

AMC TORQUE GUARDTM delivers improved drilling performance in Goldfields, WA

CASE STUDY

A field trial of AMC TORQUE GUARDTM, along the experienced technical support on site, enabled a project in the Goldfields of Western Australia to progress and improve production significantly.

AMC was invited to trial a new high performance lubricant at a project site in the Goldfields, Western Australia. The trial gave AMC an opportunity to evaluate the impact of AMC TORQUE GUARDTM, a new, readily dispersible and extreme pressure lubricant, and assess results on site.

Increased Drilling Production by up to 20%

Prior to AMC's mud engineers entering the site, drilling progress was extremely consistent averaging between 28 – 30 metres per 12 hour shift. AMC recommended using AMC TORQUE GUARDTM; a high performing, extreme pressure lubricant, used to improve the lubricating qualities of a drilling fluid through advanced adhesion and filming characteristics.

When AMC TORQUE GUARDTM was introduced into the system, a vast improvement was noticed. In a standard 12 hour shift the operators were able to core 36 metres. The increase of 20% resulted in a more efficient operation, allowing the hole to be completed sooner.



Results

- Improved penetration rate by up to 40%
- Reduced torque by up to 31%
- Increased drilling production by up to 20%
- Enhanced operational efficiency and productivity.

AMC TORQUE GUARD™ CASE STUDY

Delivers improved drilling performance in Goldfields, Western Australia



Torque Reduction Between 20 – 30%

Torque rotation at the site was reaching between 190 – 210 bars while running the previous system consisting of AMC EP BIT LUBE™ and AMC CR 650®. AMC TORQUE GUARD™ is designed to allow more torque to be distributed to the bit AMC's experienced technical personnel recommended AMC TORQUE GUARD™ would be introduced to combat the high rotational torque. Once AMC TORQUE GUARD™ was introduced, the rotational torque was reduced to 145 – 185 bars delivering an improved torque reduction of up to 31%.

Up To 40% Improvement In Rate Of Penetration (ROP)

AMC TORQUE GUARD™ works to enhance productivity by increasing the rate of penetration where high rotational torque slows a holes advancement. With the existing system, consisting of AMC EP BIT LUBE™ and AMC CR650®, the hole was averaging 3.2 inches per minute. When the AMC TORQUE GUARD™ was introduced to the system, the hole advancement jumped to an average of 4.63 inches per minute. This equates to a production improvement of 40% at its peak.

Environmentally Friendly

AMC TORQUE GUARD™ is an environmentally acceptable, vegetable oil based lubricant, making it ideal to use on site. AMC TORQUE GUARD™ is considered to be biodegradable, of low toxicity and has a minimal impact on the environment. AMC delivered improved results without compromising the integrity of the environment at the Goldfields site in Western Australia.

Project Outcome

AMC TORQUE GUARD™ facilitated the progression of the borehole, increasing the rate of penetration and improving the production time.

The drill crew noticed significant improvement with drilling becoming smoother, water pressure stabilising and bit weight being consistent and cutting more freely. When the rods were pulled to the surface there was also a noticeable greasing on metal surfaces. The noticeable improvement in drilling performance was recognised by drill crews who were able to complete the drill hole sooner.

Further Information

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

TRIAL OVERVIEW

Date	November 2014
Location	Goldfields, Western Australia
Drill hole information	<ul style="list-style-type: none">HQ casing to 500mThe lip was cut at 690mNavi 100m +/- with dog legs averaging 7 degrees
Mud information	AMC TORQUE GUARD™ at 1.0 – 2.0L / 1,000L and AMC CR 650® at 0.75 – 1.5L / 1,000L
Water	Mix water was mildly brackish with a treatable level of hardness; chlorides 2650mg / L, total hardness 720mg / L, calcium 200mg / L magnesium (calculated) 318mg / L and pH 7.5
Geology	Formation was competent dolerite basalt with intermittent quartz banding
Mineral	Volcanogenic Massive Sulphides (VMS) deposit
Activity	Deep directional drilling
Bore Information	Deep directional drill hole with a depth of 1,243m.



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