

GRC GRC focuses its research activities on geohazard assessment and risk mitigation. The Centre conducts engineering and scientific research and development in geotechnical engineering and applies its findings to promote safer and more economical excavations at depth.

It's What We Do...

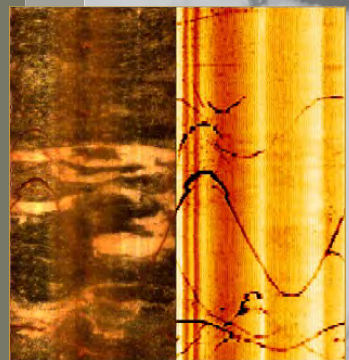
ROCK CHARACTERIZATION

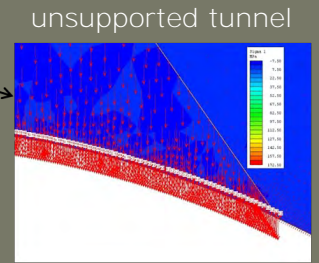
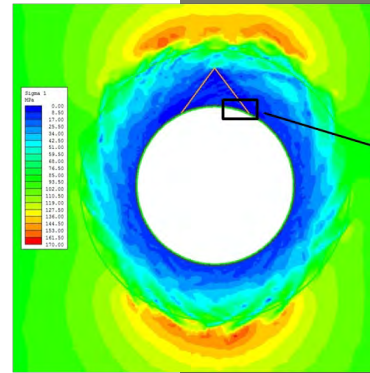
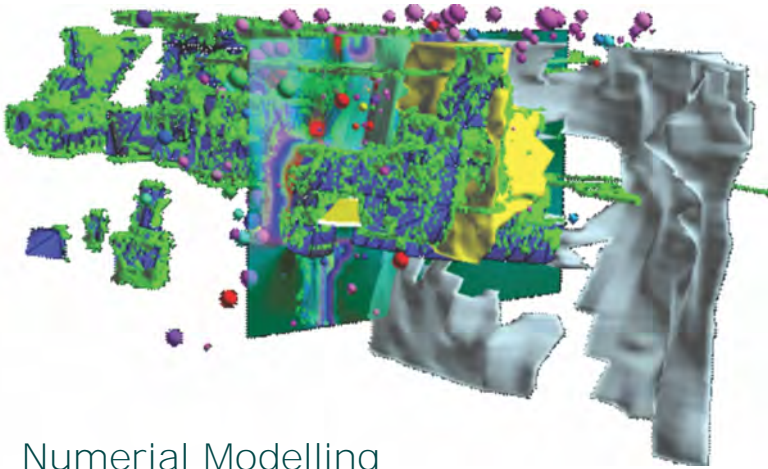
- Drift mapping for classification according to RMR, Q or GSI systems.
- Standard physical mapping & photogrammetry, laser profiling.
- Borehole logging using optical or acoustic televiwers and full-waveform sonic logger.
- Lab measurement of strength and deformation characteristics according to ASTM or USRM standards.
- Drillability assessment according to tests developed at Norwegian Institute of Technology and those **developed at the Laboratoire du Centre d'Études et Recherches des Charbonnages de France (CERCHAR).**

ROCK STRESS

Static and Impact Testing of Support

- Field measurements of the in situ stress state by overcoring using either triaxial CSIRO stress cells or the USBM borehole deformation gauge.
- Back-analysis/constraining of the stress state from excavation/borehole response measurements.
- Critical review of existing measurement database.



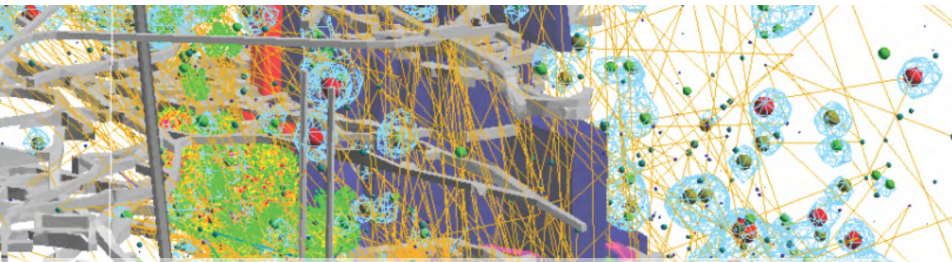


Numerical Modelling

- 2D & 3D modeling of excavations, both surface and underground, for predictions of stability and performance under prescribed conditions.

Rock Support

- Static and impact testing of support components or systems following recognized procedures.
- Design and implementation of assessment procedures/techniques for application to new support technologies.
- Evaluation of current support measures.
- Support selection for application under dynamic loading (blasting, induced seismicity).



Mining Induced Seismicity

- Development of site-specific interpretations of seismic activity to enable mitigation strategies to be implemented to improve safety and ensure the economic viability of operations at depth.
- Seismic Excavation Hazard Map—tool developed at MIRARCO using the ParaviewGeo visualization platform to facilitate understanding of the impact of mining induced seismicity.

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