



# **Beowulf Gold Plc**

## **Project Review**

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## **1 Scope and Purpose**

Beowulf Gold is a newly formed UK based gold exploration company that has lodged an application for a number of tenements in Sweden and is raising capital and in the process of obtaining a quote on the OFEX market in London. The company's projects are located in the north of the country in the Municipality of Jokkmokk, Norrbotten County, and have been the target of previous exploration by the Swedish Geological Survey (Sveriges Geologiska Undersökning, SGU) as well as both Swedish state mining companies and private companies over the past thirty years.

VSA Resources Ltd has been retained by Beowulf to carry out an independent review of its projects to support its application for its shares to be traded on the OFEX market. This has included an appraisal of the available technical literature and primary data available on the projects, a site visit to the Jokkmokk area and a review of the core that was drilled during previous work with supporting logs. The field trip also included a visit to the geological survey's offices in Mala and discussions with the staff there, during which they confirmed the progress of Beowulf's application for the exploration tenements with the Commissioner of Mines and made available a number of geophysical and geochemical maps of the area.

## **2 Introduction**

Beowulf Gold has applied for three concession areas within the Jokkmokk municipality which is located within the Arctic Circle; Majves, Tjaula and Karvo where previous work has identified the presence of gold in association with sulphides of iron and sulphur and one area, Tjaula, that may also potentially host alluvial gold. The claims cover a total area of 76 square km, Tjaula (23.5 square km), Majves (38 square km) and Karvo (14.5 square km) and previous work there included trenching, mapping, diamond drilling, boulder sampling and geophysical testing which indicated the potential of the areas to host economic mineralisation. The geology of the Norrbotten region is dominated by a series of Proterozoic volcanic and plutonic units that have been subject to high-grade regional metamorphism.

Although comparatively remote the area is well serviced by tarmac roads and mains electricity as a substantial proportion of the region's power is generated locally from hydroelectric dams. The temperature falls to as low as minus 40C during the winter when it is also permanently dark and there is heavy snowfall, however exploration and mining are possible under these conditions and are carried out elsewhere in Scandinavia and also in Canada and Russia. During winter, transport by car is generally not possible, aside from on major roads, however most areas may be accessed by skidoo.

The principal industries in the region are tourism and forestry products. It is thought that so long as any mining activity were away from the tourist areas then it would be welcomed by the local population.

## **3 Exploration in Sweden**

Sweden has a long history of mineral exploration and mining which dates back to the medieval period and the country remains, in European terms, a significant mining centre, as illustrated by the recent opening of the high grade Storliden lead-zinc mine by North Atlantic Resources and Minmet's Bjorkdal gold mine. Parts of the country remain highly prospective areas for gold and base metals, including its far north which remains comparatively unexplored.

The country's mining code was overhauled in 1992 with further updates in 1997 and 1998. These changes included the abolition of the necessity for the Swedish state to have a holding in a mining company and set a low cost for obtaining and holding mining and exploration licences. Exploration licences are held for a three-year period and may be renewed at the end of it. The annual expenditure on mineral exploration in Sweden is estimated to be approximately US\$40 million and those companies which are active cover the entire spectrum from major's such as Anglo American and Rio Tinto through to intermediate mining companies like Boliden and also includes a growing number of domestic and international exploration companies. A high proportion of this exploration has however been focused on the Skellefte mining district and the area to the far north which Beowulf is targeting have not yet been the subject of intensive exploration.

## 4 Exploration Areas

The application for the licence areas described herein have been lodged under the name of Geoexperthen, J-O Larsson's company, with the Mining Commissioner and are expected to be granted during the early part of April 2003. This was confirmed during the visit to the SGU's offices in Mala. Prior to listing, Beowulf intends to enter into an agreement with Geoexperthen to acquire the licences, however the two parties have not yet signed a formal agreement.

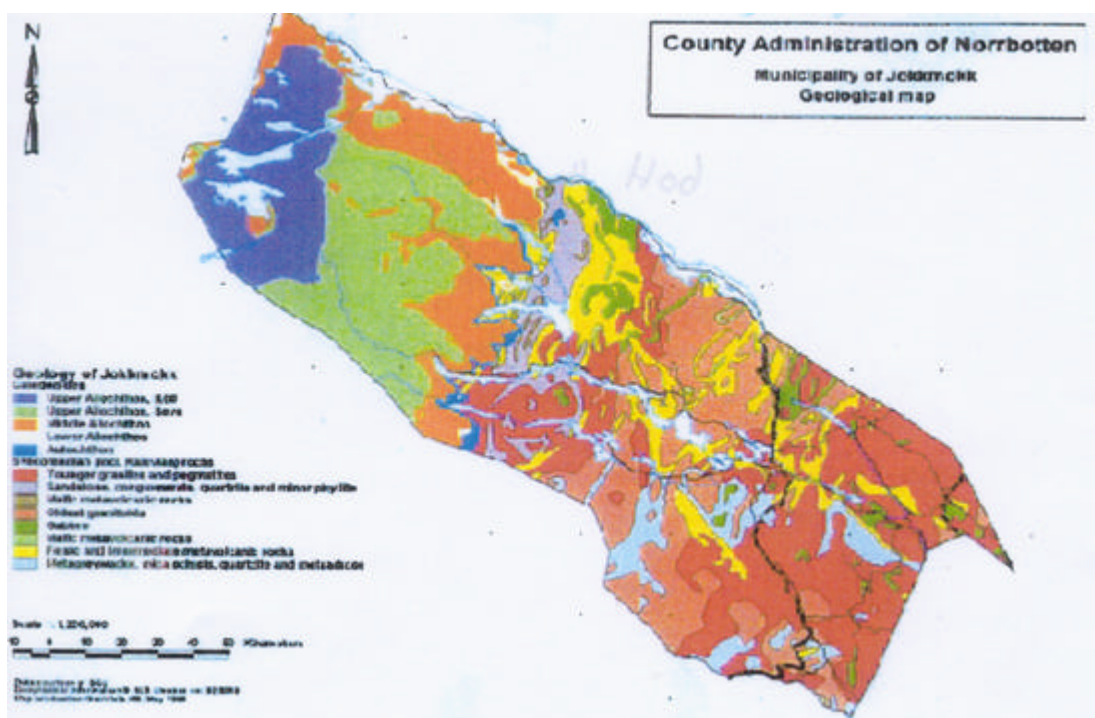
Although Beowulf Gold is a new company the Technical Director, Jan Ole Larsson, has extensive experience over a thirty-year period in exploration and specifically in the exploration of the company's areas in Northern Sweden, this was confirmed by both the SGU and from external sources. A significant volume of verifiable geophysical and geochemical information on the company's properties is available in addition to historical drill core. Whilst the deposits are a long way from having delineated resources or reserves, based on the amount of work that has been carried out to date they do represent a valid and potentially prospective exploration target that Beowulf will be able to advance with the funds available to it over the first twelve month period, additional funds will be needed after this or the company will need to enter into a joint venture agreement to further exploration.

It is understood that the company will initially focus on reinterpreting data that has been previously generated and a limited programme of boulder and outcrop sampling prior to initiating further drilling. The exploration budget will be split between the three projects with 75% to be spent on the Majves area focussing on the Iekelvare area of known mineralisation, and the remaining 25% split equally between the Tjaula and Karvo areas.

The rocks of Norrbotten County are a favourable environment for hosting Proterozoic iron oxide-copper-gold deposits that are best typified by the major Olympic Dam deposit in Australia.

This type of mineralisation is hosted in rocks of intermediate to felsic composition that have been subject to metamorphism and potassic, sodic and silicic alteration. They are dominated by oxides of iron, with copper being the next most abundant element and often quantities of gold, silver and rare earth elements. Mineralisation is focused on high level subvolcanic stocks, dykes and sills that crystallised late in the evolution of magmatic systems.

Figure 1, Geological map of Jokkmokk Municipality



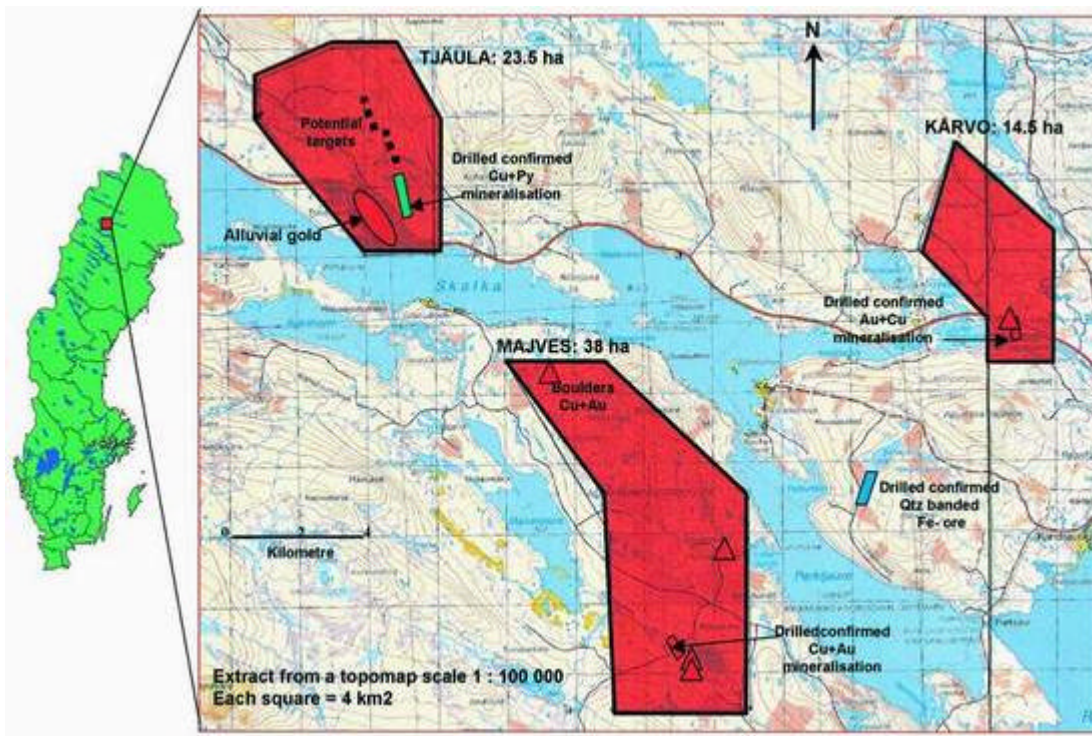


Figure 2, Beowulf's claim areas

#### 4.1 Majves 3,800 ha

The geology of the area within the property is dominated by volcanic and granitic rocks with a diorite gabbro to the centre of the area. The volcanic units are typically acidic in composition however intermediate and basic rock types have also been identified. All lithologies have been subject to high grade, typically gneissic facies, metamorphism and there are also several pronounced fault zones within the property. Mineralisation is typically hosted in chalcopyrite and pyrite that are present within small infilled fractures and fissures.

The Majves area has been explored since the early 1970s by both the SGU and Rio Tinto. Between 1970 and 1985 a number of exploration programmes were carried out which included diamond drilling, trenching, boulder sampling and geophysical work in addition to detailed geological mapping.

The most prospective area that was identified within the claim area is Iekelvare area to the south. Shallow chalcopyrite copper mineralisation was identified in the late 1970s during which a 2,063m 13 hole drilling programme was completed.

The cores from the drilling programmes have been retained by the SGU and were available for examination. Several zones of copper mineralisation were visible within the core, most of which had been split and assayed for gold, copper, zinc, lead, silver and tungsten. The principal ore minerals are pyrite and chalcopyrite, however bornite, covellite, chalcocite and some native copper also occur. The core is stored within a secure SGU facility and corresponds with the original field logs that are also available. The SGU however no longer holds all of the boulder samples and it is likely that they have been lost.

#### 4.2 Tjåula 2,350 ha

The Proterozoic rocks of the Tjåula concession are principally of volcanic or sedimentary origin which have been intruded by acidic intrusives, volcanic stocks and diapiric granites. The rocks have been subject to two periods of folding and fracturing is present along NE-SW and NW-SE trends.

The Tjaula claim area has been the subject of previous exploration by the SGU. Airborne magnetic surveying was carried out during the late 1960s with additional geophysical work being carried out by LKAB during the 1980s.

Some copper mineralisation was identified outcropping at surface and this was followed up with a ten hole diamond drilling programme during 1984 and 1985 which intersected mineralised zones. The mineralised zone has been tracked for 700m along strike and contains intersections of up to 2.2% copper over a length of 5m.

Tjaula also contains an area that may have the potential to host alluvial gold. At this stage however evidence for this appears to be based principally on anecdotal evidence.

### **4.3 Karvo 1,450 ha**

The geology of the Karvo claim is dominated by a series of acidic volcanic rocks with some minor units of intermediate and basic composition.

Exploration has been ongoing at Karvo, since the 1930s when bomite mineralisation was first recognised by the SGU, this was followed up during the 1980s with geophysical and geochemical testing. The concession was acquired by a Swedish junior exploration company during the late 1980s that carried out a limited programme of drilling and outcrop sampling that returned some anomalous gold values.

## **5 Summary and Conclusions**

Beowulf is in the process of compiling a focused exploration portfolio in an -area of known prospectivity where anomalous copper and gold intersections that were identified by previous work by both private and state organisations have indicated that economic mineralisation may be present. These areas were selected by the company's technical director J-O Larsson, who has over thirty years' professional experience as a geologist during which he has spent a considerable time interpreting the geology of Northern Sweden. It has been possible for VSA to independently verify the comprehensive report by Geoexpertern that summarises the previous work that has been carried out at the property and in the region both by J-O Larsson and others.

A considerable amount of previous work has been carried out on the company's projects and therefore, whilst Beowulf will be in many ways a greenfield exploration play, it will be able to benefit from the substantial amount of both area specific and regional data available through the SGU. This will also allow the company to make very cost effective use of the funds raised by the placement and to identify those zones within the deposits where more focused and costly exploration tools, such as diamond drilling, could best be employed.

Mineral exploration, however, is an intrinsically high risk activity and whilst those areas where Beowulf has applied for concessions represent a legitimate and prospective target for further exploration it is entirely possible that ultimately no economically exploitable deposits will be delineated. It should also be noted that significant additional funds will be required to bring the company's projects to the point where they could either be sold on to a mining group or developed by the company itself

## Appendix:

### Sample Maps Generated from the SGU Database

Figures 3 and 4 showing the Iekelvare area of the Majves Claim were both created by the SGU from its database. This information, which includes both data from the SGU and that generated by those who have previously worked in the area is made available to exploration companies.

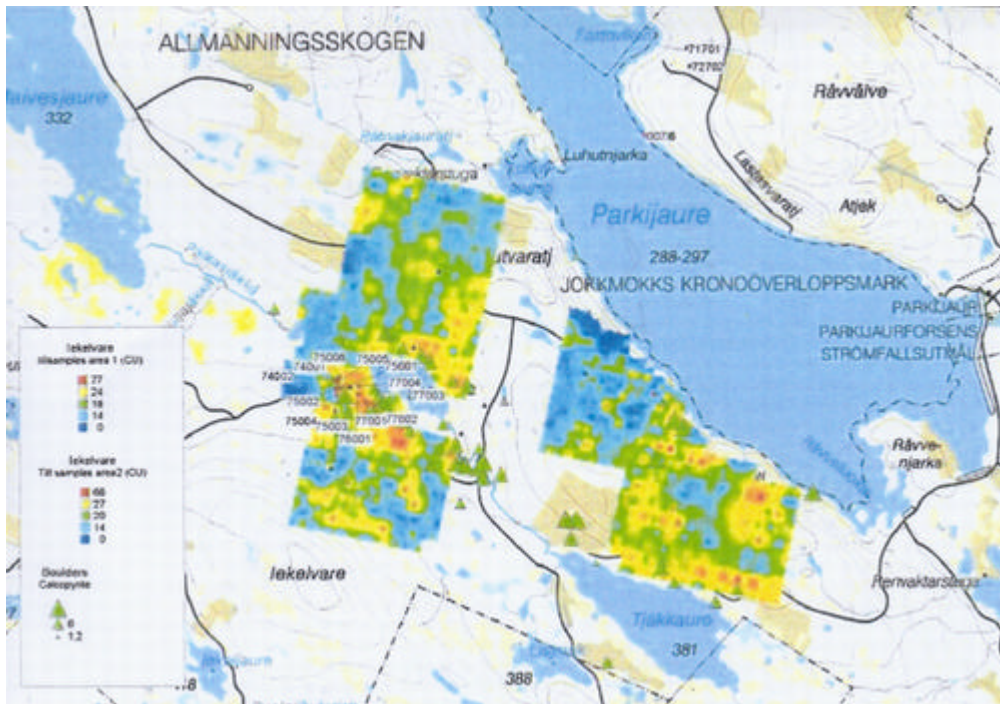


Figure 3, Iekelvare Area, Till Sampling data, Cu grade (Source SGU)



Figure 4, Iekelvare Area, Digital Slingram (Source SGU)