IMDEX

Case Study

AMC Bore Hole Stabiliser™ (BHS) reduced total drilling costs by 34%

Objectives

- Improving hole stability to reduce costs on consumables
- Find new solutions to replace traditional PVC casing installation

Project Details

Location: Goldfields region of Western Australia
Resource: Au
Application: Underground metallurgic exploration

Challenges

- The underground drill site approximately 20km west of Kalgoorlie, Western Australia, was notorious for shear zones and reactive clays, causing stuck rods while drilling. Geology at the deposit includes a sheared contact zone between the porphyritic 'cat rock' and volcaniclastic rocks of black flag beds.
- The operator was frequently experiencing stuck rods - causing issues almost every shift. Up to 31 rods had been lost in one shift, with an approximate total value of $31,000 (AUD).
- The drillers were practicing the traditional method of installing PVC casing to maintain hole stability, but due to the challenging nature of the hole, this method was proving costly and time-consuming.

Productivity losses were experienced, rigs stood idle while drill crews manually inserted casing and time was lost through multiple re-drills.

IMDEX Solution

AMC BORE HOLE STABILISER™ (BHS)

AMC BHS is a multifunctional product formulated to combat a wide range of down hole problems including poor collaring, hole decay and sidewall instability. The formulation penetrates deep into the surrounding strata, providing lubrication to the hole, increasing lifting capacity for cuttings transportation and encapsulating water sensitive clays or shales.

BHS successfully negated the need for traditional PVC casing

Bore Hole Stabiliser™ (BHS)

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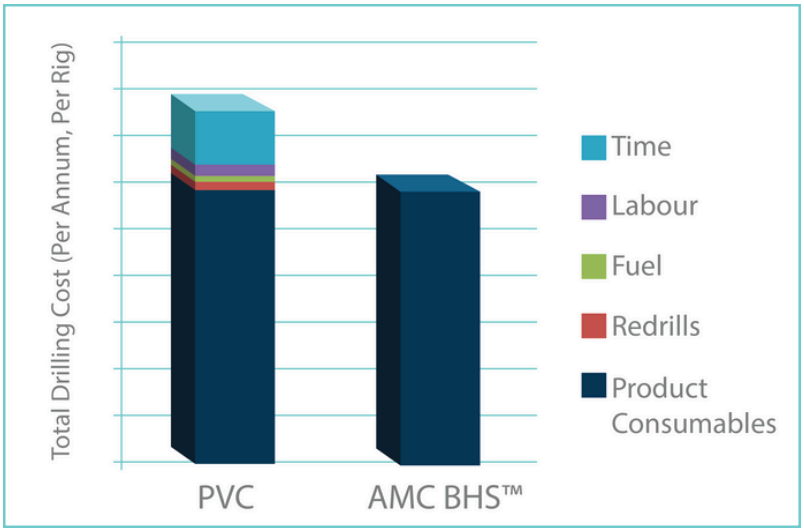
Strategy & Solution

BHS was run as a trial of twelve holes - six using BHS and the remaining six using the traditional method of circulating water at full pressure. BHS was injected directly by the 'Fire-Ball 300' pump into the bit face with air and a water mist.

Cameras inserted into each hole to log and compare results confirmed that BHS consolidated the formation, while the water destroyed it by washing it away. During the trial, no hole was compromised using BHS, and no redrills were required.



Customer Statement

We can now drill more meters with BHS as no PVC is needed to case the holes.

Production Engineer

I am really impressed with how BHS works and what this means for our company going forward.

Underground Drilling Supervisor

Results

BHS successfully negated the need for traditional PVC casing, delivering multiple drilling efficiencies, achieving crucial hole stability, and resulting in a 34% reduction in total annual drilling costs in the Goldfields region of Western Australia.

- Total drilling costs reduced by 34%
- Crucial hole stability was achieved: PVC casing no longer required
- Increased productivity, more metres drilled each shift
- Reduced fuel and transport costs
- Reduced drilling consumables - PVC consumables as well as lost drill rods and rod strings
- Reduced driller and service crew time
- Improved hole gauge
- Reduced HSE risks - manual handling and labour to install casing