

Integrated blast solution improves yield

Maptek™ BlastLogic™ provides live access to drill navigation data as well as analysis tools for improving recovery, lowering contamination and costs.



Many mines struggle with drill and blast data. With 50 or more data points per hole and thousands of holes fired each week, the volume of data can build up fast. The most fundamental of this information is the location of the drillhole.

Blasting is all about putting the correct amount of energy (explosives) into the correct location (drillhole). If the hole location is wrong it is impossible to get the energy where you want it.

Recognising the importance of accurate drilling, many mines have installed GPS navigation on their drilling fleets. GPS drilling helps operators pinpoint exactly where to drill and also reduces the need for surveyors to mark out blast patterns.

GPS systems provide drillers with other valuable information like depth, angle and bearing of drillholes in a pattern. These are the inputs to most navigation systems.

GPS systems are capable of much more than simply telling the driller what to do. They collect and store as-drilled data. This information conveys which holes were drilled as well as basic location data like xyz coordinates, angle etc.

GPS systems can also be used to track hardness down the hole with surprising accuracy. Unfortunately, many operations are not using this valuable information. The problem they face is that as-drilled information is not easy to access.

Common challenges with drill navigation outputs are:

- > lack of understanding of the data available and how to access it quickly and easily;
- > inadequate time to retrieve and analyse as-drilled data; and
- > lack of trust due to incorrect or missing data from the navigation system.

Automated import

Mine operations can derive maximum value from their drilling systems by managing the blast information in Maptek™ BlastLogic™.

A direct interface with leading OEM drill navigation systems allows automated live import of as-built drillhole data for analysis.

BlastLogic drill validation tools automatically retrieve data which allows users to take full advantage of as-drilled information.

Data can be viewed in various visual and tabular formats to help turn it into usable information. The image above compares designed holes with as-drilled locations, showing greatest variance close to the highwall berm.

Daily drill progress can be checked on the fly to suggest improvements. Patterns like excessive re-drilling can be identified and best practice performance can be encouraged. Custom drilling properties can be recorded with statistical reporting on factors such as drill bit and drill rod usage.

Through BlastLogic, engineers can instantly update the charge plan and initiation design to the as-built drillholes and track the accurate placement of charge. Post-blast reporting and analysis tools enable mines to advance future designs and processes relevant to the geology and conditions on the ground.