



# Sustainability Report 2018-19



*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

We look out for ourselves and our workmates, and we treat our equipment and our workplace with respect.

### DISCIPLINE

We do work the right way every time. We recognize risk in every task, and we identify and understand how to control them safely.

### RESPONSIBILITY

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.

### CLEAR COMMUNICATION

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.

Our HSEC Management System policies set out how we will implement this Commitment.

**Klaus Helms**  
CEO

**Ken Kahler**  
MINE MANAGER



## Scope

This report details Gulkula sustainability commitments achieved during the year 2018-19.

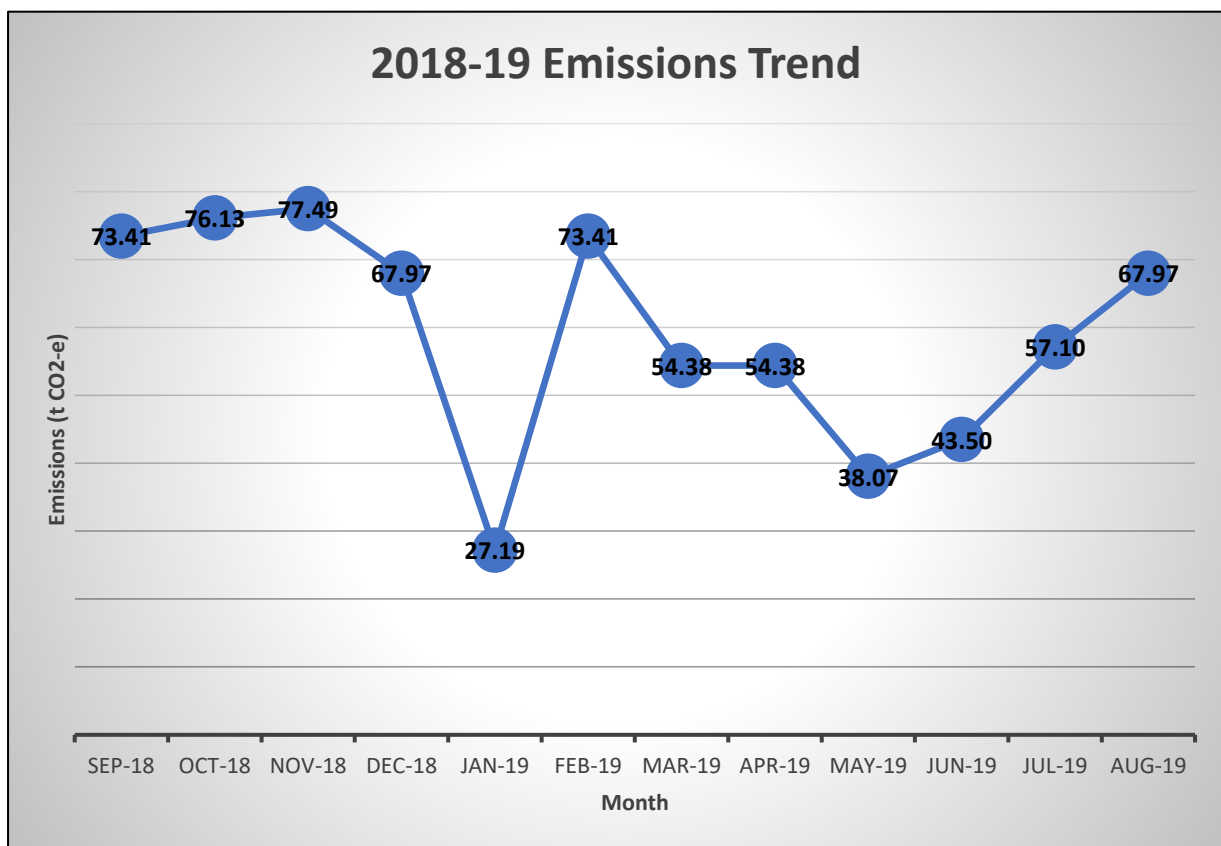
The following elements are addressed:

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



## Greenhouse Gas Emissions

We at Gulkula understand our role in the generation of greenhouse gases and our responsibility towards mitigating the same. The primary fuel used at Gulkula for transport and the generation of electricity is diesel. Diesel is a fossil fuel which, on combustion, is responsible for the generation of carbon dioxide, a principal greenhouse gas. Small amounts of methane and nitrous oxide may also be emitted. These quantities may be expressed as carbon dioxide equivalents. Gulkula has therefore implemented a carbon emissions accounting program whereby emissions rate may be estimated and tracked, and possible alternatives identified to ensure the continued sustainability of operations. The chart below depicts the emissions trend for 2018-19.



Analyses undertaken in late 2018 revealed that fuel combustion for transport is the major source of GHG emissions at Gulkula. Since then, Gulkula has committed to procuring HME and other vehicles consistent with the Euro IV emission standard or higher to ensure that all exhaust emissions are within acceptable levels. Further, Gulkula has also adopted the AdBlue® technique for older vehicles in order to reduce diesel exhaust emissions. The effectiveness of these measures is currently being tracked.





## 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.





## Hazardous Chemicals Management

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

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 were three isolated incidents of diesel spills as well as one grease spill, all occurring during vehicle/plant maintenance activities. 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 described. During the reporting period, Gulkula engaged in extensive 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 established to detect the presence of fauna and thus evaluate impacts and actions to mitigate the same. Spotter/catchers may be employed as well. Gulkula has also developed and implemented site procedures pertaining to land clearing, soil management, biodiversity, and biosecurity under the guidance of environmental experts and university researchers.

The echidna in the image on the right was captured by one of Gulkula's camera traps.



## 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 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 the Gumatj and other Traditional Owners and stakeholders is then called to direct management. During the reporting year, two such surveys were conducted but no significant objects/areas were identified. The image shows Gulkula staff conducting a field assessment in July 2019.

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 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 and



stakeholders of the region. As Gulkula is an Indigenous organisation, Traditional Owners and other stakeholders have the opportunity to directly express their concerns or provide suggestions at the quarterly board meetings, while also receiving information pertaining to the progress of the mine.

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, 5.5 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.

A preliminary assessment of 9-month-old rehabilitation revealed the establishment of dominant species (*Eucalyptus tetradonta* and *Eucalyptus miniata*) as well as understorey and other woody vegetation such as Acacia, Grevillea, etc. and bushfoods i.e. Red Bush Apple (*Syzigium suborbiculare*) and Native Peanut (*Sterculia quadrifida*). Average height of seedlings was approximately 0.5 m. Fauna tracks were also observed around the edge of rehabilitation plots.

Gulkula has recently partnered with researchers from the University of Queensland and University of the Sunshine Coast to identify soil conditions that promote optimal revegetation outcomes. Results from the field experiment will guide future rehabilitation efforts.

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