



## EXPLORATION NEWS

**Barsele Minerals Corp** provided on January 19 an operational update regarding 2020 exploration activities within the Barsele Gold-VMS Project. The exploration program is being operated by joint venture partner **Agnico Eagle Mines Limited**. Diamond drilling from July 14th into early November, totaled 7,894 m in 37 completed core holes. Since late 2015, a total of 155,345 m of overburden penetration and core collection has been tabulated from a total of 404 drill holes. The 2020 drilling campaign has tested the northwest extension of the Avan-Central-Skiråsen Orogenic Gold system. Volcanogenic massive sulphide targets have also been tested, along with the most recent drill testing at newly discovered Bastutråsk.

**Nickel Mountain Resources AB** announced on December 17 a name change from **Nickel Mountain Resources AB** to **Bluelake Mineral AB**. The Company owns approximately 95% of the subsidiary **Vilhelmina Mineral AB**, which is focusing on the development of copper and zinc deposits in the Nordic region. The Company owns Stekenjokk, where a total of approximately 7 Mt of ore was mined between 1976 and 1988. According to previous resource estimates, there is a remaining indicated mineral resource of approximately 7.4 Mt with grades of 1.17% Cu, 3.01% Zn and 47 g/ton Ag (at cut-off grade of 0.9% Cu). **Bluelake Mineral AB** announced on February 5 it has appointed **SRK Consulting** to conduct updated mineral resource estimates for Stekenjokk-Levi.

**Botnia Exploration AB** announced on December 21 that an Environmental Permit has been granted for mining at Fäbodtjärn and Vargbäcken gold deposits. On January 1, **Botnia** reported that the Environmental Permit has been appealed by Naturskyddsforeningen (NGO). The Supreme Land and Environmental Court will take a decision during the first quarter of 2021.

**Dragon Mining Limited** announced on October 16 reception of positive result from the Fäboliden Underground Scoping Study. It was based on the development of an underground operation at Fäboliden once open-pit mining was completed, to provide 300,000 t of ore annually for processing through the Company's wholly owned Svartliden Plant.

**Gold Line Resources Ltd** provided on January 21 an overview of its 2020 exploration programs undertaken on gold exploration projects. The programs covered extensive portions of the Paubäcken, Storjuktan and Blåbärliden project areas, all located on the Gold Line Mineral Belt. These exploration programs consisted of extensive groundwork including detailed geologic mapping, extensive geochemical sampling, and geophysical surveys. Both ground and aerial (drone) geophysical surveys were also used to compliment geologic mapping in select areas. This work is actively being followed up with Base of Till and Top of Bedrock drilling. The drill data will be used to further refine exploration

targets and select locations for diamond drill testing during the upcoming 2021 winter and summer exploration seasons.

**Gungnir Resources Inc** announced on November 25 that a National Instrument 43-101 independent technical report entitled "Technical Report on the Lappvattnet and Rormyrberget Deposits, Northern Sweden" has been filed on SEDAR.

**Copperstone Resources AB** announced on December 8 that the Company's exploration activities at the D-zone area of the Viscaria Copper Project have resulted in an upgrade of indicated copper resources in the D-zone of +36%, with a copper grade increasing to 1.33% from 1.20% in 2015. Inferred copper resources in the D-zone increased by +376%, with a copper grade of 1.18% versus 1.55% in 2015. The total code-compliant mineral resources at Viscaria have therefore increased from 609 kton to 699 kton of PERC-2017 compliant copper. Moreover, iron ore is introduced as a PERC 2017 code-compliant resource and potentially valuable by-product.

**District Metals Corp** announced on February 4 that it has obtained all the necessary permits required to commence a 5,000 m drill program at the Company's high grade polymetallic Tomtebo Property located in the Bergslagen District.

**LKAB** announced on February 22 that after having dramatically ramped up exploration activities in all three mining locations since 2018 resulting in an increase in mineral resources during 2020 by 45%, from 1.2 to 1.7 billion tons.

**New Peak Metals Limited** announced on March 4 positive results from the initial sampling program completed in December at Bergslagen Tungsten Project in the Grängesberg area, confirming historical results. **New Peak** is developing a comprehensive exploration program for implementation through 2021.

**Norden Crown Metals Corp** reported on February 25 results from a recently completed 1,796.6 m of diamond drilling at the Östrasilvberg Prospect located on its Gumsberg Project. Several holes intersected massive sulphides with significant high grade precious and base metal mineralization. **Norden Crown Metals** announced on March 1 an exceptional discovery at its Fredriksson Gruva prospect demonstrated by significant results from the first three holes drilled below historical mine workings. The discovery holes intersected significant mineralized widths ranging from 8.15 to 13.60 m of precious and base metal, massive and semi-massive sulphide mineralization, within a geological setting unique to mineralization belonging to the Broken Hill Type clan of silver rich zinc-lead ore deposits.

Battery anode company **Talga Group Ltd** announced on December 7 the completion of its scoping study on the Niska South, Niska North, and Nunasvaara North graphite re-

sources. Key outcomes from the Study demonstrate strong support for a stand-alone mine and anode refinery. The Niska production, planned for 2025 onwards, when combined with the existing Vittangi Anode Project operation, would form the largest natural graphite anode producer in the world and largest anode producer outside China.

**Alicanto Minerals Limited** announced on January 27 that 75% of a 4,000 m drilling campaign at the Greater Falun Copper-Gold Project is complete. Assays pending. Expanded phase two drill program is being planned on the back of the current 4000 m phase one drilling, field-work and geophysical targeting results.

## MINING NEWS

In a Q4 report **Boliden** announced that Aitik's milled volume increased compared to the previous quarter. However, low availability of excavators, disturbances with conveyor belts and unplanned maintenance of wheel loaders had an adverse effect. The copper grade was 0.25% (0.22). The higher gold grade of 0.16 g/t (0.10) led to higher gold production. The Boliden Area's milled volume was lower than both the previous quarter and the fourth quarter of 2019 due to a changed ore mix with higher production in Kankberg and Renström, but lower in Kristineberg. This resulted in higher gold production, while zinc production was lower. Garpenberg's milled volume was slightly lower than the previous quarter due to more maintenance, but higher than in the fourth quarter of 2019. 3.0 Mt were milled during full year 2020. The zinc grade for the fourth quarter was 3.8% (3.7), and the silver grade was 123 g/t (124).

**LKAB** announced in a yearend report for 2020 that the production volume for the fourth quarter decreased by 0.4 Mt in a year-on-year comparison. The decrease is mainly an effect of an extended maintenance shutdown in Kiruna. Delivery volumes for the quarter increased and amounted to 7.0 (6.5) Mt, with pellets accounting for 83 (81) %.

On February 23, **Mandalay Resources Corporation** provided Year end 2020 Reserves and Resources for the Björkdal Operation. Asset maintains long mine life until 2029. Dominic Duffy, President and CEO of **Mandalay**, commented, "During 2020, there was an increase in underground Mineral Reserves of 6,000 ounces of gold through the extensions of the Aurora and Lake Zone areas, however, this was offset by a reduction in open pit Resources of 8,000 ounces of gold".

**Lovisagruvan AB** announced in a full year report for 2020 that ore production from Lovisagruvan was 40,034

Kt (38,548). An increase by 4%, although 5% less than the planned 42,000 t.

**Lundin Mining Corporation** presented on February 18 Fourth Quarter and Full Year 2020 results for Zinkgruvan. Zinc production of 73,601 t and copper production of 3,346 t both met guidance, and new annual production records were set for both tons hoisted from the mine and milled tons. Zinc and lead production (24,128 t) were lower than the prior year, impacted by lower head grades.

## SUSTAINABILITY NEWS

**LKAB** presented in a yearend report for 2020 its new strategy and transformation plan. An element of the new strategy is to a transition to production of carbon free sponge iron. This transformation will enable carbon emissions among global customers to be reduced by 35 Mt, equivalent to around two thirds of Sweden's total emissions, and create the conditions to more than double the Group's turnover and secure **LKAB's** competitiveness over time. **LKAB** presented on September 28 the ReeMAP project that aims to apply fossil-free processes for recycling mine waste (tailings) from **LKAB's** iron ore production and upgrading it to phosphorus products and rare earth elements. In addition, gypsum and fluorine products will also be produced at an industrial park, through hydrochemical processes.

On January 11 **Kaunis Iron AB** announced that **Vattenfall AB** and **Kaunis Iron AB** have signed a letter of intent to develop fossil-free and electrified mining operations at the iron ore mine at Pajala.

**Leading Edge Materials Corp** announced on October 30 the commissioning of **Zenito Limited**, and a range of sub-consultants to produce a Preliminary Economic Assessment study on the Woxna Graphite project. The PEA will for the first time include the previously developed downstream processes utilizing thermal purification that could enable the Project to produce a range of ultra-high purity natural graphite products suitable for the lithium-ion battery market.

## NEW PUBLICATIONS

Critical Raw Materials in ores, waste rock and tailings in Bergslagen, SGU-rapport 2020:38

The Kallak stratiform-stratabound magnetite iron ore deposit, Norrbotten County, Sweden, SGU-rapport 2020:14

Inventory of mineral resources in northeastern Norrbotten County, Sweden, SGU-rapport 2020:09

Innovation-critical metals and minerals in greisen-altered Dala granites, SGU-rapport 2020:06



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