

## Geotechnical and Mine Infrastructure



### Geotechnical and Engineering Geology

Geotechnical management and supervision of specialist drilling including:

- Onshore crossings
- Offshore drilling

### Relevant Projects

- Somerton Road pipejacking tunnel review and construction supervision (VIC)
- Cibaliung Gold Plant geotechnical investigation and recommendations (Indonesia)
- Walhalla surface infrastructure investigation and foundation design (VIC)
- Maldon Water Management Dam investigation and contract management (VIC)
- Northern Diversion Sewer geological investigation and route selection (VIC)
- Victorian Desalination plant site geotechnical investigation (VIC)
- Sunshine Rail Duplication geotechnical investigation (VIC)
- Northern Sewer temporary works geotechnical design (VIC)
- Siana Gold Plant and Tailings Dam geotechnical investigation (Philippines)
- Annual dam inspections (New Moon TSF)
- Waurm Ponds Quarry railway embankment investigation, stability analysis and design (VIC)
- Falls Creek Resort Management, remedial designs (VIC)
- Southdown Deposit (WA – Feasibility study on Tailings, port and rail investigation)
- Sabodala Project (General) Investigations for mine infrastructure.

### Civil infrastructure investigations and geotechnical design for:

- Tunnels
- Pipelines
- Shafts
- Foundations
- Roads
- Structural geology and interpretation
- Geotechnical, geological and hydrogeological model construction
- Stability assessments of natural slopes and embankments
- Geotechnical risk assessments
- Prediction of ground conditions, preferred geometries and ground support requirements using FEM and FBM numerical modelling (i.e. UDEC and FLAC 3D)
- Mine plant, waste dumps and tailings dam investigation, design and construction supervision
- Contract preparation/tender evaluation and contract management
- Shotcrete design, operator training, technical solutions and reviews
- In-situ stress measurements
- Secondment of specialist project engineers
- Instrumentation installation and monitoring (piezos, inclines)
- Work coordination and scheduling
- Geotechnical peer reviews
- Technical advice for legal council
- Practical application of tunnelling methodology and techniques
- Management of site operations from feasibility to completion
- Tunnelling methodology and constructability
- Tunnel bid assistance
- Tunnel shaft risk and mitigation
- Evaluation and implementation of tunnel systems and logistics
- Quality Control implementation and audits
- Water stop solutions
- In-situ grouting
- Back fill grouting solutions
- Independent assessor and auditing of tunnel sites for client and contractor
- Plant Site Investigation/Design (Indonesia)
- Somerton Road Pipe Jacking

#### ABOUT US

Civil 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.