Sebastian Hortberg

ITASCA Consultants AB
An Itasca International Company

Geomechanical Engineer

Expertise	Rock mechanics, Civil Engineering
Education	M.Sc. Civil Engineering (Rock Mechanics), 2014 Luleå University of Technology, Luleå, Sweden.

Professional Experience

2016 – Present	*Itasca Consultants AB, Luleå Sweden* *Geomechanical Engineer, Consultant*
2014 –2016	*Tyréns AB, Gothenburg, Sweden* *Rock Mechanics Engineer*
2015	*NCC, Kiruna, Sweden* *Summer internship. Foreman at construction of a new school*
2014	*NCC, Kiruna, Sweden.* *Summer internship. Foreman*

Project Experience

Infrastructure (Tunneling):

Two-dimensional continuum analysis (using *FLAC*) for the new metro line Akalla-Barkaby, including technical document authoring (design reports) for the tunnel construction.

Three-dimensional analysis (*using FLAC3D)* for the new metro line Akalla-Barkaby, including technical document authoring (design reports) for the tunnel construction.

Geometry setup for three-dimensional continuum analysis of a planned residential housing project in Stockholm. The houses will be constructed above an existing tunnel. The aim of the analysis was to verify that no damage or deformations would occur in the tunnel during and after construction.

Updated geometry for Follobanen in Norway. The Follobanen-project is one of the largest infrastructure projects in history of Norway. The project contained a complex geometry with several tunnel intersections. A blast-induced zone beneath the tunnels was added.

Design of the preliminary reinforcements for the Varbergstunneln project.

Rock Mechanics Engineer, in the case study for Tvärförbindelsen Södertörn project.

Mining:

Geotechnical characterization and design recommendations for large scale stoping at the Björkdal mine.

Three-dimensional analysis (*using FLAC3D*) of the LKAB Kiirunavaara mine (sublevel caving) to evaluate ground deformations in Kiruna.

Three-dimensional discontiuuum analysis of the Malmberget (sublevel caving) mine, to study the influence of shear zones in Malmberget on the resulting mining-induced ground deformations.
Alternative ramp access open pit and concrete plug in Kittilä Mine. Due to insufficient stability in the ramp walls and fallouts a study regarding an alternative ramp solution was conducted.

Numerical analysis of stresses and deformations in ore passes in LKAB, Kiruna.

Preliminary slope stability in Gåsgruvan, Persberg. Setting up the framework for the slope stability analysis and an early stability assessment.

Feasibility study for Open Pit Mager. Master Thesis. The scope of the work was to determine if the mine would be profitable with the mining method *In Pit Crushing and Conveying.* The work included open pit design, planning and economical evaluation.

Field work:

Slope stability analysis for Björkdalsgruvan.

Drift and mining room (open stope) stability analysis for Björkdalsgruvan

Geomechanical core logging (*RQD*-, *RMR*-, *GSI*- and *Q*-characterization).

Tunnel inspection, as a part of their maintenance work, for Telia Sonera. The work included assessment for the overall tunnel stability and the shotcrete condition.

Inspection and tunnel stability assessment for Preem. The work consisted of stability assessment and scaling of an unreinforced tunnel to ensure safe working conditions for maintenance personnel.