



## COLLAR KEEPER® SYSTEM OVERVIEW

TBS Mining Solutions Collar Keeper® System (CKS) is an innovation designed to protect the pre-conditioned section at the top of each blast bench from the moment the drill bit engages with the ground surface, through to the blasthole completion.



### HOW DOES THE PROCESS WORK?

The CKS guide tube is pushed into the loose ground behind the drill bit for the first 500mm (approx.) creating a temporary collar.

After the drilling of the hole is complete, the CKS module is detached to allow the insertion of a Collar Keeper® (CK) through the guide tube.

The module then re-connects to retrieve the guide tube, leaving the reusable CK in place. The CK protects the blasthole for the remainder of the drill and blast process through until stemming, where it is removed prior to blasting. The CKs can be easily re-scrolled, and placed into the storage cage on the rig for reuse.



### DIRECT BENEFITS

- » Reduces Redrills
- » Retains Hole Depth
- » Increases Drill Yield
- » Lowers Fuel Consumption
- » Lowers CO2 Emissions
- » Eliminates Collar Pipes (if used)
- » Improves Explosives Efficiency
- » Improves Energy Containment



### INDIRECT BENEFITS

- » Flat Blast Benches
- » Reduces Risk of Slips, Trips & Falls
- » Consistent Blast Outcomes
- » Improves Fragmentation
- » Removes Single Use Plastic (if used)



## COLLAR KEEPER SYSTEM IN ACTION

Collar & Drill Hole



Detach, Deploy & Retrieve



Protect & Control



## WHY NEW TECHNOLOGY?

The drill & blast function is critical for all downstream activities including the load & haul cycle through to crushing and grinding in the processing plant. Factors including retention of hole depths, reduction of redrills, collar pipe reduction, consistent explosives per hole etc, all have a significant impact on Quality Assurance (QA) & Quality Control (QC) and the blast outcome for all mining operations.

## WHY IS THIS TECHNOLOGY IMPORTANT FOR OUR CLIENTS?

Our clients are continually focused on delivering against their vision and values in everything they do. The Collar Keeper® technology helps them achieve tangible outcomes in the following areas:

- **Safety** Flatter blast benches with reduced risk of slips, trips and falls. Improved manual handling (removal of single use collar pipe).
- **Efficiency** Reduced average drilling time per pattern. Less rework on benches (redrills/fallback/dipping).
- **Total Cost** Improved fragmentation for load & haul through to processing facilities.
- **Environment** Reduced plastic waste output and improved drill yield. Decreased CO2 emissions through lower drill fuel burn.

## INTELLECTUAL PROPERTY (IP)

The Collar Keeper® System is the subject of numerous Australian and overseas granted and pending patents licensed exclusively by TBS. The patents provide exclusive rights in relation to the Collar Keeper® System including the Collar Keeper®, the guide tube and to methods of their use.

## MORE INFORMATION

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