

Mineral Resource Estimation for the Strömfors mineralization, Boliden

Boliden is actively exploring for new mineral deposits in the Skellefte mining district (Boliden Area). After a detailed geological review of the Eastern Skellefte district a new polymetallic sulphide mineralization was discovered late 2019. The mineralization is located about 4 km northeast of the Boliden processing plant (Figure 1, 2). Since the first drill hole intersected the mineralization, extensive exploration drilling has been ongoing at the deposit and in the regional area. The project has now reached the stage where an Inferred Mineral Resource Estimation is presented.

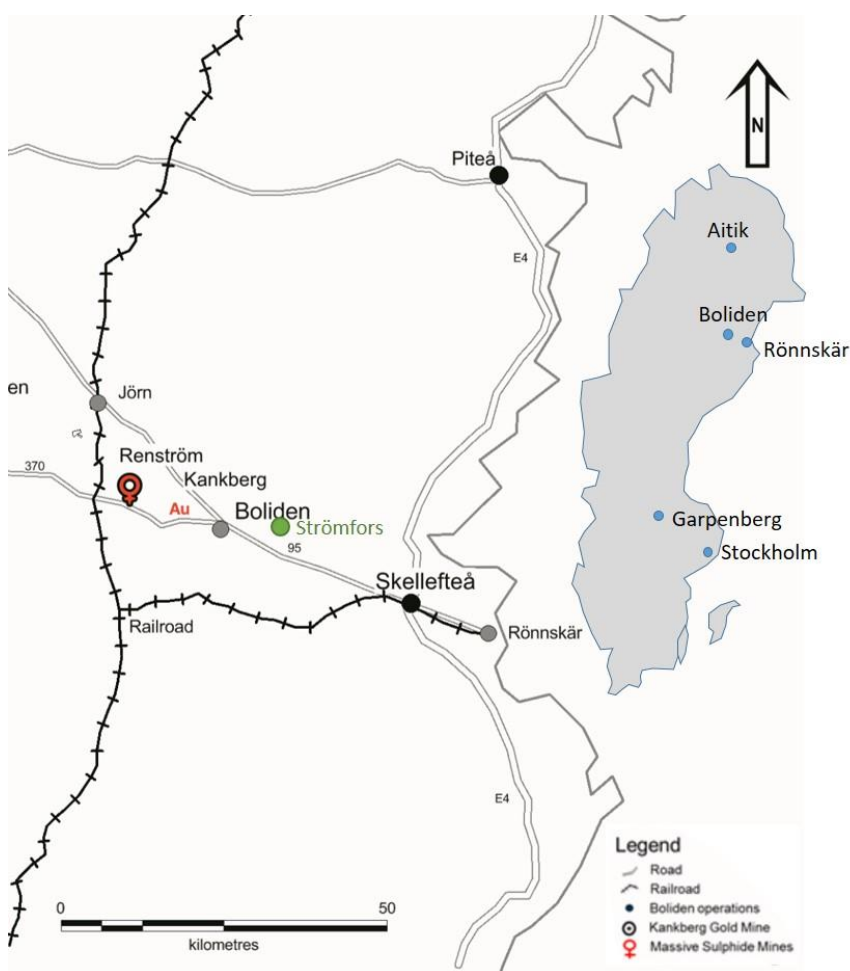


Figure 1. Location of the Strömfors mineralization in the eastern part of the Skellefte mining district, Västerbotten Sweden. Indicated are also producing mines operated by Boliden in the area, i.e. the Kankberg gold mine and the Renström polymetallic mine.

Background

The exploration history in Skellefte mining district goes back to early 1900 century. In 1924 the famous Boliden gold deposit was discovered, from which the Boliden Company started. Since this discovery Boliden has operated more than 30 different

mines in the area. Currently three underground mines are operated, i.e. Kristineberg, Renström and Kankberg from which the ores are processed in the central processing plant in Boliden.

Recent geological review and extensive exploration in the Eastern Skellefte district has identified the new Strömfors mineralization about 4 km northeast of Boliden processing plant (Figure 2).

Location and Permits

The Strömfors mineralization is located within the Bastunäs no. 1005 exploration permit, valid until 2022-08-25 (Figure 2), 100% owned by Boliden Mineral AB.

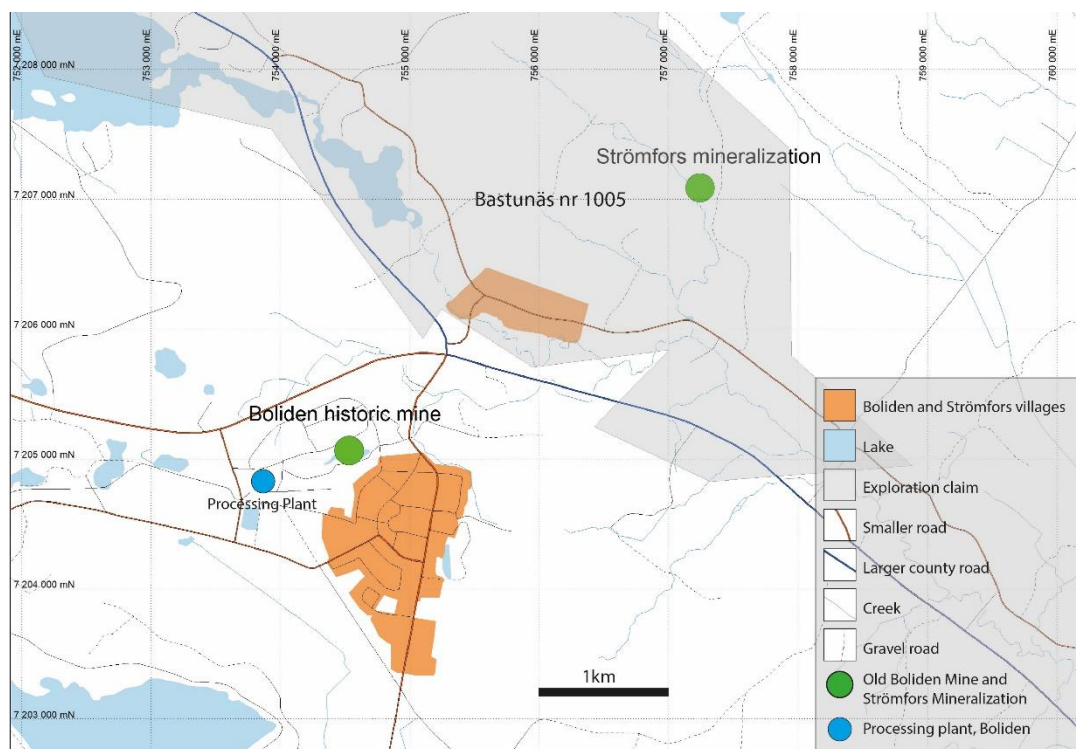


Figure 2. Location of the Strömfors mineralization about 4km from Boliden.

Exploration

In November 2019, the discovery hole STROM12 intersected 48 meters (drill hole length) of high-grade sulphide mineralization (Figure 3) at 310 m drill hole depth. The exploration success is the culmination of an intensive and focused exploration effort in the vicinity of the historic Boliden mine. The exploration is driven by conceptual geological modelling strongly guided by Boliden's in-house geophysical tools and experts. A total of 42 drill holes, totaling more than 26 000 m, have been drilled during late 2019 and up to end of 2020.



Figure 3. Core photos showing the mineralization from discovery holes STROM12. A: Massive sulphide mineralization dominated by a mineral assemblage of sphalerite, pyrrhotite, galena and sulphosalts at 310m. B: Massive arsenopyrite and pyrite mineralization with minor amounts of sphalerite, galena, sulphosalts and chalcopyrite at 350m.

Geology

The Strömfors mineralization is interpreted as a polymetallic volcanic hosted massive sulphide (VHMS) deposit. The stratigraphic hanging wall is dominated by an andesitic to basaltic sequence of extrusive, intrusive and reworked clastic volcanic rocks. Other significant hanging wall units are rhyolitic to dacitic lavas, subvolcanic intrusions and a polymict pyroclastic unit. The mineralization is interpreted as strata bound, seafloor exhalative, hosted within shales derived from basaltic sequences, siltstones and sandstones. The deposit has a typical VHMS alteration zonation. The proximal alteration assemblage comprises of chlorite, tremolite, dolomite, sericite and silica. The stratigraphic footwall is dominated by sericite, silica and chlorite altered pumice rich feldspar porphyritic volcanoclastic deposits of dacitic to andesitic composition. Subordinate footwall units are rhyolitic to dacitic lavas and subvolcanic intrusions.

Mineralization

The extent of the Strömfors mineralization is currently poorly understood. The mineralization remains open and unconstrained in multiple directions and consist of several steeply plunging lenses. The mineralization is both massive, semi massive and stringer type with main mineral assemblages of sphalerite, arsenopyrite and sulphosalts, other associated sulphides are pyrite, pyrrhotite, galena and chalcopyrite (Figure 3). The mineralization has undergone polyphase folding and is associated with reactivated synvolcanic faults. Mineralization is currently intersected with drilling from ca 270 m to 515 m below surface (Figure 4).

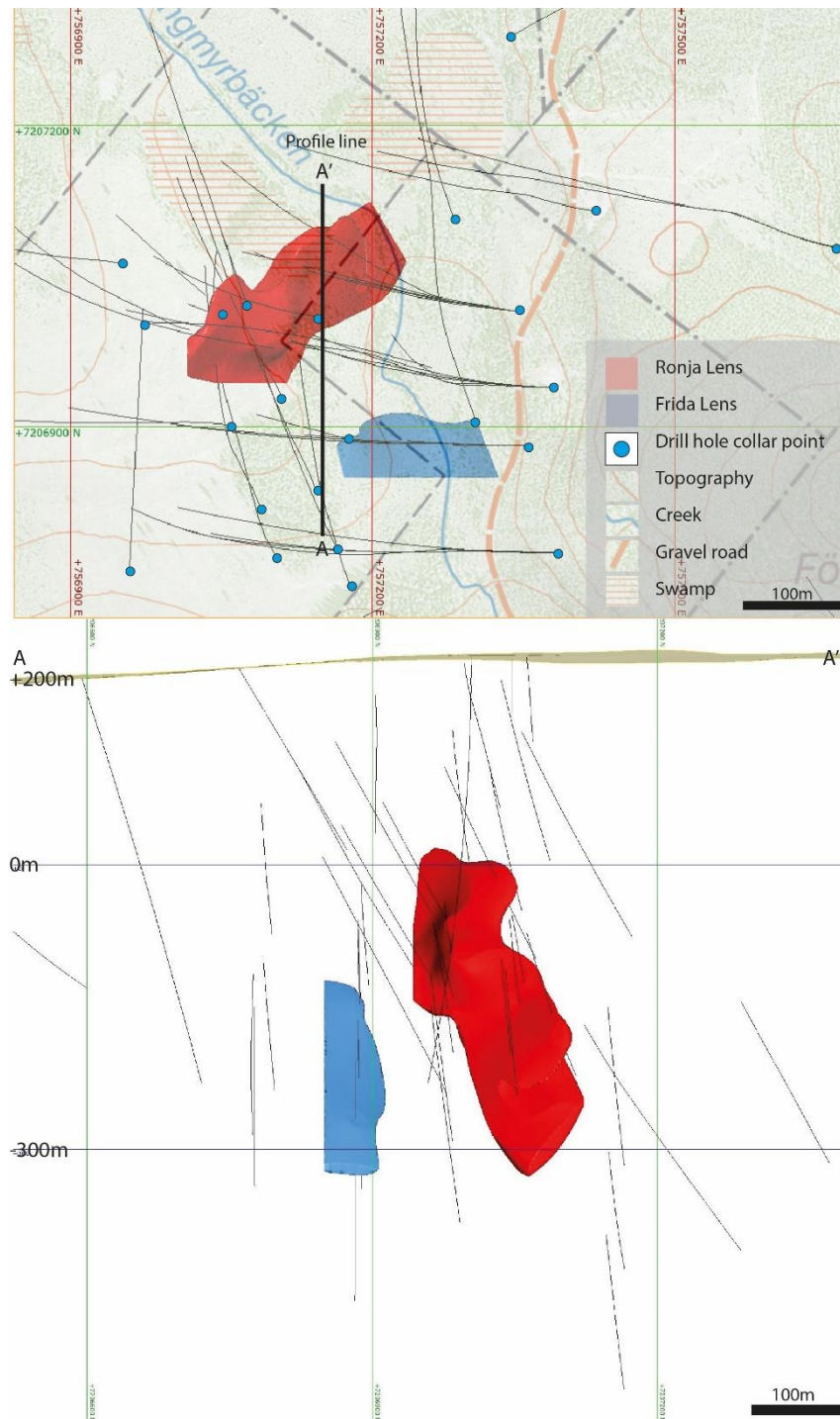


Figure 4. Top: Local surface map of the Strömfors mineralization with the modelled resource. Drill hole collar positions are indicated, notice that several of the collar position has multiple daughter holes branching off from a central mother hole. Bottom: west view cross section of Ronja (red) and Frida (blue) lenses with intersecting holes on profile line A-A' in top figure, cut along the plunge line of the lenses.

Sample Preparation and Assays

All drill core in the resource model have been drilled with 50.7 mm diameter (NQ2 size rods) apart from one drill hole drilled with 31.5 mm (AQ size rods). The assay intervals have been kept between 0.5m and 2m. Core loss in the mineralized zone is negligible. The mineralized core has been cut in half at the sawing facility at Boliden's core archive. One half is sent for assaying and the other half is saved for reference. All samples have been sent to ALS Chemex for sample preparation and assaying. The preparation method used is Prep-22. The assay methods used are Au-ICP22, ME-ICPORE, Te-ICP61 including gravity OA-GRA08c.

QA/QC Program

A routine QA/QC program has been utilized for checking assay data quality. In addition to blanks, the selection of certified in-house standards has been used for all drill holes. The QA/QC program show that data used in the resource model is of good quality.

Mineral Resource Estimation

A 3D geological model has been created based on 42 drill holes and five 2D geological section interpretations. A mineralization horizon was modelled using the geological model as a guide, intersecting 20 drill holes. Drill hole intersections of the mineralized horizon were then composited and an interpolation based on total Net Smelter Return values over 650 sek/t was created within the broader horizon, resulting in two separate zones. Net Smelter Return values are based on studies performed on similar mineralizations within the Skellefte district and price assumptions are summarized in Table 1.

Table 1. Boliden long term price assumptions.

Parameter	Value Assumptions
Gold	1300 USD/tr.oz
Silver	17 USD/tr.oz
Copper	6600 USD/t
Zinc	2400 USD/t
Lead	2100 USD/t
USD/SEK	8 SEK

A grade estimation block model was generated using Inverse Distance Squared based on zone intersections composited to 1m lengths with gold capped at 33 ppm, silver at 700 ppm, and lead at 9 % to limit the influence of high-grade outliers. The estimation resulted in an Inferred Mineral Resource presented in Table 2 and includes all blocks with both zones, including those under cut-off. As such, no additional dilution or modifying factors have been applied.

2021-03-05

Table 2. Inferred Mineral Resource of the Strömfors project as of March 3, 2021*.

Resource	Mt	Au ppm	Ag ppm	Cu %	Zn %	Pb %
Inferred	2.59	2.95	81	0.16	4.44	0.75

*Reasonable Prospects for Eventual Economic Extraction (RPEEE) of the Inferred Mineral Resource is defined by the interpolation of assumed Net Smelter Return Values over the conceptual mining cut-off of 650 sek/t. Within this interpolation there are blocks with values both over, and under cut-off.

Scoping study and future development

The Inferred Mineral Resource estimation is a milestone for the new Strömfors mineralization discovery and the Skellefte district. Exploration drilling continues at the mineralization and surrounding area. In parallel a Scoping study has been commenced, which includes all technical, environmental and economic aspects for possible further development of the mineralization. A possible positive outcome of the Scoping study will result in a Pre-feasibility study, including baseline studies for future permit applications, over the coming years. Since the Strömfors mineralization contains significant contents of As, Sb and Hg, metallurgical testing and conceptual process design is an important part of the Scoping study.

Boliden Competent Persons

Boliden follows the recommendations of the Swedish Mining Association (SveMin) for reporting exploration results, Mineral Reserves and Mineral Resources and strives to report according to the Pan-European Reserves and Resources Reporting Committee (PERC).

The Strömfors exploration program is being reviewed by Competent Person Ian McGimpsey who also performed the Mineral Resource Estimate. Ian work as a senior resource geologist for Boliden and is a member of The Fennoscandian Association for Metals and Mineral Professionals (FAMMP) which is an approved organization for competent persons according to PERC. The Strömfors Scoping study is managed by Competent Person Hans Årebäck, Head of Business Development Boliden Mines, and also a member of FAMMP.