



SITUATION

Need to reduce ore fines

► The United Manganese of the Kalahari mine (UMK mine), located in South Africa, produces 3 million tons of manganese every year. The plant was reporting excessive manganese ore fines impacting negatively the final product and its price. The CV02 screening results were concerning, as the excessive fines (-10mm) ranged between 21% and 23%. To reduce the fines, UMK mine management scheduled a workshop with all relevant onsite stakeholders: blasting, loading and hauling teams, including Enaex Mining Technical Services (EMTS).

CHALLENGE

► Apply a tailor-made solution to reduce the ore fines ratio below 20% as requested by UMK mine.

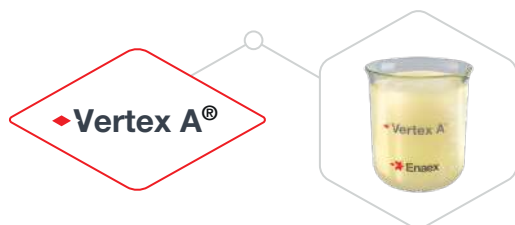
SOLUTION

Our emulsion adapted to our customer

► To respond to our customers' needs, we have changed the blend ratio of Vertex A®, a heavy emulsion blend with high energy specially designed to achieve the desired fragmentation in difficult environments, wet holes or hard rock conditions.

The benefits of this new ratio are:

- No changes in the storage infrastructure and the current fleet.
- Increased brisance energy (shock energy/ability to shatter)
- Reduced gas energy decreasing secondary breaking in extremely brittle manganese ore body.
- Increased manganese ore Peak Size Distribution (PSD) without compromising on oversized material in the stemming region and negatively impacting production rates, as with initial trials.



Client: United Manganese of the Kalahari (UMK)

Product: Vertex A®

Location: Kalahari mine, South Africa

Application: Open-pit

Authors: Bernard Groenewald,
Explosives Technician
Louwtjie Theron,
Explosives Engineer
Douw Steyn,
Senior Explosives Engineer

KEY FEATURES

- Creating a customized product
- 17% of ore fines ratio surpassing our customer expectations
- Benefits were obtained without compromising on production rate



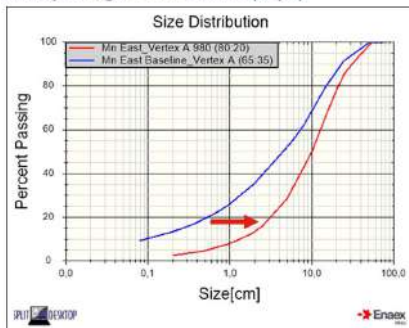


RESULTS

Surpassing our customer expectations

► UMK mine reserved and stockpiled 14 174 tons of manganese ore from the first trial blast hence, limiting blending from other ore sources and revealing immediate feedback. The CV02 screening results revealed a Lumpy Fines ratio of 17%. With the new version of Vertex A®, we were able to not only meet UMK's goal but also to exceed them by 3%. The marketable manganese produced by volume increased significantly.

Muck pile fragmentation results (In-pit)



STRONGER BONDS

► We have created stronger bonds with our customers by listening to their needs and proposing to them a tailor-made solution to answer them. The EMTS team arrived at an ideal composition to improve the ore quality after numerous technical analyses and tests demonstrating how innovation and entrepreneurship were our strengths.

CUSTOMER TESTIMONIAL

“ Thank you for all the work done, we now need to roll this out to the other areas in the mine.”

Gerrit Ludolf,
Mining production manager at UMK

ABOUT US

At Enaex, our purpose is to humanise mining by having a positive impact on all aspects of the blasting process.

We know that life is the most precious thing on the planet. That's why we put people first to ensure the well-being of our teams, our broader communities, and the environment.

With a proven track record of providing the global mining industry with flexible, tailor-made blasting solutions, Enaex is the preferred blasting solutions partner.

- Over 100 years of experience.
- Blasting services across six continents.
- More than 400 MPUs.
- Pioneering the first 100% remote-controlled open pit blast.
- 880,000 tonnes of ammonium nitrate produced annually.
- First underground fully remote-controlled blast.
- Over 7,000 employees.



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