

FACT SHEET / 2020

GAMSBERG – THE FUTURE OF ZINC



Gamsberg plant and mountain

IN SUMMARY



One of the largest zinc deposits in the world



3.9Mt of ore mined since the first blast in 2015



68Mt of waste removed



More than 950 permanent direct and indirect employees



South Africa's largest recent greenfields mining project



Dignitaries at Gamsberg opening

"THE VEDANTA GAMSBERG PROJECT IS AN IMPORTANT STEP IN OUR SHARED JOURNEY TO REVIVE OUR MINING INDUSTRY."

President Cyril Ramaphosa

Gamsberg is triggering a new wave of industrial and economic development in the Northern Cape

Profile

Discovered more than 40 years ago and held undeveloped in the asset portfolios of various mining companies, Gamsberg is part of the Black Mountain Mining complex, located near Aggeneys in the Northern Cape, South Africa. Acquired in 2011 from Anglo American, Gamsberg forms part of Vedanta's long-term commitment to the development of the Northern Cape. Vedanta Zinc International (VZI) is a grouping of zinc assets located in South Africa, Namibia and Ireland, owned by India-based Vedanta Limited, a listed subsidiary of Vedanta Resources plc.

The US\$400 million investment in Phase 1 which is now complete, will ensure production of 4Mtpa of ore from its open pit and 250,000tpa of concentrate from its concentrator plant. The mine has a reserve and resource of more than 214Mt, an average grade of between 6 and 6.5% and an estimated life of mine of 30+ years. When fully developed, Gamsberg will be one of the world's top five zinc mines.

Timeline

1977

Zinc-oxide orebody discovered

2011

Vedanta completes US\$364 million acquisition of Anglo American zinc assets including Gamsberg

2014

Gamsberg feasibility study completed and Phase 1 of project is approved

2015

First blast

2018

Completion of waste pre-stripping and commencement of ore production

2019

Gamsberg opens

LOCATION OF OPERATION



GAMSBERG MINE

Latitude: 29°12'55.3"S
Longitude: 18°57'32.5"E



GAMSBERG IN NUMBERS

Reserve and resource of more than
214Mt

Designed for
20 000t
metal in concentrate per month

US\$400 million investment in Phase 1



>950
permanent employees



Life of mine of 
~30 years



Biodiversity offset agreement resulted in Gamsberg Nature reserve covering an area of more than
21 million hectares


Approximately
4MTPA

24
permanent female employees of which 22% are senior management 





SAFETY

– OUR FIRST VALUE –

Safety

Safety is Our First Value. We focus on ensuring all our stakeholders get home safe and well everyday, as we strive towards our goal of zero harm. Gamsberg has embarked on a campaign to review and strengthen critical controls to ensure safety remains of utmost importance. These reviews were guided by Vedanta's safety standards and specifically focused on:

- Working at height
- Lift and crane operations
- Lock out and isolation
- Machine guarding
- Electrical safety
- Excavation
- Ground control
- Working in confined spaces.

As part of our zero harm journey, we actively promote safe behaviours through visible felt leadership, making sure our leaders are visible to stakeholders, including employees, and promoting a relationship based on trust.

Business with Purpose

In the past five years VZI has invested R5.4 billion in developing Gamsberg. During the development phase, more than half of the people employed came from the Northern Cape province with around 25% drawn from communities surrounding the operations.

Since 2014, VZI has spent more than R77 million on Corporate Social Responsibility (CSR).

Broad Based Livelihood (BBL)

BBL is our flagship and ongoing socio-economic poverty alleviation programme. It started in January 2019 and will roll out over a two-and-a-half-year period. It encourages inclusive local economic development by imparting horticulture skills towards food security; building entrepreneurial and business management skills towards SMME development; and introducing planning skills to map their own future beyond the life of mine.

Digitalisation

Gamsberg's digitalisation roadmap is underpinned by its adapt and thrive strategy. This will see the integration of systems that allows for data driven decision making, improved efficiencies, lower risk and ultimately a safer working environment. Implementation of the digitalisation roadmap will ensure that Gamsberg is one of Africa's most digitally advanced mining operations.

In 2017, Gamsberg collaborated with global innovation leader GE and mining software developer MineRP to launch the Smart Ore Movement program. This concept centres on management having access to mine technical & production data such as mine to design KPIs, spatial compliance and stockpile grade model. This enables management to make the most effective decisions using live data to minimise risks and foresee future issues.

Gamsberg is already seeing the benefits of the Smart Ore Movement programme especially in hauling activities. This has translated into more efficiency in tracking unplanned waste in ore which allows us to improve on the overall baseline.

The first phase of digitalisation included:

- Integration of spatial data infrastructure
- Implementation of digital recruitment
- Implementation of on-boarding and induction platform (V-HUB)

The second phase is currently on track and upon completion will:

- Create visibility of plant key performance indicators in real time using a value driver tree approach
- Add fragmentation sensors and analytics to further optimise performance of crushing and milling operations
- Allow onsite analysts to extract insights and develop reports for proactive operations performance management.

The medium-term outlook for the implementation of our digitalisation roadmap will focus on implementing precision systems as part of the broader integrated planning approach. More advanced predictive and prescriptive analytics and dynamic metal balancing can also be expected.



Healthcare

VZI has contributed extensively to enhancing healthcare in the region. Key projects include assisting with the development of the Aggeney's Public Clinic – a fully equipped facility which caters for around 600 patients per month. Launching the Black Mountain Cataract Surgery Project to reduce the high incidence of people suffering from cataracts in the region and hosting an annual PinkDrive breast and prostate examination programme to assist in the early detection and treatment of breast and prostate cancer within our host communities.

WiFi (V-Fi)

In August 2018 VZI launched its free community WiFi initiative (V-Fi) by establishing two hotspots where community members get to use 500MB of data per person per week when within range of the hotspots.

In addition, VZI has:



Developed water and power infrastructure



Developed employee housing and assisted with town development



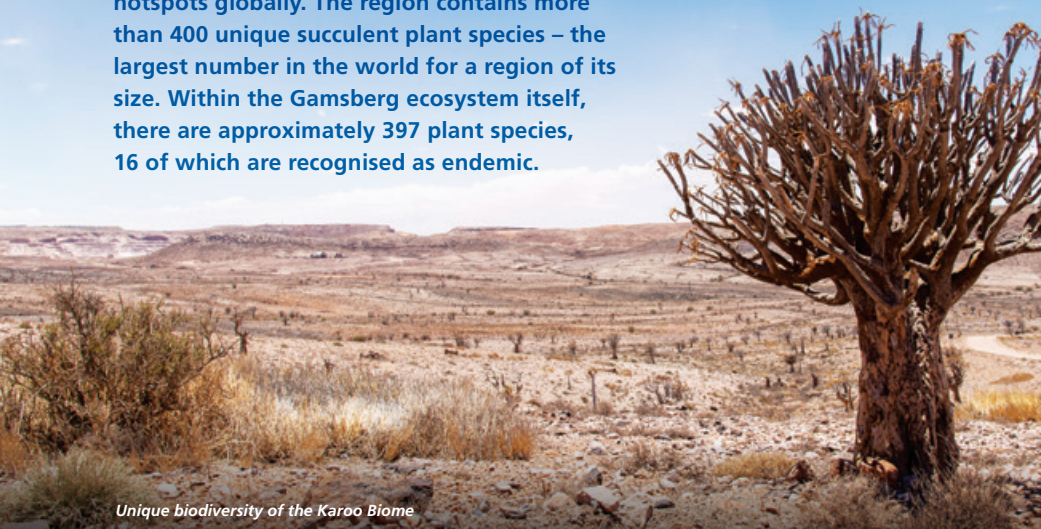
Spent R80 million on employee and community skills development and training since 2014



Spent R85.5 million on procurement and enterprise development since 2014

Biodiversity

Gamsberg is located in the ecologically sensitive Succulent Karoo Biome, one of 35 biodiversity hotspots globally. The region contains more than 400 unique succulent plant species – the largest number in the world for a region of its size. Within the Gamsberg ecosystem itself, there are approximately 397 plant species, 16 of which are recognised as endemic.



Unique biodiversity of the Karoo Biome

LOOKING TO THE FUTURE

VZI remains committed to investing in South Africa and more specifically the Northern Cape

Expansion plans for Gamsberg Phase 2 and the development of a zinc smelter-refinery complex are already underway. The benefits will be felt immediately in the Northern Cape and speak to Vedanta's 'Business with Purpose' model which is designed to ensure that host communities are left better off as a result of the operational investment.

An expanded Gamsberg will see ore mined increase to 8Mtpa and production of zinc-in-concentrate to 450,000tpa, and a modular fashion, ultimately, to 600,000tpa. This will reflect an additional investment of US\$350 to US\$400 million.

The feasibility study into the development and construction of a zinc smelter-refinery complex to process (Gamsberg) concentrates has begun.

The establishment of the proposed beneficiation plant will make Gamsberg a fully integrated zinc production site, with the mine, concentrator and smelter-refinery complex at a single location, making it the first fully integrated zinc manufacturing facility in South Africa.

The Gamsberg refinery could see a further investment by Vedanta of between US\$700 million and US\$800 million.

The expansion of Gamsberg into beneficiation streams has the potential to trigger a new wave of industrial and economic development in the Northern Cape, which could provide additional opportunities for Vedanta and others, in what is one of the least developed regions of South Africa.

A critical feature of Gamsberg's development is its approach to biodiversity. The mine was developed by means of implementing the mitigation hierarchy to avoid sensitive habitats. The mitigation hierarchy is a tool that helps limit the negative impacts on biodiversity of development projects. A principle of this approach is avoiding or preventing impacts which means considering options in the project location, siting, scale, layout, technology and phasing to avoid impacts on biodiversity, associated ecosystem services, and people.

During the planning and construction of Gamsberg, active avoidance measures were put in place to minimise the risk to the environment. These measures will continue during the entire life of mine process including during care and maintenance and eventual closure of the project.

VZI acknowledges the need for continuous assessment and improvement in terms of biodiversity. Together with the provincial Department of Environment and Nature Conservation, VZI is working to ensure the implementation of the biodiversity offset agreement. This has resulted into the proclamation of the Gamsberg Nature Reserve located next to the mine. The Gamsberg Nature Reserve consists of four farms covering an area of more than 21 million hectares.

In 2019, our biodiversity management plan was updated and submitted to the relevant authorities for approval and implementation. The updates include:

- improvements to the nursery
- newly developed Biodiversity Monitoring protocols and
- updates to the Conservation Area Management Plan



Gamsberg's modern infrastructure



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