

AMC BORE HOLE STABILISER™ reduced total drilling costs by 34% in Western Australia

CASE STUDY

AMC BORE HOLE STABILISER™ 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.

Challenge

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 volcanoclastic 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.

"We can now drill more meters with AMC BORE HOLE STABILISER™ as no PVC is needed to case the holes."

Production Engineer



Results

- 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.

AMC BORE HOLE STABILISER™ CASE STUDY

Reduced total drilling costs by 34% in Western Australia



Solution

AMC BORE HOLE STABILISER™ was run as a trial. Twelve holes were completed – six using AMC BORE HOLE STABILISER™ and the remaining six using the traditional method of circulating water at full pressure. AMC BORE HOLE STABILISER™ was injected directly by the 'Fire-Ball 300' pump into the bit face with air and a water mist.

AMC BORE HOLE STABILISER™ 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.

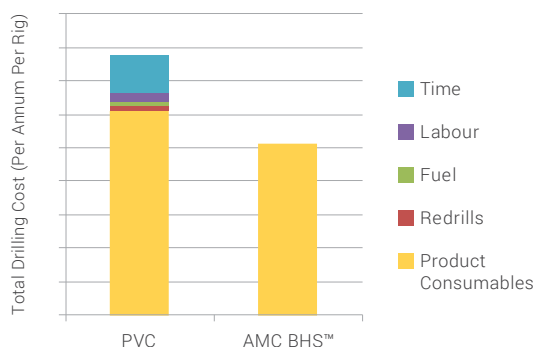
Cameras inserted into each hole to log and compare results confirmed that AMC BORE HOLE STABILISER™ consolidated the formation, while the water destroyed it by washing it away. During the trial, no hole was compromised using AMC BORE HOLE STABILISER™ and no redrills were required.

Camera Observations



Left: Water destroys the formation, washing it away during the traditional method of water at full pressure. Right: AMC BORE HOLE STABILISER™ consolidates the formation and ensures casing is not required.

Total Annual Drilling Costs – Per Rig



Project Outcome

AMC BORE HOLE STABILISER™ was successful on all six trial holes. The fluid delivered significant improvements, including an overall 34% reduction in total drilling costs, as well as several other benefits in overall efficiency:

- The successful consolidation of the formation – eliminating the need for casing and achieving significant savings
- The elimination of redrills
- A reduction of lost drilling consumables due to stuck rods
- Improved drilling productivity – drill and service crews did not need to install casing
- Reduced vehicle movement from underground to surface, lowering fuel costs and transport time
- No holes were compromised when using AMC BORE HOLE STABILISER™.

Productivity is expected to increase significantly once the PVC method has been phased out. Drillers will be able to drill holes and proceed straight to blasting, without the cost and downtime associated with the manual installation of casing. The site's Production Engineer, expects metres drilled will increase to 400m per day per rig.

The operator is planning to complete further trials with AMC BORE HOLE STABILISER™ without casing and has expressed an interest in using the innovative product with every long-hole rig in their fleet.

"I am really impressed with how AMC BORE HOLE STABILISER™ works and what this means for our company going forward."
Underground Drilling Supervisor

Further Information

For more information about this case study, please contact amc@imdexlimited.com or your local AMC representative.

ASIA PACIFIC

Perth, Australia (Head Office)

T +61 8 9445 4000

E amc@imdexlimited.com

Indonesia

T +62 (0) 21 759 11244

AFRICA

South Africa

T +27 (11) 908 5595

EUROPE

Germany

T +49 4402 6950-0

United Kingdom

T +44 (0) 1273 405 975

SOUTH AMERICA

Argentina

T +54 (9) 261 426 1116

Brazil

T +55 (47) 3404 5920

Chile

T +56 (2) 2589 9300

Peru

T +51 (1) 322 8850

NORTH AMERICA

USA / Canada

T +801-364-0233

Mexico

T +52 (871) 169 2095