

that Viken has economic potential as an open-pit mine for uranium, vanadium and molybdenum.

The base case contemplates a 40,000t/d mill feed and a 16-year mine life. However, pre-production capital expenditure, including contingencies, is estimated to be US\$3.85 billion.

The study concludes that Viken has an estimated internal rate of return of 10.3% using base case metal prices of US\$65.3/lb U₃O₈, US\$15/lb V and US\$15/lb Mo.

The study only considered 9Mt of the property's indicated resource and 214Mt of the inferred resource (the amount above an NSR cut-off grade of US\$60/t). The total resource is given as 24Mt indicated and 2,831Mt inferred (at an NSR cut-off of US\$7.50/t).

The economic assessment is based on mining of the shale resource from two adjacent open pits. The life-of-mine average operating cost is given as almost US\$51/t, with an average NSR value of US\$90/t.

Mawson Resources Ltd has also been concentrating on uranium exploration in Sweden, with its best assets in the Hotagen area in the northern part of the county of Jämtland. The project has an estimated resource of 3.3Mlb at 0.08% U₃O₈.

Meanwhile, Tasman Metals Ltd has an exploration permit at Norra Kärr, a peralkaline nepheline syenite intrusion. It is situated east of Lake Vättern, some 300km southwest of Stockholm.

The company has been drilling this REE-zircon project, with the results from 3,276m of drilling showing a total rare-earth oxide grade of 0.6-0.7% with a 50% share of heavy rare-earth oxides.

IGE Nordic AB was awarded a mining licence by the mining inspector in June for the Rönnbäcken nickel project in the county of Västerbotten, northern Sweden. IGE's objective is to establish a 25,000t/y plant for producing high-grade nickel concentrate with a nickel content of 25%.

The total project mineral-resource estimate now includes 257.1Mt of measured and indicated mineral resources of with an average total nickel content of 0.180% Ni of which 0.110% is nickel in sulphide (Ni-AC); and 269.2Mt of inferred mineral resources with an average total nickel content of 0.176% Ni of which 0.104% is nickel in sulphide (Ni-AC).



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Boliden's Aitik copper mine

GEOLOGICAL POTENTIAL

The bedrock of Sweden and the Nordic region is rich in ores and minerals. There are already a number of mines in operation in this area, and the prospects of finding further ore and mineral deposits in commercial quantities are very good.

Sweden is rich in ores because of the geological processes that have created and reshaped the Swedish bedrock – the vast majority of the Swedish landmass belongs to the geological area known as the Fennoscandian Shield.

The shield also covers the whole of Finland and northwestern Russia, including the Kola peninsula, as well as parts of Norway. The Fennoscandian Shield consists primarily of igneous rocks ranging from one billion to at least two and a half billion years old.

The parts of the Fennoscandian Shield covering northern and central Sweden consist of metamorphic and igneous rock types, as well as several generations of intrusive rock types (granite, granodiorite etc.), which intruded deep into the earth's crust, but which have been exposed by erosion at the surface.

Volcanism some 1.9 billion years ago caused the formation of Sweden's most important ore deposits in Bergslagen in the centre of the country (iron ore as well as sulphide ore containing copper, zinc, lead, silver and gold), the Skellefte District in northern Sweden (sulphide ore and gold), and the far north of Sweden (iron ore and sulphide ore).

Because of these favourable geological conditions, Sweden has become Europe's main supplier of iron ore, and one of the leading producers of gold, copper, lead and silver. There is still great scope for discovering commercially viable ore and other mineral deposits.

Sweden's mineral deposits are relatively unexplored, and there has been great interest in prospecting for metals and minerals in Sweden over the last few years. In addition to its favourable geology, there are several other factors rendering Sweden attractive to foreign exploration companies.

Sweden is politically and economically stable, has well-developed infrastructure and effective minerals legislation.

IGE
Developing Rönnbäcken, a major nickel project in Sweden

Target output of 25,000 tonnes per year of nickel in concentrate

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The inferred estimate includes (for the first time) 185.7Mt for the adjacent Sundsberget deposit. IGE has started work on a pre-feasibility study for the Rönnbäcken project.

The deposits comprise low-grade high-tonnage Ni-sulphide in serpentinised ultramafic rocks, with practically no iron sulphide. A preliminary assessment has been done so far.

Blackstone ventures inc has a number of nickel deposits in its portfolio, including the Lainijaur, Lappvattnet and Rörmryberget deposits. There are also some sulphide showings in the mountain region close to the Norwegian border, such as the Uma project, which need further investigations.

Drake Resources Ltd in joint venture with Royal Falcon Mining LLC is continuing its efforts in the Bergslagen district, with most efforts in the historical Falun mine where the company has been drilling since the second half of 2009.

The companies have been drilling the Eastern Copper Gold Zone with good grades of gold having been reported from that site.

Lappland Goldminers AB recently received a calculation of grade and tonnage for its Fäboliden gold deposit. The resource estimate shows less value in the project than previously thought, with measured and indicated mineral resources estimated at 57.8Mt at a grade of 1.05g/t Au and 2.75g/t Ag at a cut-off grade of 0.4g/t. A new feasibility study for the project is expected to be completed in the June-quarter 2011.

Meanwhile, production at the company's Pahtavaara mine in Finland reached 7,198oz of gold during the September quarter, the highest quarterly production since Lappland Goldminers restarted mining in 2009.

EXPLORATION AND TRANSPORT EXPANSION

Growing demand for iron-ore products has lead to increasing production within existing mines in Sweden.

It has also brought a growing interest in exploration with an iron-ore focus, with several iron-ore mines to open in the next few years (Gruvberget and Dannemora have already produced their first tonnes of ore).

This creates challenges for the transport capacity at the Malmbanan railway between Kiruna and Narvik, which has to be extended by 2015 at the latest.

Exploration has gained renewed pace and expenditure is nearly equal to that at the height of 2008. Beside iron ore, Sweden is witnessing increasing interest in traditional minerals such as nickel, copper and gold, but also highly sought after commodities such as uranium and REE.

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