

Open Pit – Geotechnical

With Mining One’s engineering knowledge and skills using a variety of software packages we are able to provide safe, cost effective and problem solving solutions which reduce mine operating costs, increase productivity and maximise economic extraction.

Covering all aspects of open pit geotechnical from scoping through to implementation investigations, site reviews, stability and data assessments, wall and ground support design, modelling, site supervision and training.

Geotechnical Services

Operation Geotechnical Services

- Secondment / relieving for mine site based roles
- Ground awareness and geotechnical hazards training

Ground control management plans

- Civil geotechnical foundation and trafficability investigations
- Monitoring instrumentation installation and analysis

Data Collection

- Drill rig supervision and oriented core logging
- Provision of experienced loggers
- Collection, packing, storage and management of soil and rock core samples for laboratory testing
- On-site point load testing service
- Provide QA/QC and validation of the geotechnical data
- Submit factual report, drillhole and core logging database, core photographs and laboratory test results
- Geotechnical data collection and core logging training

Numerical Modelling

- Advanced geomechanics numerical modelling
- Three-dimensional numerical modelling approach
- Simulate the effects of anisotropic rock mass strength and deformation behaviour on pit slope stability

Photogrammetry & Structural Mapping

- Data processing, analysis and structural interpretation using Adam Tech 3DM Analyst software
- Stereoplot analysis using DIPS software and structural interpretation

Microseismic Monitoring

- ESG (Engineering Seismology Group), an extensive suit of equipment, software and services
- Delivering real-time feedback on stress conditions, fracture migration, extraction methods
- Determine location, time and size of seismic events
- Optimize ground support design

Geotechnical Investigations

- Scoping, prefeasibility, feasibility and implementation investigations
- Pit slope stability analysis and design
- Stability assessments of natural slopes and waste dumps
- Geotechnical drill hole design for pre-feasibility and feasibility studies
- Rock mass and structural characterisation, domain modelling, stability analysis and pit design

Project Examples

- Rio Tinto Iron Ore Mines (WA) – Site geotechnical support, slope stability analysis, preparation of procedures and systems, training and mentoring
- BHPBIO Whaleback and Area C Iron Ore (WA) - Acting Superintendent /Senior Geotechnical Engineer: geotechnical pit designs for Area C (various pits) and operational, establishment of GCMP and reporting systems
- ERA Ranger Mine (NT) - Structural study, photogrammetry data collection, processing using Adam Tech 3DM Analyst software, major and minor structural interpretations
- Newcrest Gold Wafi-Golpu (PNG) - Drill rig supervision, geotechnical core logging and sampling, core logging
- BGL Bullabulling – Gibraltar (WA) - Geotechnical site investigation, geotechnical rock mass and structural data analysis, stability analysis, pit design and pre-feasibility study report



ABOUT US

Mining One is an exciting team of highly experienced and professional mining, geotechnical geological and hydrogeological consultants offering excellence in service and commitment to their clients with high level strategic, hands on practical design and implementation.

Our well respected team has extensive industry knowledge and experience in a diverse range of disciplines.

With our engineering knowledge and skills using a variety of software packages we are able to provide safe, cost-effective and problem solving solutions which reduce mine operating costs, increase productivity and maximise economic extraction.

For more information on any of our services please visit at:

www.miningone.com.au