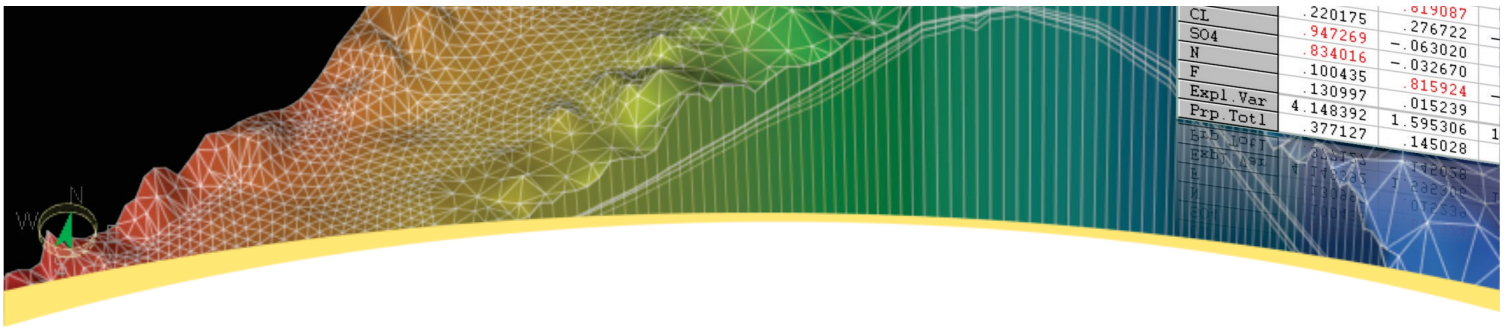




MINE DEWATERING AND SLOPE DEPRESSURISATION

A general trend towards larger and deeper mines is resulting in a need to manage increasing volumes of water.

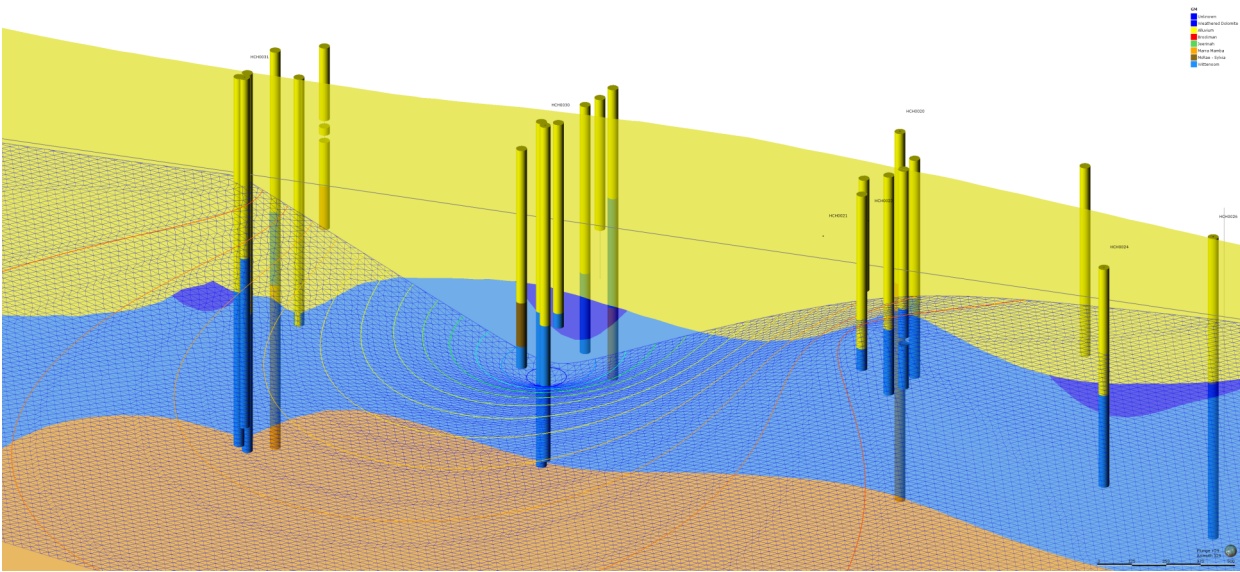
Rapid mine development schedules and a requirement for integrated water management with efficient utilisation of water resources, means that the prediction of groundwater inflows through the mine lifecycle is important. Large open pits frequently demand the use of a higher proportion of in-pit dewatering methods. The desire to accelerate the rate of vertical development increases the dewatering volumes required. Deeper mines and the use of bulk mining methods also leads to the requirement for an increased consideration of pit wall and underground workings stability.

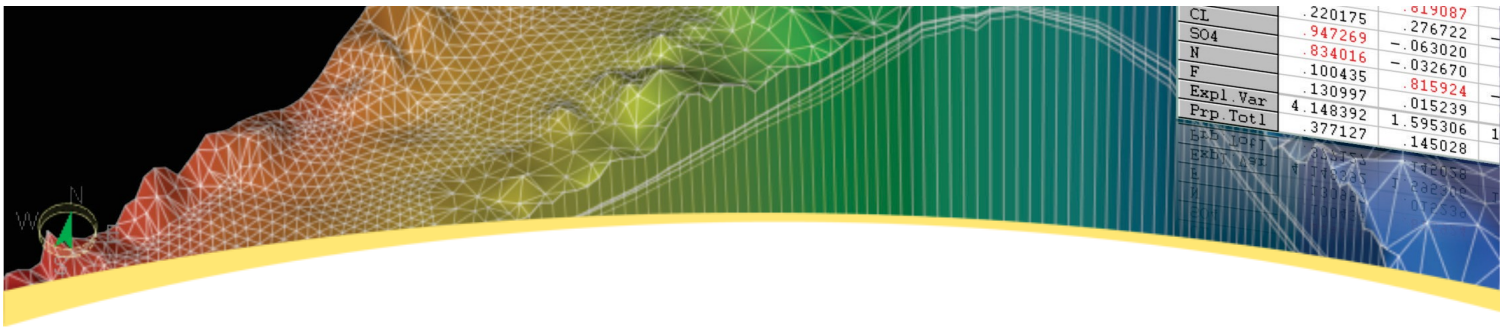
MWH provides realistic mine inflow estimates that consider uncertainty in the available information and the mine plan. Our approach is to work with the mine planners to develop mine dewatering strategies that meet production requirements, while minimising interference with mine production and are flexible enough to adapt to frequently changing mine plans.

Our staff have a breadth of experience, facilitating the selection of mine dewatering methods which are optimal for the mine design and hydrogeological setting. MWH has the engineering capacity to design the full range of dewatering and water disposal infrastructure.



Pit slope and underground mine working depressurisation can play a key role in minimising mine safety concerns, development costs and minimising the risk of production interruptions. MWH can help by working closely with project geotechnical engineers to provide a realistic assessment of rock drainability, provide pore pressure inputs to stability analyses and identify the drainage infrastructure and monitoring required to support pit slope depressurisation.





OUR CAPABILITY

- Hydrogeological site investigation, including packer testing
- Conceptual and numerical groundwater modelling
- Mine inflow and drawdown impact predictions
- Dewatering system design and optimisation
- MAR system design and optimisation
- Dewatering system operation and maintenance manuals
- Pit slope and underground workings pore pressure and drainability assessments



Our recent experience.

- Pit depressurisation studies & review of dewatering methods Mining Area C, BHP Billiton.
- Dewatering infrastructure engineering, Cloudbreak, Fortescue Metals Group.
- Hydrogeological investigations, groundwater modelling, dewatering simulation and mine schedule requirements and environmental impact assessment, Nyidinghu, Fortescue Metals Group.
- Geotechnical investigations, Hope Downs 1 and Hope Downs 4, Rio Tinto.
- Dewatering investigation program and groundwater modelling to assess dewatering volumes and impacts, Hope Downs 4, Rio Tinto.
- Hydrogeological investigation for closure and numerical modelling of pit lake recovery in Leigh Creek, South Australia for Alinta Energy.
- Hydrogeological investigation and prediction of pit lake recovery and water quality post closure of 33 mining pits, St Ives, Gold Fields.
- Hydrogeological investigation and numerical modelling of the dewatering design, Roy Hill Iron Ore Mine.

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