Complex42™

Trial: Dart Mining

PROJECT	NQ Exploration Drilling – Hard granite
SUBSTRATE	Hard Grey and Pink Granite
PLACE	Mita Mita, Victoria, Austraila
DATE	13th September 2022
CONTACTS	DETAILS: Simon Smith & Mick Wild
EMAIL	info@dartmining.com.au
WEB	www.dartmining.com.au
DRILL RIG	Atlas Copco DIAMEC® 252
DRILL BIT	Boart Longyear 10 (Softest Matrix)

SUMMARY OF RESULTS

WITHOUT COMPLEX42™	WITH COMPLEX42™
Rate of Penetration (ROP)	
44mm / minute	150mm / minute
Drill Bit Life	
100 – 120 meters	190 meters
Diesel Consumption	
80L / day	60L / Day
Additional Advantages	
	• 12.5 to 25% reduction in torque load
	• Significantly less wear on drill rods
	• ROP less affected by friable rock structures

Starting Parameters
MUD: Potable water plus recommended dose of GeoBond 2.0 polymer.
Water management: 3 x IBCs at 90% capacity (2,700L). 2 IBCs use for water return and mud settling, 1 for adding polymers.
Starting depth: 47.6 meters (NQ diameter 75.7mm), approx. volume 214 Litres

PART 1 – Control, NO Complex42™

Mud formulation: Potable water plus Geo Bond 2.0 @ recomm. dose
Best 3m excursion: 67 minutes (44mm/minute)
RPM:

PART 2 – WITH Complex42™

Mud formulation: Potable water plus Geo Bond 2.0 @ recomm. dose PLUS 0.8% COMPLEX42™
Best 3m excursion: 23 minutes (130mm/minute)
RPM: 800

PART 3 – WITH Complex42™ Geo Bond 2.0 dose HALVED

Mud formulation: Potable water plus Geo Bond 2.0 @ ½ recomm. dose PLUS 0.8% COMPLEX42™
Best 3m excursion: 20 minutes (150mm/minute)
RPM: 600 to 700

POINTS OF INTEREST

- Once system is dosed, when there is little fluid loss due to fissures, only small amount (in this case 4L) of Complex42™ is required to maintain performance.
- Faster ROP, 12.5% to 25% decrease in fuel consumption, plus lower dose of viscosity modifying polymer = huge reduction in "all-in" sustaining costs (AISC) and significant increase in returns.
- Even in broken, friable ground average ROP is higher.