The Government of Greenland and London Mining sign mining permit

On 24 October 2013, London Mining Greenland A/S was granted an exploitation licence covering the Isukasia (Isua) iron-ore deposit, 150 kilometres north-east of Nuuk.

The resource is more than 1.1 billion tons of ore, and the mine is expected to produce 15 million tons of high-quality iron-ore concentrate per annum.

The mine will comprise an open pit, a processing plant, a slurry pipeline, a port, and connecting infrastructure. It is expected that 700-800 workers will work at the mine site in the production phase, whereas as many as 3,000 will be employed during construction.

The signing of the permit by London Mining and the Greenland Minister of Industry and Mineral Resources is a historic event for Greenland, as this is the first large-scale mining project to get an exploitation licence.

The next step for London Mining is to find investors and to finalise the Impact Benefit Agreement (IBA) negotiations with the Government of Greenland.

Successful field season for the Maniitsqoq Ni-Cu-Co-PGM Project

North American Nickel’s (NAN) 2013 field season at the Maniitsqoq nickel-copper-cobalt-PGM project in southern West Greenland returned high-grade drill results and identified 100 new conductor zones.
Based on a detailed assessment of the geophysical survey results, a drill programme was conducted with 25 drilled holes totalling 4,266 m, targeting the geophysical anomalies. High-grade nickel-copper-cobalt mineralisation was intersected at Imiak Hill, Imiak North and Spotty Hill. Significant nickel-sulphide intersections (e.g. 24.75 m @ 3.19% Ni and 1.14% Cu in drill hole MQ-13-028 at Imiak Hill) were reported by NAN, and assays returned grades
of up to 7.06% Ni (drill hole MQ-13-026) and 6.26% Ni (drill hole MQ-13-024). The deepest sulphide intersection to date at Imiak Hill also returned high-grade nickel-copper-cobalt assays demonstrating that the mineralisation has continuity and remains open at depth.

The 2013 drilling programme and previous geophysical surveys (VTEM and SkyTEM) were supplemented by a VTEM Plus helicopter-borne geophysical survey covering a total of 917 line kilometres, resulting in a total of 389 electromagnetic responses being detected. A preliminary review of the survey results has identified 100 new conductor zones. These new zones will be investigated further in 2014 and zones with higher nickel-sulphide potential will be added to the drill target list.

Rick Mark, CEO of NAN, stated: "The market has been focused on the Imiak Hill Conduit Complex the past three months and rightly so, as the high grade drill results around Imiak have been outstanding. Today, we want to remind investors that our 100%-owned Maniitsoq property, which is larger than the Sudbury basin, has the potential to host the world’s next sulphide nickel-copper-cobalt camp. These preliminary airborne results bolster that belief and provide us with a new array of targets to analyse and prepare for in 2014."

NAN’s exploration licence for the Maniitsoq Project in Greenland covers 5,106 km² and contains numerous high-grade nickel-copper sulphide occurrences associated with norite and other mafic-ultramafic intrusions of the Greenland Norite Belt (GBN).

NunaMinerals A/S intersects exceptional, high-grade gold mineralisation at Vagar in South Greenland


Highlights of the technical report include:
The drill-tested Vein 2 (1,916 m in 8 drill holes) demonstrates reasonable continuity of a gold mineralisation in three-dimensions over a strike length of roughly 600 m, and that this mineralised structure remains open along strike and at depth:
The mineralisation identified has economically interesting grades (e.g. 13 m at 70 g/t gold in channel samples at Vein 2; 79 m at 0.96 g/t gold, including 54.7 m at 1.3 g/t gold in the discovery drill hole (DDH-12-02); and up to 2,533 g/t gold in surface grab samples).

Surface sampling (hard rock and sediment) indicates a significant strike length to the gold mineralisation over several kilometres.

Amphibolite Ridge (looking due south), with Tributary valley to the left. Veins 1 and 2 outcropping on the left (east) side of the ridge in the saddle (centre of image). Potassic-feldspar altered granitoids in the foreground (Copyright SRK 2012).

Outcrop of Vein 2 containing visible gold. The upper part of Tributary Valley in the background (Copyright SRK 2012).
Similarities exist between the nature of gold mineralisation at Greater Amphibolite Ridge (within the Vagar licence) and Intrusion Related Gold Systems (IRGS) of the Tintina Gold Province of the northern North American Cordillera which hosts several large active gold mines.

NunaMinerals A/S has identified multiple new gold targets within the licence that warrant further work. Significantly, the technical report concludes that the potential demonstrated by the exploration completed to date indicates that the Vagar Gold Project justifies an extensive drill program, and thereby endorses NunaMinerals A/S’ plans for a 10,000 m drill programme and concurrent surface work during 2014.

Ole Christiansen, CEO of NunaMinerals A/S, states: “The NI 43-101 report is an important step in our efforts to continue developing our flagship Vagar Gold Project and we are delighted that this independent report has validated our plans”.

Hudson Resources anorthosite project closer to exploitation

Hudson Resources Inc. has conducted a series of community meetings in seven communities in Greenland in November 2013 to provide local stakeholders and residents with an update on the ‘White Mountain’ anorthosite project.

The key studies required for the submission of an exploitation licence and mining permit are on track for completion in 2014. These studies include a Bankable Feasibility Study (BFS), Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA). Inuplan A/S, a Greenlandic consulting company, which is responsible for the EIA and SIA, has done two years of baseline data collection. The studies are required for the submission of an exploitation licence.

The company has completed the processing of a 120 tons anorthosite bulk sample extracted in 2012. The bulk sample will be used in a furnace trial test by a major E-Glass producer. Larger samples have been requested by a number of E-Glass producers to test the material on a commercial scale as a key step to establishing off-take agreements.

Recently, the results from the 2013 10-hole (575 m) drill programme and 125 m channel sample programme were received. The 2013 drill target was approximately 6 km from the target farthest west drilled to date and where the 120 tons bulk sample was extracted. The 2013 drill results confirm that the calcium-feldspar plagioclase is of the same quality as seen from previous results from the 2012 drill programme.

Hudson Resources Inc. expects to submit an application for an exploitation licence in 2014. The plan is to prepare the mining application for the pit area where the 120 tons bulk sample was extracted.

The ‘White Mountain’ anorthosite project is situated 80 km south-west of Kangerlussuaq, the international airport in Greenland. The anorthosite deposit has high concentrations of aluminium and calcium with low amounts of sodium. Data acquired by Hudson Resources Inc. have indicated that the characteristics of this calcium feldspar rock have three potential high-value applications which are being investigated, as follows:

- A new source of feedstock to the high-end fibreglass (E-glass) industry.
- A new source of alumina to supply alumina smelters.
- A new source of filler material for plastics, paints and paper industries.

Hudson Resources Inc. has entered into confidentiality agreements with a number of the key industry players in the E-glass and industrial mineral filler markets to investigate the application of this material to their product lines.

New release of aeromagnetic survey from South-East Greenland

A total of 65,271 line kilometres of magnetic data is released from the aeromagnetic survey flown in South-East Greenland 2013. The survey was financed by the Government of Greenland and flown by EON Geosciences Inc. GEUS supervised the survey, and performed the quality control. The area is outlined in the map below and was surveyed using 500 m line spacing and flight lines oriented parallel to the coast. The lines perpendicular to the flight lines were spaced 5 km apart. The survey was flown at a height above the terrain of approx. 300 m (draped).

The survey covers coastal regions in South-East Greenland, stretching from north of Umiiviik (64°45’N) and further northward to Kruuse Fjord (67°30’N). Line data, grids and maps with magnetic field anomalies and vertical derivatives are available in digital format. The data and maps can be obtained from the Ministry of Industry and Mineral Resources (MIM) - Information on how to retrieve data is also given on the Greenland Mineral Resources Portal (www.greenmin.gl).

The maps in digital format comprise two maps on a scale of 1:250 000, and 35 maps on a scale of 1:50 000 that cover the entire survey area.
NOTE: Opening of the area north of 81°N in May 2014
The Government of Greenland (Naalakkersuisut) has temporarily closed the area north of 81°N for mineral exploration. The area will be opened again under new licence terms in May 2014, which will make it more attractive to explore the potential of North Greenland.

The area contains the largest known zinc deposit in Greenland, and holds great potential for becoming the next major zinc region. More information will be released in spring 2014 on: www.govmin.gl.

For questions regarding the temporary closing of the area north of 81°N, please contact the Mineral Licence and Safety Authority (mlsa@nanoq.gl).

Recent fieldwork in eastern North Greenland adds new data to already established data package on zinc
In 2012 and 2013 reconnaissance work was carried out in the eastern part of the Franklinian Basin of North Greenland – within the framework of the so-called NordZink project. The areas of Kronprins Christian Land, Peary Land and Amundsen Land were covered and stream-sediment samples were collected. The analytical results of this work complement those included in the zinc data package, originally released in 2011. The new data (locations + complete analytical results) on these additional stream-sediment samples can be downloaded from: www.greenmin.gl. Specific information on the results of the carried out work, including the setting of recently identified mineral occurrences, can be found in the published reports listed on the last page of this MINEX newsletter.
For further information please contact Senior Research Scientist Diogo Rosa, email: dro@geus.dk. This new data can be used in new exploration initiatives in North Greenland.

The Government of Greenland lifts ban on radioactive minerals

Until recently, exploitation of radioactive minerals in Greenland has not been possible due to a zero-tolerance policy.

However, on 24 October 2013, the Government of Greenland decided to lift the zero-tolerance policy on uranium and other radioactive minerals.

The adoption of this decision of principle does not, however, mean that the Government of Greenland has taken a position on specific exploration or exploitation projects. All exploitation projects will have to undergo a comprehensive series of studies and approvals.

The granting of an exclusive licence for exploitation of uranium or other radioactive minerals can only be implemented once the administrative systems and procedures are in place. This work is in progress and it is expected that the studies on establishing appropriate administrative systems, regulations and procedures will be in place in early 2016.

GEUS opens branch office in Nuuk

In the second half of 2013, GEUS opened a new branch in Nuuk. The office is located at the Institute of Natural Resources, where there is a scientific environment.

The permanent staff consists of:

- Chief consultant, Head of office Kisser Thorsøe, MSc Physical geography, kit@geus.dk.
- Geologist Majken D. Poulsen, MSc Geology, madp@geus.dk.

The aim is to expand with one or two persons and always have two to three guest-scientists from Denmark at the office.

GEUS’ main tasks are geological mapping, data collection and storage, to carry out research projects, to give advice, and to disseminate geoscientific knowledge.

With the new office in Greenland, GEUS will be closer to collaboration partners and the Greenlandic society. Read more about GEUS at: www.geus.gl.

Workshop on the tungsten potential in Greenland

A workshop on the ‘Assessment of the tungsten potential in Greenland’ was arranged by GEUS and the MIM in December 2013. The purpose of the workshop was to assess the possible presence of undiscovered tungsten deposits in Greenland in the top 1 km of the Earth’s crust and to rank the most prospective areas. The procedures for the assessment and ranking of the individual tracts were designed to comply, as much as possible, with the ‘Global Mineral Resource Assessment Project’ (GMRAP) procedures defined by the US Geological Survey (USGS). One further objective of the workshop was to stimulate new exploration campaigns in Greenland.

The workshop made use of a standardised process in which 12 panel members (geologists) discussed and assessed the possibility of finding deposits in pre-defined areas (‘tracts’). Lawrence D. Meinert (USGS) and Peter Pollard (Pollard Geological Services Pty. Ltd.) attended the workshop as invited tungsten deposit experts.

Data, literature and maps related to the known tungsten mineralisations in Greenland and the predefined areas were compiled and made available to the participants before the workshop. The data provided the basis for the overall assessment, and for discussions and estimates. An overall summary of the conclusions from the workshop are published in Geology and Ore no. 25. A more comprehensive GEUS survey report documenting the results from the workshop will be available mid-2014.

Sulphide-rich sample with cobalt wins the national mineral hunt competition

The winners of Ujarassiorit 2013 (the national mineral hunt for residents of Greenland) have been selected. The submitted samples were investigated by geologists from MIM, who selected the most interesting rock samples for chemical analysis (approx. 200). The chemical analysis revealed several samples containing interesting metals such as cobalt, gold, copper and zinc.

1st-prize winner

The winner of the 1st prize of DKK 55,000, tax-free, was Niels Berthelsen from Upernavik. He submitted a sulphide-rich sample from Kangeq, south of Attu in southern West Greenland. The sample has anomalous contents of cobalt (0.2%); 0.25% copper and 255 ppm lead, indicating a hitherto unknown cobalt, copper and lead mineralisation potential in the region.
The 2nd prize winner
The 2nd prize of DKK 25,000 was awarded to Kevin Isaksen from Aappilattoq, who submitted a quartz-vein sample with visible gold (382 ppm) and arsenic (2,360 ppm). The sample was found in the Kangerluarsuk area north of Narsaq, where no findings of gold have been made before.

3rd prize winners
Two 3rd prizes of DKK 10,000 were awarded:

- Inge Angenold from Tasiilaq, who submitted a sample of rusty-looking gneiss with a high content of molybdenum (335 ppm) from the Tiniteqilaaq area; an area which may hold a good potential due to the presence of granitic intrusions in the area.
- Johannes Jeremiassen from Niaqornaarsuk, who submitted a sulphide-rich marble from the easternmost part of the Nuussuaq-peninsula. The sample contains 32.5% lead, 0.89% zinc and 238 ppm silver.

4th prize winners
Four 4th prizes of each DKK 5,000 were awarded:

- Sara Kristiansen from Uummannaq, who submitted a carbonate-rich sample from Uummannaq with high content of zinc (4.05%) and fluorite.
- Bobbi Petrusen and Jakob Skifte who submitted a dark rock sample with high contents of copper (3.02%), lead (1.53%) and zinc (0.46%), found at Maniitsoq.
- Lasarus Mikaelsen, Tasiilaq, who submitted a sample of sulphide-rich quartz-vein with elevated contents of gold (4.06 g/t), copper (0.37%), lead (0.69%) and silver 320 g/t), found near Sermiligaaq in East Greenland.
- A sulphide-rich sample found by Karl-Peter Jakobsen near Arsuk with elevated gold (0.35 ppm) and arsenic (238 ppm) contents.

Ujarassiorit is run and financed by MIM (See also Fact Sheet no. 21, 2009) and in 2013 it was sponsored by The Bank of Greenland Industrial Fund, Greenland Minerals and Energy A/S and NunaMinerals A/S.
Roundup Vancouver January 2014
The Roundup in Vancouver was as usual held at The
Westin Bayshore, where Greenland had the same booth
as the previous years. Apart from MIM, several exploration
companies and supply companies with relations to
Greenland were present at this event. Next year the
Roundup event will be moved to the Vancouver
Convention Centre.

Status on mineral licences in
Greenland by medio January 2014

New Licences
Since publication of MINEX 44 in October 2013, a total
of 9 mineral licences have been issued. Four of these are
exploration licences and the rest is small-scale licences.

Avannaa Exploration Ltd. has been granted an exploration
licence at Oksedal, central East Greenland. The company
is going to explore for barite deposits.

Greenland Gold Resources Ltd. has been awarded an explo-
ration licence at Orioq, east of Sisimiut, southern West Green-
land. The main focus of the company is nickel and copper.

Northern Shield Resources Inc. has been granted an
exploration licence consisting of four subareas along the
Kangerlussuaq fjord in southern West Greenland. The
company will primarily explore for magmatic nickel and
copper-sulphide deposits.

An exploration licence has been awarded to Rare Earth
Resources Ltd. The company will explore for rare-earth
element deposits at the Kussanga area, north of Narsaq in
South Greenland.

Renewed Licences
True North Gems Inc. has renewed its exploration
licence (2008/01) at Qaqqatsiaq near Qeqertarsuatsiaat
(Fiskenasset) in southern West Greenland. True North
Gems is exploring for rubies and sapphires in the area.

Greenland Resources Ltd. has renewed its exploration
licence (2010/46) at Motzfeldt So, South Greenland.
Exploration will focus on the niobium, tantalum, rare-earth
element and zirconium potential within the licence area.

Terminated Licences
(2007/52) Avannaa Exploration Ltd., Tartunaq, north-west of
Ilulissat, central West Greenland. Main focus: Diamonds.
(2011/40) Avannaa Exploration Ltd., Ikersaat, north of
Illoqortoormiut, central East Greenland. Main focus: Copper.
(2010/22) Hunter Minerals Pty Ltd., Pituffik near Thule,
North-West Greenland. Main focus: Titanium and iron.
(2011/03) Hunter Minerals Pty Ltd., Kuutsiaq, north-west of
Qaqortoq, South Greenland. Main focus: Iron, titanium and
vanadium.
(2010/37) NunaMinerals A/S, Fiskevandet, southern West
Greenland. Main focus: Platinum group metals.
(2011/59) NunaMinerals A/S, Store, north-east of Nuuk,
southern West Greenland. Main focus: Gold.
(2011/04) Plymouth Minerals Ltd., Timmiarmiut, South-
East Greenland. Main focus: Rare-earth elements.

‘Greenland Day’ at PDAC

Greenland is rich in all varieties of minerals from rubies to precious metals, iron and iron alloys, base metals and critical minerals such as rare-earth elements, niobium and tantalum. The goal of the Government of Greenland is to
translate the great potential of minerals into skilled jobs and revenue to develop welfare in the Greenland society to the benefit of the population. This means great opportunities for Greenland – as well as for foreign investors and buyers of minerals.

Greenland has experienced a very positive development in the mineral licence interests during the last decade. Several of the exploration projects are now in an advanced stage and close to exploitation preparations. At present, five exploitation permits has been granted and more projects are currently under approval.

On 3 March 2014, MIM, GEUS and several exploration companies will present the latest results from exploration in Greenland at a ‘Greenland Day’ during the PDAC in Toronto. In addition, new aeromagnetic data from South-East Greenland will be released during the session.

Everyone is welcome to attend the Greenland Day, however registration is required.

For further information please contact:
Henrik Stendal, MIM, hdal@nanoq.gl.
Tel. +299 34 68 36 or Mobile +299 58 61 70.

For registration please contact:
Lærke Louise Thomsen, MIM, llth@nanoq.gl.
Tel. +299 34 68 14.

**PDAC Greenland Day program – Mining projects in Greenland**

Date: Monday, 3 March 2014
Duration of Session: 9:00 a.m. – 12.00 noon
Individual meetings: Please contact Lærke Louise Thomsen
Location: Room 206 DC, North Building # 417 at Metro Toronto Convention Centre, South Building
MIM Booth: # 417 at Metro Toronto Convention Centre, South Building

For the first time the Ministry of Industry and Mineral Resources is represented at the Mines and Money event in Hong Kong, 24-28 March 2014. In the exhibition hall, Greenland can be found at booth E 42. Greenland also has a meeting room (MR 12) where contact meetings can be held. There will be a presentation about ‘Critical Minerals in Greenland’ on Wednesday 26 March at 11 am.

**Mines and Money Hong Kong March 2014**

For the first time the Ministry of Industry and Mineral Resources is represented at the Mines and Money event in Hong Kong, 24-28 March 2014. In the exhibition hall, Greenland can be found at booth E 42. Greenland also has a meeting room (MR 12) where contact meetings can be held. There will be a presentation about ‘Critical Minerals in Greenland’ on Wednesday 26 March at 11 am.

**Calendar for MIM marketing**

MIM will be marketing the Greenland Mineral Resource Potential at the following upcoming events:

- **PDAC 2014**
  - Toronto
- **Mines and Money 2014**
  - Hong Kong
- **The China Mining 2014**
  - Tianjin
- **The Greenland Day 2014**
  - Perth
New selected publications with themes on Greenland exploration and mining

2013, Geology & Ore No. 23
Mineral potential in Greenland, 12 pp.

2013, Geology & Ore No. 24
Magmatic nickel potential in Greenland, 12 pp.

2014, Geology & Ore No. 25
Tungsten potential in Greenland, 12 pp.

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