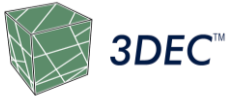


PROJECT DESCRIPTION

Agnico-Eagle Finland Oy

Kittilä Mine, Finland

Extraction of the crown pillar separating the open pit from the underground mining was to be conducted as a part of the transition from open pit to underground mining at the Kittilä mine.

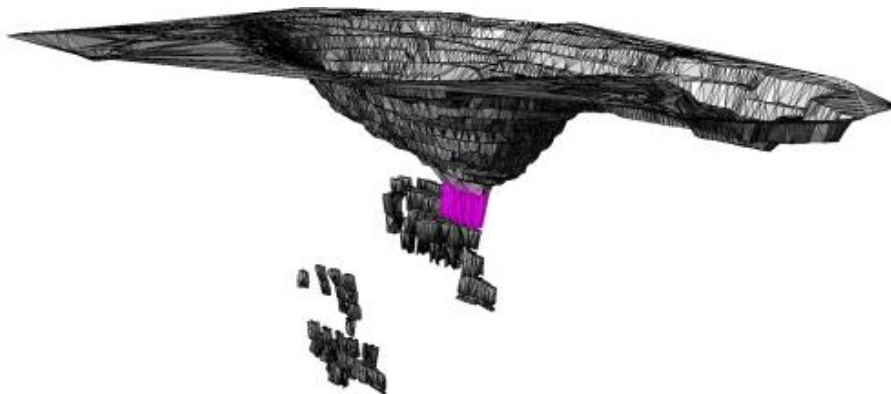


ITASCA'S ROLE

Itasca carried out a study of crown pillar mining on the stability of the open pit and underground infrastructure. A numerical model including the open pit, mined underground stopes, and large-scale geological structures and shear zones was created to study stress redistribution, yielding and deformation. The model was set up in *3DEC* using the CAD-software *Rhino* together with the mesh generator *KUBRIX*.

PROJECT RESULTS

The results showed that mining could be conducted without adverse effects on the pit walls and existing infrastructure. Recommendations were also given regarding excavation sequencing and backfill of the crown pillar stopes.



3DEC model of crown pillar (magenta color) between open pit and underground stopes at Kittilä