

JANUARY 2019
FACT SHEET

GAMSBERG

MORE THAN A MINE

Vedanta Zinc International (VZI) is the custodian of the Southern African zinc assets of Vedanta Resources, a globally diversified natural resources major with interests in zinc, lead, silver, copper, iron ore, aluminium, power, and oil and gas. A major focus on VZI's growth front is **the Gamsberg Project** – a new zinc mine and its' associated infrastructure, phase 1 of which is ready to be launched, after being in development for the last three years.

SAFETY IS OUR TOP PRIORITY

ABOUT GAMSBERG

VZI's Gamsberg Project is part of the Black Mountain Mining complex, located near Aggeneys in the Khâi-Ma district of the Northern Cape.

Gamsberg is one of the largest zinc deposits in the world (although discovered more than 40 years ago) and was held undeveloped by its various owners before Vedanta acquired it from Anglo American in 2011. It has a reserve and resource of more than 214Mt and an estimated life of mine (LoM) of 30+ years. Gamsberg's development forms part of Vedanta's long-term commitment to the development of the Northern Cape. Phase 1 of this investment, which is worth US\$400 million, is now complete.

In Phase 1 – which has a LoM of 13 years – four-million tonnes a year of ore will be produced from Gamsberg's open pit and 250,000t/y of concentrate from its concentrator plant.

Phase 2 – an investment of a further US\$350 to US\$400 million – would see ore mined increase to 8mtpa and production of zinc-in-concentrate to 450,000 tonnes and in a modular fashion ultimately, to 600,000tpa.

When Gamsberg is fully developed with its future phases of growth, it will be one of the world's top 5 zinc mines. The project's current reserve and resource is 214Mt with a grade of between 6% and 6.5% zinc.



GAMSBERG IN NUMBERS

South Africa's largest recent mining project with an investment of US\$400 million

More than 3,000 people employed during the construction phase over last 1-2 years

For operational phase around 750 people already employed

WHY GAMSBERG IS SPECIAL

Gamsberg has the potential to trigger a new wave of industrial and economic development in the Northern Cape.

The construction of the zinc smelter refinery will create further opportunities for value-adding zinc beneficiation. Since Gamsberg's orebody is a sulphide one, sulphuric acid could be produced as a by-product. Combining the sulphuric acid with known phosphate reserves could lead to the creation of a regional fertiliser industry. Abundant sunshine and the Orange River could accelerate development of the agricultural industry. VZI is reimagining what the Northern Cape could look like.

Through partnerships with our business partners, we have ensured that more than half of the people employed during construction at Gamsberg come from the Northern Cape, with around 25% drawn from communities surrounding our operations. And that commitment runs through to steady-state and growth in the future.

Gamsberg is one of the most digitally advanced mines in South Africa. From the beginning, VZI's vision for Gamsberg was always that the project would be an end-to-end digitally enabled operation, with that digitalisation built in from the ground up, as opposed to being retrofitted once the operation was up and running. VZI's business imperative is the concept of "adapt and thrive".

Digitalisation is not a threat – rather it is an opportunity – not just for Vedanta as a company, but for all our stakeholders.

Digitalisation is about giving our employees the capacity to do their jobs in new ways, to expand their own skill sets, and to enable them to get involved in wider areas of the business. Digitalisation is about creating skills not just across our operations, but also in our communities – thus enabling community members to develop their own employability and opening up job creation and economic development opportunities.

OUR GOAL IS ZERO HARM, ZERO WASTE AND ZERO DISCHARGE



4Mt of ore to be mined in Phase 1 – equivalent to the weight of four million small passenger vehicles



250,000 tonnes of zinc in metal concentrate to be produced in Phase 1 – equivalent to the weight of 3.8 million average-sized human beings



20km powerline – equivalent to a four-hour walk for the average human being



40km water pipeline – equivalent to the length of 800 Olympic-sized swimming pools, laid end to end



117ha high density polyethylene (HDPE)-lined tailings dam – equivalent to 117 rugby fields



72 million tons of overburden pre-stripped – equivalent to the weight of 1.1 million passenger trains



35,000m³ of concrete – that's nine times more concrete than was used in the construction of the iconic Nelson Mandela Bridge in Johannesburg



300km of electrical cabling – that's enough cabling to reach from Johannesburg to Bloemfontein (or Polokwane)



Biodiversity offset programme offsets 22,900ha of land – that's the equivalent of the area of the Table Mountain National Park, which stretches from north of Cape Town down the Cape Peninsula to Africa's southwestern extremity, the Cape of Good Hope

COMMUNITY

Our communities are critical stakeholders and partners in our work. We get our social license to mine from them, and Vedanta's commitment has always been that we will deliver value to all our stakeholders.

Corporate Social Responsibility plays a critical role in VZI's relationships with its communities and employees. The concept of 'Business with Purpose' is one which we take very seriously. We are obliged to deliver returns for all stakeholders, not just to shareholders. We, as Vedanta, have the ability to extract value from this vision for our shareholders but more importantly facilitate value for the communities in which we operate.

Community development initiatives are prioritized according to local need, with a focus on:

- **Social investment (health, education and livelihoods)**
- **Bio-investment (water harvesting, agriculture and social forestry)**
- **Environmental conservation**

These corporate social responsibility activities are included in our business plans and appropriate implementation is considered in collaboration with associates, government bodies and volunteer associations.

CSR spend for BMM overall sits at over R17.5 million so far, with over R8 million committed.



RECENT WORK IN KHÂI-MA INCLUDES:

1 Aggeneys Public Clinic

Construction of the new Aggeneys Clinic facility started in January 2017 and the new clinic was opened on 10 October 2017. From its humble beginnings with no telephone, the Aggeneys Clinic is now a fully equipped clinic of approximately 280m², catering for around 600 patients per month. It has bigger consultation rooms, a properly equipped pharmacy, a new emergency room, larger storage space and easier access for handicapped patients.

2 Pink Drive

BMM partners with PinkDrive and MBTM to sponsor the Pink Drive Outreach Programme in the Khâi-Ma Municipal area. The outreach programme includes the provision of mammograms, clinical breast examinations, pap smears, prostate-specific antigen (PSA) screening, HIV-AIDS testing, BMI measurement, and non-communicable disease testing – at no cost and under one roof, to all who would like to take advantage of them – as well as health education talks (mainly at schools) covering cancer, HIV/Aids, tuberculosis, social care and lifestyle.

3 Cataract initiative

The Northern Cape population has a high incidence of cataracts, a major cause of blindness. In 2012, a health care project was initiated, agreed upon with the Khâi-Ma Local Municipality in partnership with the provincial Department of Health, African Vision and the South African Council for the Blind (SANCB). The Black Mountain Cataract Surgery Project aims to relieve existing cataract surgery backlogs. Since its inception in 2012, over 3,100 candidate screenings have been carried out and 935 surgeries completed. 313 patients have been referred for further treatment.

4 Community WiFi Project

The first phase of VZI's Free Community WiFi initiative – V-Fi – was launched in the Khâi-Ma area in mid-August 2018. The first phase consists of the establishment of two hotspots in each of Aggeneys, Pella and Pofadder, which will allow all community members to use 500MB of data per person, per week, when within range of the hotspots.





ENVIRONMENT

Preserve, protect, restore and rehabilitate – are the pillars which should guide the environmental planning of any mining project – none more so than in the environmentally sensitive and fragile Northern Cape.

The Succulent Karoo Biome is unique, even for a country such as South Africa which is renowned for its floral diversity. The biome is home to at least 6,000 species of plants that have evolved over millennia to survive the desert's aridity, many of them rare and, until our environmentalists started on the area, some of which had been previously unrecorded.

The Bushmanland Centre of Endemism is smaller but nevertheless hosts 397 unique succulents, among them 16 that are endemic and four that are restricted to a small space. VZI was faced with a major challenge of how to develop the Gamsberg Project both without damaging the fragile site and in a way that would ensure the area can be restored when mining ends.

VZI's environmental specialists worked closely with a wide range of experts to design and implement a process to ensure the necessary protection,

preservation and ultimate restoration.

VZI enlisted advice from a range of environmental organisations, local and international, such as the International Union for Conservation of Nature (IUCN) – one of the world's oldest and most respected environmental groups.

Some 80,000 plants and 360,000 seeds have been collected and moved to the specialised facilities of the Karoo Desert National Botanical Garden. The objective is that, once mining has ended and the area's surface is restored, it can be replanted with the endemic species that were removed from the site, saved and protected. The area's fauna presented a different challenge. VZI was determined that animals should not move into working areas where they might be threatened. Areas that are particularly sensitive have been fenced off, while operations have been designed to limit and minimise any direct effects on the entire region.

The Gamsberg waste dump and tailings storage facility have been designed to prevent unnecessary atmospheric pollution, and to ensure that run-off is prevented. Gamsberg's operations and their effects are tightly contained, including the use of a closed-circuit water system.

THE FUTURE

VZI has started a feasibility study into the development and construction of a Zinc Smelter-Refinery Complex to process (Gamsberg) concentrates.

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 integrated zinc manufacturing facility in South Africa. In line with the group's commitment to Southern Africa, the proposed investment would have a significant positive impact on the Northern Cape, creating jobs – directly and indirectly – and further developmental opportunities in the region.

It is envisaged that the first phase of the Smelter-Refinery Complex will have a capacity of 250,000tpa of finished zinc metal. As the entire Gamsberg project has been developed in a modular fashion, so the Smelter-Refinery Complex could also be expanded to align with Gamsberg Phases 2 and 3. The feasibility study will evaluate the infrastructural requirements of the complex – the beneficiation facility will require around 200MW of additional power, and additional water supply. Both of these would mean significant large-scale investment.

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.

The future of Gamsberg should be deeply intertwined with the future of the Khâi-Ma region of the Northern Cape – and indeed of the whole province. Gamsberg should be far more than a mine. With the right engagement and collaboration, it could trigger a new wave of industrial and economic development for the province.

CONTACT US

Vedanta Zinc International / +27 11 685 3973

Black Mountain Mining / info@vedantaresources.co.za / Tel: +27 54 983 9202/ 9203

www.vedanta-zincinternational.com