

# **THE APPLICATION AND ECONOMIC BENEFITS OF BLASTHOLE DRILL MONITORS**

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This paper will discuss the application of available monitoring technology on blasthole drills with the goal being to reduce costs and increase productivity. Case studies from the monitoring of blasthole drills in North American open pit mines will be used to illustrate the ability to meet these objectives.

Once drill monitoring systems have been successfully implemented, the influence of drilling on the total mining operation becomes readily apparent. The systems have the capability to log data on rock properties. By knowing the location of the hard and soft zones, the explosives can be more accurately placed. An outcome of this capability is reduced coal dilution, better fragmentation and improved diggability, which impacts dragline and shovel productivity. Dragline and shovel monitoring systems can measure the diggability and provide feedback on the drilling and blasting plans. Reduced blasting costs is another potential benefit since the proper quantity of explosives can be placed at the required locations in each hole.

Drill monitoring systems can also be used to accurately identify the true impact on performance when different bits, compressors, or modes of operation are used. Production statistics and performance data can be used to track utilization, reduce downtime, and assist with troubleshooting and preventive maintenance. Improved and innovative drill data collection processing and analysis on drilling will enable better mine planning and forecasting.