A member of the Orica Group

Customer Success Study - Champ Ori™

Overview

An underground gold mine operator and drilling contracting company were struggling with the number of successful core orientations (averaging 75.9%). In the second half of 2021 both agreed to run a trial of Axis' newly developed Champ Ori™ for a significant period to qualify the benefits and reliability of the new system over previous methodologies.

Challenge

To provide reliable NQ and HQ core orientation data in confined areas with limited overhead clearance in an underground mine. The ultimate aims being twofold; that data should make sense geologically when core is examined by the operator's geological team and qualify the potential for reduction of risk to crews and drilling operations.

Solution

The drilling contractor was provided with the Champ Ori™ core orientation system in HQ and NQ form factor. The Champ Ori™ devices replaced the spindle bushing housed in the back end of the inner tube. This shortened the length of the inner tube assembly by 600mm (when compared to traditional extension type core orientation systems) and removed the need for a barrel extension sub, resulting in a significant weight reduction and removing a weak point in the drill string.

Result

Reduced weight of the inner tube assembly improving manual handling injury risks.

Shortened inner tube removing the need to split the inner tube from the backend assembly when it was retrieved due to limited overhead working space. This in turn significantly reduced risk to the drill crew.

Removed the need for a barrel extension sub thus eliminating a weak point in the drill string and risk to drilling operations.

Provided increased geological confidence in core orientation data with a significant reduction of failed orientations (i.e. those that do not make geological sense) when compared to pre-June 2021 for data collected in good ground and where the orientation passed QC.

Operator Core Orientation Stats	Oct 2021 to Mar 2023
Equipment	Axis Champ Ori™
Total data points collected in competent ground over the period	22,605
Data collected in competent ground & reliable Ori & makes geological sense	19,354
Success rate	87.9% (12.1% fail rate)
Pre-June 2021	75.9% (24.1% fail rate)
Improvement	12% (fail rate down 50%)

Champ Ori is available for Boart Longyear Link Latch backend assemblies (LTK60, BQ, NQ, HQ, PQ) and Fordia DiscovOre and DiscovOre Prime backend assemblies (N and H).