

Figure 1 - Underground at Wolfsberg, Dr. Richard Göd, discoverer of the deposit and advisor to ECM is explaining the geology to Philipp Mohr, SRK geotechnical engineer.

Wolfsberg lithium project

Introduction

In April 2017, SRK completed a scoping study on the mining and geotechnical aspects of the Wolfsberg lithium project in Austria, including the initial mine design and schedule for European Lithium Limited ("ECM"). This scoping study demonstrated the technical and economic feasibility of the project, and after additional resource drilling ECM has now commenced the pre-feasibility study (PFS) which is to be completed in February 2018. The Wolfsberg ore is suitable for battery grade production of lithium carbonate and delivering that to the emerging lithium battery plants in Europe is ECM's objective. Opportunities for limited fast track production of concentrate for the European glassceramic industry are also being evaluated.

Geotechnics

SRK reviewed historical geological reports, undertook detailed underground mapping to characterize the orebodies, hangingwall and footwall, undertook preliminary 2D numerical modelling to estimate mining induced stresses and semi-empirical estimation of stable stope dimensions, pillar dimensions and stope dilution. Data on joint sets for the two host rock types, amphibolite and mica schist, for hanging wall, footwall and orebody was also collected. The analysis indicated that the stopes would likely remain stable without support and that the standard stope shape with 4m sill and rib pillars is generally robust and appropriate for mine design. As mining continues below the 1450m level the sill and rib pillars should be increased to 5m but there is potential to reduce the pillars at shallow mining depths.

Based on the rock mass strength, potential for blast damage of the hangingwall and footwall and use of long hole open stoping taking into account the variability in dip, strike and morphology of the narrow veins SRK determined a dilution skin of 0.8m for each stope, with 0.5m located on the hangingwall and 0.3m on the footwall.

No systematic support is required for development drives but local support of joint bounded blocks and where cross cuts pass through proximal footwall zones is proposed.

Mine Design

Longitudinal long hole open stoping was selected as the preferred method for low cost mining at Wolfsberg. Rib and sill pillars are required to be left for support whilst stopes are to be partially backfilled with waste from mining and the concentrator to reduce the surface impact of the project. 25m sub-levels are used as a balance between maximising production, minimising development and controlling dilution





Figure 2 - Wolfsberg underground design

To estimate tonnage and grade in 3D using Mineable Shape Optimiser ("MSO") and to create a mine design and schedule, SRK created a block model in Deswik software with a block size of 1.5m x 1.5m x 0.5m within the vein wireframes provided by the Company. Fifteen pegmatite veins identified as being of economic interest were modelled and MSO used to outline deposit areas with potential to be both practically and economically extractable.

A minimum mining width of 1.2m which, with a dilution skin of 0.8m, resulting in an effective minimum mining width of 2m was considered practical. Narrower veins would be mined if of sufficient grade to carry the additional dilution. The veins mined have an average width of 1.4m and an overall dilution of 57% is expected. The use of low operating cost ore sorting to reject this waste dilution is essential to the project. Overall ore sorter performance (including the undersize material bypassing the sorter) is based on test results with 92.5% ore recovery and 73% waste rejection.

Scheduling was completed using the Deswik Integrated Scheduler and Deswik Sched packages. Tunnel development rates of 3.5m/day and stope mining rates at 600 tonnes/day per stope were benchmarked against similar narrow vein deposits using long hole open stoping. Mining 350 days/year at 1,500 tonnes/day yields stope production of 525,000 tonnes/year and an overall production rate of 650,000 tonnes/year providing and a mine life of about 13 years. Figure 2 shows the mine layout coloured by extraction period. On 21 November 2017 European Lithium announced that all consultants contributing to the pre-feasibility study (PFS) for its Wolfsberg lithium project had been appointed.

DRA Global ("DRA") will lead the PFS and integrate the work of all consultants and undertake the engineering and capital and operating cost estimates for the processing and infrastructure. SRK UK will develop mine design to PFS level and design the drilling programme to upgrade Inferred resources to Indicated category so they can be included in a future definitive feasibility study.



Figure 3 - Open stope created during the trial mining at Wolfsberg in 1985

