acoustic scanner, optical televiewer and sonic log interpretation

Providing quality geotechnical data

ACOUSTIC SCANNER/OPTICAL TELEVIEWER REPORT

Provides orientation data from downhole geophysical/optical logs; critical for open cut and underground mine planning and consequent potential hazard reduction.

INCREASED CONFIDENCE IN THE STRUCTURAL MODEL

Bedding, joint, cleat and fault orientation can be determined, which may result in less structure delineation drilling. Better structural models improve mine planning through all project stages, from greenfields to operating mines.

PIT WALL STABILITY

Geotechnical design and safety is optimised with sound knowledge of joint and bedding orientations.

OPTIMAL LONGWALL ORIENTATION

Alignment of the longwall face with respect to joint and cleat orientation is a fundamental principle of mine design and hazard reduction. A good understanding of joint and cleat sets can assist planning the optimal driveage direction.

UNDERGROUND ROOF AND RIB SUPPORT

The orientation of joint and cleat sets can define toppling slabs, planar slides and wedges while providing vital data for roof and rib support design. Knowledge of the horizontal stress field helps to optimise roof support design.

GAS DRAINAGE

Knowledge of cleat directions is fundamental for planning gas drainage systems.

OUR REPORT PROVIDES

- orientation of bedding, joints, cleats and faults
- defined discontinuity sets
- direction of the principal horizontal stress from borehole breakout (only inferred breakout can be determined using the optical televiewer)
- comprehensive presentation of data including tabulated and graphical outputs

DATA REQUIREMENTS

- acoustic scanner or optical televiewer data in WellCAD compatible format
- density and gamma downhole geophysical logs in LAS format

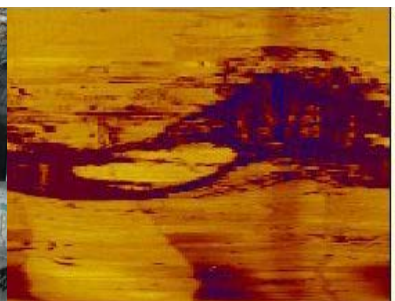
Our experienced ***asims*** geologists use in-house techniques to extract only relevant and reliable data.
Data can be sourced from both core and non-core holes, provided the drill hole wall is reasonably smooth.
Acoustic scanner, optical televiewer and sonic log reports can be customised to your requirements and are available separately or as a package.

Contact us for a copy of a demonstration report:

Stacey Pell - MBGS
stacey.pell@mbgs.com.au
+61 418 974 399

Ross Seedsman - SGPL
sgplross@bigpond.com
+61 417 279 556

www.mbgs.com.au/our-services/asims/



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SONIC LOG REPORT

Provides rock strength and massive unit information from downhole geophysical logs; a key input when developing the hazard plan for your mine.

CONTROL OF GATEROADS

Identifying rock strength and the nature of the stress field at the planning stage allows optimised roof support and roadway design. Elevated stress compared to the rock strength surrounding underground roadways can lead to failure of the roof strata, which affects bolt and cable support strategies.

MANAGING THE SEAM FLOOR

Longwall supports can be difficult to set on very low strength floors. Identifying floor strength also benefits pillar design, management of roadway trafficability and anticipation of floor heave.

asims is a joint initiative between McElroy Bryan Geological Services (MBGS) and Seedsman Geotechnics (SGPL).
Our services derive geotechnical parameters from downhole geophysical logs.
We provide data which enhances safety and performance based on considerations of rock mechanics.

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PANEL WIDTH AND SUBSIDENCE

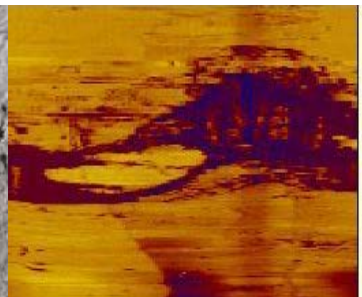
The presence of massive units in overburden strata can affect decisions regarding support capacity and extraction panel widths. Massive units near the surface can reduce surface subsidence and possible impacts on groundwater.

OUR REPORT PROVIDES

- calculated UCS values for the entire drill hole and immediate roof and floor intervals of target seams
- Rock Strength Index (RSI*) values for immediate roof and floor intervals of target seams
  **RSI is calculated from the ratio of the UCS to the estimated in situ vertical stress*
- massive unit identification over the entire drill hole
- comprehensive presentation of data including tabulated and graphical outputs

DATA REQUIREMENTS

- sonic, density and gamma downhole geophysical logs in LAS format

MAPPING THE DATA

After analysis of several holes, longwall and/or gateroad UCS and RSI maps can be generated for the target seam roof and floor intervals.