



## CAPABILITY STATEMENT

# CIVIL GEOTECHNICAL AND MINING SERVICES

### Mining One Pty Ltd

**W** [www.miningone.com.au](http://www.miningone.com.au)

**E** [info@miningone.com.au](mailto:info@miningone.com.au)

#### MELBOURNE

Level 9, 50 Market St  
MELBOURNE VIC 3000  
**T** (03) 9600 3588  
**F** (03) 9600 3944

Mr Gary Davison  
**0419 360 747**

Mr Kevin Dugan  
**0437 887 727**

Mr Bill Frazer  
**0418 912 278**

#### ADELAIDE

Level 7, 33 King William St  
PO Box 3659  
ADELAIDE SA 5000  
**T** (08) 8231 7733  
**F** (08) 8231 7744

Mr Mark Van Leuven  
**0400 911 254**

Mr Mark Bailey  
**0417 812 800**

#### PERTH

Level 3, 44 Parliament Pl  
WEST PERTH WA 6005  
PO Box 381  
WEST PERTH WA 6872  
**T** (08) 9485 1444

Mr Will Sarunic  
**0412 027 583**

#### BRISBANE

Ms Lyn Stribley  
**0488 556 463**

## MINING ONE GROUP

Mining One was established in August 2005 to provide technical expertise in the fields of geotechnical engineering, resource geology and mining engineering to the mining industry. The group is led by Gary Davison, Kevin Dugan and Bill Frazer who collectively have over 90 years of technical experience. Their main criteria is to actively manage and provide quality, high performance services which will enable Mining One to deliver excellent results for their clients.

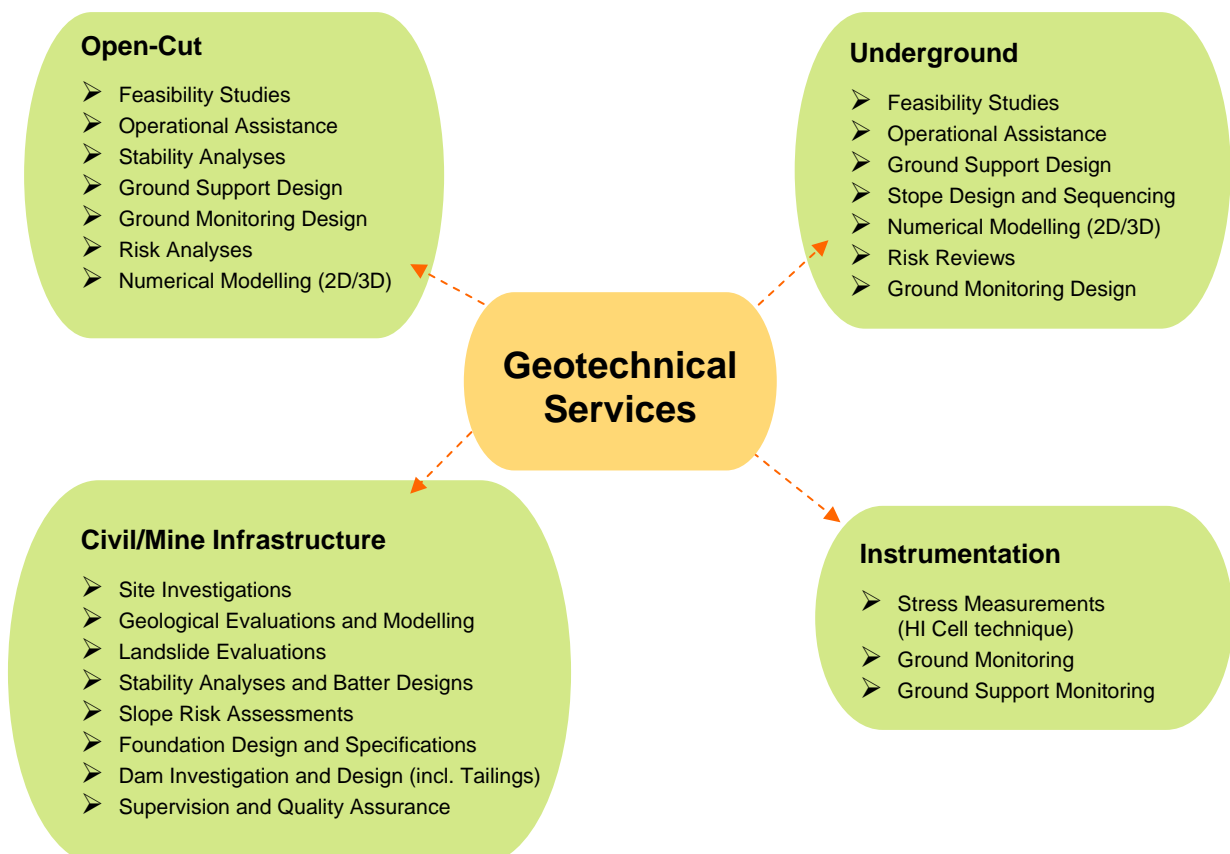
Our group has grown rapidly since its formation and now boasts of team of 60+ experienced and highly professional personnel. We have been involved in a wide variety of mining projects internationally including extensive work in South East Asia, Africa, South America and China.

We offer long term value to our clients by keeping up to date with new technologies and pride ourselves in being innovative with our designs and recommendations for new and existing mining operations.

Mining One strives to provide excellence and commitment to our clients with services ranging from high level strategic to hands on practical design and implementation. Our well respected team has extensive industry knowledge and experience in a diverse range of disciplines.

### Geotechnical Services

Mining One personnel have completed extensive geotechnical work for Australian and overseas mines. Our work extends to both underground and open pit mines, which has enabled us to cover a broad range of services to the mining industry. We also carry out civil geotechnical work which covers designs for infrastructure foundations, tunnels, geotechnical hazard risk assessments, construction supervision, tailing dam investigations and landslide assessment.



## OPEN PIT GEOTECHNICAL

### Specific Mine Experience

Mining One personnel have completed geotechnical work on numerous open pit projects including the following examples:

- Freeport Mine (Indonesia): Review and risk evaluation after a major 2003 incident.
- Lihir mine (Papua New Guinea): Review of landslide investigation, plant site investigations, and ongoing geotechnical site support.
- Mt Keith (WA) and Kidston (QLD) open pits: Reviews and detailed designs, long-term operational geotechnical support.
- Century mine (QLD): Regular reviews, site investigations and slope designs of long-term mining options for interim and final wall stability.
- Mara Gold Project (Tanzania): Geotechnical studies and reviews of several large open pits.
- Ernest Henry (QLD) and Cadia (NSW) open pits: Peer reviews.
- Yallourn, Anglesea, Leigh Creek and Hazelwood open cut coal mines.
- McArthur River mine (NT): Bankable Feasibility study for an open pit above the current underground mine.
- Clyde Dam Reservoir Stability (NZ): Investigation and reviews of major landslides.
- Tom Price mine (WA): Site support, development of procedures and ground-control management plan, pit slope designs, and mentoring/training.
- Savage River iron ore mine (TAS): Long term involvement including major works on river diversions, conveyor re-alignment, slope stability analyses including numerical stress modelling of large-scale slope instability using Itasca UDEC software.
- Leigh Creek coal mine (SA): Regular reviews and site support, investigations and stability analyses of large-scale open-pit wall failure and subsequent designs for future mining.

### Slope Stability Experience

Some examples of slope stability investigations by Mining One personnel are:

- Lihir Gold Mine (Papua New Guinea): Geotechnical assessment following a major landslide of their main access road in October 2005 in which there were two fatalities.
- Chatree and Chatree North (Thailand): Geotechnical pre-feasibility studies for numerous pits as well as reviews, investigations and training.
- Siana Gold Project (Phillipines): Scoping, pre-feasibility and bankable feasibility study of a proposed 200m deep pit in a seismically active, high rainfall area.

- Peak Hill gold mine (NSW): Several open pits in weak rock have been mined near the town of Peak Hill in Central NSW, Australia. Water supply reservoirs and various access roads near the completed open pits near the town were investigated for long term stability.
- Kidston Gold Mine (QLD): Onsite operational assistance in the last (difficult) years of the open pit. Work included assistance to site on a critical north wall failure on the haulroad prior to pit closure. Work covered investigations, slope stability analysis, ground support design and slope monitoring.
- Woodlawn Mine (ACT): This open pit/underground mine site is located near Canberra in NSW. A detailed investigation of the completed open pit was performed while the underground was still operating. The project involved converting the open pit to a waste repository for Sydney, to operate for a period of 40-50 years, requiring long-term stability of the open pit. The waste project was approved by the State Government after the technical issues have been approved by the various regulatory authorities.
- Southern Oxide and New Cobar open pit (NSW): Investigation and design of open pits above old underground mines and close to town infrastructure.
- Alcoa Australia, Anglesea coal mine (VIC): Investigation, design and installation of ground and groundwater instrumentation, including inclinometers and piezometers in a 100m high slope, 20-25m from a public road and look out areas.
- Yallourn coal mine (VIC): Southern Batters slope stability geotechnical review, and a review of factors leading to a major failure of the Latrobe River Batters.
- Savage River iron ore mine, (TAS): Long term involvement including major works on river diversions, conveyor re-alignment, slope stability analyses including numerical stress modelling of large-scale slope instability using Itasca UDEC software.
- Century mine, (QLD): Regular reviews, slope designs of long-term mining options to optimise ore extraction sequence while maintaining interim and final wall stability, including numerical stress modelling using Itasca UDEC software.
- Leigh Creek coal mine, (SA): Investigations and stability analyses of large-scale open-pit wall failure, including numerical stress modelling. The failure proved to be due to an unusual stress-related mechanism. Subsequent designs for future mining were modelled and implemented to result in successful continuation of mining.

## GEOTECHNICAL

### Specific Mine Experience

- Cibaliung Project (Java, Indonesia): Feasibility study and ongoing operational assistance.
- Mt Wright Gold Project (QLD): Pre-feasibility study including ground support and stope design.
- Tritton Underground Copper Project (NSW): Ground support and room and pillar designs.
- Victor South, Longshaft (WA): Numerical modelling, including room and pillar design, stoping guidelines and sequencing, and ongoing assistance.
- Plutonic gold mine (WA): Operational senior geotechnical engineer role, short-term (fill-in).
- Sally Malay nickel mine (WA): Numerical modelling, stope design and sequencing.
- Ballarat Goldfields (VIC): Bankable feasibility study for an underground extension.
- Alliance Resources, Maldon gold mine (VIC): Ground support reviews and on-going geotechnical advice.
- Fosterville gold mine (VIC): Portal entrance and upper decline ground support designs.
- Lepanto (Philippines): Assessment of shaft instability including 3D stress modelling.
- CSA Cobar mine (NSW): Stope design and sequencing, including 3D stress modelling.

## CIVIL/MINE INFRASTRUCTURE

### Engineering Geology

#### Services:

- Field investigation and sampling (soil, rock and water)
- Specialist subsurface in-situ testing
- Engineering geophysical surveys
- Geological evaluations and modelling
- Geotechnical site assessments for tunnel alignments, dams and major infrastructure
- Geomorphology and terrain evaluation
- Landslide identification and stabilisation design
- Assessment of natural and constructed slope hazards
- Slope risk assessment and management
- Groundwater characterisation, dewatering and management
- Material source evaluation and resource development

### **Projects Completed by Mining One Personnel Include:**

- Merri Creek diversion sewer – geological study and alignment selection
- Falls Creek Resort management – landslide study
- Otway Gas Development Project – site investigation and alignment selection
- Walhalla Road landslip – landslide remediation design and construction supervision
- Bogong Road Batter – road cutting batter evaluation and stabilisation design
- Lihir Access Road – Re-establishment of access road following a major slip
- Serpentine Dam - Spillway cutting assessment and remediation design

### **Civil and Mine Infrastructure Foundation and Investigation Design Services:**

- Geotechnical investigations for specific foundation types
- Supervision and quality assurance of foundation construction
- Design and analysis of machine foundations
- Foundation design for underground and on-ground storage tanks
- Geotechnical investigation planning and foundation design for petrochemical and mining facilities
- Foundations for buildings (raft, spread footings, etc.)

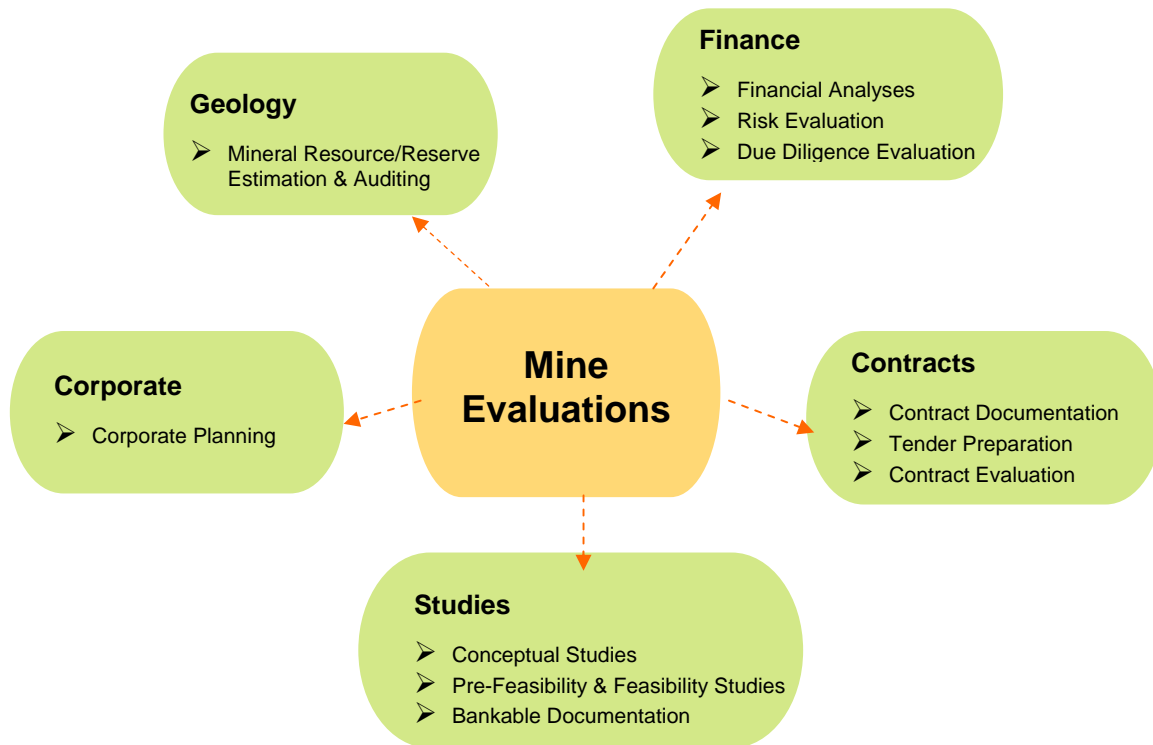
### **The following projects illustrate the depth and range of our expertise in foundation design:**

- Siana (Philippines) – Processing plant geotechnical investigation and foundation design
- Cibaliung (Indonesia) – Processing plant geotechnical investigation and foundation design
- Maffra Water Treatment Plant (VIC) – Site investigation and foundation design
- Power Substation Review (VIC) – Review of large power substation, foundations and remediation design
- Mildura Water Treatment Plant (VIC) – Site investigation and foundation design
- Alliance Resources (Maldon) – Investigation of water storage facility

## MINING SERVICES

The mining group provides a diverse range of services in the fields of mine design, mine planning, mine operation and mine evaluation.

### Mine Evaluations



### Studies

- Conceptual studies, pre-feasibility and feasibility examinations
- Due diligence examinations
- Mining method assessment
- Underground mine design and scheduling
- Open pit mine optimisation, design and scheduling
- Geotechnical examination of mine excavation and slope stability
- Assessment of ground support requirements
- Mine services design, haulage, filling, pumping and ventilation
- Mine infrastructure design

## Contracts

- Contract documentation
- Tender evaluation
- Contract supervision
- Contract auditing
- Labour Hire

## Finance

- Financial modelling
- Financial analyses
- Financial risk analysis
- Project costing
- Valuing mining prospects and projects
- Economic assessment

## Corporate

- Independent technical audits
- Due diligence studies
- Independent mine valuation and expert reports
- Advice and assistance for corporate strategies

## Geology

- Geological mapping and interpretation
- Preparation and management of drilling programs
- Structural geology
- Geochemical interpretation
- Resource and reserve estimation and auditing

# MINE OPERATIONS

Mining One personnel have extensive experience working with operating mines and are able to assist mining operations in a wide range of areas as summarised below:



## Geology

- Geological audits
- Structural analyses
- Mapping, logging, data base preparation
- Geological interpretation

## Planning

- Formulation of planning systems compliant with relevant legislation
- Mine planning, design and scheduling
- Geotechnical analyses of mining excavations
- Determination of ground support regimes and systems
- Design of mine services such as pumping, ventilation and filling

## Implementation

- Implementation of planning procedures and designs
- Implementation of work procedures
- Geotechnical training including ground support training for operators and professionals
- Workplace risk assessments and risk assessment training
- Mine emergency preparedness training
- Implementation of team based solutions to operational problems
- Relief mine management

## Geotechnical Monitoring

- Installation of ground support monitoring systems
- Monitoring of rock mass movement
- Checking the performance of ground support and the application of correct installation procedures
- Monitoring of working systems and procedures
- Stress measurement and modelling (2D and 3D)

## Review of Operations

- Reviews and audits of operations
- Safety audits
- Insurance audits
- Cost reviewing and auditing

## Instrumentation

Mining One has expertise and experience in rock mechanics instrumentation and monitoring.

The expertise includes:

- Stress Measurements and Monitoring (HI cell technique)
- Ground Monitoring
- Ground Support Monitoring

## HEALTH, SAFETY AND ENVIRONMENT POLICY

All Mining One Pty Ltd operations are carried out in a manner that will protect the health and safety of employees, contractors, customers and the community. Mining One Pty Ltd's services will conform to this policy, and adequate advice will be provided to encourage a safe and responsible service.

To achieve this, Mining One shall:

- Provide and maintain healthy and safe work places and ensure that equipment is in a safe condition.
- Keep reviewing areas, equipment and work methods, to further improve safety and health in the belief that all occupational injuries and illness can be prevented.
- Provide systems of work to prevent accidental spillages and releases, and seek to minimise discharges to air, water and land that may harm the environment or cause harm to the health of employees, contractors and others living and working in the vicinity of our operations.
- Provide health and safety training to employees and our sub contractors.
- Implement an effective return to work policy for ill or injured workers.
- Provide services that are safe, without endangering the health of employees, users and others.
- Co-operate with clients to ensure that our policies and work methods are consistent with their requirements for site access.

Mining One's OH&S Manual can be provided upon request.

## INSURANCES AND WORKCOVER

Mining One has the following current insurance:

- Professional Indemnity Insurance
- Public Liability Insurance
- WorkCover Insurance

Certificates of Currency for each of the above can be supplied upon request.