aboriginal Corporation Business



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Who We Are

Gulkula is an Indigenous-owned and operated business in North East Arnhem Land. Gulkula was formed on 15 November 2011 by the Traditional Owners of the land that includes the Dhupuma Plateau in North East Arnhem Land. Gulkula's wholly owned parent company, Gumatj Corporation Limited, was formed on 28 February 2007. The Gumatj Corporation has established several commercial enterprises, including the development of the bauxite mine through the formation of Gulkula. Gulkula's head office is at Lot 1 Central Arnhem Road, North East Arnhem Land, Northern Territory.

What We Do

Gulkula has established a commercial enterprise by developing bauxite mineral resources on traditional land in North East Arnhem Land. The mining area is located on Aboriginal freehold land. Gulkula has an approved Exploration Agreement with the Arnhem Land Aboriginal Land Trust administered by the Northern Land Council (NLC). On 14 May 2014, the NLC gave its consent to the granting of an Exploration Licence (EL) over EL30226 to Gulkula. Gulkula was also informed on 15 August 2016 by the NLC that the NLC had given its consent to the granting of a Mineral Lease (ML31025) to Gulkula at Dhupuma Plateau. The Mineral Lease has since been granted to Gulkula on 25 January 2017.

The Gulkula project is a low-impact, small-scale bauxite mining operation. The extent of disturbance is much lower than most other bauxite mining operations. There is:

- No requirement to wash or otherwise treat bauxite ore;
- No requirement to manage or dispose of tailings; and
- No requirement for explosives.

Our Health, Safety, Environment & Community Commitment

Our Core Principle

We care and protect the wellbeing of our people and our impact on the environment and community in everything we do. We respect and acknowledge all internationally recognized human rights which are consistent with the UN Universal Declaration of Human Rights.

Our Goal

To conduct our business in a way that causes no harm to the health and safety of people and have no unforeseen impacts on the environment or community.

Our Behaviour

We all believe we can achieve our HSEC goal by being respectful, disciplined and responsible with clear communication.

RESPECT	DISCIPLINE	RESPONSIBILITY	CLEAR COMMUNICATION
<p>We look out for ourselves and our workmates, and we treat our equipment and our workplace with respect.</p>	<p>We do work the right way every time. We recognize risk in every task, and we identify and understand how to control them safely.</p>	<p>We are committed and enthusiastic and take responsibility for ourselves and others by managing risks in our work. We stop work when confronted by an unknown hazard and only proceed when we are sure we can continue safely and responsibly.</p>	<p>We communicate openly and honestly about how well we are doing and are relentless in learning from others. We work together and welcome feedback. We recognize we can always do better and if we don't understand something we ask until we are clear.</p>

Scope

This report details Gulkula sustainability commitments achieved during the year 2019-20.

The following elements are addressed:

- Greenhouse Gas Emissions
- Water Management
- Hazardous Chemicals Management
- Waste Management
- Biodiversity
- Cultural Heritage
- Mine Rehabilitation

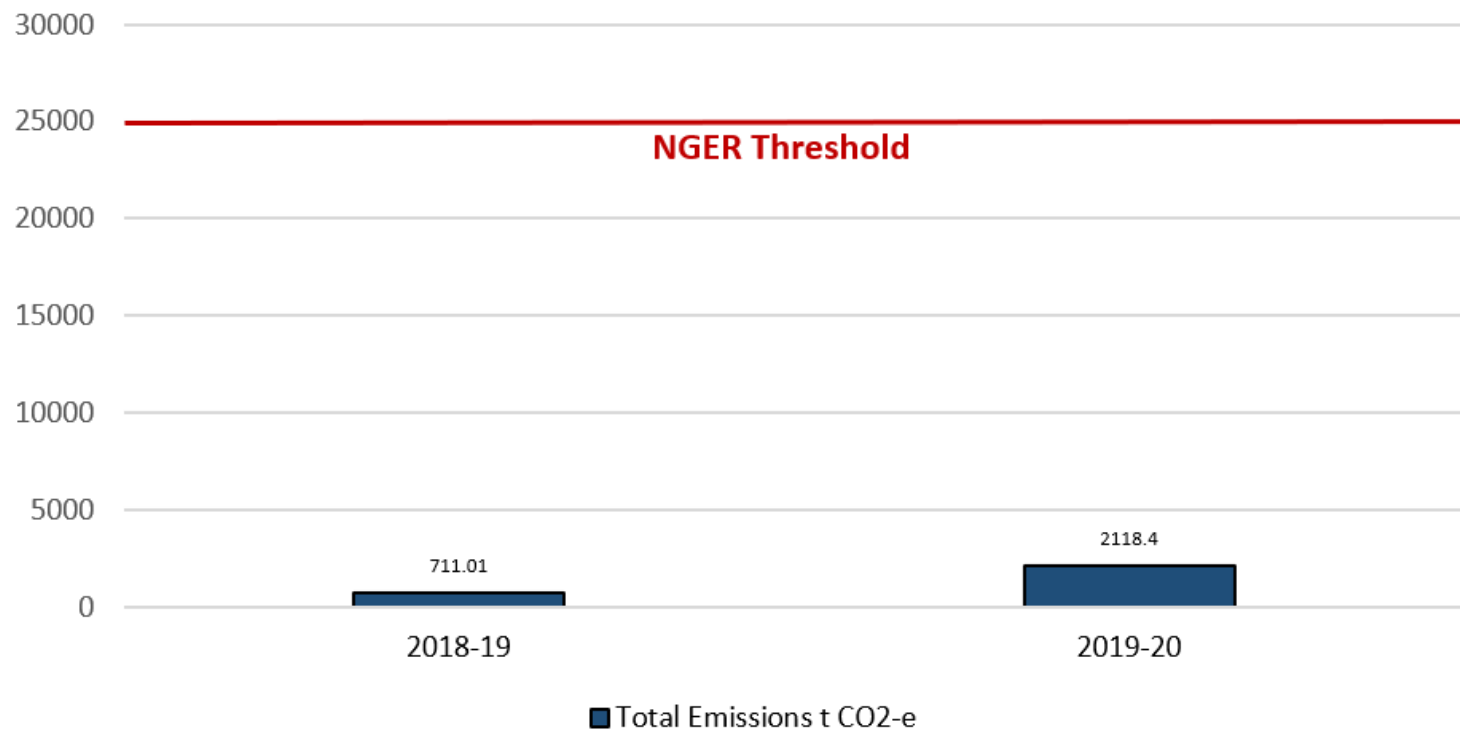


Aerial view of operations.



Greenhouse Gas Emissions

EMISSIONS TRENDS



In 2019, Gulkula implemented a carbon emissions accounting program whereby emissions rate may be estimated and tracked, and possible alternatives identified to ensure continued sustainability of operations.

Gulkula is committed to growing at the pace of its Indigenous workforce. In the reporting year, Gulkula increased production threefold i.e., 700 kt from the 250 kt mined in 2018-19. Still, Gulkula has been able to maintain efficiencies and has recorded only a 0.02 % increase in emissions per tonne of bauxite. In part, this may be attributed to Gulkula’s commitment to only procure HME that aligns with the Euro IV emission standard or higher that ensures that all exhaust emissions are within acceptable levels.

Another way of reducing emissions is through the practice of mulching vegetation for use in mine rehabilitation as opposed to the traditional industry method of burning forest resources. The efficacy of this practice is currently being quantified by researchers from the University of the Sunshine Coast.



Water Management

Gulkula recognizes that mined land has a high potential for erosion. During the wet season in particular, this may result in turbid surface runoff that could potentially impact surrounding environmental values. Gulkula has instituted a water monitoring program to establish baseline surface and groundwater conditions and to enable the detection of anomalies, such as those arising from increased sediment loads or the release of contaminants. This program is detailed in the Gulkula Water Management Plan that has been developed and implemented under the guidance of environmental experts.

Gulkula has established bunds and settlement dams to allow for containment and management of surface runoff from mined areas. A 20m buffer from the escarpment is also maintained and no discharge from the site is permitted under the mine lease. Results from the monitoring program confirm the effectiveness of such measures, and no unregulated discharges or exceedances in turbidity were recorded during the reporting period.

Water usage and sites that have potential for erosion are also monitored and reported on a monthly basis. The figure shows Gulkula staff collecting groundwater samples for both field and laboratory analyses.



During the reporting period, COVID-19 affected the monitoring program.

As of April 2020, some exceedances of total iron content were recorded, however, this is consistent with background conditions as observed via baseline studies through the wet and dry seasons. pH levels trended from neutral to slightly acidic but were within historical ranges and were therefore relatively stable. One bore depicted low dissolved oxygen concentration – this may be attributed to the still nature and observed relatively high temperature of groundwater at that site.

The monitoring program shall continue to aid the understanding of baseline conditions and to enable detection and mitigation of any impacts from mining activities.



Hazardous Chemicals Management

The main hazardous substances used at Gulkula are fuels, herbicides, and pesticides.

All Hazardous Chemicals and Dangerous Goods are placed in approved enclosures and segregated from other hazardous materials in accordance with the Hazardous Chemicals and Dangerous Goods Regulations. Safety Data Sheets (SDS) are maintained on site for all hazardous materials, chemicals and fuels. Where hazardous substances may be stored or used, spill kits are made available and safety showers have been constructed.

No hazardous chemical spills were recorded during the reporting period. There was one diesel spill occurring during refueling activities and one oil spill resulting from a split hydraulic hose on the loader caused by general wear and tear. No significant impact was associated with any such incident.

Gulkula undertakes a monthly assessment of chemical usage, storage, spill kits, and any incidents or near-misses pertaining to the same. These are maintained on Gulkula's HSE Management System.



Waste Management

The remoteness of the region in which Gulkula operates poses a challenge to good waste management practices. In order to overcome this inherent issue, Gulkula monitored the waste generated over the previous year and made a number of changes regarding management and disposal:

- Plastic bags were found to be employed excessively and their use has since been minimized.
- Food waste had the potential to attract pests and also posed a health and safety hazard to employees in the vicinity. A composting initiative is currently underway to better manage food waste.
- A high volume of paper and cardboard waste was observed. These are now added to mulch for rehabilitation purposes.
- Plastic and aluminium cans/containers are now collected for recycling in accordance with the 'Containers for Change' initiative.

The effectiveness of these practices is currently being monitored and will be amended if/where necessary.



Biodiversity

Gulkula understands the impacts of mining on our fellow species, and is committed to minimizing or, where possible, eliminating the same.

Monthly environmental assessments are conducted to record observations and/or incidents pertaining to native as well as pest/introduced flora and fauna. Management actions such as the employment of camera traps or development of fire breaks are also instituted. Gulkula also engages in weed management to ensure that both existing and future rehabilitation efforts are not compromised by the presence of invasive species.

Prior to clearing land, camera traps are set up to detect and monitor the presence of fauna and thus evaluate impacts and actions to mitigate the same. Presence-absence sampling surveys are also undertaken to determine the presence of endangered, vulnerable, or threatened (ENVT) flora. During the reporting period, Gulkula undertook pre-clearing fauna surveys and a targeted botanical survey for the NT endangered species *Erythroxylum* sp. Cholmondely Creek. No ENVT flora or fauna species were recorded.



Left to Right: Gulkula staff deploying camera traps, a northern brushtail possum, and a short-beaked echidna.



Cultural Heritage

Cultural heritage management is a key aspect governing all mining related activities. As Gulkula is an Indigenous organisation, we are reliant on our employees to educate and guide us regarding the same.

Prior to any significant land clearing or other disturbances, a field survey is conducted by staff (once approved by an Elder) to assess the site for any culturally significant objects or areas that may be impacted. If found to occur, a meeting comprised of Gumatj and other Traditional Owner groups and stakeholders is then called to direct management. During the reporting year, one such survey was conducted, but no significant objects/sites were identified. The image shows Gulkula staff conducting a field assessment in late 2020.

The mine sits on the Dhupuma plateau, where the annual Garma festival is held. During this period, Gulkula temporarily suspends operations while Indigenous peoples from all over Australia make their way to East Arnhem Land for a celebration of tradition and culture.





Mine Rehabilitation

The main goal of mine rehabilitation at Gulkula is to re-establish native vegetation by propagating predominantly eucalypt woodland species that support both traditional uses (i.e. bushfood, medicinal plants, and timber) as well as habitat requirements of native fauna (i.e. flower, seed, fruits, grasses, and shelter). This post-mining land use has been agreed upon by the Gumatj people and other Traditional Owners of the region. As Gulkula is an Indigenous organisation, Traditional Owner groups and other stakeholders have the opportunity to directly express their concerns or provide suggestions at quarterly board meetings, while also receiving information pertaining to the progress of the mine and its environmental commitments.

Gulkula believes that progressive rehabilitation provides the best outcome in terms of soil preservation, which therefore allows for successful revegetation and ecological restoration. Progressive rehabilitation thus minimises environmental risks and impacts while providing an opportunity for testing and adapting rehabilitation practices, thereby allowing for the gradual development and improvement of rehabilitation methods. Gulkula has developed site procedures to guide rehabilitation activities.



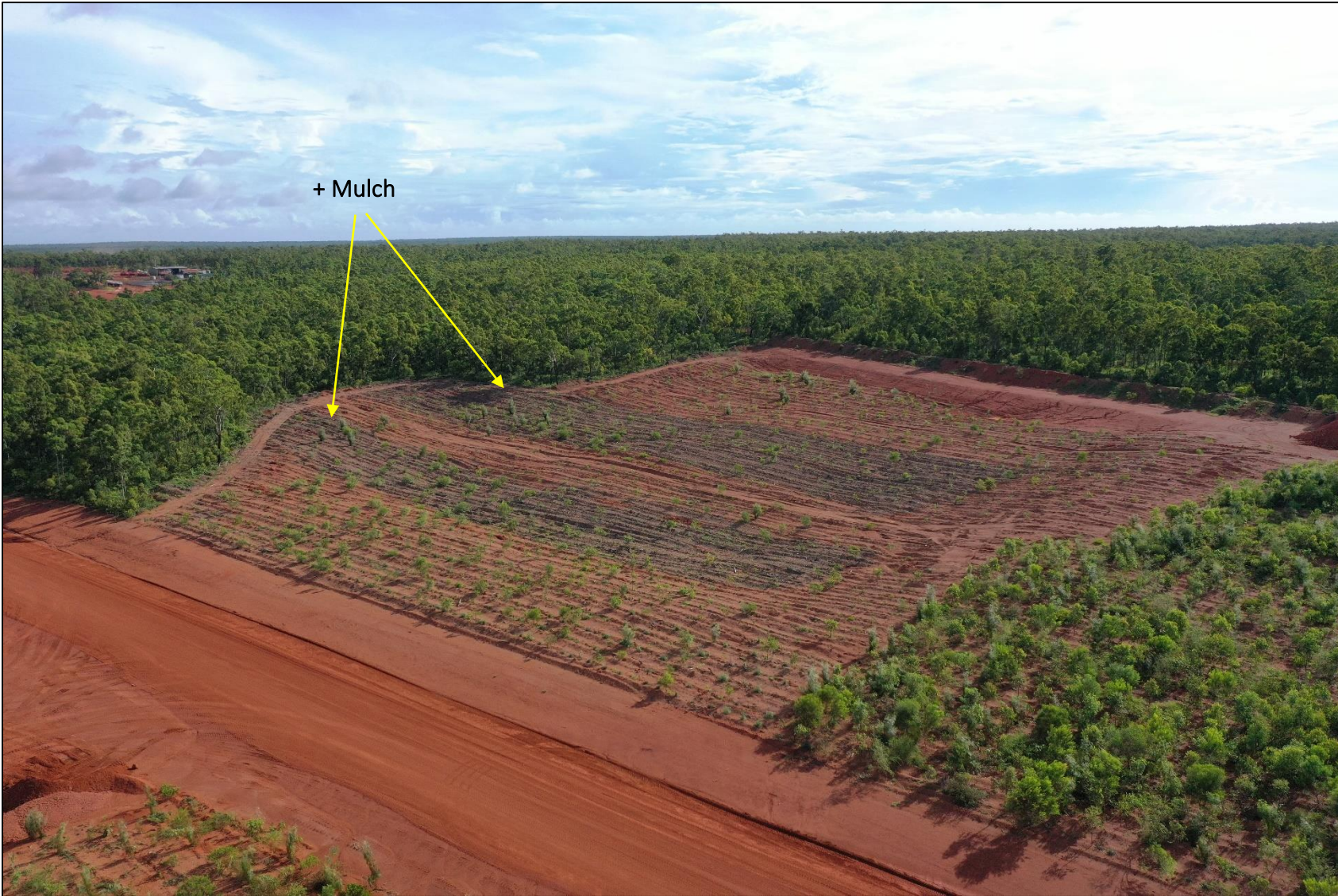
During the reporting year, 3.56 ha of mined land was rehabilitated in accordance with Gulkula's Mine Rehabilitation Plan. Some species were seeded directly while recalcitrant species were propagated in Gulkula's dedicated nursery and then transplanted into rehabilitation plots. Approximately 30 ha of mined land was also prepped for rehabilitation during the 2020-21 wet season.

A preliminary assessment of 9-month-old mine rehabilitation revealed the establishment of dominant species (*Eucalyptus tetradonta* and *Eucalyptus miniata*) as well as culturally significant species such as Pandanus (*Pandanus spiralis*), Green Plum (*Buchanania obovata*), and Cocky Apple (*Planchonia careya*). Average height of seedlings was approximately 0.5 m. A wallaby has also made its home on the fringes of the rehabilitation plots, and dingoes have been observed traversing across the site.

2018-19 mine rehabilitation was also assessed and stem density and species richness were recorded as exceeding that of the reference site. Recruitment of many species had commenced as well. The image on the left is that of *Acacia yirrkillensis*, an endemic understory species that was observed in full bloom during the assessment of 2018-19 mine rehabilitation.



Image of 2018-19 mine rehabilitation.



Gulkula has also partnered with researchers from the University of the Sunshine Coast to establish a trial that demonstrates the effectiveness of mulch on soil physico-chemical conditions and revegetation outcomes. On the left is an aerial image of the plot that is dissected into areas with and without mulch. Results from the field experiment will guide future rehabilitation efforts.

Gulkula has also received endorsement from the NT Department of Primary Industry and Resources to consider plantation forestry within mine rehabilitation, and are working on incorporating a small *Acacia mangium* plantation into next year's mine rehabilitation program as an investment into the future livelihoods of its Traditional Owners.

