



What's up in Sweden

EXPLORATION NEWSLETTER

March 2019

EXPLORATION NEWS

Barsele Minerals Corp reported an operational update on January 31 for the ongoing exploration program within the Barsele Gold-VMS Project area. The exploration program is being operated by joint venture partner **Agnico Eagle Mines Limited**. Diamond drilling for 2018 was halted during the month of December. Ninety-one holes were collared and reported during the year, totaling 34,998.75 m of overburden penetration and core collection. Since drilling commenced late in 2015, a total of 135,142 m of drilling has been completed from a total of 311 completed drill holes.

Erris Resources plc announced on December 13 an update on the **Centerra Gold** Joint Venture Exploration programmes. A total of 14 holes totalling 2,681.7 m were drilled between July and September at Brännberg. The drilling tested the down dip and along-strike continuations of mineralisation intersected in historic drilling by **Beowulf Mining**. Drilling also tested new ground magnetic anomalies and IP chargeability anomalies. All holes encountered strong alteration zones and traces of mineralisation including veinlets and disseminations of arsenopyrite and chalcopyrite. Gold is associated with a stockwork of sheeted quartz-arsenopyrite veins. The core of the mineralised zone has significant intersections over a strike of 150 m while mineralisation is open at depth with copper and arsenic increasing down dip.

Gungnir Resources Inc reported on November 14 results of the 2018 drilling programmes at its Rodingtrask VMS target on the Knaften project. Long core intervals of base metal-enrichment were received in the final holes. Results show elevated VMS metals (> 500 ppm Zn + Cu) in 70% of drill core sampled. In 2018, the Company completed ten holes (five holes in the Knaften 300 Gold Zone, four holes at the Rodingtrask discovery, and one hole into the new Cu-Ni target discovered by **Gungnir** in 2017) for a total of 2,028 m.

On February 5, **Pursuit Minerals Limited** announced geochemical results received for whole rock and vanadium magnetite concentrates produced from nine holes drilled at the Airijoki Project. Vanadium mineralisation producing high-grade vanadium magnetite concentrates has been confirmed over a strike length of 1.9 km and is open to the northeast and at depth. Vanadium mineralization averages 33 m thick, with the high-grade mineralisation extending from surface. The vanadium magnetite concentrates, produced by Davis Tube Recovery, varied from 1.2 to 1.8% V₂O₅ and averaged 1.6% V₂O₅.

Tertiary Minerals plc announced on January 14 news from its Swedish Lawyers regarding the Exploitation Permit re-assessment for the Company's Storuman Fluorspar Project. The Mining Inspectorate agrees with the County Adminis-

trative Board of Västerbotten assessment and has rejected **Tertiary's** application. **Tertiary** assess the decision and intends to lodge an appeal with the Swedish Government in line with the advice of its Swedish lawyer.

On November 28, **EMX Royalty Corporation** provided an update on advancements of the Company's royalty and mineral property portfolio. Geochemical sampling and geophysical surveying were conducted in Q3 at the Slättberg nickel-copper-cobalt project, which is optioned to **Sienna Resources Inc**. This work followed-up on **Sienna's** earlier drill program that returned intercepts including 2.8 m averaging 1.05 % nickel, 1125 ppm cobalt and 0.79 % copper (true width 60-70 % of reported interval length). **EMX** announced on January 28 **Boreal Metals Corporation's** recent diamond drill results and the discovery of a high grade zone of zinc-silver-lead-gold mineralization at **EMX's** Gumsberg royalty property. The drill results include 11.00 m averaging 5.90 % zinc, 239.0 g/t silver, 2.51 % lead, and 0.96 g/t gold in one hole, and 11.01 m averaging 7.45% zinc, 275.1 g/t silver, 2.65% lead, and 0.77 g/t gold in a second hole (true widths estimated at 50% of reported interval lengths).

Botnia Exploration AB announced on October 22 results from diamond drilling programs at Fäbodliden A, Fäbodliden B and Middagsberget Norra in the Vindelgransele area. A goldbearing zone at Fäbodliden A is identified. **Botnia** is planning to investigate the conditions for proceeding with an application for a mining concession at Fäbodliden A.

Copperstone Resources announced on December 20 that an Exploration Target potential of 150-210 Mt at a grade of 0.25-0.45% copper has been estimated by **Micon International Co LTD** for the Granliden area. This potential is in line with recent guidance and is based on an independent analysis of exploration drilling results predominantly from the drill campaign carried out by the Company in 2018.

In a December Quarterly report **Aura Energy Limited** announced that The Häggån Vanadium Project Scoping Study progress has been paused given the substantial technical work completed in late 2018. The completion of the project capital and operating cost estimates last quarter have strongly increased **Aura's** confidence in the project. **Aura** commenced diamond drilling aimed at upgrading a substantial portion of the Häggån resource to Measured and Indicated status with the completion of 7 holes. The program was ongoing at quarter end with an expectation that drilling will be completed in March. Resource estimation work will continue through April and culminate in the subsequent release of the Häggån Vanadium Scoping Study.

In a Half yearly report for the six months to 30 September 2018 **Anglesey Mining Plc** announced that it continues to manage the Grängesberg iron ore project though these activities have been kept at a minimum level. **Anglesey** continue to support Grängesberg and recognize that it is likely that further external partnerships will be required to raise the capital required for full development.

MINING NEWS

In an Interim report October-December, **LKAB** announced that production in the fourth quarter amounted to 6.7 (7.2) Mt and deliveries to 6.8 (7.3) Mt. The pelletizing plant in Svappavaara was taken out of operation for maintenance work at the end of September and was restarted on 6 February 2019. **LKAB** delivered 26.8 (27.6) Mt of iron ore products in 2018. Securing access to ore after 2030, when the current main haulage levels are expected to be mined out, is the basis for the next generation of **LKAB**. The exploration results have shown that the mineralization in Kiruna is significantly more complex than had previously been assumed, and consequently exploration work has been intensified. During the quarter **LKAB** began driving exploration drifts in Kiruna to investigate the northward and downward extent of the mineralization. Mining down to the main haulage level at 1365 m in Kiruna is continuing according to plan, which means that the urban transformation of the city is also continuing.

Lundin Mining Corporation announced on February 14, Fourth Quarter and Full Year Results. At Zinkgruvan the zinc production of 76,606 t and lead production of 24,613 t exceeded the most recent guidance but were lower than the prior year driven by lower head grades as a result of mine sequencing and higher than planned dilution and ore loss. The operation continues to focus on mine stope design optimization, mining execution and ore tracking in order to improve these factors.

Mandalay Resources Corporation announced on January 16 its production and sales results for the fourth quarter and full-year 2018. Production at Björkdal was 10,482 ounces gold in the fourth quarter of 2018, as compared to 22,035 ounces gold in the fourth quarter of 2017. Production at Björkdal was 45,719 ounces gold in 2018, compared to 62,028 ounces gold in 2017.

In a Q3 report, **Lovisagruvan AB** announced that the production at Lovisagruvan amounted to 8,470 t and the stock decreased during the quarter from 8,650 t to 3,500 t. Within the quarter, three boat deliveries to Boleslaw in Poland to-

taling 13,780 t (18,307 with four boat deliveries during the third quarter of 2017) were planned. The first three quarters totaled 30,638 t (30,086).

In a Q4 Interim and Year-End Report for 2018 **Boliden** announced that milled volumes at Aitik fell in comparison with the previous quarter, but were on par with last year's. Mined production, including waste rock extraction, increased. Mining occurred in areas similar to those worked in the third quarter, and the copper grade was 0.27% (0.32). The copper grade for 2019 is expected to average 0.25%, which is in line with previous assessments. Milled volumes in the Boliden Area were lower than in the third quarter but slightly higher than previous year. The Mauriliden open pit is almost mined out now, with only limited volumes in 2018 and 2019. The production of metal in concentrate for most metals was, nonetheless, on par with levels in both the third quarter and the previous year. High production in the Boliden Area's remaining three mines compensated for the fall-off in Mauriliden's production. Garpenberg's milled volumes were lower than in both the preceding quarter and the previous year, primarily due to ore transport problems at the mine. Mining occurred in areas with comparable zinc grades, but with lower silver grades than in both the third quarter and the previous year. Metal production fell, particularly with regard to silver. The zinc grade is expected to average 4.0% in 2019, which is in line with previous assessments.

NEWS FROM SGU

The new extension of the drillcore archive at Malå is now complete. An additional 4000 m² is now available for storage of drillcore.

Data submitted by exploration companies to the Mining Inspectorate (Bergsstaten) is now available from the map viewer at our webpage (<https://apps.sgu.se/kartvisare/index-en.html>).

SGU has been commissioned by the Government to map out the possibilities to extract critical metals and minerals needed to produce new technology innovations. The collection, systematization and compilation of chemical analyzes from various sources and the results of the project's sampling and analysis of drill cores, rock samples and mining waste have been compiled in the database MALMKEMI-db which contains just over 30,000 entries. The database can be downloaded from SGU's website <http://resource.sgu.se/produkter/regeringsrapporter/2018/RR/1805-appendix1.xlsx>

SGU

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