

AMC Bore Hole Stabiliser™ (BHS) improved blast hole utilisation by 30%

Objectives

- Improving overall blast hole utilisation
- Producing firm collars, in-gauge holes and aided drilling to Total Depth (TD)

Challenges

- Varied formations of cap rock, with both cemented and loose gravel, produced inconsistent and unstable holes, not supporting accurate explosive installments
- The previously used foam system produced holes that presented well, yet revealed cave-ins and resulted in lost holes
- Overall productivity was impacted due to re-drills and recovery of lost equipment
- Each hole required a cylindrical profile and a minimum depth of two metres to be considered acceptable for further use

Before BHS: Collapsed collaring with the existing fluid program

After BHS: Firm collars with AMC Bore Hole Stabiliser

Location: Western Australia

Project: Boddington Bauxite mine

Resource: Bauxite aluminum ore

Application: Blast hole utilisation

Before BHS



After BHS



IMDEX Solution

IMDEX Borehole Optimisation System™ (BOS)

BHS is a multifunctional product that helps prevent a wide range of downhole problems including poor collaring, hole decay or sidewall instability.

Its unique formulation enables it to penetrate deep into the surrounding stratae where it will bond friable, fragmented materials, significantly reducing the need for excess conditioning, expensive redrills or casing.

Bore Hole Stabiliser™ (BHS)

Strategy & Solution

- The unique formulation of BHS enabled deep penetration into the surrounding stratae
- BHS would bond friable, fragmented materials and significantly reduce the need for excess conditioning, redrills or casing.
- Of the 21 holes drilled using the fluid, 19 were considered acceptable. Comparatively, the initial drill program only produced 11 holes that were considered acceptable.
- Crews observed firmer drill collars that held their shapes, were firm to touch, and dried almost immediately. Holes remained in-gauge and in-profile to TD, with no blow-outs; and air pressure remained consistent for improved hole cleaning.
- Drill holes were more stable and could withstand the rig pulling out and off the hole without collapsing, providing significantly more holes drilled per hour.
- Importantly, the in-gauge holes ensured the correct amounts of explosives were applied in each hole.

Customer Statement

BHS performed exceptionally well compared to the existing program and resulted in an **increased hole utilisation rate of 30%** and produced significantly more holes per hour. The improved collaring and ‘fluffier’ returns were welcomed by the drillers on-site.

Results



Improved productivity - holes were drilled faster and more efficiently



Dramatically improved the collaring of the hole, providing less risk of losing the hole



Larger particles improved the air pressure for hole cleaning



Reduced HSE risks - manual handling and labor to install casing



Increase in the number of holes where TD was reached