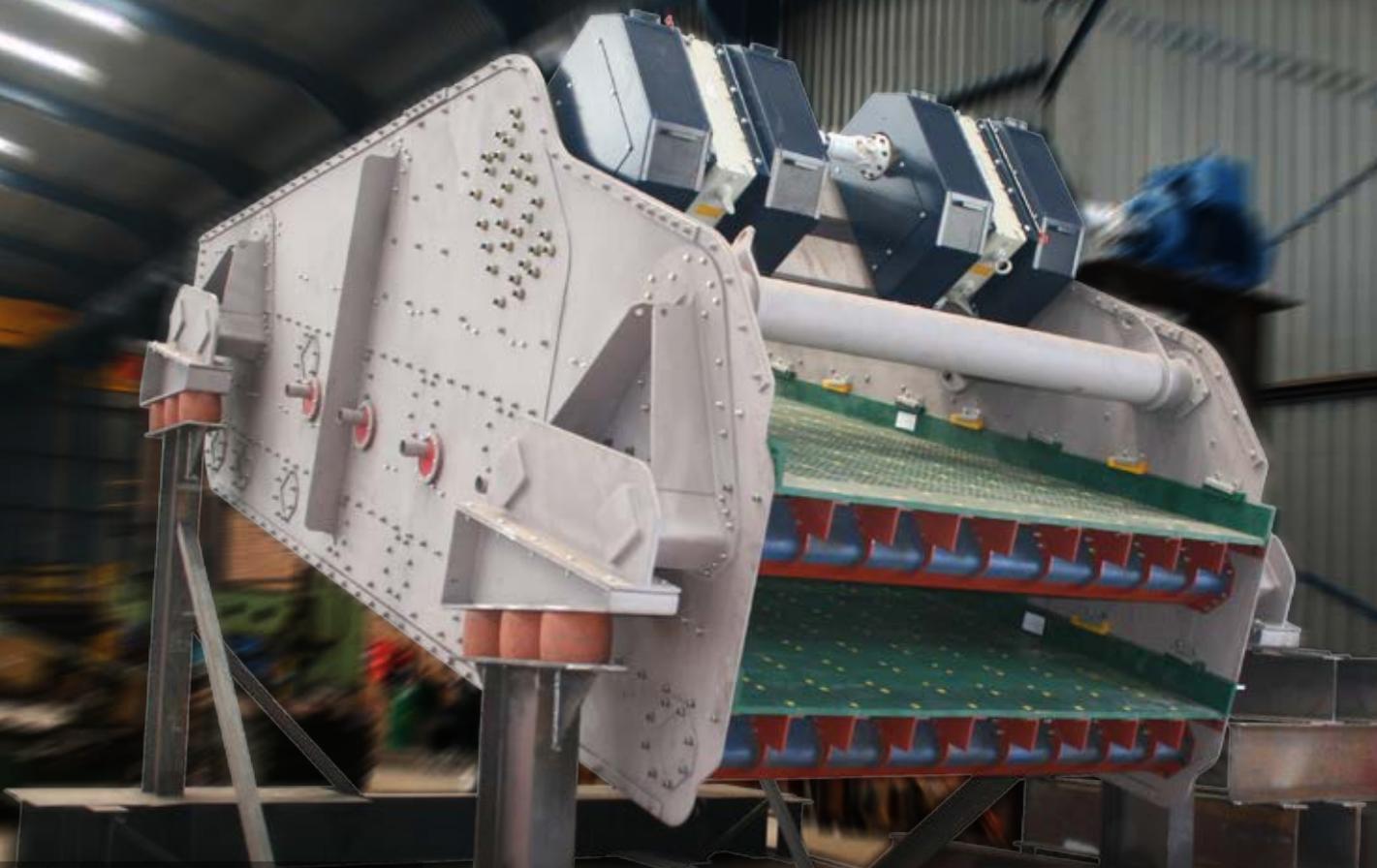


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A reliable face mask can mean the difference between life and death for those regularly exposed to fumes, mists and hazardous gases.

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Improved recovery for Graphmada

Bass Metals' Graphmada graphite mine managed to improve its final recovery by 25% and plans to build a processing plant to produce between 20 000 tonnes and 24 000 tonnes per annum as part of its expansion plans. **By Mientjie Kleinhans**

THE GRAPHMADA MINE in Madagascar contains four known deposits of graphite and is located about 100 km from the Tamatave port. The mine has been focusing on

the Loharano deposit and managed to improve its final recovery by 25%. The disseminated graphite flakes at Loharano are extremely pure and contain up to 99% carbon. The company does not want to reveal how it managed the significant improvements, but does state that practical innovations implemented to the process resulted in the improved recovery and grade.

According to a recent statement, the primary improvements implemented have resulted in a lift in recovery from an average of 47%, under Stratmin Resources' management, to 59% for feedstock from Loharano.

"The improved recovery has proved to be stable, without any loss in the

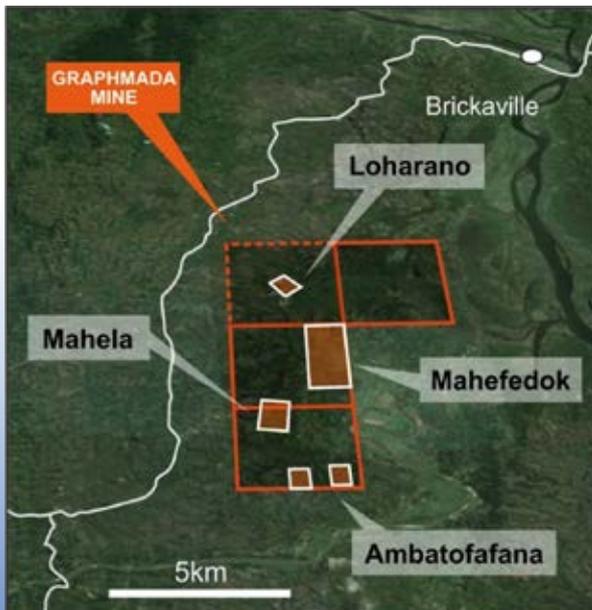
average final product grade," says Tim McManus, CEO, Bass Metals.

The mine also managed to increase its grades after the primary regrind mill had been achieved. Since Bass Metals took over, the regrind mill grade has increased from an average of 61% fixed carbon (FC) to 69%.

"While Madagascar is a century-old graphite supplier, this commodity has, nonetheless, seen an explosion of activity in the past three years by graphite explorers and developers. It is critical that the Graphmada mine maintains its existing market share through increasing the quality and grade of its offering at sustainable, globally competitive prices. This is driving our immediate attention since Bass Metals acquired the mine in August this year," says McManus.

Additional processing plant

The company's expansion plans include an additional processing plant, which will produce between 20 000 tonnes and



TOP Example of Graphmada's wet product

ABOVE The Graphmada project consists of four known deposits

BELOW The mine's focus has been on the Loharano deposit



24 000 tonnes a year.

"The new dryer and screening system will improve product handling, minimise losses and inefficiencies, and allow us to produce a variety of niche products that will attract premium pricing, without a reduction in flake size," says McManus.

To ensure the current processing plant reaches nameplate capacity, the company plans to have the new systems installed soon.

"Only eight weeks in from taking operational control of the asset, the team has achieved a great deal, not just in operational performance and better safety practices, but in its interaction with the community and in how Graphmada conducts its business," states McManus.

Programme schedule

To show the company's dedication in reaching its goals, it shared the programme schedule, which is within its planned time schedule. "The processing plant's testwork is nearing completion and is within budget; the workshop construction is also under way, on time and within budget. We also ordered a new grade control drill, which is currently on its way," says McManus.

Furthermore, Graphmada is waiting for Loharano's Joint Ore Reserves Committee's (JORC) resource update, which is on schedule, and the drying and packaging testwork is also complete. It is currently planning the necessary activities for Q3 and Q4 of the 2017 financial year. Workforce training has also begun, along with the construction of two more water wells.

Operations

The Loharano deposit is one of four known deposits on-site, and has been the focus of the mine's recent activities. The Mahefedok deposit has undergone trial mining and forms part of the mine's

TABLE 1
Operations optimisation programme

Processes	FY2017				FY2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Processing plant testwork								
New workshop construction								
Implementation of grade control drilling								
JORC resource update								
Drying and packaging process testwork								
Drying plant procurement and installation								
Process plant decommissioning/recommissioning								
Upgraded product sales commence								
Comprehensive workforce training								
Strong community engagement programme								



The mine's drying and packaging testwork programme is complete

life-of-mine development studies. Once the studies have been concluded, the results will indicate the expected additional life of mine. Mahefedok is along a strike of 1.8 km.

There are two more deposits on the site that still need to be explored to their full potential, namely the Mahela and Ambatofafana deposits.

The grade of graphitic carbon increases as the mine goes deeper. Until now, the mining has been very shallow, with the mining horizon from 1.5 m below surface to between 6 m and 8 m. It is a known fact to the mine that the graphite-bearing regolith goes beyond 30 m.

The mine uses a workforce of 140 people to mine the graphite that is hosted in both weathered regolith and underlying graphitic gneiss. Modern facilities and infrastructure are available to improve

working conditions, including an on-site doctor, pharmacy, housing, offices, communications and an analytical laboratory.

Background

In 2015, the mine sold about 1 500 tonnes of product. The proportion of the large-flake graphite was at 94% or greater purity. "Our brand is known for its quality, large-flake graphite concentrate. We are well established in traditional markets, and have the potential to push into new technology markets," reveals the company statement.

Conclusion

"We are investing to enhance the processing plant's throughput, and improve recovery rates and product quality. We believe this will ensure Graphmada remains a leading supplier of high-quality, large-flake graphite.

"The team will continue to put hard work into achieving maximum value from Graphmada and demonstrate a credible production profile that, previously, management only ever dreamed of," concludes McManus. 35

"Only eight weeks in from taking operational control of the asset, the team has achieved a great deal."
Tim McManus, CEO,
Bass Metals

A close-up of the large graphite flakes