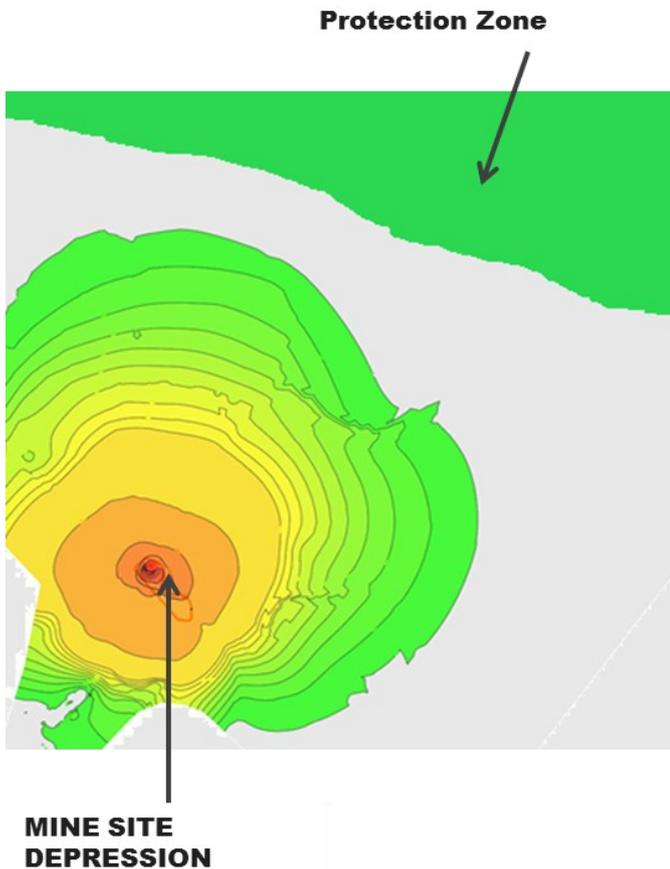


Groundwater modelling can be used to define the expected drawdown efficiency, including rate of groundwater decline and shape of the drawdown cone. Groundwater modelling can facilitate decisions related to drilling and construction of abstraction and monitoring bores, as well as the required pumping rates and pumping distribution. Uncertainty analysis of the results will enhance confidence in the decision making process.

Appropriate groundwater modelling is key and must consider the:

- complex geometry and geology of the mine site including faulting and fractures
- presence of surface water bodies and wetlands
- spatial and temporal distribution of recharge
- groundwater salinity and density-dependent flow
- water quality



Simulation of mine dewatering and assessment of environmental impacts

FEFLOW

FEFLOW is our state-of-the-art groundwater modelling software. FEFLOW is widely used around the world for the simulation of mine dewatering, geothermal energy and underground structures.

FEFLOW uses a finite-element solution to handle a broad variety of physical processes for subsurface flow and transport modelling. The finite element method allows:

- flexible meshing strategies for detailed models of complex geologic structures
- precise spatial representation of features such as rivers, fractures, drifts and wells
- accurate representation of sloping layers and anisotropy

FEFLOW supports a wide range of physical processes including:

- variably saturated flow
- fracture flow
- coupled stream flow and groundwater
- density-dependent flow based on salinity and temperature gradients
- flexible, reactive transport of multiple solutes

FEFLOW includes a modern, Graphical User Interface (GUI) with advanced three dimensional (3D) graphics for accurate visualisation. FEFLOW also supports an open programming interface to extend the functionality beyond traditional groundwater modelling.

MIKE SHE

MIKE SHE is the most widely used software for simulating groundwater at the catchment scale. MIKE SHE simulates surface water, groundwater and groundwater-surface water interaction at the catchment scale. It is the global leader for modeling the impacts of dewatering on wetlands, streams, and the ecology.

MIKE SHE uses a finite difference solution to partition rainfall into runoff, infiltration and evapotranspiration, thereby allowing the simulation of:

- surface runoff and flooding
- stream flow, including operational control structures
- unsaturated infiltration and recharge
- spatially distributed actual evapotranspiration
- groundwater flow
- fully integrated, multi-species reactive solute transport

MIKE SHE includes a sophisticated, conceptual model-based, GUI. MIKE SHE is OpenMI-compliant, allowing it to be linked to external applications as well.

Contact: Douglas Graham - dng@dhigroup.com
For more information visit: www.dhigroup.com